



Review

Place attachment: How far have we come in the last 40 years?

Maria Lewicka

Faculty of Psychology, University of Warsaw, Stawki 5/7, 00-183 Warsaw, Poland

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ABSTRACT

This paper reviews research in place attachment and organizes the material into three sections: research, method, and theory. A review of several hundred empirical and theoretical papers and chapters reveals that despite mobility and globalization processes, place continues to be an object of strong attachments. The main message of the paper is that of the three components of the tripartite model of place attachment (Scannell & Gifford, 2010a), the Person component has attracted disproportionately more attention than the Place and Process components, and that this emphasis on individual differences probably has inhibited the development of a theory of place attachment. Suggestions are offered for theoretical sources that might help to fill the gaps, including theories of social capital, environmental aesthetics, phenomenological laws of order, attachment, and meaning-making processes that stem from movements and time-space routines.

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1. Introduction

Interest in people–place relations grows. Literature search in the most popular electronic bases, such as Google Scholar and SocIndex, and in tables of contents of two major journals (*Journal of Environmental Psychology* and *Environment and Behavior*) with entries such as place attachment, place identity and related terms, has resulted in almost 400 papers published within the last 40 years in more than 120 different journals. They represent all branches of social sciences, including environmental psychology, sociology, community psychology, human geography, cultural anthropology, gerontology, demography, urban studies, leisure sciences and tourism, ecology, forestry, architecture and planning, and economics. Only one branch of social sciences is sadly missing, and these are mainstream journals in social psychology. This number is certainly not complete; it does not include books, book chapters, doctoral dissertations, unpublished conference presentations or research reports, not to mention publications written in languages other than the generally accessible English. The actual number of publications is thus much bigger, and it systematically grows. As Fig. 1 shows, there is an acceleration of place-related journal publications over time with more than 60 percent of all articles published in the last decade. The same trend can be observed in the two most prominent environmental psychology journals. Before 1990 the *Journal of Environmental Psychology* published seven papers on place, 18 between 1991 and 2000, and

45 in the last decade. A somewhat similar, although a smaller increase is seen in *Environment and Behavior*.

For the majority of journals, articles that deal with people–place relationships represent a new topic. In 60 percent of the journals they first appeared in the last decade (2001 or later) and in almost half in the last five years. Despite this growing interest, however, there is as yet no single academic journal devoted entirely to theory and research on place. Perhaps then it is time to think about a thematic journal or at least about a separate division of an existing one. If the last solution is chosen then the *Journal of Environmental Psychology* appears to be an obvious candidate.

The growing amount of work devoted to people–place relationships encourages publications of review papers that synthesize findings, identify uncharted territories, and suggest promising directions for the future. The recent two decades witnessed a heavy crop of reviews devoted to place attachment. Table 1 presents their list, along with their brief profile. The list does not include papers with extensive reviews that precede the presentation of empirical results.

One may ask if this growth of publications means a real increment in knowledge. Almost 20 years have passed since Altman and Low published their seminal edited book in 1992, about 30 years since the first definitions of place attachment appeared (Stokols & Shumaker, 1981; Taylor, Gottfredson, & Brower, 1985) and first typologies were proposed (Riger & Lavrakas, 1981), and about 40 years since human geographers (Buttimer, 1980; Relph, 1976; Seamon, 1980; Tuan, 1974, 1975, 1977) turned their attention to the important difference between abstract space and meaningful place. About 40 years ago Kasarda and Janowitz (1974) presented their first survey-

E-mail address: marlew@psych.uw.edu.pl.

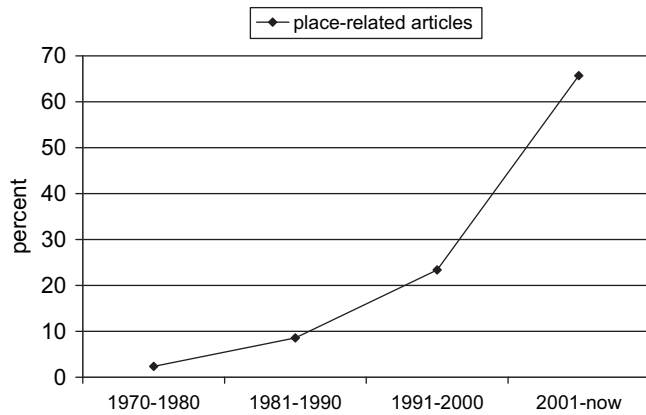


Fig. 1. Relative percentages of articles devoted to people–place relationships across different time periods.

based reports on predictors of people's relationships with places, discovering that residence time and neighborhood ties are the best predictors of attachment, and in 1963 Fried described undesirable psychological consequences of forced relocation. How much progress has been made since then? Do we know more now about reasons that lead to people forming attachments to places? Have we succeeded in combining investigations of the elusive 'sense of place' and place meaning with quantitatively based research on predictors of attachment? Finally and most importantly, do we have a theory of place attachment, or is the research area mostly composed of many unrelated empirical findings and observations?

Despite the apparently dynamic development of the domain, both in the review articles and in individual empirical papers, numerous authors express their worries about the condition of place research. The most frequent complaint is about unclear relations between various place-related concepts (Giuliani & Feldman, 1993; Pretty, Chipuer, & Bramston, 2003), but this seems to reflect a deeper concern about the underlying theory and methodology of the research (Morgan, 2010; Stedman, 2003b). Particularly when

compared with the theoretical development of such areas as cognitive psychology or neuropsychology, the progress in "place sciences" seems slow and its results meager. Research carried out in other disciplines builds on existing findings, decides between competing hypotheses, and moves the theory forward. However, studies on people–place relationships seem to be stuck in definitional questions and attempts to fit together various place-related concepts, such as place attachment, place identity, rootedness, sense of place, place dependence or place satisfaction. These are treated as different pieces of a broken jigsaw puzzle which may (and should) be put together. However, concepts have no meaning except as part of a larger theoretical context so no wonder that different authors, coming from different theoretical traditions, view relationships between the place-related terms in different and often incompatible ways (cf. Hernandez, Hidalgo, Salazar-Laplace, & Hess, 2007; Jorgensen & Stedman, 2006; Knez, 2005; Pretty et al., 2003). Different methods of measuring basic theoretical constructs, rarely, if ever, confronted in one study, make the accumulation of knowledge difficult. Finally, the two divergent theoretical perspectives, one rooted in qualitative, phenomenological approaches, represented mostly by human geographers, and the other in quantitative approaches, preferred by researchers with training in community and environmental psychology (Patterson & Williams, 2005), contribute to the colorful but basically minimally coherent picture of the area.

At present the literature on people–place relationships is rich with empirical results, conceptual distinctions, and authors' own ways of organizing the material (cf. Table 1). Finding one's way through this thicket and offering a perspective which will throw a new light on place research presents a real challenge. Adding another summary does not seem to be very useful, and in my opinion it will not help overcome theoretical problems which place research faces.

At the expense of being somewhat selective, this review arranges the existing material into three sections: Research, Methods, and Theory (in this order) and organizes each section around a set of basic questions and dichotomies that capture differences in research traditions, methodologies, and theoretical perspectives. The emphasis will be less on concepts and their mutual relationships, and more on empirical contributions: what is it that we really

Table 1

Reviews of research in place attachment and related concepts published in the last 20 years.

Author	Profile
Lalli, M. (1992).	An exhaustive discussion of research on place identity (understood often in a way similar to place attachment) and of its relevance to urban identity.
Giuliani, M. V., & Feldman, R. (1993).	Review of Altman & Low (Eds.) (1992) Place attachment. Emphasis placed on different ways of understanding place attachment. Do we know what we study?
Jordan, T. (1996).	An extensive review of research on place attachment and territorial identity presented in German language doctoral dissertations in geography.
Giuliani, M. V. (2003).	Review of research in place attachment; discussion of the relationship between the PA concept and Bowlby's theory of attachment. In Appendix a list of existing measures of place attachment (collected before 2003).
Twigger-Ross, C., Bonaiuto, M., & Breakwell, G. (2003).	Review of theory and research in the related concept of place identity.
Bott, S., Cantrill, J. G., & Myers, O. E. Jr. (2003).	Overview of basic conceptual distinctions in research on place, with focus on their application to "conservation psychology".
Easthope, H. (2004).	Review of literature dealing with the concept of place and sense of place, demonstration of its relevance to the concept of 'home' and to research on housing.
Patterson, M. E., & Williams, D. R. (2005).	Overview of two, so far parallel, lines of studies in place attachment, the analytical-quantitative and the holistic-qualitative, along with arguments for their peaceful coexistence and mutual fertilization rather than attempts at eclectic integration.
Farnum, J., Hall, T., & Kruger, L.E. (2005).	A very exhaustive overview of research on place, its history, and methodology, with particular emphasis on attachment to natural places.
Manzo, L. C., & Perkins, D. D. (2006).	Overview of research on place attachment and demonstration of its value for processes of planning and community participation.
Gustafson, P. (2006).	Review of (mostly sociological) research on mobility and its impact on place attachment.
Nicotera, N. (2007)	Review of verbal and non-verbal methods used to measure neighborhood, including measures representing place.
Trentelman, C. K. (2009).	Exhaustive review of research in place attachment and community attachment.
Scannell, L., & Gifford, R. (2010a).	Overview of research in place attachment, along with presentation of a conceptual organizing framework (PPP – person-process-place), intended to guide future reviewers.

know about people's emotional bonds with places? Apart from serving as a guide through the maze of empirical findings available in place literature, I hope that the explicitly formulated questions and organizing dichotomies will introduce a certain order into the otherwise very amorphous material. This in turn may generate some new theoretical ideas concerning psychological mechanisms underlying people's emotional bonds with places.

2. Research

2.1. Is place important?

Let us start with the very basic question: how important are places for people nowadays? The world has changed compared to the 1970s and early 1980s. Considering the increased mobility, globalization, growing homogeneity of places and loss of their cultural specificity (Augé, 1995; Beatley, 2004; Casey, 1997; Katz, 1994; Kunstler, 1993), is place still important for people? If place is defined, like it was in the classical works of Tuan (1975, 1977) or Relph (1976), through its historical continuity, unique character, boundedness, and opportunity for rest, then modernity, globalization, fast speed, and virtualization of everyday life should destroy places and undermine people's meaningful relations with them (sense of place, place attachment). Do studies on place and place attachment still have any ecological validity then?

The value of scientific endeavors lies in their ability to produce non-obvious findings and non-trivial conclusions. It is therefore important to point to an intriguing paradox that despite the growing number of the so called non-places (Augé, 1995; Beatley, 2004), not only have places not lost their meaning but their importance in the contemporary world actually may have grown (Gustafson, 2006; Janz, 2005; Kruger & Jakes, 2003; Terkenli, 1995). As Casey puts it:

Still more saliently, certain devastating phenomena of this century bring with them, by aftershock as it were, a revitalized sensitivity to place. Precisely in its capacity to eliminate all perceptible places from a given region, a prospect of nuclear annihilation heightens awareness of the unreplaceability of these places, their singular configuration and unrepeatable history. Much the same is true for any disruptive event that disturbs the placidity of cities and neighborhoods. Perhaps most crucially, the encroachment of an indifferent sameness-of-place on a global scale – to the point when at times you cannot be sure which city you are in, given the overwhelming architectural and commercial uniformity of many cities – makes the human subject long for a diversity of places, that is, difference-of-place, that has been lost in a worldwide monoculture based on Western (and more specifically, American) economic and political paradigms. This is not just a matter of nostalgia. An active desire for the particularity of place – for what is truly “local” or “regional” – is aroused by such increasingly common experiences. Place brings with it the very elements sheared off in the planiformity of site: identity, character, nuance. (Casey, 1997, p. xiii)

Does this observation, made by a philosopher, find corroboration in empirical studies? Not many psychological longitudinal data are available which would corroborate the claim that people's bonds with places (e.g., own neighborhood) have grown within the last years. However, abundant research results indicate that attachment to numerous places continues to be strong. In the studies which use quantitative methodology, scores on various place attachment scales usually fall well above the arithmetic average. This concerns both attachment to the closest place scales, like home or neighborhood and to higher levels such as cities or towns (Bonaiuto, Fornara, & Bonnes, 2006; Fried, 1982; Gustafson,

2009b; Hidalgo & Hernandez, 2001; Lewicka, 2010), to countries (Gustafson, 2009b; Laczko, 2005; Lewicka, 2005) and to non-residential places, like recreation places (Hammit, Backlund, & Bixler, 2006; Kaltenborn & Williams, 2002; Stedman, 2006). Droseltis and Vignoles (2010) did not encounter any problems when they asked participants to spontaneously generate ten places which they considered meaningful and later rate them on a number of scales diagnostic of attachment and identity. Place attachment was found to be present despite living in an objectively high risk area (Billig, 2006), increased mobility (Gustafson, 2009a, 2009b), commuting to other cities or countries for work (Van der Klis & Karsten, 2009), or having more than one residence place (Kelly & Hosking, 2008; McHugh & Mings, 1996; Van Patten & Williams, 2008). Place attachment was found responsible for strong emotional and physiological reactions in people subject to involuntary relocations in urban renewal projects (Fried, 1963; Kleit & Manzo, 2006; Manzo, Kleit, & Couch, 2008) and political resettlements (Boğaç, 2009; Possick, 2004; for a review of relevant research on consequences of involuntary relocation see: Brown & Perkins, 1992; Fullilove, 1996; Heller, 1982). These frequently observed difficulties of readjustment to new places have even led Fried (2000) to question the adaptive character of place attachment at all.

All these findings seem to corroborate the claim made long ago by phenomenologists that sense of place is a natural condition of human existence (dwelling = being) (Buttimer, 1980; Heidegger, 1962; Norberg-Schultz, 1979; Seamon, 1980; Tuan, 1975, 1977), an invariant in a changing world. This universal character of place attachment does not contradict other findings, however, which demonstrate that strength and type of place attachment vary and depend on additional factors, associated both with the places themselves (their scale, size, physical and social characteristics) and people (their social and economic status, residence length and mobility, age, sense of security, social relations in the place, value system etc.) (Scannell & Gifford, 2010a). Their impact on place attachment will be discussed later in this paper.

2.2. Attachment to what?

The basic definition of place as that of a “meaningful location” is general enough to demand more specific definitions. Along with changes in life style, places that people inhabit or visit tend to change, too. A large proportion of recent publications on place attachment deal with attachment to second and seasonal homes, places of recreation or temporary homes of commuters (Beckley, 2003; Stedman, 2006; Williams & Van Patten, 1998). Other attempts to go beyond the concept of place as ‘residence place’ include other kinds of meaningful places, such as sacred sites (Mazumdar & Mazumdar, 1993), working places (Milligan, 1998), football grounds (Charleston, 2009), and virtual or imagined places (Droseltis & Vignoles, 2010). Do these places fulfill the criteria set by Tuan or Relph in the 1970s? Can one be attached to more than one place? Are non-places (shopping malls, homogenized entertainment sites etc.) capable of triggering attachment, and does place attachment change along with changes that places themselves undergo? A portion of place research is indeed concerned with definitions of places and reflection on the meaning they have for people. Some of the distinctions are not free of ideological assumptions as discussed below.

2.2.1. Open vs. closed places: effects of diversity on attachment

An ongoing discussion in geographical and sociological literature concerns the opposition between, on the one hand, place understood in the ‘classic’ way (Relph, 1976; Tuan, 1974, 1977), as a bounded entity with unique identity and historical continuity, a cozy place of rest and defense against the dangerous and alien ‘outside’, and, on

the other, place defined as 'open crossroads', a meeting place rather than an enclave of rest, a location with 'interactive potential' (Milligan, 1998), inviting diversity and multiculturalism – the latter view is supported most vehemently by liberal and left-wing geographers Massey (2004) and Harvey (1996) (see also Cresswell, 2004; Williams & Van Patten, 1998, for a more extended discussion). Whereas place understood as a stable, bounded and historically continuous entity corresponds to a traditional, conservative view of society, the concept of place as a source of potential social interactions better describes the features of the globalized world spaces of today. Reconciling these two different viewpoints is not easy; moreover, they are more often discussed in the sociological and geographical than in the environmental literature (but see Williams & Van Patten, 2006, for an exception).

Turning to empirical research, there are not many studies which seek to find out what kind of places (open vs. closed, homogeneous vs. diverse) people actually prefer and establish emotional bonds with. The very definition of what constitutes 'openness' vs. 'closeness' of a place is not clear either. Below is a brief description of three groups of studies relating attachment to: (i) size of community, (ii) artificially closed (gated) vs. open settlements, and (iii) ethnically diverse vs. homogeneous neighborhoods. Briefly discussed are also individual differences in people's preferences for places differing in level of openness.

2.2.1.1. Effects of community size. Cities are more open and diverse than rural communities (Milgram, 1970; Tönnies, 1987/2002; Wirth, 1938). If level of urbanization is treated as an indirect measure of openness, then we can look at a rich array of studies that compare attachment to communities differing in urbanization (e.g., population size). This issue was a topic of intensive studies in early community studies, but the data are far from conclusive. A review of the relevant literature shows that some studies found a linear negative relationship between size of community and level of place attachment, with residents of the most traditional places such as villages and small towns reporting the highest attachment (Buttelt, Martinson, & Wilkening, 1979; Lewicka, 2005, in press; Wasserman, 1982). Similarly, Wilson and Baldassare (1996) studied the connections between sense of community and its size, density and ethnic diversity, and found a negative relationship between these measures of urbanization and sense of community. Other studies, though, showed opposite results. For example, Theodori and Luloff (2000) compared residents of four rural areas differing in level of urban presence and pressure, and found that it was the residents of the most urbanized rural area who claimed the highest attachment (operationalized as feeling at home, unwillingness to move, and interest taken in community). In the latter study, however, cities were not included in the analysis. On the other hand, in the classic study by Kasarda and Janowitz (1974), community size turned out to be a worse predictor of community attachment than neighborhood relations and residence length, a finding that was corroborated later by Goudy (1982, 1990), and Sampson (1988). This suggests that factors other than community size may play a more important role in place attachment. Two cities may be of equal size, but they may differ in social and racial heterogeneity (Florida, 2002), urban density (Wasserman, 1982), strength of local social capital (Wood & Giles-Corti, 2008), service access and type of landscape (Kelly & Hosking, 2008), and all these factors may influence attachment.

2.2.1.2. Gated vs. open. The most prototypical closed place is a gated community (Harvey, 1996), a settlement inhabited by socially homogeneous residents, surrounded by walls or fences, usually with guarded entrance (Blakely & Snyder, 1999; Low, 2003). Wilson-Doenges (2000) compared place attachment among

residents of American gated communities and traditional open settlements. The results show that differences in place attachment and sense of security between the two types of settlements tend to disappear when the two groups are matched according to social status and residence length. Residents of gated communities in Phoenix, Arizona showed slightly lower (no significances levels were reported) ratings of sense of belonging to the neighborhood and the city (Phoenix) than residents of more traditional neighborhoods and did not differ in ratings of friends and colleagues (Kirby et al., 2006). The unclear relationship between gating and place attachment was also found by Lewicka et al. (Lewicka, 2010; Zaborska & Lewicka, 2007) in studies carried out in several closed housing estates and their open counterparts in Poland, demonstrating that although gating seemed to contribute to a general sense of security, it either did not affect or even decreased attachment through a number of mediating factors such as shorter residence time and weaker neighborhood ties. Billig and Churchman (2003) found as a result of in-depth interviews carried out in Israel that psychological effects of gating depended on how socially diversified the neighborhood was. In areas differentiated with respect to the socio-demographic composition of adjacent settlements, closing one of them increased security and attachment in both, closed and open, social groups. On the other hand, open settlements proved satisfactory when differences in socio-economic status of their residents were not large. Socio-economic diversity of neighborhood thus contributed to a decline in place attachment of both, high and low status groups.

2.2.1.3. Diverse vs. homogeneous. Although it may sound unpleasant to enthusiastic proponents of open places, neighborhood diversity does not seem to foster attachment. Apart from the reported Israeli study (Billig & Churchman, 2003), socio-economic and racial diversity of neighborhoods contributed to a decline in place attachment (operationalized as house ownership and length of residence) in a study carried out in Baltimore by Taylor et al. (1985), and to a moderate extent it undermined neighborhood attachment in the Los Angeles survey (Greif, 2009). Indirect support for the negative relationship between neighborhood diversity and community attachment can also be found in Putnam (2007) and Stolle, Soroka, and Johnston (2008). Based on large survey data from representative country samples (US and Canada), the latter demonstrated a consistently negative relationship between ethnic diversity of a neighborhood and interpersonal trust (both towards ethnically different and similar neighbors). Diversity also undermined other aspects of neighborhood life, such as undertaken collective actions, number of close friends, general happiness etc. (Stolle et al., 2008). Leigh (2006), using Australian survey data, found a negative relationship between neighborhood diversity and trust in neighbors, stronger for linguistic than ethnic diversity. If trust in neighbors and strength of neighborhood ties are considered important predictors of attachment (Kasarda & Janowitz, 1974; Lewicka, 2010; Mesch & Manor, 1998), then these results indirectly suggest that ethnic diversity of neighborhoods undermines place attachment among community members. Oliver (2010) used American census data to demonstrate that racially diverse Americans tend to cluster together into ethnically homogeneous neighborhoods (predominantly White, Black, Asian or Latino), the proportions of each deviating from the distribution representative for the whole country. More important for the topic undertaken in this review is the finding that although coexistence of Blacks, Asian and Latinos in one neighborhood tended to increase mutual tolerance, it also decreased attachment to neighborhood.

On the other hand, people seem to value diversity on levels higher than their own neighborhood, e.g., cities. Although exact empirical evidence showing that place attachment is positively

related to city diversity is missing, there is some indirect evidence that the two may be related. For example it is known that a multi-cultural city attracts tourists and representatives of the creative class (Florida, 2002). According to Lynch (1960), a city is the more legible the more it is divided into different, internally homogeneous, regions. Such view is also shared by Alexander, Silverstein, Angel, Ishikawa, and Abrams (1977), whose Patterns 8 (Mosaic of subcultures) and 13 (Subculture boundary) contend: “The mosaic of subcultures requires that hundreds of different cultures live, in their own way, at full intensity, next door to one another. But subcultures have their own ecology. They can only live at full intensity, unhampered by their neighbors, if they are physically separated by physical boundaries” (p. 76); and in another place “a great variety of subcultures in a city is not a racist pattern which forms ghettos, but a pattern of opportunity which allows a city to contain a multitude of different ways of life with the greatest possible intensity” (p. 76).

Homogeneous neighborhoods and heterogeneous cities are perhaps a recipe for how to combine the peace and security that people need in their closest surrounding with stimulation and excitement appreciated on the larger scale. This hypothesis needs empirical tests, and requires that more attention be devoted to predictors of attachment to place scales other than neighborhoods only.

2.2.1.4. Individually differentiated preferences: urbanophilic vs. urbanophobic. Not all people are negatively affected by ethnic diversity and not all people prefer traditionally closed places. Stolle et al. (2008) found that the negative relationship between neighborhood diversity and interpersonal trust disappeared in those who regularly talked to their neighbors. Individual differences also play a role in preferences either for urban and thus more heterogeneous places or for traditional rural communities, the phenomenon which has been called urbanophilia vs. urbanophobia by Félonneau (2004). In the latter study the ‘urbanophilic’ residents of Bordeaux were found to have a significantly higher urban identity and were less sensitive to urban incivilities than the “urbanophobic” residents. Hummon (1990) found that residents of a big city (San Francisco) expressed stronger attachments to cities (defined themselves predominantly as “city persons”), while residents of small towns were more attached to rural areas and defined themselves as “country persons”. Overall in Hummon’s studies, the type of community of residence was a better predictor of residential preferences than any other demographic variable, although a question remains about the causal directions of this relationship (do preferences predict residence or does residence shape preferences?). In Casakin and Billig’s (2009) study carried out among Jewish settlers of the West Bank (Judea and Samaria), the relationship between size of community and sense of place was moderated by level of religiosity: of the three components of sense of place, emotional, cognitive and behavioral, religious settlers showed higher cognitive and behavioral but not affective sense of place in small rather than in big communities, while an opposite pattern was seen in non-religious settlers.

2.2.1.5. Type of place vs. type of social capital. The distinction between different definitions of place (open vs. closed, discouraging vs. inviting strangers) is closely linked to the distinction between two types of social capital: bonding vs. bridging (Putnam, 2000) or strong vs. weak ties (Granovetter, 1973). The bonding social capital is typical of closed local communities while the bridging social capital is created by places that are open and tolerant of diversity. Although the two types of social capital are usually presented as an opposition, numerous data show that they may (and should) occur in concert. Putnam (2007) in his already-

quoted analysis of the US survey data on effects of ethnic diversity on trust, observed that the negative effects of neighborhood heterogeneity were manifested in decline of both types of social capital (SC), leading to anomie rather than to an increase in importance of own in-group (bonding SC). It is often observed that people who have many distant friends and acquaintances (bridging SC) also tend to have many close friends and strong family ties (bonding SC). As Halpern (2005) stated, there are clear advantages of having both types of social capital: “The ideal environment for economic productivity is one that is cohesive and trusting, but also confident, open and diverse – in our terms, has both bonding and bridging social capital” (Halpern, 2005, p. 65). This is probably true of various environments: places of work, places of residence, places of recreation, etc. It may well be that the most meaningful places, those that are objects of the most intense attachments, are those which have a potential of combining both, security and challenge, stability and novelty, ‘refuge’ and ‘prospect’, and that the mediating factor is the ability of such places to facilitate both types of social capital, instead of only one. However, the concept of social capital rarely appears in literature dealing with place attachment, as has been rightly noted by Wood and Giles-Corti (2008), who also postulate that bringing this concept in its diverse forms into the discourse on place may become an important theoretical thrust that can integrate research on place attachment with a broader discussion carried out in contemporary social sciences.

2.2.2. Local vs. global: place scale and attachment

One of the definitional features of place is its concentric character: smaller places are incorporated within larger ones (Low & Altman, 1992; Relph, 1976; Tuan, 1974). Home apartments are parts of buildings which are parts of neighborhoods which are parts of cities which are parts of country regions, countries, continents, etc. Along with increased mobility and facilities that help overcome large distances, geographical horizons of people expand as well. Whereas traditional societies were strongly localized, confined to their villages and parishes, processes of globalization and increased mobility stretch potential targets of identification to the level of continents and the whole world. Intensive changes in this respect have taken place within the last 40 years (rapid development of internet, European integration, fall of the Iron Curtain, political and economic migrations etc.). Does that mean that nowadays people feel more attached to higher level places and demonstrate attitudes that are cosmopolitan rather than local?

2.2.2.1. Place scales: an overview. The majority of researchers dealing with people–place bonds focus on one place scale only and avoid comparisons of attachments to different place scales. The favorite target of place attachment research is neighborhood, followed by home, city and, much less often, national regions and continents. This choice of place does not necessarily coincide with what has been considered the best examples of ‘meaningful localization’ by place theorists.

2.2.2.1.1. Home. There is an almost unanimous opinion that the prototypical place is *home* (Porteous, 1976; see Easthope, 2004 for review). Home is a symbol of continuity and order, rootedness, self-identity, attachment, privacy, comfort, security and refuge (Case, 1996; Moore, 2000; Rybczyński, 1986; see Cooper Marcus, 2006 and Tognoli, 1987 for reviews). Home means ownership and symbolizes family life and happiness. People are ‘domicentric’ (Porteous, 1976): on evaluative maps the most preferred places are those where their own houses are located (Foland & Lewicka, 2007; Gould & White, 1982) and on structural mental maps home serves as the main spatial anchor (Golledge & Stimson, 1997). Home is thus a “... major fixed reference point for the structuring of reality” (Porteous, 1976, p. 386), and therefore human meaningful space is

divided between 'home' and 'not-home'. The scale of home may differ, depending on the "actual or expressed power, control, or personal investment in space" (Terkenli, 1995, p. 325), the scale of home may be very narrow, or it may reach into neighborhood or further, but usually it is equated with the basic dwelling unit (apartment or house).

2.2.2.1.2. *Cities*. For Tuan (1975), homes and parts of homes such as fireplace or bed, are certainly places, but 'cities' are the perfect exemplification of the place concept – the 'centers of meaning' (p. 156). They can be located on a map and hence easily visualized. In contrast to natural landscapes which are treated as external 'objects', "the city is the one environment created exclusively for human use: it is kind to the thief as well as the burgher. (...) cities are places, worthy of proper names and prominent labeling in school atlases; whereas the neutral terms of space and area apply to the emptier lands" (p. 157). Cities have better delineated borders than neighborhoods and regions. Compared to countries which may change their territories and frontiers, cities are stable and continuous through time, as is the case with many cities in Central-Eastern Europe which after WWII changed their state belonging but not their position on a map (Lewicka, 2008).

2.2.2.1.3. *Neighborhood*. In contrast to cities, both smaller scale places (neighborhoods) and higher-order places (regions) are characterized by diffuse and often arbitrary borders. As noted by Tuan (1975), "As definable spatial and social units, neighborhoods have existed primarily in the minds of urban sociologists and planners" (p. 158). Kusenbach (2008) emphasized that neighborhood itself is composed of many concentric places and distinguished, on the basis of qualitative interviews, four mutually nested zones: microsettings, street blocks, walking distance neighborhoods, and enclaves. Galster (2001) emphasized that neighborhood understood as a homogeneous area may mean many different things, such as homogeneity with respect to type of buildings, infrastructure, demographic composition, environmental characteristics, access to job and services, social-interactive aspects, and sentimental characteristics. Dependent on the type of criteria used, people inhabiting the same area may use different definitions of their neighborhood and thus may refer to different city or town sections in their responses.

Nevertheless, despite its unclear borders, it is – paradoxically – neighborhood that has attracted attention of place researchers to a much higher extent than other place scales. Approximately 75% of all work that deals with residential place attachment concerns attachment to neighborhood (for similar observations see Giuliani, 2003; Hidalgo & Hernandez, 2001; Lewicka, 2010). This is obviously the heavy heritage of community studies, and of the similarity between concepts of community attachment and place attachment (Trentelman, 2009). Personal reasons are important, too, as a great deal of researchers interested in place attachment are originally community psychologists. Also the concept akin to place attachment – residential satisfaction – draws attention to intermediate place scales such as neighborhoods rather than to the overly small or the overly large ones (Bonaiuto et al., 2006; Fleury-Bahi, Félonneau & Marchand, 2008). Neighborhood thus seems to constitute the 'optimal level of abstraction' for place researchers, although it is not at all certain that it has the same meaning for residents themselves.

2.2.2.1.4. *Region*. Apart from neighborhood, another ambiguous place scale is region. Tuan (1975) believes that what converts abstract spaces into personally meaningful places is direct phenomenological experience, and therefore a region "is far too big to be directly experienced by most of its people. Region is therefore primarily a construct of thought" (p. 158). Much later Paasi (2003) wrote: "Current cross-borders regions are often units that have emerged rapidly from the desks of planners, politicians or business

coalitions, (...) not from long historical regionalization processes and the daily struggles of citizens" (p. 480). In line with these observations, the scarce empirical data which did include regions into studies of place attachment or place identity prove that regions are perceived as less important objects of emotional attachments or self-definitions (Laczko, 2005; Lewicka, 2008, but cf. Gustafson, 2009a, who observed no difference between attachment to cities and regions in Sweden). Sometimes regions become targets of strong identifications, but this happens when (usually for historical reasons) they have acquired strong nationalistic meaning, such as the Basque country in Spain, West Bank in Israel, Galicia in Western Ukraine or Silesia in Poland. One can also mention provinces of former Yugoslavia where separatist, nationalistically based movements were so strong that after a bloody war several independent states were created. The majority of regions, however, have fuzzy borders and diffused identity. This is probably the reason why, with some exceptions (Cuba & Hummon, 1993; Gustafson, 2009a; Laczko, 2005), regions are not favorite objects of research in place attachment.

2.2.2.1.5. *Country*. 'Country' as a target of attachment is another place level, however, its meaning for people has usually been studied through its symbolic value and processes of ingroup-outgroup divisions rather than through its environmentally more relevant, spatial and physical dimensions (but see: Reicher, Hopkins, & Harrison, 2006 for an exception). Countries are rooted in a common history and particularly strong, socially constructed symbols of group belonging and group identity, and therefore evoke particularly strong emotional reactions. As we will see later, attempts to neutralize the significance of national identification by either replacing it by a more general one such as 'European' or by breaking it into different pieces by creating cross-border regions (a project of the European Commission aimed at facilitation of European integration) have mostly failed.

2.2.2.1.6. *Continent*. Of still higher levels of identification, the majority have pretty arbitrary geographical ranges and names. The best example is Europe, which can be cut into different supranational pieces, depending on current politics. Examples include the concept of 'Mitteleuropa' that justified German expansion to the east during the two world wars and the partitioning of Europe into 'Western' and 'Eastern' parts after WWII that justified the division of control over the continent between the main political powers. Currently we have the concept of an 'integrated Europe' that includes 27 countries. Bearing this in mind, it is important to emphasize that 'attachment to Europe' or 'European identity' may mean altogether different things for British or German (old EU members), Polish or Lithuanian (new members), for Croatians or Ukrainian who aspire to the EU, and for Norwegians or Swiss who voted against integration of their countries into the European Union. One should bear this in mind when one compares data from respective European or world surveys.

2.2.2.2. *Place scale and attachment: local after all?*. How does place attachment compare across different place levels? Unfortunately, studies that can provide us with relevant data are few. One of the more interesting findings, replicated in several countries, is that – consistent with Tuan's (1975) claim that neighborhoods are poorer examples of place than homes or cities – a curvilinear relationship between place levels (home, neighborhood, city) and strength of place attachment was observed. The intermediate level (neighborhood) evoked less attachment than home or city (Hernandez et al., 2007; Hidalgo & Hernandez, 2001). Lewicka (2010), using five types of places (apartment, house, neighborhood, city district, and city), replicated this relationship in several cities and countries, but also showed that the curvilinear, U-shaped relationship was the strongest in the most attractive cities and that the differences

between place scales disappeared in small towns and rural areas. The latter finding may throw light on possible cognitive mechanisms of place attachment, and thus confirm Tuan's intuition that the better geographically and cognitively defined space, the more meaning it may acquire and the higher chance that it will become a target of attachment. As a corroboration of this claim Bernardo and Palma-Oliveira (2009) applied the social psychological concept of 'entitativity', originally employed to describe perceptions of groups (for a review of this research see Hamilton, Sherman, & Castelli, 2002), to differentiate between different neighborhoods, and demonstrated that the degree to which neighborhoods were perceived as having a status of independent entities was correlated with place attachment.

A comparison that included country and continent in addition to the more local scales, was performed by Laczko (2005). Using survey data drawn from the International Social Survey Programme, carried out in 1995 in 24 countries, he compared attachment, measured with answers to two questions: 'how close do you feel to ...' and 'if you could move (...) how willing or unwilling would you be to move to another ...' rated with respect to five places: neighborhood, town or city, province, country, and continent. The findings show that – with some exceptions – participants reported the strongest attachment to their country and the least attachment to their continent. Neighborhood and town/city scored second or third in strength of attachment in the majority of countries, while province usually had a fourth rank. An interesting exception to this general pattern was the US, whose citizens felt the least attached to their neighborhood and second strongest to their province (state). When the declared willingness to move was compared, the results were strikingly identical across all countries. In all 24 countries participants were the most willing to move to another neighborhood within the same town/city, followed by another town/city within the same province, and the least willing – to move to another continent (rank 5) or to another country (rank 4). Gustafson (2009b) used Swedish survey data and found the highest attachment to the country (Sweden) and the lowest to the continent (Europe), which supports the results presented by Laczko (2005).

About 40 years ago Tuan (1974) suggested that as people become more educated and more mobile, the scale of their identification changes from purely local (neighborhood) and national (country) to regional and cosmopolitan. The data presented above seem to throw doubt on this claim: despite the obviously growing level of education and mobility in contemporary societies, attachments/identities of average citizens of all countries remain traditional: nation and neighborhood/city are the most preferred place scales. One may argue, of course, that country averages obtained in national surveys tend to obliterate differences between different sections of societies. As postulated by Castells (1996, see also Bauman, 1998), in contemporary societies elites tend to be cosmopolitan, but the majority of populations remain local. One could therefore predict that the elite and mobile factions of each society should prefer cosmopolitan over local identities, while the reverse would be true for the remaining 'localized' majorities.

Although these predictions sound almost trivial, the empirical data do not confirm them. Gustafson (2009a) compared three groups of Swedish citizens, differing in mobility (frequent travelers, occasional travelers and non-travelers) with respect to different measures of attachment (sense of belonging, willingness to move etc.), rated with respect to several place scales (local, regional, national, and European) and found that although frequent travelers felt stronger emotional bonds with larger place scales, such as Europe, and were more willing to live abroad, they did not express less attachment to their city, region or Sweden than non-travelers. Additionally – contrary to expectation – they showed stronger involvement in local actions and generally expressed stronger

social capital, both bonding and bridging, than non-travelers. Similar results were obtained by Lewicka (in press) in a representative Polish survey – higher involvement in local actions and higher bonding and bridging social capital were shown by those participants whose attachments combined local and European scale, compared to those who were only local. This study also revealed a large group of Polish citizens whose identities included both, local and global place scales, demonstrating that different place scales are not mutually exclusive.

To summarize, the available research, mostly coming from large national surveys and cross-national comparisons, suggests that people not only show strong attachments to their residence places, but that self categorizations in terms of larger place scales, such as Europe, do not destroy their local sentiments. This is in line with Graumann (1983) who postulated that multiple identities are the norm rather than the exception and that different settings make different types of identities salient. Being away from home (city, country) may make home ties more salient, and hence – under some circumstances – paradoxically may contribute to maintenance of local identity rather than its disruption (see also: Case, 1996; Lewicka & Bańka, 2008). The frequently met arguments about the decline of local community and of national identification due to intensification of globalization processes seem to find modest support in survey studies of place attachment.

2.2.3. Residence vs. recreation places

One of the most visible new trends in studies of place attachment in the last decade is a growing interest in attachment to places other than permanent residences: summer houses (Beckley, 2003; Williams & McIntyre, 2001), second homes (Gustafson, 2006; McHugh & Mings, 1996; Stedman, 2006; Van Patten & Williams, 2008), outdoor recreation places such as landscapes (Fishwick & Vining, 1992; Kaltenborn & Bjerke, 2002), forests (Smaldone, 2006), lakes (Jorgensen & Stedman, 2001; 2006) and lake regions (Williams & Van Patten, 1998), rivers (Davenport & Anderson, 2005) and wild streams (Hammit et al., 2006), sea coasts (Kelly & Hosking, 2008), mountains (Kyle, Graefe, Manning, & Bacon, 2003), and wilderness places (Williams, Patterson, Roggenbuck, & Watson, 1992). This interest is strengthened by economic processes that convert high-amenity rural areas, previously supported by local industry, such as timber, into recreation and tourist places (Larsen, 2004; Williams & Van Patten, 1998), and by the growing affluence of western societies whose citizens can afford to own more than one home and to recreate in attractive places (McHugh & Mings, 1996). These developments have been accompanied by rapid growth of interest in conservation and in ecosystem management strategies (Bott, Cantrill, & Myers, Jr., 2003; Devine-Wright & Howes, 2010), which also contributes to the interest in the relationship between people and high-amenity places.

2.2.3.1. *Physical vs. social dimensions of attachment.* Place, defined as a 'meaningful location', is an entity that has a social dimension, but also a palpable and very real physical basis. Although constructivists contend that the physical and the social stay in a 'symbiotic relationship' and that the physical has meaning only because it has been socially construed (Burley, 2007), the majority of place attachment researchers assume that the two dimensions of place are worth distinguishing and that they may play different roles in attachment processes. Some people feel attached to a place because of the close ties they have in their neighborhood, generational rootedness, or strong religious symbolism of the place, that is, because of social factors; others may feel attached to the physical assets of places, such as beautiful nature, possibility of recreation and rest, or physically stimulating environment. For many years, interest in social dimensions of place attachment has been stronger

than interest in its physical dimensions (cf. Brehm, 2007; Brehm, Eisenhauer, & Krannich, 2006). Within certain theoretical traditions that have dominated place research (Alkon & Traugot, 2008; Greider & Garkovich, 1994; Stokowski, 2002), sense of place has been viewed as a social construction, a product of shared behavioral and cultural processes rather than the result of perceptual and cognitive processes rooted in physical characteristics of settings. This view was contested in the widely cited paper by Stedman (2003a). The stronger emphasis on social than physical aspects of place attachment can also be understood through history of the concept. Environmental research in place attachment (particularly research using quantitative methodology) is basically a continuation of community studies (Fried, 1984), hence the concepts of 'place attachment' and 'community attachment' tend to overlap. As observed by Gieryn (2000) and Gustafson (2006), in community and sociological studies the physical side of a place has been usually treated as a container of social processes rather than an independent object of studies.

The recent switch of interest from traditional, mostly urban, residential settings to communities located in high-amenity areas, has provided new thrust to research in place attachment. New measures of place attachment were created, meant specifically to tap not only the emotional but also the goal facilitating aspects of recreational settings (Williams & Vaske, 2003) and along with this shift, research attention has switched to the – so far largely ignored – natural environment dimension of place attachment. This has led to creation of measurement instruments explicitly addressing physical, along with social, reasons for attachment (Brehm et al., 2006; Scannell & Gifford, 2010b).

The presence of both social and physical dimensions responsible for place attachment has been documented by now in a long series of studies, both in residential (Hidalgo & Hernandez, 2001) and in natural settings. For example, in a large survey carried out in southern Utah, Eisenhauer, Krannich, and Blahna (2000) asked residents of four rural communities (i) to specify places that they considered special, (ii) to give reasons why these places have a special meaning, and (iii) to list activities performed in these places. When asked why the indicated places were special, participants divided their answers equally between social (family/friends related) and ecological reasons (environmental features/characteristics of place), with the two groups together accounting for more than 70% of answers. Both groups of reasons were given equal weight despite the fact that the indicated places were used mostly for recreational activities: camping, hunting or fishing, taking photographs, admiring scenery, picnicking etc. Brown and Raymond (2007) used a map-based measure of landscape values, asking participants – residents and visitors of the Otways region (Victoria, Australia) – to place a number of differently valued tokens in these places on a map of the region that embodied 12 different landscape values. Those included both, environmental-physical values, and economic and social ones. The results show that participants distributed significantly more tokens to environmental values, such as aesthetic, recreation, therapeutic, biological diversity, and wilderness, than to social ones (home, heritage, family connections, economic, etc.). Korpela, Ylen, Tyrväinen, and Silvennoinen (2009) investigated how stable are selections of favorite places over time and which places are targets of the highest attachments, and found that the most preferred were natural neighborhood settings such as parks, beaches, forests or allotment gardens – their choices were also the most stable over time. In line with the above, Brehm et al. (2006) and Scannell and Gifford (2010b) with the help of specially designed psychometric instruments, demonstrated existence of two dimensions of place attachment in the studied communities, and – what is particularly interesting – noted the generally higher scores on natural than on social attachment subscales.

Meanings ascribed to wild nature are a suitable subject for qualitative studies. Brehm (2007) in a series of in-depth interviews explored the different meanings that residents of a small Mormon community in Utah ascribed to the environmental dimension and sought to determine whether the physical dimension was indeed as independent from the social one, as the psychometric studies suggested. Five categories of meanings emerged, of which four – according to Brehm's interpretation – were mixed environmental-social meanings. The mix of sociocultural and biophysical reasons of place attachment also appeared in a qualitative study, with interviews supported by residents' photographs, carried out by Beckley, Stedman, Wallace, and Ambard (2007) in recreational areas of western Newfoundland and western Alberta. Bow and Buys (2003) showed, using the semi-structured focus group technique, that psychological sense of community and place attachment among residents of the Highland Park in the Gold Coast, Australia, was associated mostly with their positive feelings for natural environment. Van Patten and Williams (2008) conducted in-depth interviews with seasonal home owners in the Hayward Lakes Region of Northern Wisconsin with the purpose of discovering meanings attached to the area and to the seasonal homes. In agreement with previous qualitative studies, text analysis of the collected narratives revealed few main themes, such as 'escape, back to nature, and simplicity', 'centrality and identification' with the place, 'obligations' and responsibilities associated with owning another property, and 'community and social interactions'.

Environmental versus social meanings attached to the high-amenity areas were also targets of extensive studies aimed at comparing different types of users with respect to place attachment and to the relative importance of these two dimensions. They will be described in the next section.

2.2.3.2. Locals vs. newcomers. When urbanites settle in an attractive natural place, at least at the beginning they are considered foreign to the community which has lived there for generations. This is a universal phenomenon, evidenced by the great popularity (probably in the majority of languages) of surnames which mean 'a newcomer', e.g., Newman in English, Neumann in German, Nowak or Novak in Polish or Czech, etc. As the high-amenity area grows in popularity, the number of newcomers grows as well, and the area is visited by seasonal tourists but also by urbanites who buy their second homes there. The new users who have discovered the area for themselves tend to think of it as not less 'theirs' than those who have resided there for generations. But are there really no differences between the two groups? Are the new users capable of developing equally strong attachments to the places as locals, and contribute equally to community life? If the 'newcomers' also happen to be place researchers, then they will probably try to answer these questions in a research program.

The literature includes two opposing viewpoints on what makes a person a part of a community and which factors contribute to full identification with place. The 'traditional' point of view is represented by classic writers such as Tuan (1975), Relph (1976) and Porteous (1976), or more recently by Hay (1998). Relph (1976) assumes that there are different gradations of 'insidedness': from a total alienation from place ('objective outsidersness') through various stages of 'insidedness', of which the highest is 'existential insidedness' – a full immersion in the place, reserved for those who have lived there for generations or at least for a very long time. Relph is also particularly skeptical about relations that tourists develop with visited places – their attitude is considered 'inauthentic', represented at most by the 'objective insidedness'. This view is shared by Hay (1998) who presented a typology of people's sense of place, ranging from 'superficial', through 'partial', 'personal', 'ancestral' and 'cultural', along with examples of groups

of people representing each stage. According to this view, a true sense of place can be developed only by those who have been raised in the place or lived there for many generations (ancestral and cultural). *Porteous (1976)* contends that few people have more than one home at any given time, and that journeys away from home reinforce people's emotional bonds with their real home rather than create new ones. *Stedman (2006, p. 190)* summarized this perspective in a few points: (a) newcomers cannot share values of the real community because they have not contributed to their creation, (b) newcomers are consumers rather than creators of places, (c) because of the short time of encounter with the place they cannot develop attachment to it, and (d) they endanger the true character of the place by bringing in foreign ways of life.

This view has been vehemently contested by researchers who investigate sense of place among users of recreation sites (new settlers, seasonal residents, occasional tourists). *Kaltenborn and Williams (2002)* were one of the first who warned against putting a sign of equivalence between attachment and residence length, and thus against “community and humanistic approaches to sense of place – in which transients and tourists are presumed not to develop strong attachments in comparison to ‘insiders’ who were raised and/or have resided for long periods of time in a place” (p. 191). Place attachment, according to this view, may develop independently of residence time, although it may have a different quality than attachment of more permanent residents (*Kaltenborn & Williams, 2002; Stedman, 2006*).

The empirical evidence for one or the other viewpoint, however, is mixed. *Nielsen-Pincus, Hall, Force, and Wulfhorst (in press)* compared a large group of locals and seasonal home owners in three rural counties in the interior northwestern USA with respect to place attachment, place identity, and place dependence. Also collected were socio-demographic measures, including time the property was owned and time spent in the residence. Contrary to the claim that new settlers tend to be as strongly attached to their new residences as the locals, the findings showed higher place attachment and place identity in locals than seasonal owners, and a positive relationship between attachment and time spent in the residence. *McHugh and Mings (1996)* found that intensity of attachment may vary with type of a settler. They studied seasonal migrants – retired persons who shared their time between two different homes: permanent home and winter home in a gated community in Phoenix, Arizona. Types of emotional bonds with the second home were found to differ greatly with different users, divided roughly into three types on the bases of qualitative interviews: ‘still-rooted’, ‘suspended’ and ‘footloose.’ The still-rooted were more attached to their original home than to their winter one, the suspended did not show clear preferences, and the footloose were little-attached to both places. *Rowles (1990)* in turn distinguished three types of ‘insiderness’ among old residents of a rural Appalachian area: physical, social, and autobiographical, with different types of residents representing different types of ‘insiderness’. For instance, the ‘amenity retiree migrants’ did not show the autobiographical insiderness.

Kaltenborn and Williams (2002) – somewhat against their own claims – found that strength of place attachment (measured with a four-item scale) was indeed higher among permanent residents of a Norwegian high-amenity area of Femundsmarka National Park than among tourists; however, there were also differences within the two groups depending on length of residence, frequency of visits, and the importance attached to the social dimension of the place. Unfortunately, no direct comparisons between tourists and locals were carried out with regard to the reasons for attachment, so the results have little relevance to the main question. *Bricker and Kerstetter (2000)* compared two groups of whitewater recreationists with respect to three dimensions of place attachment (place identity, place

dependence, and life style). They found that more highly specialized recreationists showed higher scores on place identity and life style dimensions than less specialized ones, and thus that experience with the area intensified emotional bonds with it. Other findings collected in high-amenity areas agree with what is otherwise known about predictors of attachment: those who spend more time in the place also feel more attached (*Kelly & Hosking, 2008*).

One can reasonably expect that locals and newcomers differ in reasons of attachment: the community members should feel attached because of community ties and social-cultural assets of places, while the new settlers and tourists because of environmental features. *Stedman (2006)* tested this hypothesis in the North Central Region of Wisconsin by comparing three groups of participants: year-round residents, seasonal/weekender users, and infrequent visitors, with regard to place attachment, measured with the nine items Place Attachment Scale, used in previous studies (*Jorgensen & Stedman, 2001*), and meaning attached to the area, and found that (i) seasonal/weekender users were more attached than the remaining three groups who did not differ (thus contradicting the ‘traditional’ view), and (ii) that different meanings ascribed to the region accounted for place attachment in the three groups. The best predictors of place attachment for year-round residents were community ties and social networks, for the frequent second home users – activities around the property and environmental qualities of the place, and for infrequent second home users – recreation activities and environmental qualities.

It is also possible that attachment develops faster for the physical than for social dimension of place attachment, and thus that new settlers and tourists who visit places mostly because of their environmental qualities develop attachment faster than locals for whom the social dimension is the most important. After all, it takes longer to create a network of stable social relationships than to develop affective bonds with beautiful nature. *Scannell and Gifford (2010b)* obtained data which corroborate this hypothesis: of two dimensions of place attachment, civic and natural, only the former was significantly correlated to length of residence in the studied community.

Overall, the value of the empirical material concerning attachment to recreational areas is mixed – the grand theoretical and philosophical questions contrast with modest and often common sense findings. The very distinction of ‘social’ and ‘physical’ is vague and unless it is treated as a starting point for a more elaborated theory, it does not add much to our understanding of processes of place attachment. An interesting theoretical alternative, though, so far largely untested, was suggested by *Beckley (2003)* who distinguished between two groups of factors responsible for place attachment: anchors (factors which prevent people from moving from a place) and magnets (factors which attract people to a place). This distinction is simple but theoretically inspiring; for example, it appears to have some affinity to the concept of promotion vs. prevention, introduced by *Higgins (1997)* to account for differences in human motivation. It may also be relevant to the social-physical dimension. One can predict that social and community factors are anchors rather than magnets, while the opposite may be true for the physical-recreational assets of places. So it is not the difference between the physical and the social as such which may be most inspiring for place researchers but the psychological role these two aspects of place play in the processes of place attachment.

2.3. Predictors vs. consequences of place attachment

A dimension of place attachment is not the same as a predictor of attachment although sometimes the two concepts may overlap. ‘Dimension’ means type of attachment or reason of attachment, and is usually studied with direct questions (e.g., ‘how important

for your attachment to the place is...') (Brehm et al., 2006; Hidalgo & Hernandez, 2001), or through specially designed place attachment scales with separate items denoting attachment to natural and to social features of place (Scannell & Gifford, 2010b). 'Predictors', in turn, are factors which are studied independently of reported sentiments, and even if a positive relationship is identified between a predictor and strength of attachment, an individual does not have to be aware of this association. Another difference is that whereas predictors help unveil possible mechanisms of attachment, dimensions of attachment serve themselves as predictors of relevant (usually pro-environmental) behaviors. In the next section I will briefly review the current state of knowledge on predictors of attachment, and – following that – on correlates and consequences of attachment.

2.3.1. Predictors of place attachment

The most parsimonious categorization of predictors of place attachment is into three rough categories: socio-demographic, social, and physical-environmental. An extensive review of the main findings grouped into these three classes has been presented elsewhere (Lewicka, 2010). Here I will present a brief summary, supplemented with some additional findings.

2.3.1.1. Socio-demographic predictors. Variables that have been studied under this label include residence length, age, social status and education, home ownership, size of community, having children, mobility and its range. Of these variables, residence length has been found to be the unquestionable winner – the most consistent positive predictor of attachment to residence places (usually neighborhoods) as found by Bonaiuto, Aiello, Perugini, Bonnes, and Ercolani (1999), Brown, Perkins, and Brown (2003, 2004), Fleury-Bahi et al., 2008, Goudy (1982, 1990), Gustafson (2009a), Hay (1998), Kasarda and Janowitz (1974), Krannich and Greider (1984), Lalli (1992), Lewicka (2005; 2010), Shamai and Ilatov (2005), and a number of others. Length of residence has been found to foster attachment both to permanent residence places and to places of recreation. In a study by Jorgensen and Stedman (2006), carried out among shoreline owners in northern Wisconsin, USA, days spent in the area, but not time the property was owned, was a positive predictor of sense of place (place attachment and place identity). Similar data were obtained by Kelly and Hosking (2008) and Nielsen-Pincus et al. (in press), who found that in the high-amenity areas (respectively, Australian Augusta-Margaret River region, and rural counties in the interior north-western USA) the best predictor of attachment to a second home was the overall time spent in the place and whether the home was in the family for several generations, but not how long the home was owned.

The consistent positive relationship between time of living in a place and attachment made some researchers include residence length as one of the measures or even as the sole measure of place attachment (Kleit & Manzo, 2006; Riger & Lavrakas, 1981; Taylor et al., 1985). Length of residence was found to predict attachment both directly and indirectly – through affecting strength of local ties (Harlan et al., 2005; Lewicka, 2010) – another consistent predictor of attachment.

Although the relationship between length of residence and attachment has been confirmed in numerous studies, not many studies have scrutinized the shape of this function. In a study by Lalli (1992) urban identity (attachment to city) was related to length of residence through a linear relationship: the longer one resided in the city, the more one felt attached to it, however, a closer look at the shape of the curve reveals that the highest increments of attachment occur in the first years of residence. Similarly, Harlan et al., (2005) found that in a highly mobile area

such as Phoenix, Arizona, although length of residence consistently predicted both attachment and strength of neighborhood ties, the most rapid increase in both measures took place in the first four years of residence, and the slope became flatter afterwards. Hernandez et al. (2007) found that two, closely related constructs, place attachment and place identity, depended differently on residence time among university students in the Canary Islands. Place attachment developed relatively fast while development of place identity required much more time. These findings may be an argument in the discussion of whether the newcomers are or are not able to develop equally strong ties to their new residence place as the locals. The majority of studies, though, did not check for shape of the function relating residence length to attachment. It should also be mentioned that not all studies found a significant relationship between these two variables (Bolan, 1997; Cuba & Hummon, 1993; Elder, King, & Conger, 1996; Scannell & Gifford, 2010b; Stokols & Shumaker, 1982).

Closely related to the variable of residence length is that of mobility. Mobility can take different forms, and hence it can affect place bonding in various ways (Gustafson, 2002). Apart from frequent changes of a permanent residence, mobility may take a form of commuting, i.e., having one stable place to live but taking longer trips to another city or country for work (Van der Klis & Karsten, 2009); of frequent business trips outside one's city or town within the country or longer trips abroad with long periods of absence from home (Gustafson, 2009b); or of tourist travel to various, often exotic, places. These different forms of mobility may result in different levels of attachment to permanent places of residence: some may decrease attachment (Gustafson, 2009b) but others can even increase it, consistent with the saying that 'absence makes the heart grow fonder' (Case, 1996; Terkenli, 1995; Van der Klis & Karsten, 2009). In a large representative survey carried out by Lewicka (in press) mobility, operationalized by the number of moves, number of different cities in which one lived, and whether one worked or not abroad, contributed to place attachment much less than the pure measure of residence length in the present place. Evidence exists that mobility may change the form of place identity. Feldman (1990) suggested (and obtained empirical evidence corroborating this claim) that as societies become more mobile, people shift from attachment to concrete places to a new form of identity, called 'settlement identity' – i.e., attachment to general classes of places such as 'mountain person', 'urbanite', 'rural person' etc. All in all, there is no doubt that the issue of the relationship between mobility and place attachment is far from settled.

Another socio-demographic factor found to be a consistent predictor of place attachment is home ownership (Bolan, 1997; Brown et al., 2003; Mesch & Manor, 1998; Ringel & Finkelstein, 1991), a variable which because of its close connection with attachment has been used as its proxy measure by some researchers (Taylor et al., 1985). Other variables, such as social and economic status, education or age, show erratic patterns of relationship with place attachment, sometimes positive and sometimes negative (Bonaiuto et al., 1999; Fried, 1984; Krannich & Greider, 1984; Lalli, 1992; Lewicka, 2005; Riger & Lavrakas, 1981), suggesting that the relationship is probably mediated or moderated by additional factors. For instance Lewicka (in press) found that the shape of the relationship between place attachment on one hand, and age and education on the other, may depend on type of attachment. Whereas a traditional, 'everyday' attachment (Hummon, 1992) was strongly negatively related to education and strongly positively to age, a more active form of attachment ('ideological rootedness' – Hummon, 1992) showed an inverted U-shaped relationship with age and a linear positive relationship with education. It is also important to note that the possible mediators between SES and place attachment may work in opposite directions, sometimes even canceling each other. For

example, people with higher SES tend to be more mobile and have less-developed local bonds (negative predictors), but also may own rather than rent a home and have more freedom in choosing the place they want to live than those who are less educated and economically worse off (positive predictors).

2.3.1.2. Social predictors. The usually studied social predictors of place attachment are community ties. Those have been operationalized in many different ways but are all measures of 'local social capital', i.e., of strength and extensiveness of neighborhood ties and involvement in informal social activities in the neighborhood (Bonaiuto et al., 1999, 2006; Brown et al., 2004; Kasarda & Janowitz, 1974; Lewicka, 2005; Mesch & Manor, 1998; Moser, Ratiu, & Fleury-Bahi, 2002; Ringel & Finkelstein, 1991). Along with residence length, strength of community ties has been consistently found to positively predict place attachment. Scopelliti and Tiberio (2010) studied homesickness among students of Rome and found that the intensity of this emotion (which may be considered a measure of strength of attachment to the home town) was predicted by the perceived strength of community ties within the home town. Lewicka (2010) showed that close relations with neighbors predicted not only attachment to home and neighborhood but also to the city district and to the city. One may wonder about the causal direction of this relationship: close social ties in residence place may make the place more meaningful and thus contribute to emotional bonds, but place attachment may increase willingness to enter into contacts with neighbors, or both, emotional bonds with the place and strong community ties may be parts of one syndrome, typical for example of people with less instrumental attitudes towards their closest surroundings. As long as place researchers study predictors and not mechanisms of attachment, these questions will not be answered.

Beyond community ties, sense of security has often been studied as a predictor of place attachment. Whenever it is included into the studied array of variables, it shows a consistent positive relationship with place attachment (Brown et al., 2003, 2004; Lewicka, 2010; Mesch & Manor, 1998).

2.3.1.3. Physical predictors. Compared to socio-demographic variables, which are easy to operationalize, and social variables, which usually cover few well-defined measures (such as neighborhood ties or sense of security), the potential number of physical (natural, architectural or urban) features that may affect attachment is endless and, as has been rightly noted by Farnum, Hall, and Kruger (2005, p. 42), studies that seek to "see what relates to what" cannot contribute to any coherent knowledge. In the absence of a theory, the choice of variables either must be very selective, mostly based on common sense, or it must use categories that are very broad (e.g., "nature" or "physical factors") or, like in the extensive Italian project (Fornara, Bonaiuto, & Bonnes, 2009) it must include almost all possible physical features of residential settings.

Another problem with this type of predictor concerns its measurement. Estimates of physical features may be obtained from objective measures (e.g., building size or density) or, alternatively, from independent estimates made by trained observers (e.g., ratings of precinct cleanliness), and they also may be made by participants themselves. A good example of the former is a study carried out by Hur, Nasar, and Chun (2010) who used GIS measures and satellite images to estimate several basic physical parameters of an area (building density, vegetation rate, etc.), and later studied their relationship to the overall residence satisfaction. Another example are studies by Kim and Kaplan (2004) on the effects of living in New Urbanism settlements, compared to traditional ones, studies of effects of living in gated communities (Wilson-Doenges, 2000), or studies which included size of a building or type of housing into

predictors of attachment (Gillis, 1977; Lewicka, 2010; see Gifford, 2007, for a review). Much less reliable are subjective estimates of physical features made by residents themselves. As demonstrated by Félonneau (2004), people who are more attached to their city also tend to perceive its physical characteristics as more pleasant and less polluted. However, probably for convenience reasons, a number of studies rely on subjective estimates of physical dimensions of place. Such studies may be helped by the psychometrically tested **Index of Perceived Residential Environment Quality (PREQ)**, designed by the group of Italian researchers (Bonaiuto, Fornara, & Bonnes, 2003; Fornara et al., 2009), that incorporates a large array of physical indices such as perceived building aesthetics, building density and volume, presence of green areas, access to various kinds of services, pace of life, and upkeep. It is by far the most extensive program of measuring perceived physical features of settings in relation to neighborhood attachment.

Although in the majority of studies the most consistent predictor of attachment to residence place are social factors (strength of local ties), the physical variables have value, too, and sometimes collectively explain a higher percent of variance of attachment than social factors. Among environmental features which were found to affect neighborhood attachment are quiet areas, presence of aesthetically pleasant buildings, presence of green areas (Bonaiuto et al., 1999) and lack of perceived incivilities (Brown et al., 2003, 2004). Fried (1982), in a large survey carried out in 42 US municipalities, found that residential satisfaction (a term used interchangeably with community and residential attachment) was predicted better by physical features than by social factors. By far the most important was access to nature, followed by housing and neighborhood quality, sense of safety, home ownership, municipal services, sense of neighborhood and community, and household density. The author concludes that objective features are prominent in explaining residential satisfaction (attachment). Harlan et al., (2005) used data from a large survey carried out in Phoenix and found that the best predictors of the neighborhood sentiment (another name for place attachment) were, apart from the length of residence, the perceived control over the residence area, the stability of the neighborhood, and a lack of pollution and of disorder. Perceived environmental features, such as control and presence of amenities, also predicted neighborhood social ties (considered in this study as part of the attachment measure).

Physical features may facilitate social contacts and thus influence place attachment indirectly. Sugihara and Evans (2000) showed that among residents of continuing care retirement communities, the best predictors of place attachment were such physical features as close walking distance to the central activity building, small functional distance to neighbors, and access to a shared, enclosed outdoor garden. Kim and Kaplan (2004) compared attachment and neighborhood ties in traditional American suburbs with New Urbanism settlements specifically designed to increase social ties and emotional bonds with places (see Katz, 1994), and found that the New Urbanist layout had advantages over the traditional one. Another physical feature that may affect attachment both directly and indirectly – through facilitating social ties – is size of building and type of housing. Lewicka (2010) found that size of building was a negative predictor of the upkeep and personalization of the living area, and of the strength of neighborhood ties; both factors predicted place attachment. Single-family dwellings scored the highest both in terms of attachment and neighborhood relations. A good review of (negative) consequences of living in high-rises was presented by Gifford (2007). These findings are in agreement with Newman's (1996) theory that relates size of building to size of the territory under residents' control: the taller the building, the greater proportion of public territory to the remaining three territories (private, semi-private

and semipublic) and the less control over living area. On the other hand, in some studies (Gillis, 1977) attachment to different sized buildings or, to be more precise, to different floors in a building, was moderated by gender: males felt more attached to apartments located on higher floors, whereas women preferred lower floors.

The relative importance of social vs. physical factors sometimes depends on additional factors. Fried (1984) found that the relative importance of physical vs. social factors depended on the socio-economic status of residents: objective features were better predictors of attachment in higher classes, whereas the strength of social ties was in lower ones. Pretty et al. (2003) observed that the relative role of the two types of factors was age-dependent. In a study carried out in rural Australia, place attachment in older people was best predicted by social factors, but in younger ones by the degree to which the place enabled activity and the completion of important life goals. The relative role of physical vs. social features may also depend on place scale. Lewicka (2010) found that, although social factors (particularly neighborhood ties) were the overall strongest predictor of attachment in four cities of central Europe (Poland and Ukraine), physical features, such as size of building, upkeep, level of area personalization, presence of greenery, and type of housing, predicted attachment to the building and neighborhood better than to city district and to city. Hidalgo and Hernandez (2001) and Scannell and Gifford (2010b) in turn observed that physical factors were more important reasons for attachment to the city, but social factors were for home and neighborhood. This coincides with Beckley's (2003) postulate that as the scale of place extends beyond a person's social networks, attachment will be more heavily influenced by ecological (physical) factors. These discrepant results may be easily explained as caused by differences in the physical measures considered in particular studies. Whereas building size and yard cleanliness predict attachment to the neighborhood rather than to the whole city, such general physical features as the historical character of a city or the amount of the city's green areas should affect attachment to a city rather than to its specific neighborhoods.

As mentioned earlier, there is a sad lack of theory that would connect people's emotional bonds with the physical side of places. In an early journal issue devoted to place attachment (*Population and Environment*, 1984, vol. 7), Kaplan (1984) postulated that in order to understand people's relations to places, one should consider more than economic factors and social relations, because they explain a small portion of variance of place attachment, and focus on the "intangibles": physical features that make the environment easy to become attached to (p. 131). Among the best candidates, Kaplan suggested the place's mapability and legibility; scale, enclosure and spatial diversity of the physical setting; and congruence between the person and the setting, i.e., the degree to which the setting can support personal goals and plans. This project, to my knowledge, has never been realized, nor has any other that would relate place attachment to theoretical dimensions elaborated in theories of environmental aesthetics: prospect-refuge (Appleton, 1984), legibility-coherence vs. mystery-complexity (Kaplan, 1979), or the four-fold classification of affective reactions to environment: boredom, fear, excitement, and relaxation (Russell, 1988, but see Fornara et al., 2009 for an exception).

2.3.2. Consequences and correlates of place attachment

In most studies place attachment is assumed to be a good thing, and some evidence supports this claim. Theodori (2001) studied random samples of four different communities in Pennsylvania and showed that community attachment was a significant independent predictor of individual well-being. The known close association between local ties and place attachment, described in previous sections, shows that attached community members have a better local social capital than the non-attached ones (Kasarda & Janowitz,

1974; Mesch & Manor, 1998). Lewicka (in press) found in a large survey that place-attached persons, compared to non-attached ones, demonstrated a higher sense of coherence, were more satisfied with their life overall, had a stronger bonding social capital and neighborhood ties, were more interested in their family roots, trusted people more, and were generally less egocentric, as shown by higher scores on the 'self-transcendence' dimension (benevolence and universalism) of Schwartz' value circumplex. However, because all studies that explore associations between place attachment and other variables are correlational, it is uncertain whether attachment causes these beneficial outcomes, or perhaps it is their consequence, or – which complicates the picture even more – whether the correlation is the result of a spurious association with some other, yet unidentified, variable. One may easily imagine that people who are generally satisfied with their life also tend to have more friends, develop better relations with neighbors, and have a more positive attitude towards their residence place. It is also possible that some personality constructs (e.g., self-continuity, sense of coherence) may contribute to strong emotional bonds with places on one hand, and to life satisfaction and strong social ties, on the other. Without more attention paid to psychological mechanisms of place attachment, these questions cannot be answered.

Along with its positive emotional and social consequences, place attachment may also carry dangers, such as decreased mobility, and hence restricted life opportunities (Fried, 2000), or unwillingness to move in the face of natural dangers such as earthquakes, floods or radiation (Druzhinina & Palma-Oliveira, 2004). In addition, Brodsky (1996) showed that in pathological communities, an overly strong psychological sense of community may be detrimental to children's development.

Major attention of place researchers looking for consequences of place attachment has been focused on place-related activities. They often assume that place-attached people are more willing to engage in activities on behalf of their residence place or, in natural high-amenity areas, in activities aimed at preservation of natural resources. However, as is known from research on attitude-behavior consistency (Ajzen & Fishbein, 1977), this link is far from absolute, and therefore evidence that attachment leads to social engagement is mixed. On the positive side, Vaske and Kobrin (2001) and Scannell and Gifford (2010b) found a positive link between place identity and environmentally responsible behaviors, such as recycling or conserving water. Carrus, Bonaiuto, and Bonnes (2005) found a positive relationship between regional identity (regional pride) and support for protected park areas, and Perkins, Brown, and Taylor (1996) showed that community attachment and neighboring were consistent positive predictors of participatory behaviors in grass-root community organizations.

On the other hand, ample evidence exists for a null or negative association between place attachment and engagement in place-related activity. Lewicka (2005), in a representative national sample, did not find a direct relationship between place attachment and willingness to be involved in various forms of social activity (and on the block level, she even found a negative association); however, she found a consistent *indirect* link between the two measures; the mediating variable was neighborhood ties. An almost identical finding was observed by Payton (2003) in her MA thesis: the relationship between place attachment and social engagement was mediated by social capital (individual trust). In another paper (Payton, Fulton, & Anderson, 2007), probably based on a reanalysis of the previous data, Payton reported that social trust partially mediated the relationship between place attachment and civic action, so that the direct link between place attachment and activity remained significant, but was weaker than the link between individual trust and civic action. Oropesa (1992) obtained an almost identical pattern of results to those of Lewicka (2005):

place attachment (measured with the answer to the question how much the resident would miss the present residence place if s/he had to move) negatively predicted involvement in neighborhood improvement associations, while neighboring positively predicted this involvement. Also, Perkins and Long (2002) did not find a direct relationship between social activity and place attachment, and on the block level the relationship turned out to be negative. Gosling and Williams (2010) did not find any significant relation between place attachment and farmers' management of native vegetation. Other studies that either observed no or a negative relation between various measures of attachment/identity and proactive attitudes have been carried out by Harmon, Zinn, and Gleason, (2005) and Uzzell, Pol, and Badenas (2002). Overall then, the empirical support for a positive link between these two groups of variables is weak and inconsistent, and calls for a theoretical reconsideration of this "common sense" prediction.

Place-related activity may take different forms: it may support environment-protecting changes, or it may entail resistance to changes and protection of status quo. The latter has become known as the NIMBY effect, the construct criticized in the more recent literature for its strongly negative connotations (Devine-Wright, 2009). In several studies a positive relationship was found between strength of emotional bonds with a place and resistance to introduced changes. Vorkinn and Riese (2001) studied attitudes towards development of a hydroelectric plant among residents of a small rural community in Norway and found that attachment to the affected area predicted the negative attitude towards the project, while attachment to municipality was a predictor of the attitude of acceptance. **The geographically closer the threat, the stronger was the relationship between emotional bonds with the place and resistance to change. A similar finding was obtained by Bonaiuto, Carrus, Martorella, and Bonnes (2002), who studied attitudes of two large groups of local and non-local residents of two Italian regions towards transformation of the area into national parks.** The local group that derived profits from the traditional economy of this area was the most endangered by the project and, as expected, demonstrated a significantly stronger place attachment and regional identity, and a significantly more negative attitude towards the project, than the non-local, and hence unaffected, group. There was also a negative relationship between place attachment/regional identity and support for the national parks. Devine-Wright and Howes (2010) carried out an extensive study among residents of two small towns in North Wales, located at the sea coast, facing the planned construction of two hundred wind turbines. The attitude towards the project was associated with the meaning attached to the residence place and it differed in the two towns: if the town was predominantly associated with scenic beauty (Llandudno), place attachment was correlated with emotions of anger and threat towards the project and with opposition behavior. In the other town (Colwyn Bay) which was perceived by its residents as mostly run down, the correlations between place attachment, attitudes towards the project, and protest actions were insignificant. The authors conclude that the mediating factor between attachment and action is the meaning attached to places, that is, the degree to which the planned change is perceived as destroying the place's identity. The stronger the threat, the stronger the relation between attachment and action.

The relationship between place attachment and willingness to undertake actions on behalf of the place (promoting or inhibiting changes) may also depend on type of place attachment. For example, Scannell and Gifford (2010b) found that of the two dimensions of attachment, civic vs. natural, only natural place attachment predicted pro-environmental behaviors, that is, those who felt attached to the area because of its environmental-physical assets were more willing to engage in environment-protecting behaviors.

Various reasons may underlie the overall inconsistent pattern of relationships between affective bonds with places and place-focused actions. Social activity depends not only on the 'what' of the target actions (whether it is related or not to the content of the attitude) but also on the 'how' of the action performance, i.e., the available means of control over action outcomes (Ajzen, 1991), and the 'with whom' of the action, i.e., the supportive network of co-participating people (Klandermans & Oegema, 1987). It also depends on the social norms of the community and the willingness of the individual to adopt these norms (Fishbein & Ajzen, 1980; Hernandez, Martin, Ruiz & Hidalgo, 2010). Place attachment, understood as an attitude (Jorgensen & Stedman, 2006) is only one link in the long chain of causal factors (Ajzen & Fishbein, 1977) that lead to specific behaviors. For example, the two-path model presented by Lewicka (2005) predicts that social capital (neighborhood ties, bridging social capital) and cultural capital (cultural interests, presence of home library, etc.) are more important direct predictors of willingness to undertake place-related actions than are emotional bonds with the place.

3. Method

So far I have purposely avoided defining place attachment. Although intuitively obvious (place attachment means emotional bonds which people develop with various places), there are a multitude of operationalizations of this construct, each giving it a slightly different theoretical meaning. As is well-known, research in place attachment is split between two different theoretical and methodological traditions: qualitative, which has its roots in geographical analyses of sense of place, and psychometric, rooted in early community studies (Patterson & Williams, 2005). Below is a short review of various methodologies employed to study place attachment. During the last 40 years, more effort has been invested in the development of quantitative than qualitative measures of place attachment, so they will be described first.

3.1. Quantitative measures of place attachment

The earliest quantitative indices were proxy measures, such as length of residence (Riger & Lavrakas, 1981), neighborhood naming (Taylor, Gottfredson, & Brower, 1984, Taylor et al., 1985), house ownership (Riger & Lavrakas, 1981; Taylor et al., 1985), and neighborhood ties (Riger & Lavrakas, 1981). These measures do not offer insight into place-related emotions, but rather are based on the assumption that positive bonds with places lead to certain behaviors, such as willingness to stay in the place, to buy a home there, to be familiar with local names, or to enter into close contacts with neighbors, and therefore can be used as substitute measures of attachment.

In subsequent years, a number of self-report scales of place attachment were developed. Some were unidimensional (e.g., Bonaiuto et al., 1999; Hernandez et al., 2007; Hidalgo & Hernandez, 2001; Lewicka, 2005), and others are multidimensional (e.g., Félonneau, 2004; Hammitt et al., 2006; Kyle, Graefe, & Manning, 2005; Lalli, 1992; McAndrew, 1998; Scannell & Gifford, 2010b; Williams & Vaske, 2003). A very good review of measures employed in the 1980s and the 1990s, along with the original wording of items, was offered by Giuliani (2003).

In studies that employ large surveys, whether arranged by authors themselves, or (more often) carried out for other purposes and made available later for place attachment analyses, the diagnostic measures usually are reduced to a few questions. Shamai and Ilatov (2005) asked one direct question ("what is your level of attachment to your settlement/your region/your country"), Gustafson (2009b) used direct questions about strength of sense of

belonging to various place scales and willingness to move, and almost identical questions were used by *Laczko (2005)*, while *Dallago et al. (2009)* reanalyzed data from a huge cross-national study using the question “Do you think that the area in which you live is a good place to live?” *Taylor et al. (1985)* used proxy measures such as length of residence and home ownership. *Mesch and Manor (1998)* used three questions concerning (i) pride about living in the neighborhood, (ii) being sorry to move out, and (iii) plans to move out in the next year. The validity of all these measures, i.e., diagnosticity for place attachment, is not known, which may create interpretative problems. However, sometimes it is the only solution. In most countries large surveys, performed on representative samples (regional or country-wise), are very expensive and do not allow for inclusion of full scales. Some exceptions for now are the central and eastern European countries, where large-scale surveys, focused on researcher’s target area, can still be arranged without reasonable costs (*Lewicka, 2005, in press*). I also note that despite the ‘global’ character of research in place attachment, very few cross-cultural or cross-national comparisons exist. One can also observe the phenomenon of ‘national attachment’ to measurement instruments created in particular countries, although this seems to be changing recently and an exchange of measures between researchers from different countries can be observed.

Let us briefly review the most-frequently used tools. By far the most popular across different countries is the measurement tool elaborated by *Williams and Vaske (2003)*, (see also: *Williams, 2000; Williams & Roggenbuck, 1989*), based on the distinction made by *Stokols and Shumaker (1981)* between place attachment (affective bonds) and place dependence (instrumental bonds with place). The scale was designed specifically to test peoples’ bonds with recreation places, and it was used extensively in various studies carried out in the USA (e.g., *Payton, 2003*), Australia (*Brown & Raymond, 2007*), and Norway (*Kaltenborn & Williams, 2002; Vaske & Kobrin, 2001*). The original scales underwent numerous modifications; one is a three-dimensional scale by *Kyle et al. (2005)*, which, along with place identity and place dependence, also includes a subscale of social bonding. Another is the scale constructed by *Hammitt et al. (2006)*, which consists of five dimensions (Place Familiarity, Belongingness, Identity, Dependence, and Rootedness). Still another is a Sense of Place Scale employed by *Jorgensen and Stedman (2001, 2006)* with three dimensions (Place Attachment, Place Identity, and Place Dependence). *Williams* and colleagues themselves have been engaged in various modifications of their Place Attachment measures, which resulted in isolation of more than two dimensions: along with Place Dependence, the Place Identity subscale was divided into four different components: Identity/Importance, Identity Expression, Centrality, and Satisfaction (*Williams, 2000*).

A distinction between Place Attachment and Place Identity, made by *Hernandez et al. (2007)*, resulted in a two-dimensional scale. *Lalli (1992)* proposed a multidimensional Urban Identity Scale, used to measure attachment to Heidelberg, which consists of five dimensions: External Evaluation, General Attachment, Continuity with Personal Past, Perception of Familiarity, and Commitment. *Lalli’s* scale was tested in the city of Bordeaux and slightly modified by *Félonneau (2004)*; the result was the Topological Identity Scale, which consists of four dimensions: External Evaluation, General Attachment, Commitment, and Social Identification. Another multidimensional scale, intended specifically to measure attachment to city, is the Attachment to City/Town Scale, composed of three dimensions (Place Inherited, Place Discovered, and Place Relativity), proposed by *Lewicka (in press)*, based on *Hummon’s (1992)* types of sense of community.

Two scales refer to emotional bonds with home/hometown. One is the Rootedness Scale, designed by *McAndrew (1998)*, consisting

of two subscales (Home/Family and Desire for Change). The other is the Attachment to the Hometown Scale proposed by *Scopelliti and Tiberio (2010)*, consisting of three factors: Identification, Lack of Resources, and Social Relations.

Two scales refer to the distinction between physical and social dimensions of place attachment. A scale by *Brehm et al. (2006)* requires that participants rate the relative importance of environmental and social factors for their attachment to their community. Another, by *Scannell and Gifford (2010b)* is a Likert-type scale which consists of items that express attachment either to the social or to the environmental features of community.

Unidimensional scales of place attachment may also be found. *Shamai (1991)* proposed that *Relph’s (1976)* idea of a continuum of sense of place, ranging from ‘objective outsidership’ to ‘existential insidership’, may be operationalized as a continuum of seven different phases of place attachment, from estrangement from a place to willingness to sacrifice for it. This idea has been operationalized by *Williams et al. (Williams, McDonald, Riden, & Uysal, 1995)* in a nine-item Guttman-type scale. *Shamai (1991)* simplified the measure and created a three-item scale.

The most popular are, of course, unidimensional Likert-type scales. The Italian research group, which has a long history of studying residence satisfaction and attachment to residence places, uses the Neighborhood Attachment Scale (*Bonaiuto et al., 2003; Fornara et al., 2009*). *Hidalgo and Hernandez (2001)* used a three-item scale to measure social bonds with three scales of residence place (home, neighborhood, and city). In Poland, *Lewicka (2005, 2010)* and her team use the Place Attachment Scale with 9 or 12 items, depending on the study. Some authors (e.g., *Pretty et al., 2003*) treat as measures of place attachment subscales of instruments aimed at measuring community cohesion.

Theodori and Luloff (2000), who studied community attachment, wrote “The community attachment literature is difficult to summarize, partly because it does not adequately define what constitutes community attachment or how it is best measured” (p. 407). After the above enumeration of instruments measuring place attachment, this brief comment clearly applies to the literature on place attachment as well. A closer look at the exact wording of items in different instruments makes it obvious why any attempt at discovering universal relationships between different place-related concepts (place attachment, place identity, sense of place etc.) must fail. Whether the place attachment precedes place identity (*Hernandez et al., 2007; Knez, 2005*), whether the two concepts are considered synonymous (*Williams & Vaske, 2003*), whether they are both subordinate to a more general construct, such as sense of place (*Jorgensen & Stedman, 2006*), or whether they stand in any other relation to each other (*Kyle et al., 2005; Pretty et al., 2003*), depends a great deal on which items have been, a priori, considered diagnostic of particular constructs and included in particular subscales. The various place attachment measures thus should be treated as an ‘extended family’ of methods rather than as precise measurement tools with well-tested construct validity. Taking this into consideration, when reviewing empirical findings, more attention should be paid to commonalities obtained with different methods than to the observed differences, because the latter may equally well represent the nature of the studied phenomenon and the differences in the ways it is measured.

3.2. Qualitative measures of place attachment

As correctly stated by *Stedman (2003b)*, existing research in place attachment has been more about the significance of places than about their meaning (‘how much’ rather than ‘what’). Quantitative measures, such as various place attachment scales, grasp the

differentiation among people with regard to subjective importance and strength of emotional bonds with places, but they are little-suited for measuring what the places mean. One may, of course, argue that differences in meaning are hidden in the dimensionality of place attachment scales, such as the difference between emotional vs. instrumental meaning (place identity vs. place dependence) or social vs. physical meaning (civic vs. environmental dimension of place attachment). This is true; however, these simple distinctions do not do justice to the richness of the *concretum* which the concept of 'meaning' entails (Patterson & Williams, 2005). Physical places acquire meaning through personal and group memories, religious and national symbols, and through the multi-sensory feelings experienced when being-in-the-place. This has been expressed by Norberg-Schultz (1979, p. 8): "A place is (...) a qualitative, 'total' phenomenon, which we cannot reduce to any of its properties, such as spatial relationships, without losing its concrete nature out of sight. (...) Being qualitative totalities of a complex nature, places cannot be described by means of analytic, 'scientific' concepts. Johnson (2007) conceives of meaning as an embodied product of transactions between organism and environment: "...meaning is not just a matter of concepts and propositions, but also reaches down into the images, sensorimotor schemas, feelings, qualities, and emotions that constitute our meaningful encounter with our world" (p. xi). According to Stedman (2003a, 2003b), the meaning of place is an intermediate link between the place's physical properties and strength of emotional bonds with it (place attachment). In order to understand attachment to a specific place, one must first identify its meaning.

Qualitative measures are intended to offer insight into meanings that places entail. The measures may be divided into two groups. One group consists of verbal measures such as in-depth interviews with their content analyzed later (Van Patten & Williams, 2008), think-aloud protocols (Fishwick & Vining, 1992), verbal reports collected from focus groups (Bow & Buys, 2003; Devine-Wright & Howes, 2010), sets of sentences carrying different meanings about target places, rated by participants (Stedman, 2003a; Wójcik, Bilewicz, & Lewicka, 2010), and free association tasks (Devine-Wright & Howes, 2010). The other group consists of 'pictorial' measures, mostly photographs that are either prepared beforehand and presented to participants (Fishwick & Vining, 1992; Galasińska, 2003) or taken by participants themselves on the spot (Beckley et al., 2007; Grosjean & Thibaud, 2001; Ponzetti, 2003; Stedman, Beckley, Wallace, & Ambard, 2004). Boğaç (2009) used spontaneous drawings of houses and neighborhoods as measures of attachment among resettled Cyprus Turks. Pictorial material is also used in the psycho-cartographic (evaluative maps) technique (Foland & Lewicka, 2007; Wójcik et al., 2010) or in other map-based measures of place attachment, such as the method of identifying landscape values designed by Brown (2005). Often the verbal and pictorial techniques are combined, as when a participant first takes a photograph of meaningful places and later comments on them during an interview (Ponzetti, 2003; Stedman et al., 2004) or when both commenting and photography measures occur simultaneously, i.e., a participant comments on important places during a walk taken together with a researcher (comments are recorded), and takes photos of the most meaningful places passed by (the 'photo-story' method elaborated in the Cresson Center in Grenoble, cf. Grosjean & Thibaud, 2001).

Cartographic measures combine place attachment with spatial measures and yield insight into meanings ascribed to specific places, located on maps. Brown (2005; Brown & Raymond, 2007) developed a map-based technique in which participants are asked to allocate a limited number of tokens to 'special places'. Number of tokens is considered a measure of place attachment. Meanings of places are studied by another aspect of the same technique in which participants are asked to assign a certain number of tokens

to places according to the degree to which they represent 12 different values (aesthetic, recreation, therapeutic, biological diversity, wilderness, home, heritage, family connection, intrinsic, economic, spiritual, life sustaining, learning, and future). Intensity of particular values can be quantified by computing the number and value of assigned tokens in each category.

The 'evaluative maps' technique is based on a somewhat similar assumption (different places on the map may carry different meanings), but the procedure is different. It was developed in the Warsaw Environmental Research Unit, and it represents a non-verbal modification of the well-known Gould maps method (Gould & White, 1982). Participants are offered a specially prepared cartographic material (a map of the site) and asked to mark/circle with color pens those places which match certain psychologically meaningful criteria, such as liked-disliked, mine-not mine, safe-dangerous, boring-exciting, places that I would like to show to a visitor etc. Participants' responses are digitized and combined into compound maps on which different color intensities denote differences in the number of choices of the given point on the map (Foland & Lewicka, 2007). The evaluative maps technique may be applied to places varying in scales, beginning with buildings and neighborhoods and ending with countries or continents. The special software makes it possible to perform basic arithmetic operations (additions, subtractions of marked areas, etc.) or to compute differences between maps of the same area obtained from different groups of participants (e.g., residing in different parts of the city, or differing in age), and provides a spatial representation of significant differences.

Nicotera (2007) provided an extensive review of various verbal and non-verbal measures of neighborhood, from census and archival data through written descriptions and rating scales to photographs and qualitative measures. Many of them can be used for studying places and people's bonds with places. Undoubtedly a clever combination of quantitative and qualitative measures offers the most profound insight into people's relations with meaningful places. One example is a multi-method study carried out by Devine-Wright and Howes (2010), mentioned earlier, which was an investigation of attitudes towards a project of installing wind farms in the scenically beautiful region of North Wales. The methods included psychometric measures of place attachment and place identity, focused group discussions, and a free association task to capture meanings associated with the place. Another example of combined methodology is the 'Muranów project' carried out by the Warsaw team in the former Warsaw Ghetto area (Szczepańska & Wiczorek, 2007; Wójcik et al., 2010). The aim of the project was to determine present residents' emotional bonds with the place, knowledge of the place's history, and attitudes towards the planned Museum of the History of Polish Jews to be constructed in the district center. The study included quantitative techniques in the form of various place attachment and place identity scales, and qualitative measures, the latter with different degrees of "quantifiability" (Madill & Gough, 2008), such as a Q-sort measure of meaning, open questions, evaluative maps, focused interviews, transect walks, collage and photostories (cf. Grosjean & Thibaud, 2001). The result was a collection of enormously rich material that was analyzed from various perspectives, which helped identify statistical relationships between variables but also offered insight into spontaneous constructions of the meanings that this tragic place bears for its present inhabitants. An interesting aspect of the data was the high congruency between results collected with different methods, support for their overall validity.

The 2007 issue of *Society and Natural Resources* (vol. 20) contains an interesting discussion between Beckley et al. (2007) on one hand, and Williams and Patterson (2007), on the other, concerning the philosophical premises of combining qualitative with quantitative

measures. Although Beckley and colleagues are willing to experiment with various ways of ‘quantifying the qualitative’, Williams and Patterson warn against the ‘illegal’ crossing of paradigmatic borders. In this controversy the sympathy of the present author is on the side of the ‘experimenting team’, because the direction they have taken seems to correspond better with contemporary research trends. As emphasized by Madill and Gough (2008), the spectrum of qualitative techniques is not limited to traditional ‘ethnographic’ methods only; it covers methods with differing levels of data structuring, from discourse or narrative analyses to such quantifiable measures as Q-sort or Repertory Grid Technique.

The birth of a new research paradigm, broadly known as ‘embodied cognition’ has led to the increased interest in the issues of meaning as emerging from the body–environment interactions (Johnson, 2007), cutting across different disciplines, such as cognitive psychology, brain studies, developmental psychology, and social psychology (Calvo & Gomila, 2008; Marsh, Johnson, Richardson, & Schmidt, 2009), most of which is grounded in the Gibsonian concept of affordances (Gibson, 1979/1986; Heft, 1997; 2003). We are now facing an unprecedented paradigmatic revolution in psychology and related sciences, which obliterates many of the traditional divisions (mind vs. body, emotion vs. cognition, organism vs. environment etc.). Many researchers who are actively engaged in the investigation of the dynamic meaning-making processes use methods that convert data into figures, apply procedures of statistical inference or run computer simulations. Therefore, one can only wonder how long the classic breach between quantitative and qualitative methodology will hold up.

4. Theory

The last part of this review is devoted to theoretical issues. The present status of the theory of place attachment is easier to grasp after major findings and employed methods have been reviewed, and so the theoretical part concludes this review rather than opening it. Its organizing framework is the tripartite model suggested by Scannell and Gifford (2010a). The main message of this part is that, of its three elements, Person-Place-Process, place attachment literature has placed much more emphasis on the Person part at the expense of Place, and that it largely ignored Processes, the mechanisms through which place attachment develops. After a brief summary, some suggestions for filling these gaps will be presented.

4.1. People

Place attachment researchers have invested much energy into investigating the role of individual differences in place attachment. This approach has been encouraged by the rapid production of place attachment measures, reviewed in previous sections. The various scales for measuring place attachment listed in the Method section illustrate which aspects of people’s bonds with places have been considered important and how, in operational terms, the concept of place attachment has been understood (i.e., as “pure” emotional bonds, or as other aspects of relations with places as well, such as place identity or strength of social ties with people sharing the place, etc.). Studies that use psychometrically tested methods usually demonstrate quantitative differences between people, such as different degrees of place attachment, place dependence, rootedness, or physical vs. social attachment.

Whereas quantitative studies usually compare people on a set of dimensions, the qualitative ones usually end up with typologies, which is a more natural way of structuring the material obtained from interviews or observations. Examples include Relph’s (1976) seven stages of insidedness (from alienation from place to the full

immersion in it), and Hay’s (1998) five types of sense of place, distinguished on the basis of the degree of rootedness in the place (superficial, partial, personal, ancestral, and cultural). Shamai (1991) converted Relph’s typology into three types of the increasing strength of sense of place: from place belongingness (the weakest level) through place attachment, to place commitment (highest level). Hummon (1992), on the basis of qualitative interviews, suggested that five types of people exist, who represent five different senses of community, including two attached (everyday rootedness and ideological rootedness) and three non-attached (alienated, place relative, and placeless). Hummon’s typology is noteworthy as one of the few typologies that includes unattached people. The unattached type appears also in the typology suggested by McHugh and Mings (1996), who divided seasonal migrants, such as retired people who annually commute between two homes, into still-rooted, suspended and footloose types, and suggested that each type has a different understanding of time, respectively: circular, pendulum, and linear. Rowles (1990) distinguished three types of ‘insidedness’ among old residents of rural areas: physical (through familiarity with physical environment), social (through familiarity with people), and autobiographical (through personal memories). Low (1992) suggested different types of place attachment that depend on the source of the symbolic meaning of a place (religious, ancestral, autobiographical, etc.). Mazumdar and Mazumdar (1993) distinguished between secular and sacred attachments, the latter divided into attachment to landscapes, cities, and sacred architecture. I note that the majority of these typologies are created to account for findings of only one study and, unlike the dimensionally understood differences, they are not used as theoretical constructs in other studies, nor is their validity further tested.

The qualitative types and quantitative dimensions are rarely combined in one study. An exception is an early study by Riger and Lavrakas (1981) who combined two dimensions of place attachment: rootedness (operationalized as residence length) and social belonging, and obtained a four-fold typology of place attachments, the four types differing in socio-demographic measures and willingness to get involved in community life. More recently, Lewicka (in press), using a set of psychometric measures, confirmed the existence of Hummon’s five types in a large sample of the Polish population and showed that they indeed represented different socio-demographic and personality profiles.

The tendency to compare people with respect to their degree or type of place attachment focuses attention on features of people rather than on places or processes. In addition, the majority of investigated predictors and correlates of place attachment, reviewed in previous sections, also concern features of people rather than features of places or mechanisms of attachment. The extensively studied socio-demographic and social predictors of place attachment are all individual person variables. Mobility studies, briefly reviewed here, have mostly focused on the effects that migrations and changes of residence place have on individuals’ place attachments or place identities. The increasingly popular distinction between physical and social, when discussed on the level of ‘place’, either became obliterated in the social constructive discourse (physical = social, cf. Burley, 2007, Stokowski, 2002) or (again) reduced to the level of individual differences, as when ‘locals’ and ‘newcomers’ are compared with respect to the relative importance paid to the two dimensions (cf. Stedman, 2006), or when differences in attachment to physical vs. social are taken as a predictor of individually differentiated pro-environmental actions (Scannell & Gifford, 2010b). One of the few inherently place-related properties, such as scale, is rarely considered an object of study or a predictor of attachment, and other physical-environmental predictors are studied infrequently, in an inconsistent, and ‘theory-free’ way. As a result, we know relatively much about *who* are the

attached people, *how* and *how much* they are attached, but relatively little about which places have the highest ‘attachment potential’ and through which processes the attachment is achieved.

4.2. Places

This overemphasis on the individual differences approach was criticized by Droseltis and Vignoles (2010), who suggest focusing on differences between places rather than people. They asked participants to generate up to ten meaningful places and to rate them on a number of dimensions, derived from identity theories. The purpose of their study was to find out which places people identify with most strongly, and hence to identify general principles underlying people’s identification preferences. The categories they used to evaluate places were derived from theories of place attachment and place identity, and they described motives and needs that places may satisfy (e.g., self-esteem, continuity, distinctiveness, efficacy, aesthetics, control) and social/symbolic links that people may establish with places (e.g., genealogical, economic, sense of loss, spiritual). The dimensions used by Droseltis and Vignoles (2010) are therefore dimensions that describe various facets of place meaning rather than features of places that give rise to such meanings and, as such, are not (yet) a theory of place.

Christopher Alexander, the main author of “The pattern language” (Alexander et al., 1977), when asked what is specific about his approach, said:

... we assumed that human feeling is mostly the same, mostly the same from person to person, mostly the same in every person. Of course there is that part of human feeling where we are all different, Each of us has our idiosyncrasies, our unique individual character. This is the part people most often concentrate on when they are talking about feelings, and comparing feelings. But that idiosyncratic part is really only about ten percent of the feelings which we feel. Ninety percent of our feelings is stuff in which we are all the same and we feel the same things. So, from the very beginning, when we made the pattern language, we concentrated on that fact, and concentrated on that part of human experience and feeling where our feeling is all the same (Alexander, 2002, pp. 3–4).

Pattern language, the monumental work of Alexander and coworkers, describes designs that help convert spaces into meaningful places with high potential for attachment. The pattern language is a theory of places. It describes ways of designing cities, neighborhoods, homes, and ‘third places’ such as pubs, squares, small shops, and bus stops, all of which contribute to the genius loci of places and help to develop emotional bonds with them. The appeal that the pattern language has to so many people, including the present author, lies in the way it describes the desirable features of places. This is the language of intuitively understandable affordances, of functionalities, of features that make chairs sitable, houses livable, and cities walkable. The pattern language is thus rich in empirically testable predictions, inviting researchers in community and place psychology to submit them to rigorous empirical tests. As far as I know, so far no one interested in place attachment has taken up this challenge.

Place attachment studies need a theory of place. Environmental psychology abounds of course in studies that relate environmental features to behaviors and emotional preferences of their users. Nasar (1998) studied dimensions that are decisive for positive evaluations of cities (e.g., upkeep, presence of greenery, large vistas, presence of historical traces). Jacobs (1999) and Rapoport (1990) analyzed factors that produce “great streets”, that is, streets on which pedestrians would like to walk and tourists photograph. Lynch (1960) identified features diagnostic of city legibility, and

Carr, Francis, Rivlin, and Stone (1992) analyzed physical properties of good public space (plazas, city squares). However, to my knowledge, these factors have not been studied as predictors of emotional bonds with relevant settings (e.g., cities), nor as a starting point for a ‘place theory of place attachment’.

Neither have there been attempts to find a relationship between attachment processes and features of places distinguished in theories of environmental aesthetics (cf. Heft, 2010; Kaplan, 1984). In my opinion, this could be a highly promising direction, one that meets the more recent developments in space-creation studies, represented among others by Alexander (2002), Duany, Plater-Zyberk, and Speck (2000), Hillier and Hanson (1998), or Salingeros (2006), some of which are described below. Theoretical dimensions such as coherence vs. mystery (Kaplan, 1979), prospect vs. refuge (Appleton, 1984) or excitement vs. relaxation (Russell, 1988) grasp the dialectical nature of places, their potential to offer security on one hand and challenge on the other, and thus match both homeostatic and heterostatic needs of an organism. Different places may satisfy different organismic needs and thus become targets of attachment for different reasons. For example, Ziębińska (2009) compared predictors of place attachment in two European capitals, Warsaw and Vienna, which differ largely in how ordered and coherent their urban space is (higher in Vienna than in Warsaw) and found that attachment to Warsaw was mostly predicted by the degree to which the city was perceived as exciting and stimulating, but in Vienna by its perception as relaxing and peaceful. In another study, residents of two very attractive cities tended to perceive their closest surrounding and city district as positive but not arousing (relaxing) whereas the city itself was perceived as positive and highly arousing (exciting), confirming the previously formulated hypothesis that the combination of a secure neighborhood and a challenging city may trigger the strongest attachment (Lewicka & Bańka, 2008).

A related approach that promises much for the future theory of place are studies done by architects, geographers, urban planners, and physicists who find inspiration in the legacy of phenomenology and who arrive at precise, often quantifiable, principles to compare places. Because this direction seems particularly promising, it will be described in more detail.

As is known, research on sense of place began with human geography; they adopted ‘study of places’ as the defining feature of their discipline (cf. Cresswell, 2004) and drew heavily on the phenomenological tradition represented by Heidegger (1962) and Merleau-Ponty (1962). Seamon (2000), one of the leading figures in the phenomenology of place, described the task of a phenomenologist in the following way:

The phenomenologist pays attention to specific instances of the phenomenon with the hope that these instances, in time, will point toward more general qualities and characteristics that accurately describe the essential nature of the phenomenon as it has presence and meaning in the concrete lives and experiences of human beings (Seamon, 2000, p. 159).

The phenomenological reports, therefore, although subjective, are not idiosyncratic descriptions of individual experiences, but are collected with the ultimate goal of discerning the essential features of the phenomenon under study. When applied to places, the phenomenological experience thus helps identify universal properties of places that give rise to aesthetic appreciation, meaning, and place-related emotions.

The phenomenological method was employed for studying places by several pioneers of place studies, such as Tuan (1975, 1977), Relph (1976), Buttner (1980), Seamon (1980), and Norberg-Schultz (1979), resulting in the concept of place as bounded, unique, with a clear identity of its own, having a genius loci,

being historically rooted, and providing rest rather than movement. The phenomenological method has also been employed by Alexander (2002). In his work we encounter a highly innovative theory of places, important not only for practically oriented architects or urban planners but also for researchers interested in how places create their meanings. The theory helps to overcome dichotomies such as 'closed vs. open' and 'homogeneous vs. diversified', and thus may bring an olive branch to both sides of the ongoing discussion between proponents of the 'conservative' and the 'progressive' conceptions of place.

In his monumental four-volume final work, "The nature of order", Alexander (2002) described in detail the final product of his phenomenological experiments: a set of fifteen basic principles for the organization of the universe, on all levels of places, that stand behind the human experience of order, coherence, and life. The main dichotomy describes differences between the mechanical and the organic orders: the former stiff and life-less, and the latter constitutive of life. In Alexander's (2002) own words:

What we call 'life' is a general condition which exists, to some degree or other, in every part of space: brick, stone, grass, river, painting, building, daffodil, human being, forest, city. And further. The key to this idea is that every part of space – every connected region of space, small or large – has some degree of life, and that this degree of life is well defined, objectively existing, and measurable". (p. 77).

Life is given by the experience of 'wholeness' which is another basic concept of the theory. He continues:

A view of the building as a whole means that we see it as part of an extended and undivided continuum. It is not an isolated fragment in itself, but part of the world which includes the gardens, walls, trees, streets beyond its boundaries, and other buildings beyond those (p. 80).

This means that everything that exists "has to be viewed as orders of connecting relationships rather than as mere objects in space" (Kunstler, 1993, p. 249). This demand for the relational character of everything is present in Alexander's fifteen fundamental principles describing, among others: mutual relations between different levels of scale, the presence of strong centers that attract attention, the existence and nature of boundaries, alternating repetitions of constitutive elements, the presence of positive space and local symmetries, contrasts, gradients and echoes in the texture of things, etc.

Alexander's fundamental principles of order underlie his earlier 'patterns', which may be viewed as their concrete exemplifications. The principles have been enthusiastically received by phenomenologists of place, such as Seamon (2002), and they have been accepted and further developed by the mathematician and physicist, a life-long friend, and coworker of Alexander's, Salingaros (1999, 2006). His three basic quantifiable laws present in a more condensed form the essence of Alexander's poetic descriptions:

- (i) Order on the smallest scale is established by paired contrasting elements, existing in a balanced visual tension;
- (ii) Large-scale order occurs when every element relates to every other element at a distance in a way that reduces entropy;
- (iii) The small scale is connected to the large scale through a linked hierarchy of intermediate scales within a scaling ratio approximately equal to $e = 2.7$ (Salingaros, 2006, p. 30).

These three laws should make it possible to apply the theory of complex systems to the evaluation of places and thus may be a starting point for a new, more formalized, environmental aesthetics.

Beginning with Relph's (1976) classic work, which introduced the concept of 'placelessness', a number of authors complained about the loss of the 'essence of place' in contemporary cities and buildings. Criticisms of suburban sprawl, the destructive role of cars, decline of traditional neighborhoods, and growing homogeneity of places, appear increasingly in works of contemporary journalists and broadly defined 'social scientists' (e.g., Augé, 1995; Beatley, 2004; Kunstler, 1993). As a response to the growing number of 'non-places', the current in urban planning known as New Urbanism appeared (Duany et al., 2000; Katz, 1994). Its creators are to a large extent heirs of Alexander's patterns and principles. The more recent cooperation between Salingaros and Duany (Salingaros, Brain, Duany, Mehaffy, & Philibert-Petit, 2006), with the goal of increasing the connection of people to their environments, confirms that 'good city forms' should conform to certain basic, universal principles, and suggests a general consensus on something that represents the 'timeless way of building'.

4.3. Processes

'Process' is the third element of the tripartite model of place attachment suggested by Scannell and Gifford (2010a). However, it seems as neglected by place attachment researchers as the 'Place' element. Despite hundreds of pages covered with various definitions of place attachment, sense of place, or place identity, and despite the already existing plethora of studies of correlates and predictors of place attachment, we still know very little about the processes through which people become attached to places. A socio-demographic or an environmental predictor is not the same as a psychological variable, and it may (at most) offer hints where to look for possible mechanisms of attachment, but tells us nothing about the nature of these mechanisms. Here are a few examples.

Time spent in a place is consistently found to be the best predictor of place attachment. However, why do people who reside longer in a place feel more attached? If we eliminate the most trivial hypothesis that the relationship is in fact reversed and that people who feel more attached are also less willing to move, then various theoretical possibilities may be considered. Is this consistent relationship caused by some automatic process like the 'mere exposure effect' (Zajonc, 1968), that is, the increase in positive affect is caused by increased familiarity of a stimulus, resulting in, among other things, a growing sense of security in a highly familiar area (cf. Gifford et al., 2009)? Or, perhaps, is time merely an indirect link in a longer chain of variables, in which one of the mediating factors is social relations in the place, which become richer with the passage of time, with their attendant memories and meanings? Length of residential time could also be a proxy for such profoundly psychological variables as developmental stage of aging or maturation processes (Hay, 1998). Places in which people reside for many years acquire meanings associated with several life stages, such as growing up, dating partners, marrying, having children, and getting old, which results in a rich network of place-related meanings, and offers a deep sense of self-continuity, something that more mobile people do not experience.

Another variable, building size, is a consistent negative predictor of place attachment. It affects attachment both in direct and indirect ways, through weakening of neighborhood ties and worse upkeep of the building's precinct (Lewicka, 2010). But why do people care less for precincts of high-rises than for shorter or smaller residences? Perhaps this occurs because of diffusion of responsibility, that is, relying on other neighbors who are more numerous in high than in low buildings? Perhaps it is because one has less control over the neighboring areas, as claimed by Newman (1996), that precincts of high-rises are public space instead of semi-private space? Or perhaps it happens because high-rises do not

match the criteria of ‘good buildings’, worth taking care of, as implied by Alexander’s pattern language? The latter hypothesis could also account for the direct effects of building size on people’s weak emotional ties with them.

Ownership status is yet another positive predictor of attachment that itself says little about the psychological processes through which home owners are more attached to their dwellings than are renters or residents of publicly owned houses. One hypothetical mechanism for this is the emotional and financial investment invested in buying and decorating the dwelling, along with ensuing processes involved in justifying the invested time, effort and money. For instance, Bolan (1997) found that attachment to neighborhood was stronger among residents who invested more time in looking for the new dwelling place. Ownership may also affect place attachment through increased certainty that one has a permanent place to live. After all, renters are never sure how long they will live in the present residence and therefore prefer not to develop overly deep roots in the place. Ownership increases a sense of control over the living area, because one is apt to introduce more changes in an owned than in a rented apartment or house. The ‘mere ownership effect’ (Nuttin, 1987) suggests that the very fact of owning something (an object or even one’s name initials) makes one value it more than analogous objects that are not owned. Further, one might find that the relationship between place attachment and ownership status is reversed, that is, that people usually buy homes or apartments in places to which they already feel a certain sentiment.

If predictors of attachment are not the same as mechanisms, where should we look for theoretical inspiration in working out the theory of the processes of attachment? In the history of place attachment research several attempts have been made to elucidate the psychological mechanisms of people’s bonds with places. For example, Korpela (1989) advanced the hypothesis that environment plays a role in the processes of self-regulation: it helps to restore the balance of pleasure and pain, to maintain the coherent image of self and high self-esteem. Place identity and place attachment develop in the course of these regulatory processes. This hypothesis was illustrated with a content analysis of descriptions of favorite places provided by children of different ages, although it has not been tested in a rigorous way, which Korpela admits. A somewhat related approach was taken by Hay (1998) who, in a large study carried among native Maori and white pakeha residents of New Zealand, showed how different life stages and generational experiences contribute to the creation of different senses of place. The important part of Hay’s analyses is the emphasis placed on the link between sense of place, developed through rootedness in place, and individual self-continuity. Rootedness, i.e., the person-place bond, is considered a prerequisite of an ability to integrate various life experiences into a coherent life story, and thus it enables smooth transition from one identity stage to another in the life course (Hay, 1998).

Evidence confirming both Korpela’s and Hay’s hypotheses has been obtained by Lewicka (in press). She found in a large survey carried out in Poland that place attachment was consistently related to interest taken in family history and in the history of the residential place, and it was also positively related to sense of coherence, measured with Antonovsky’s Sense of Coherence Scale. The role that place attachment plays in reinforcing self-continuity is worth further exploration (cf. Sani, 2008). ‘Self-continuity’ is one of the major dimensions of identity and the role that place plays in reinforcing individual and group-continuity has been noted by those researchers who study place identity rather than place attachment (Droseltis & Vignoles, 2010; Twigger-Ross & Uzzell, 1996; for a review see Twigger-Ross, Bonaiuto, & Breakwell, 2003).

Hay (1998), like several other place theorists, refers to the concept of ‘attachment’ or ‘bonding’, the concept originally elaborated within

developmental theory by Bowlby (1969) to describe emotional bonds formed between an infant and a caregiver. The attachment relation formed in early infancy has been shown to be a prerequisite of the attitude of basic trust and sense of security in later life. It contributes to the normal development of brain microstructures, synaptic connectivity, and emergence of a healthy sense of self. Morgan (2010) emphasizes that a successful early attachment is a prerequisite of the later ability to enter into mature relations with people in adult life and that the same principle applies to place attachment. Only persons who succeed in developing place attachment in early childhood will be able to develop emotional bonds with places in later stages of life.

Similarities and differences between the developmental concept of attachment and place attachment have been discussed at length by Giuliani (2003). Morgan (2010) proposed a model of place attachment, based on the attachment theory, according to which attachment to places develops in a cycle of the recurring exploratory and attachment behaviors. A secure child will explore new places, but when distressed or frightened can revert to a caregiver, who provides comfort and soothing. Place attachment, according to this model, is a result of the association between the positive affect experienced during contact with the comforting caregiver, and the sense of mastery and adventure experienced during exploratory behavior. That place attachment in children is strongly associated with exploration of outdoor places has been shown in a number of studies (Korpela et al., 2009; Lim & Barton, 2010; Morgan, 2010). The role of outdoor exploration for healthy development of children, and for their sense of mastery and self-efficacy, has been further documented in Heft and Chawla (2006) and Kytä (2006), and discussed in Gibson’s theory of affordances (Heft, 2010).

The security-exploration cycle bears a resemblance to such pairs of concepts, derived from environmental aesthetics, as coherence-mystery (Kaplan, 1979) and relaxation–excitement (Russell, 1988): the first element of each pair describes the ‘secure’ condition and the other the ‘explored’ one. Places therefore become objects of attachment when they combine security of the inside (home, mother) with exploration of the outside (non-home, outdoor).

Environmental psychologists who study people’s bonds with places sometimes need to be reminded that place studies, particularly those initiated by human geographers in the 1970s, were in the forefront of the contemporary embodied cognition revolution in cognitive psychology. Tuan’s (1977) book on ‘Space and place’ is a beautiful account of how the human body structures space, transforms it into place, and provides conceptual tools for spatial orientation. Gibson’s (1979/1986) ecological psychology and its main concept of affordances is another approach that is frequently referred to in contemporary cognitive studies (Richardson, Shockey, Fajen, Riley, & Turvey, 2008). These concepts should be noted by place researchers because they may become useful tools in accounting for processes through which people develop a sense of place and place attachment.

For example, we may assume that places, like other things, acquire their meanings and thus create attachments through enactment of affordances (Marsh et al., 2009). “What we see and hear and touch and taste and smell (or avoid smelling) is shaped by what we do and what we are capable of doing – our pragmatic possibilities and the sensorimotor capacities of our bodies” (Gallagher & Zahavi, 2008, p. 98). Recent developments in contemporary cognitive psychology and neuroscience support this view and demonstrate the enormous role that the motor system has for human perception, cognition, emotion, self, and the self-other distinction (Jeannerod, 2006). The meanings that things have for us are products of our movements. This has been the most clearly stated by Johnson (2007): “Movement is thus one of the principal ways by which we learn the meaning of things and acquire our ever

growing sense of what our world is like. (...) We learn an important part of the immanent meaning of things through our bodily movements. We learn what we *can do* in the same motions by which we learn how things *can be* for us" (p. 21).

If people make sense of things through movement, so also the sense of place, and place-related emotions should develop through movements. Thirty years ago this claim was made by a human geographer and phenomenologist, *Seamon (1980)* who suggested that sense of place is created through formation of a 'body-ballet' and 'time-space routines', i.e., a set of automatized everyday activities performed in the place (driving, brushing teeth, meeting neighbors, performing other daily activities), which together contribute to the 'place-ballet', producing the feeling known as 'existential insiderness' that is, belonging within the rhythm of life in place. A stable ground of the time-space routines is a foothold around which new routines can be established and new meanings created. "Place, in other words, requires both regularity and variety, order and change. Place-ballet is one means by which a place comes to hold these qualities" (*Seamon, 1980, p. 163*). The time-space routines need time to develop and so residence time and the strength of emotional bonds with places obviously are strongly positively related. If place attachment is a product of automatized routines, then why a forced relocation becomes so detrimental to health and physiological functioning becomes understandable (*Fried, 1963; Fullilove, 1996*). When forced to move, people lose not only their social contacts or the familiar view from the window, but they must rearrange their entire set of daily routines and adaptations, and shift to entirely new habits. Some people, particularly older ones, may never achieve this. Body-ballet probably is not the only mechanism through which sense of place and place attachment develops, but it may be the essential part of this process.

5. Concluding remarks: some suggestions for the future

In several parts of this paper I have criticized studies in place attachment for their lack of theory. The vast literature on place attachment includes very few studies driven by a specific theory or meant to test specific hypotheses. Most published studies have a purely exploratory character, no matter how strongly their authors attempt to specify their 'study objectives'. The present review shows that little empirical progress has been made compared to what was known 30 or 40 years ago. References to classic works (Tuan, Relph, Kasarda and Janowitz, etc.) are as popular now as they were two or more decades ago, and the same variables turn out to predict attachment. Some papers written in the 1980s or earlier could be easily accepted for publication today, which is difficult to imagine in experimental social psychology or brain sciences. The main progress seems to have been made in measurement tools. A large number of place attachment scales has been produced in recent years, which is probably one of the reasons why so little attention has been paid to development of a theory (the best way to halt the development of a theory is to devise a personality scale). Progress has been made mainly through the application of the concept of place attachment to areas other than neighborhoods and permanent residences and through the introduction of new dimensions of place attachment. This is too little to move theory forward.

On the other hand there are no grounds for pessimism. Clearly, despite widespread mobility and globalization, place attachment researchers need not fear idleness. Sense of place and place attachment continue to be an important part of human existence, and this in itself is fascinating. How to reconcile the need for close emotional ties to specific places with the fluidity of the contemporary world is a real challenge. A highly relevant comment in this respect was made by *Williams and Van Patten (2006)* who wondered "how to balance

the ethnos of concrete attachments and thick boundaries impermeable to the outsider with the demos of plural identities and thin boundaries permeable to the world beyond the local" (p. 42).

Future studies in place attachment may take several different directions. Three appear most appealing to this reviewer. One is to study place attachment within a larger sociopolitical context than has been done so far, with particular focus on the role which various forms of social capital play in creating people's emotional bonds with places and in facilitating their willingness to act on behalf of the places. The consistently found positive relationship between strength of place attachment and strength of neighborhood ties, described in the previous section, requires that a closer look is paid to the nature of this relationship and to its underlying processes. Empirical data suggest that relationships with neighbors may be treated as a prototype of social relations in general. This is a form of intermediary social capital, different from both the strong ties of the bonding social capital and the weak ties of the bridging one (*Glanville & Paxton, 2007; Yosano & Hayashi, 2005*). For example, *Glanville and Paxton (2007)* found that of all different types of relations with people, trust in neighbors (and local shop assistants) most leads to development of a general trust in people. A strong argument for bringing the concept of place attachment into closer contact with community studies and for investigating its role in the processes of empowerment of community members has been made by *Manzo and Perkins (2006)*.

A second suggested direction for future studies follows from the recurring theme of this review that too little attention in place attachment research has been paid to the physical nature of places, understood not as a set of loosely related features, but as a structure described with a set of theory-grounded principles. I have tried to show that the recurring theme in the relevant literature is the distinction between the 'close' vs. the 'open' character of places, that their coexistence in physical space is achieved through various principles of designing objects, buildings, and urban spaces. Relevant categories are available in the existing theories of environmental aesthetics (reviewed and integrated with planning principles in *Porteous, 1996*), in the urban and architectural theories of order suggested by *Alexander (Alexander et al., 1977; Alexander, 2002)* and developed in the form of mathematical principles by *Salingaros (1999, 2006)*, in works of humanistic architects engaged in environment-behavior studies (*Jacobs, 1999; Rapoport, 1990*), and in the works of the New Urban planners (*Duan et al., 2000*). Note that most of these categories can probably be reinterpreted in terms of affordances and hence action possibilities (see *Heft, 2010*). Such a move would combine the theory of places with the theory of processes through which people make sense of these places, elaborated next.

The third suggested direction is process-oriented, and should aim at elucidating processes through which people form their meaningful relations with places. Theoretical progress can be achieved through closer contact with advancements in developmental theories, particularly theories of early attachment, but also through studies that refer to the importance of self-continuity for lifespan developmental processes. We should also consider whether some concepts developed within the phenomenological tradition, used to describe processes of creation of sense of place, can be reinterpreted within different conceptual frameworks, such as theories of motor cognition or *Gibson's* theory of affordances, and thus create a new theoretical and empirical thrust. For example, *Seamon's (1980)* idea of time-space routines, considered the basis for sense of place, may be a good candidate for such an attempt. Which places afford body-ballet better than others, and which prevent it? What is the exact nature of the process through which time-space routines are formed, and which conditions must be fulfilled in order to make it successful? Do the different time-space routines affect sense of place and

place attachment differently? Integration of phenomenological insights with neurocognitive and ecological approaches is frequently encountered in the recent literature (e.g., Gallagher & Zahavi, 2008; Johnson, 2007) and should be applied to place research as well.

We should therefore 'rediscover our roots' and remember that environmental psychology in general, and place studies in particular, although this may sound surprising, have ready and topical theories in hand, and have for some time. The embodied approach and ecological psychology are part of the current cognitive psychology and neuroscience. We have, then, no reason to persevere with the person-focused approach when, with our natural theoretical outfit, we can contribute to the fast-developing disciplines by investigating processes through which people make sense of and become attached to their places.

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References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888–918.
- Alexander, C. (2002). *The nature of order. An essay on the art of building and the nature of the universe. Book 1: The phenomenon of life*. Berkeley, CA: The Center for Environmental Structure.
- Alexander, C., Silverstein, M., Angel, S., Ishikawa, S., & Abrams, D. (1977). *A pattern language*. Oxford: Oxford University Press.
- Alkon, A. H., & Traugot, M. (2008). Place matters, but how? Rural identity, environmental decision making, and the social construction of place. *City & Community*, 7, 97–112.
- Altman, I., & Low, S. M. (Eds.). (1992). *Place attachment*. New York: Plenum.
- Appleton, J. (1984). Prospects and refuges revisited. *Landscape Journal*, 3, 91–104.
- Augé, M. (1995). *Non-places. An introduction to supermodernity*. London: Verso.
- Bauman, Z. (1998). On globalization: Or globalization for some, localization for others. *Thesis Eleven*, 54, 37–49.
- Beatley, T. (2004). *Native to nowhere. Sustaining home and community in a global age*. Washington: Island Press.
- Beckley, T. S. (2003). The relative importance of socio-cultural and ecological factors in attachment to place. General Technical Report PNW-GTR-566. In L. E. Kruger (Ed.), *Understanding community - forest relations* (pp. 105–126). Portland, Oregon: U.S. Department of Agriculture, Forest Service. Pacific Northwest Research Station.
- Beckley, T. M., Stedman, R. C., Wallace, S. M., & Ambard, M. (2007). Snapshots of what matters most: Using resident-employed photography to articulate attachment to place. *Society and Natural Resources*, 20, 913–929.
- Bernardo, F., & Palma-Oliveira, J. M. (2009). *Places and the perception of group entitativity*. Poster presented at the 11th European Congress of Psychology. Oslo: Norway.
- Billig, M. (2006). Is my home my castle? Place attachment, risk perception, and religious faith. *Environment and Behavior*, 38, 248–265.
- Billig, M., & Churchman, A. (2003). Building walls of brick and breaching walls of separation. *Environment & Behavior*, 35, 227–249.
- Blakely, E. J., & Snyder, M. G. (1999). *Fortress America. Gated communities in the United States*. Washington, D.C.: Brookings Institution Press.
- Boğaç, C. (2009). Place attachment in a foreign settlement. *Journal of Environmental Psychology*, 29, 267–278.
- Bolan, M. (1997). The mobility experience and neighborhood attachment. *Demography*, 34, 225–237.
- Bonaiuto, M., Aiello, A., Perugini, M., Bonnes, M., & Ercolani, A. P. (1999). Multidimensional perception of residential environment quality and neighbourhood attachment in the urban environment. *Journal of Environmental Psychology*, 19, 331–352.
- Bonaiuto, M., Carrus, G., Martorella, H., & Bonnes, M. (2002). Local identity processes and environmental attitudes in land use changes: The case of natural protected areas. *Journal of Economic Psychology*, 23, 631–653.
- Bonaiuto, M., Fornara, F., & Bonnes, M. (2003). Indexes of perceived residential environment quality and neighborhood attachment in urban environments: a confirmation study on the city of Rome. *Landscape and Urban Planning*, 65, 41–52.
- Bonaiuto, M., Fornara, F., & Bonnes, M. (2006). Perceived residential environment quality in middle- and low-extension Italian cities. *European Review of Applied Psychology*, 56, 23–34.
- Bott, S., Cantrill, J. G., & Myers, O. E., Jr. (2003). Place and the promise of conservation psychology. *Human Ecology Review*, 10, 100–112.
- Bow, V., & Buys, L. (2003). Sense of community and place attachment: The natural environment plays a vital role in developing a sense of community. In *Paper presented to the Social Change in the 21st Century Conference*.
- Bowlby, J. (1969). *Attachment*. The Tavistock Institute of Human Relations.
- Brehm, J. M. (2007). Community attachment: The complexity and consequence of the natural environment facet. *Human Ecology*, 35, 477–488.
- Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2006). Community attachments as predictors of local environmental concern. The case for multiple dimensions of attachment. *American Behavioral Scientist*, 50, 142–165.
- Bricker, K. S., & Kerstetter, D. H. (2000). Level of specialization and place attachment: An exploratory study of whitewater recreationists. *Leisure Sciences*, 22, 233–257.
- Brodsky, A. (1996). Resilient single mothers in risky neighborhoods: Negative psychological sense of community. *Journal of Community Psychology*, 24, 347–363.
- Brown, B. B., & Perkins, D. D. (1992). Disruptions in place attachment. In I. Altman, & S. M. Low (Eds.), *Place attachment* (pp. 279–304). New York & London: Plenum Press.
- Brown, B. B., Perkins, D. D., & Brown, G. (2003). Place attachment in a revitalizing neighborhood: Individual and block levels of analysis. *Journal of Environmental Psychology*, 23, 259–271.
- Brown, B. B., Perkins, D. D., & Brown, G. (2004). Incivilities, place attachment and crime: Block and individual effects. *Journal of Environmental Psychology*, 24, 359–371.
- Brown, G. (2005). Mapping spatial attributes in survey research for natural resource management: Methods and applications. *Society and Natural Resources*, 18, 17–39.
- Brown, G., & Raymond, C. (2007). The relationship between place attachment and landscape values: Toward mapping place attachment. *Applied Geography*, 27, 89–111.
- Burley, D. (2007). Are the social and physical really so different?: Elements in the development of an attachment to place. In *Paper presented at the Annual Meeting of the American Sociological Association*.
- Buttler, F. H., Martinson, O. B., & Wilkening, E. A. (1979). Size of place and community attachment: A reconsideration. *Social Indicators Research*, 6, 475–485.
- Buttimer, A. (1980). Home, reach, and the sense of place. In A. Buttimer, & D. Seamon (Eds.), *The human experience of space and place* (pp. 166–187). New York: St. Martin's Press.
- Calvo, P., & Gomila, T. (Eds.). (2008). *Handbook of cognitive science. An embodied approach*. Amsterdam: Elsevier.
- Carr, S., Francis, M., Rivlin, L. G., & Stone, A. M. (1992). *Public space*. Cambridge: Cambridge University Press.
- Carrus, G., Bonaiuto, M., & Bonnes, M. (2005). Environmental concern, regional identity, and support for protected areas in Italy. *Environment and Behavior*, 37, 237–257.
- Casakin, H., & Billig, M. (2009). Effect of settlement size and religiosity on sense of place in communal settlements. *Environment and Behavior*, 41, 821–835.
- Case, D. (1996). Contributions of journeys away to the definition of home: An empirical study of a dialectical process. *Journal of Environmental Psychology*, 16, 1–15.
- Casey, E. S. (1997). *The fate of place. A philosophical history*. Berkeley: University of California Press.
- Castells, M. (1996). *The rise of the network society*. Malden, MA: Blackwell.
- Charleston, S. (2009). The English football ground as a representation of home. *Journal of Environmental Psychology*, 29, 144–150.
- Cooper Marcus, C. (2006). *House as a mirror of self. Exploring the deeper meaning of home*. Berwick: Nicolas Hays.
- Cresswell, T. (2004). *Place: A short introduction*. Oxford: Blackwell Publishing.
- Cuba, L., & Hummon, D. M. (1993). A place called home: Identification with dwelling, community and region. *The Sociological Quarterly*, 34, 111–131.
- Dallago, L., Perkins, D. D., Santinello, M., Boyce, W., Molcho, M., & Morgan, A. (2009). Adolescent place attachment, social capital, and perceived safety: A comparison of 13 countries. *American Journal of Community Psychology*, 44, 148–160.
- Davenport, M. A., & Anderson, D. H. (2005). Getting from Sense of place to place-based management: An interpretive investigation of place meanings and perception of landscape change. *Society and Natural Resources*, 18, 625–641.
- Devine-Wright, P. (2009). Rethinking Nimbyism: The role of place attachment and place identity in explaining place-protective action. *Journal of Community and Applied Social Psychology*, 19, 426–441.
- Devine-Wright, P., & Howes, Y. (2010). Disruption to place attachment and the protection of restorative environments: A wind energy study. *Journal of Environmental Psychology*, 30, 271–280.
- Droseltis, O., & Vignoles, V. L. (2010). Towards an integrative model of place identification: Dimensionality and predictors of intrapersonal-level place preferences. *Journal of Environmental Psychology*, 30, 23–34.
- Druzhinina, I., & Palma-Oliveira, J. M. (2004). Radioactive contamination of wild mushrooms: a cross-cultural risk perception study. *Journal of Environmental Radioactivity*, 74, 83–90.
- Duany, A., Plater-Zyberk, E., & Speck, J. (2000). *Suburban nation: The rise of sprawl and the decline of the American dream*. New York: North Point Press.
- Easthope, H. (2004). A place called home. *Housing. Theory and Society*, 21, 128–138.
- Eisenhauer, B. W., Krannich, R. S., & Blahna, D. J. (2000). Attachment to special places on public lands: An analysis of activities, reason for attachments, and community connections. *Society & Natural Resources*, 13, 421–441.

- Elder, G. H., King, V., & Conger, R. D. (1996). Attachment to place and migration prospects: A developmental perspective. *Journal of Research on Adolescence*, 6, 397–425.
- Farnum, J., Hall, T., & Kruger, L. E. (2005). *Sense of place in natural resource recreation and tourism: An evaluation and assessment of research findings*. General Technical Report, PNW-GTR-660. United States Department of Agriculture, Pacific Northwestern Research Station.
- Feldman, R. (1990). Settlement Identity: Psychological bonds with home places in a mobile society. *Environment and Behavior*, 22, 183–229.
- Félonneau, M.-L. (2004). Love and loathing of the city: Urbanophilia and urbanophobia, topological identity and perceived incivilities. *Journal of Environmental Psychology*, 24, 43–52.
- Fishbein, M., & Ajzen, I. (1980). A theory of reasoned action. Some applications and implications. In H. E. Howe Jr., & M. M. Page (Eds.), *Nebraska Symposium on Motivation*, Vol. 27 (pp. 65–116). Lincoln: University of Nebraska Press.
- Fishwick, L., & Vining, J. (1992). Toward a phenomenology of recreation place. *Journal of Environmental Psychology*, 12, 57–63.
- Fleury-Bahi, G., Félonneau, M.-L., & Marchand, D. (2008). Processes of place identification and residential satisfaction. *Environment and Behavior*, 40, 669–682.
- Florida, R. (2002). *The rise of the creative class*. New York: Basic Books.
- Foland, A., & Lewicka, M. (2007). *Psi-Map: Psychological method for psycho-cartographic research*. Poster presented at the Xth European Congress of psychology, Prague: Czech Republic.
- Fornara, F., Bonaiuto, M., & Bonnes, M. (2009). Cross-validation of Abbreviated Perceived Residential Environment Quality (PREQ) and Neighborhood Attachment (NA) indicators. *Environment and Behavior*, 42, 171–196.
- Fried, M. (1963). Grieving for a lost home. In L. J. Duhl (Ed.), *The urban condition* (pp. 151–171). New York: Basic Books.
- Fried, M. (1982). Residential attachment: Sources of residential and community satisfaction. *Journal of Social Issues*, 38, 107–119.
- Fried, M. (1984). The structure and significance of community satisfaction. *Population and Environment*, 7, 61–86.
- Fried, M. (2000). Continuities and discontinuities of place. *Journal of Environmental Psychology*, 20, 193–205.
- Fullilove, M. T. (1996). Psychiatric implications of displacement. *American Journal of Psychiatry*, 153, 1516–1523.
- Galasińska, A. (2003). Temporal shifts in photo-elicited narratives in a Polish border town. *Narrative Inquiry*, 13, 393–411.
- Gallagher, S., & Zahavi, D. (2008). *The phenomenological mind. An introduction to philosophy of mind and cognitive science*. London: Routledge.
- Galster, G. (2001). On the nature of neighborhood. *Urban Studies*, 38, 2111–2124.
- Gibson, J. J. (1979/1986). *The ecological approach to visual perception*. Hillsdale, NJ: Lawrence Erlbaum.
- Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, 26, 463–496.
- Gifford, R., Scannell, L., Kormos, C., Smolova, L., Biel, A., Boncu, S., et al. (2009). Temporal pessimism and spatial optimism in environmental assessment: An 18-nation study. *Journal of Environmental Psychology*, 29, 1–12.
- Gifford, R. (2007). The consequences of living in high-rise buildings. *Architectural Science Review*, 50.
- Gillis, A. R. (1977). High-rise housing and psychological strain. *Journal of Health and Social Behavior*, 18, 418–431.
- Giuliani, M. V. (2003). Theory of attachment and place attachment. In M. Bonnes, T. Lee, & M. Bonaiuto (Eds.), *Psychological theories for environmental issues* (pp. 137–170). Ashgate, Hants.
- Giuliani, M. V., & Feldman, R. (1993). Place attachment in a developmental and cultural context. *Journal of Environmental Psychology*, 13, 267–274.
- Glanville, J. L., & Paxton, P. (2007). How do we learn to trust? A Confirmatory Tetrad Analysis of the Sources of Generalized Trust. *Social Psychology Quarterly*, 70, 230–242.
- Colledge, R. G., & Stimson, R. J. (1997). *Spatial behavior: A geographic perspective*. New York: The Guilford Press.
- Goudy, W. J. (1982). Further consideration of indicators of community attachment. *Social Indicators Research*, 11, 181–192.
- Goudy, W. J. (1990). Community attachment in a rural region. *Rural Sociology*, 55, 178–198.
- Gould, P., & White, R. (1982). *Mental maps*. Boston: Allen & Unwin.
- Gosling, E., & Williams, K. J. H. (2010). Connectedness to nature, place attachment and conservation behaviour: Testing connectedness theory among farmers. *Journal of Environmental Psychology*, 30, 298–304.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1380.
- Graumann, C. F. (1983). On multiple identities. *International Social Science Journal*, 35, 309–321.
- Greider, T., & Garkovich, L. (1994). Landscapes: The social construction of nature and the environment. *Rural Sociology*, 59, 1–24.
- Greif, M. J. (2009). Neighborhood attachment in the multiethnic metropolis. *City & Community*, 8, 27–45.
- Grosjean, M., & Thibaud, J.-P. (Eds.). (2001). *L'espace urbain en méthodes*. Paris: Parentheses.
- Gustafson, P. (2002). *Place, place attachment and mobility: Three sociological studies*. In *Goteborg Studies in Sociology*, No 6. Department of Sociology: Gotenburg University.
- Gustafson, P. (2006). Place attachment and mobility. In N. McIntyre, & K. E. McHugh (Eds.), *Multiple dwelling and tourism: Negotiating place, home and identity* (pp. 17–31). CAB International.
- Gustafson, P. (2009a). Mobility and territorial belonging. *Environment and Behavior*, 41, 490–508.
- Gustafson, P. (2009b). More cosmopolitan, no less local. *European Societies*, 11, 25–47.
- Halpern, D. (2005). *Social capital*. Cambridge: Polity Press.
- Hamilton, D. L., Sherman, S. J., & Castelli, L. (2002). A group by any other name – the role of entitativity in group perception. *European Review of Social Psychology*, 12, 139–166.
- Hammit, W. E., Backlund, E. A., & Bixler, R. D. (2006). Place bonding for recreation places: Conceptual and empirical development. *Leisure Studies*, 25, 17–41.
- Harlan, S. L., Larsen, L., Hackett, E. J., Wolf, S., Bolin, B., Hope, D., et al. (2005). Neighborhood attachment in urban environments. In *Paper presented at the Annual Sociological Association*, Philadelphia.
- Harmon, L. K., Zinn, H. C., & Gleason, M. (2005). Place identity, place dependence, and place-based affect: Examining their relationship to participation in education and interpretive programs at Isle Royale National Park. In *Proceedings of the 2005 George Wright society conference on parks, protected areas, and cultural sites*. Hancock, Michigan: The George Wright Society.
- Harvey, D. (1996). *Justice. Nature and the geography of difference*. Cambridge, MA: Blackwell.
- Hay, R. (1998). Sense of place in developmental context. *Journal of Environmental Psychology*, 18, 5–29.
- Heft, H. (1997). The relevance of Gibson's ecological approach to perception for environment-behavior studies. In G. T. Moore, & R. W. Marans (Eds.), *Advances in environment, behavior and design*, Vol. 4 (pp. 149–180). New York: Plenum Press.
- Heft, H. (2003). Affordances, dynamic experience and the challenge of reification. *Ecological Psychology*, 15, 149–180.
- Heft, H. (2010). Affordances and the perception of landscape: An inquiry into environmental perception and aesthetics. In C. Ward Thompson, P. Aspinall, & S. Bell (Eds.), *Innovative approaches to researching landscape and health* (pp. 9–32). London: Taylor & Francis Publishing.
- Heft, H., & Chawla, L. (2006). Children as agents in sustainable development: the ecology of competence. In C. Spencer, & M. Blades (Eds.), *Children and their environments: Learning, using and designing spaces* (pp. 199–216). Cambridge: Cambridge University Press.
- Heidegger, M. (1962). *Being and time*. New York: Harper & Row.
- Heller, T. (1982). The effects of involuntary residential relocation: A review. *American Journal of Community Psychology*, 10, 471–492.
- Hernandez, B., Hidalgo, M. C., Salazar-Laplace, M. E., & Hess, S. (2007). Place attachment and place identity in natives and non-natives. *Journal of Environmental Psychology*, 27, 310–319.
- Hernandez, B., Martin, A. M., Ruiz, C., & Hidalgo, M. C. (2010). The role of place identity and place attachment in breaking environmental protection laws. *Journal of Environmental Psychology*, 30, 281–288.
- Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: conceptual and empirical questions. *Journal of Environmental Psychology*, 21, 273–281.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, 52, 1280–1300.
- Hillier, B., & Hanson, J. (1998). *The social logic of space*. Cambridge: Cambridge University Press.
- Hummon, D. M. (1990). *Commonplaces. Community ideology and identity in American culture*. Albany: State University of New York Press.
- Hummon, D. M. (1992). Community attachment. Local sentiment and sense of place. In I. Altman, & S. M. Low (Eds.), *Place attachment* (pp. 253–277). New York and London: Plenum Press.
- Hur, M., Nasar, J. L., & Chun, B. (2010). Neighborhood satisfaction, physical and perceived naturalness and openness. *Journal of Environmental Psychology*, 20, 52–59.
- Jacobs, A. B. (1999). *Great streets*. Cambridge, MA: MIT Press.
- Janz, B. (2005). Walls and borders: The range of place. *City & Community*, 4, 87–94.
- Jeannerod, M. (2006). *Motor cognition: What actions tell the self*. Oxford: Oxford University Press.
- Johnson, M. (2007). *The meaning of the body. Aesthetics of human understanding*. Chicago: The University of Chicago Press.
- Jordan, T. (1996). Recent German research on space-related attachment and regional identities. *Geografiska Annaler, Series B*, 78, 99–111.
- Jorgensen, B. S., & Stedman, R. C. (2001). Sense of place as an attitude: Lakeshore owners attitudes toward their properties. *Journal of Environmental Psychology*, 21, 233–248.
- Jorgensen, B. S., & Stedman, R. C. (2006). A comparative analysis of predictors of sense of place dimensions: Attachment to, dependence on, and identification with lakeshore properties. *Journal of Environmental Management*, 79, 316–327.
- Kaltenborn, B. P., & Bjerke, T. (2002). Landscape preferences and place attachment – Røros. *Landscape Research*, 27, 381–396.
- Kaltenborn, B. P., & Williams, D. R. (2002). The meaning of place: attachments to Femundsmarka National Park, Norway, among tourists and locals. *Norsk Geografisk Tidsskrift*, 56, 189–198.
- Kaplan, S. (1979). Perception and landscapes: conceptions and misconceptions. In *Proceedings of our national landscape conference (USDA) forest service. General technical report PSW-35* (pp. 241–248). Berkeley, CA: PacificSouthwest Forest and Range Experiment Station.

- Kaplan, S. (1984). Affect and cognition in the context of home: The quest for intangibles. *Population and Environment*, 7, 126–133.
- Kasarda, J. D., & Janowitz, M. (1974). Community attachment in mass society. *American Sociological Review*, 39, 328–339.
- Katz, P. (1994). *The New Urbanism. Toward an architecture of community*. New York: McGraw-Hill, Inc.
- Kelly, G., & Hosking, K. (2008). Nonpermanent residents, place attachment and “sea change” communities. *Environment and Behavior*, 40, 575–594.
- Kim, J., & Kaplan, R. (2004). Physical and psychological factors in sense of community. *Environment and Behavior*, 36, 313–340.
- Kirby, A., Harlan, S. L., Larsen, L., Hackett, E. J., Bolin, B., Nelson, A., et al. (2006). Examining the Significance of Housing Enclaves in the Metropolitan United States of America. *Housing, Theory and Society*, 23, 19–33.
- Klandermans, B., & Oegema, D. (1987). Potentials, Networks, Motivations, and Barriers: Steps Towards Participation in Social Movements. *American Sociological Review*, 52, 519–531.
- Kleit, R. G., & Manzo, L. (2006). To move or not to move: Relationships to place and relocation choices in HOPE VI. *Housing Policy Debate*, 17, 271–308.
- Knez, I. (2005). Attachment and identity as related to a place and its perceived climate. *Journal of Environmental Psychology*, 25, 207–218.
- Korpela, K. M. (1989). Place identity as a product of self-regulation. *Journal of Environmental Psychology*, 9, 241–256.
- Korpela, K. M., Ylen, M., Tyrväinen, L., & Silvennoinen, H. (2009). Stability of self-reported favorite places and place attachment over a 10-month period. *Journal of Environmental Psychology*, 29, 95–100.
- Krannich, R. S., & Greider, T. (1984). Personal well-being in rapid growth ad stable communities: Multiple indicators and contrasting results. *Rural Sociology*, 49, 541–552.
- Kruger, L. E., & Jakes, P. J. (2003). The importance of place: Advances in science and application. *Forest Science*, 49, 819–821.
- Kunstler, J. H. (1993). *The geography of nowhere. The rise and decline of America's man-made landscape*. New York: Simon & Schuster.
- Kusenbach, M. (2008). A hierarchy of urban communities: Observations on the nested character of place. *City & Community*, 7, 225–249.
- Kyle, G., Graefe, A., & Manning, R. (2005). Testing the dimensionality of place attachment in recreational settings. *Environment and Behavior*, 37, 153–177.
- Kyle, G., Graefe, A., Manning, R., & Bacon, J. (2003). An examination of the relationship between leisure activity involvement and place attachment among hikers along the Appalachian Trail. *Journal of Leisure Research*, 35, 249–273.
- Kyttä, M. (2006). Environmental child-friendliness in the light of the Butlery model. In C. Spencer, & M. Blades (Eds.), *Children and their environments: Learning, using and designing spaces* (pp. 141–158). Cambridge: Cambridge University Press.
- Laczko, L. S. (2005). National and local attachments in a changing world system: Evidence from an international survey. *International Review of Sociology*, 15, 517–528.
- Lalli, M. (1992). Urban-related identity: Theory, measurement, and empirical findings. *Journal of Environmental Psychology*, 12, 285–303.
- Larsen, S. C. (2004). Place identity in a resource-dependent area of Northern British Columbia. *Annals of the Association of American Geographers*, 94, 944–960.
- Leigh, A. (2006). Trust, inequality and ethnic heterogeneity. *The Economic Record*, 82, 268–290.
- Lewicka, M. (2005). Ways to make people active: Role of place attachment, cultural capital and neighborhood ties. *Journal of Environmental Psychology*, 4, 381–395.
- Lewicka, M. (2008). Place attachment, place identity and place memory: Restoring the forgotten city past. *Journal of Environmental Psychology*, 28, 209–231.
- Lewicka, M. (2010). What makes neighborhood different from home and city? Effects of place scale on place attachment. *Journal of Environmental Psychology*, 30, 35–51.
- Lewicka, M. On the varieties of people's relationships with places: Hummon's typology revisited. *Environment and Behavior*, in press.
- Lewicka, M., & Bańka, A. (2008). Psychologia środowiskowa. [Environmental psychology]. In D. Doliński, & J. Strelau. (Eds.), *Psychologia. Podręcznik akademicki (Psychology: Academic Handbook)* (pp. 497–544). Sopot: Gdańskie Wydawnictwo Naukowe.
- Lim, M., & Barton, A. C. (2010). Exploring insidedness in urban children's sense of place. *Journal of Environmental Psychology*, 30, 328–337.
- Low, S. M. (1992). Symbolic ties that bind. Place attachment in the plaza. In I. Altman, & S. M. Low (Eds.), *Place attachment* (pp. 165–185). New York and London: Plenum Press.
- Low, S. M. (2003). *Behind the gates*. New York: Routledge.
- Low, S. M., & Altman, I. (1992). Place attachment: A conceptual inquiry. In I. Altman, & S. M. Low (Eds.), *Place attachment* (pp. 1–12). New York & London: Plenum Press.
- Lynch, K. (1960). *The image of the city*. Cambridge, MA: M.I.T. Press.
- Madill, A., & Gough, B. (2008). Qualitative research and its place in psychological science. *Psychological Methods*, 13, 254–271.
- Manzo, L. C., & Perkins, D. D. (2006). Finding common ground: The importance of place attachment to community participation and planning. *Journal of Planning Literature*, 20, 335–350.
- Manzo, L., Kleit, R. G., & Couch, D. (2008). “Moving three times is like having your house on fire once”: The experience of place and impending displacement among public housing residents. *Urban Studies*, 45, 1855–1878.
- Marsh, K. L., Johnson, L., Richardson, M. J., & Schmidt, R. C. (2009). Toward a radically embodied, embedded social psychology. *European Journal of Applied Psychology*, 39, 1217–1225.
- Massey, D. (2004). Geographies of responsibility. *Geografiska Annaler*, 86B, 5–18.
- Mazumdar, S., & Mazumdar, S. (1993). Sacred space and place attachment. *Journal of Environmental Psychology*, 13, 231–242.
- McAndrew, F. T. (1998). The measurement of “rootedness” and the prediction of attachment to home-towns in college students. *Journal of Environmental Psychology*, 18, 409–417.
- McHugh, K. E., & Mings, R. C. (1996). The circle of migration: Attachment to place and aging. *Annals of the Association of American Geographers*, 86, 530–550.
- Merleau-Ponty, M. (1962). *Phenomenology of perception*. London: Routledge.
- Mesch, G. S., & Manor, O. (1998). Social ties, environmental perception and local attachment. *Environment and Behavior*, 30, 504–519.
- Milgram, S. (1970). The experience of living in cities. *Science*, 167, 1461–1468.
- Milligan, M. J. (1998). Interactional past and potential: The social construction of place attachment. *Symbolic Interaction*, 21, 1–33.
- Moore, J. (2000). Placing home in context. *Journal of Environmental Psychology*, 20, 207–217.
- Morgan, P. (2010). Towards a developmental theory of place attachment. *Journal of Environmental Psychology*, 30, 11–22.
- Moser, G., Ratiu, E., & Fleury-Bahi, G. (2002). Appropriation and interpersonal relations. From Dwelling to City through the neighborhood. *Environment and Behavior*, 34, 122–136.
- Nasar, J. L. (1998). *The evaluative image of the city*. Thousand Oaks: Sage Publications.
- Newman, O. (1996). *Creating defensible space*. U.S. Department of Housing and Urban Development.
- Nicotera, N. (2007). Measuring neighborhood: A conundrum for human services researchers and practitioners. *American Journal of Community Psychology*, 40, 26–51.
- Nielsen-Pincus, M., Hall, T., Force, J. E., & Wulffhorst, J. D. Sociodemographic effects on place bonding. *Journal of Environmental Psychology*, in press.
- Norberg-Schultz, C. (1979). *Genius loci. Towards a phenomenology of architecture*. New York: Rizzoli.
- Nuttin, J. M., Jr. (1987). Affective consequences of mere ownership: The name letter effect in twelve European languages. *European Journal of Social Psychology*, 17, 381–402.
- Oliver, J. E. (2010). *The paradoxes of integration: Race, neighborhood, and civic life in multiethnic America*. Chicago: The University of Chicago Press.
- Oropesa, R. S. (1992). Social structure, social solidarity and in involvement in neighborhood improvement associations. *Sociological Inquiry*, 62, 107–118.
- Paasi, A. (2003). Region and place: regional identity in question. *Progress in Human Geography*, 27, 475–485.
- Patterson, M. E., & Williams, D. R. (2005). Maintaining research traditions on place: Diversity of thought and scientific progress. *Journal of Environmental Psychology*, 25, 361–380.
- Payton, M. A. (2003). *Influence of place attachment and social capital on civic action: A study at Sherburne National Wildlife Refuge*. Unpublished master's thesis, University of Minnesota, St. Paul, MN.
- Payton, M. A., Fulton, D. C., & Anderson, D. H. (2007). Influence of place attachment and trust on civic action: A study at Sherburne National Wildlife Refuge. *Society & Natural Resources*, 18, 511–528.
- Perkins, D. D., & Long, D. A. (2002). Neighborhood sense of community and social capital: A multilevel analysis. In A. T. Fisher, C. C. Sonn, & B. J. Bishop (Eds.), *Psychological sense of community. Research, applications and implications* (pp. 291–318). New York: Kluwer Academic/Plenum Publishers.
- Perkins, D. D., Brown, B. B., & Taylor, R. B. (1996). The ecology of empowerment: Predicting participation in community organizations. *Journal of Social Issues*, 52, 85–110.
- Ponzetti, J. J., Jr. (2003). Growing old in rural communities: A visual methodology for studying place attachment. *Journal of Rural Community Psychology*, Vol. E6(No 1).
- Porteous, J. D. (1976). Home: The territorial core. *Geographical Review*, 66, 383–390.
- Porteous, J. D. (1996). *Environmental aesthetics. Ideas, politics and planning*. London and New York: Routledge.
- Possick, C. (2004). Locating and relocating oneself as a Jewish Settler on the West Bank: Ideological squatting and eviction. *Journal of Environmental Psychology*, 24, 53–69.
- Pretty, G. H., Chipuer, H. M., & Bramston, P. (2003). Sense of place amongst adolescents and adults in two rural Australian towns: The discriminating features of place attachment, sense of community and place dependence in relation to place identity. *Journal of Environmental Psychology*, 23, 273–287.
- Putnam, R. D. (2000). *Bowling alone. The collapse and revival of American community*. New York: Simon & Schuster.
- Putnam, R. D. (2007). E pluribus unum: Diversity and community in the twenty-first century. The 2006 Johan Skytte Prize lecture. *Scandinavian Political Studies*, 30, 137–174.
- Rapaport, A. (1990). *History and precedent in environmental design*. New York and London: Plenum Press.
- Reicher, S., Hopkins, N., & Harrison, K. (2006). Social identity and spatial behaviour: The relationship between national category salience, the sense of home, and labour mobility across national boundaries. *Political Psychology*, 27, 247–263.
- Relph, E. (1976). *Place and placelessness*. London: Pion Limited.
- Richardson, M., Shockley, K., Fajen, B. R., Riley, N. A., & Turvey, M. Y. (2008). Ecological psychology: Six principles for an embodied-embedded approach to behavior. In P. Calvo, & T. Gomila (Eds.), *Handbook of cognitive science. An embodied approach* (pp. 161–187). Amsterdam: Elsevier.

- Ringel, N. B., & Finkelstein, J. C. (1991). Differentiating neighborhood satisfaction and neighborhood attachment among urban residents. *Basic and Applied Social Psychology, 12*, 177–193.
- Riger, S., & Lavrakas, P. J. (1981). Community ties: Patterns of attachment and social interaction in urban neighborhoods. *American Journal of Community Psychology, 9*, 55–66.
- Rowles, G. D. (1990). Place attachment among the small town elderly. *Journal of Rural Community Psychology, 11*, 103–120.
- Russell, J. A. (1988). Affective appraisals of environment. In J. L. Nasar (Ed.), *Environmental aesthetics. Theory, research & applications* (pp. 120–129). Cambridge: Cambridge University Press.
- Rybczyński, W. (1986). *Home. A short history of an idea*. London: Penguin Books.
- Salinger, N. A. (1999). Architecture, Patterns, and Mathematics. *Nexus Network Journal, 3*, 75–85. <http://www.nexusjournal.com/Salinger.html>.
- Salinger, N. A. (2006). *A theory of architecture*. Nikos Salinger & Umbau-Verlag.
- Salinger, N. A., Brain, D., Duany, A. M., Mehaffy, M. W., & Philibert-Petit, E. (2006). Favelas and social housing: The urbanism of self-organization. In *Paper presented at the Brazilian and Ibero-American Congress on Social Housing*.
- Sampson, R. J. (1988). Local friendship ties and community attachment in mass society: A multilevel systemic model. *American Sociological Review, 53*, 766–779.
- Sani, F. (2008). *Self-continuity: Individual and collective perspectives*. New York: Psychology Press.
- Scannell, L., & Gifford, R. (2010a). Defining place attachment: A tripartite organizing framework. *Journal of Environmental Psychology, 30*, 1–10.
- Scannell, L., & Gifford, R. (2010b). The relations between natural and civic place attachment and pro-environmental behavior. *Journal of Environmental Psychology, 30*, 289–297.
- Scopelliti, M., & Tiberio, L. (2010). Homesickness in university students: The role of multiple place attachment. *Environment and Behavior, 42*, 335–350.
- Seamon, D. (1980). Body-subject, time-space routines, and place-ballets. In A. Buttner, & D. Seamon (Eds.), *The human experience of space and place* (pp. 148–165). New York: St. Martin's Press.
- Seamon, D. (2000). A way of seeing people and place: Phenomenology in environment-behavior research. In S. Wapner, J. Demick, T. Yamamoto, & H. Minami (Eds.), *Theoretical perspective in environment-behavior research: Underlying assumptions, research problems, and methodologies* (pp. 157–178). New York: Kluwer Academic/Plenum Publishers.
- Seamon, D. (2002). A world more robust and kind: The first volume in Christopher Alexander's Nature of Order. *Environmental and Architectural Phenomenology Newsletter, 13*, 4–8.
- Shamai, S., & Ilatov, Z. (2005). Measuring sense of place: Methodological aspects. *Tijdschrift voor Economische en Sociale Geografie, 96*, 467–476.
- Shamai, S. (1991). Sense of place: An empirical measurement. *Geoforum, 22*, 347–358.
- Smaldone, D. (2006). The role of time in place attachment. In *Proceedings of the 2006 Northeastern Recreation Research Symposium*.
- Stedman, R. C. (2003a). Is it really just a social construction?: The contribution of the physical environment to sense of place. *Society and Natural Resources, 16*, 671–685.
- Stedman, R. C. (2003b). Sense of place and forest science: Toward a program of quantitative research. *Forest Science, 49*, 822–829.
- Stedman, R. C. (2006). Understanding place attachment among second home owners. *The American Behavioral Scientist, 50*, 187–205.
- Stedman, R., Beckley, T., Wallace, S., & Ambard, M. (2004). A picture and 1000 words: Using resident-employed photography to understand attachment to high amenity places. *Journal of Leisure Research, 36*, 580–606.
- Stokols, D., & Shumaker, S. A. (1981). People in places. A transactional view of settings. In J. Harvey (Ed.), *Cognition, social behavior and the environment* (pp. 441–488). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Stokols, D., & Shumaker, S. A. (1982). The psychological context of residential mobility and well-being. *Journal of Social Issues, 38*, 149–171.
- Stokowski, P. A. (2002). Languages of place and discourses of power: Constructing new senses of place. *Journal of Leisure Research, 34*, 368–382.
- Stolle, D., Soroka, S., & Johnston, R. (2008). When does diversity erode trust? Neighborhood diversity, interpersonal trust and the mediating effect of social interactions. *Political Studies, 56*, 57–75.
- Sugihara, S., & Evans, G. W. (2000). Place attachment and social support at continuing care retirement communities. *Environment and Behavior, 32*, 400–409.
- Szczepańska, J., & Wiczorek, A. (2007). Places of memory and everyday life: Spiritual landscape of Murańów experienced by its inhabitants. In *Architecture. The mute transmitter of the outspoken emotions. The Integrating role of the spiritual places for 21st century city Dwellers*. Conference proceedings, Warszawa, October.
- Taylor, R. B., Gottfredson, S. D., & Brower, S. (1984). Neighborhood naming and as an index of attachment to place. *Population and Environment, 7*, 103–125.
- Taylor, R. B., Gottfredson, S. D., & Brower, S. (1985). Attachment to place: Discriminant validity, and impacts of disorder and diversity. *American Journal of Community Psychology, 13*, 525–542.
- Terkenli, T. S. (1995). Home as a region. *Geographical Review, 85*, 324–334.
- Theodori, G. L. (2001). Examining the effects of community satisfaction and attachment on individual well-being. *Rural Sociology, 66*, 618–828.
- Theodori, G. L., & Luloff, A. E. (2000). Urbanization and community attachment in rural areas. *Society & Natural Resources, 13*, 399–420.
- Tognoli, J. (1987). Residential environments. In D. Stokols, & I. Altman (Eds.), *Handbook of environmental psychology, Vol. 1* (pp. 655–690). Malabar, Florida: Krieger Publishing Company.
- Tönnies, F. (1887/2002). *Community and society*. Dover Publications.
- Trentelman, C. K. (2009). Place attachment and community attachment: A primer grounded in the lived experience of a community sociologist. *Society and Natural Resources, 22*, 191–210.
- Tuan, Y.-F. (1974). Space and place: Humanistic perspective. *Progress in Geography, 6*, 233–246.
- Tuan, Y.-F. (1975). Place: An experiential perspective. *Geographical Review, 65*, 151–165.
- Tuan, Y.-F. (1977). *Space and place: The perspective of experience*. Minnesota: The University of Minnesota Press.
- Twigger-Ross, C., Bonaiuto, M., & Breakwell, G. (2003). Identity theories and environmental psychology. In M. Bonnes, T. Lee, & M. Bonaiuto (Eds.), *Psychological theories for environmental issues* (pp. 203–233). Hants: Ashgate.
- Twigger-Ross, C., & Uzzell, D. L. (1996). Place and identity processes. *Journal of Environmental Psychology, 16*, 139–169.
- Uzzell, D., Pol, E., & Badenas, D. (2002). Place identification, social cohesion, and environmental sustainability. *Environment and Behavior, 34*, 26–53.
- Van der Klis, M., & Karsten, L. (2009). Commuting partners, dual residences and the meaning of home. *Journal of Environmental Psychology, 29*, 235–245.
- Van Patten, S. R., & Williams, D. R. (2008). Problems in place: Using discursive social psychology to investigate the meanings of seasonal homes. *Leisure Sciences, 30*, 448–464.
- Vaske, J. J., & Kobrin, K. C. (2001). Place attachment and environmentally responsible behavior. *The Journal of Environmental Education, 32*, 16–21.
- Vorkinn, M., & Riese, H. (2001). Environmental concern in a local context. The significance of place attachment. *Environment and Behavior, 33*, 249–263.
- Wasserman, I. M. (1982). Size of place in relation to community attachment and satisfaction with community services. *Social Indicators Research, 11*, 421–436.
- Williams, D. R. (2000). Notes on measuring recreational place attachment. Unpublished manuscript.
- Williams, D. R., McDonald, C. D., Riden, C. M., & Uysal, M. (1995). Community attachment, regional identity and resident attitudes towards tourism. In *Proceedings of the 26th Annual Travel and Tourism Research Association Conference Proceedings* (pp. 424–428). Wheat Ridge, CO: Travel and Tourism Research Association.
- Williams, D. R., & McIntyre, N. (2001). Where heart and home reside: Changing constructions of place and identity. Sept. 17–20, 2000 *Trends 2000: Shaping the future* (pp. 392–403). Lansing, MI: Michigan State University, Dept. of Park, Recreation and Tourism Resources.
- Williams, D. R., & Patterson, M. E. (2007). Snapshots of what, exactly? A comment on methodological experimentation and conceptual foundations in place research. *Society and Natural Resources, 20*, 931–937.
- Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: Examining emotional and symbolic attachment to place. *Leisure Sciences, 14*, 29–46.
- Williams, D. R., & Roggenbuck, J. W. (1989). Measuring place attachment: Some preliminary results. In *Paper presented at the session on Outdoor Planning and Management, NRPS Symposium on Leisure Research*, San Antonio, Texas.
- Williams, D. R., & Van Patten, S. (1998). Back to the future? Tourism, place, and sustainability. In L. Andersson, & T. Blom (Eds.), *Sustainability and development: On the future of small society in a dynamic of economy* (pp. 359–369). Karlstad, Sweden: University of Karlstad.
- Williams, D. R., & Van Patten, S. (2006). Home and Away? Creating identities and sustaining places in a multi-centered world. In N. McIntyre, & K. E. McHugh (Eds.), *Multiple dwelling and tourism: Negotiating place, home and identity* (pp. 32–50). CAB International.
- Williams, D. R., & Vaske, J. J. (2003). The measurement of place attachment: Validity and generalizability of a psychometric approach. *Forest Science, 49*, 830–840.
- Wilson, G., & Baldassare, M. (1996). Overall "sense of community" in a suburban region: The effects of localism, privacy, and urbanization. *Environment and Behavior, 28*, 27–43.
- Wilson-Doenges, G. (2000). An explanation of sense of community and fear of crime in gated communities. *Environment and Behavior, 32*, 597–611.
- Wirth, L. (1938). Urbanism as a way of life. *American Journal of Sociology, 44*, 1–24.
- Wójcik, A., Bilewicz, M., & Lewicka, M. (2010). Living on the ashes. Collective representations of Polish-Jewish history among people living in the former Warsaw Ghetto area. *Cities, 27*, 195–203.
- Wood, L., & Giles-Corti, B. (2008). Is there a place for social capital in the psychology of health and place? *Journal of Environmental Psychology, 28*, 154–163.
- Yosano, A., & Hayashi, N. (2005). Social stratification, intermediary groups, and creation of trustfulness. *Sociological Theory and Methods, 20*, 27–44.
- Zaborska, K., & Lewicka, M. (2007). Osiedla zamknięte – czy istnieje alternatywa? [Gated communities – is there an alternative way?] *Kolokwia Psychologiczne, 16*, 135–152.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, 9*, 2, Part, 2, 9–27.
- Ziębińska, U. (2009). *Analiza porównawcza wybranych aspektów miast Warszawy i Wiednia: przywiązanie do miasta, wizerunek emocjonalny miasta oraz regeneracyjność miasta* (Comparing Warsaw and Vienna: Place attachment, affective image and restorative character of the city). Unpublished research report: University of Warsaw, Warsaw.