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Predictors of Place Attachment in Urban Residential Environments: A Residential Complex Case Study

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Abstract

This paper follows two interrelated studies. Through the first study, we explore, classify and evaluate predictors that contribute to an increased place attachment. Through the second study, we examine the predictors on a residential complex in Tehran. Surveys and face-to-face interviews were conducted to investigate place attachment and the relationship of attachment with the overall design of their environment. The findings indicate a significant attachment to the neighborhood, which contributes to the users' tendency to remain in the community. Also, physical dimensions of attachment are regarded as crucial in developing a sense of belonging.

Keywords: Place attachment; Sense of place; urban residential environments; neighbourhood

1. Introduction

Place attachment is defined as "The affective link that people establish with place settings, where they tend to remain and where they feel comfortable and safe" (Hidalgo & Hernandez, 2001). This paper highlights the predictors of place attachment and their significance in the creation of a "sense of place",

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which plays a key role in the success of sustainable residential environments. The concept of place attachment and its attributes are rooted in multiple fields of study at theoretical and empirical levels; these include phenomenology, psychology, sociology, geography, etc. As a result, the sense of place and attachment become weak and affect people's feelings and perception of the area because of poorly informed developments or those motivated by purely commercial motives. Current urban development in Tehran tends to diminish the attachment to place and weakens the depth of meaning and diversity of place experience. Regarding the dynamics of place and place meaning, there is a need to understand the psychological aspects in the changing context of urban areas influenced by globalised culture and built form (Altman & Low, 1992). With the lack of attachment to the neighbourhood, and loss of the inhabitant's concentration toward his/her house, the neighbourhood environment is gradually eroded both physically and socially, and these consequences later shift inside of the home (Brown et al, 2003). Sociologists, who study the place attachment of immigrants, believe that growth of anti-social behaviour is rooted in the loss of attachment to new private and public spaces. We aim to scrutinize these problems and highlight the predictors which help to develop inhabitant attachment to the living environment.

2. Literature Review

In the field of phenomenology, Heidegger (1889-1976) proposed that dwelling, expresses a meaningful relationship between man and his environment; a relationship that grows from one's efforts to gain identity, which then, leads to an emotional attachment to a place (Heidegger, 1962). Schulz (1926 - 2000) defined various types of dwelling; all of them refer to the concept of attachment to physical, emotional and social environments (Schulz, 1984). In 1979 Lynch proposed that a clear subjective image of a place is the main attribute of place identity. Schulz and Relf examined deep emotional and perceptual links between man and place (Habibi, 2008). There are three broad, interrelated components that compose a place and give meaning to it: the physical setting, the individual's internal psychological and social processes, and activities that have been undertaken (Relph, 1976; Stedman, 2003). Most psychologists believe that man's positive attachment to his/her environment is crucial for a healthy personality (Allport, 1955; Fromm, 1941 & Maslow, 1967). For environmental psychologists, place attachment is a cognitive bond between a person and an environment or space. This space can also bear inherited beliefs that bond people to the place emotionally and culturally (Altman & Low, 1992). Low defines six types of relation between human and environment: genealogical relation, relation as a result of losing the homeland, economical relation, cosmological relation, pilgrim relation, and narrative relation. In people's experience of a place, physical form, activities and cultural meanings, combine to form a sense of place (Montgomery, 1998). This is associated with the feelings and perceptions that people gain through their experience of a place (Relph, 1976). Sense of place is devilishly difficult to measure because of the ambiguity of its definition (Stedman, 2003). Place attachment has been researched quite broadly, and so has been defined in a variety of ways (Scannel & Gifford, 2010). There are different concepts used to name people's relations with places: place attachment, place satisfaction, place identity, place dependence, sense of place, community attachment, sense of community, each of them bear a somewhat different meaning, although what exactly is their exact difference is not clear. Studies on place attachment are classified into three contexts: personal context, natural environment context and community context. The personal context includes place identity, place dependence and rootedness. The natural environment context includes connectedness to nature, environmental identity and affinity to nature. The community context includes neighbourhood attachment, belongingness and familiarity (Christopher M. Raymond, 2010). Nature bonding may not be applicable for the measurement of place attachment in urban settings, but it is relevant to natural and rural land-use contexts, which is the focus of research on the natural environment attachment. Scannel and Gifford (2010) synthesize various definitions of the concept into a

three-dimensional, person–process–place organizing framework. The personal dimension of place attachment refers to its individually or collectively determined meanings. The psychological dimension includes the affective, cognitive, and behavioral components of attachment. The place dimension emphasizes the place characteristics of attachment, including spatial level, specificity, and the prominence of social or physical elements (Scannel & Gifford, 2010).

3. Effective predictors increasing place attachment

3.1. Physical (rootedness) predictors

The effort, made by a person or community, to maintain a place and main activities has the potential to increase the level of personal attachment. Furthermore, physical features that bring a unique identity to a place also tend to increase place attachment (Shamsuddin & Ujang, 2008). Climate can be a significant predictor as it not only affects the economic, social and cultural conditions of a place, but also can have a direct bearing on the physical memories associated with that place (Knez, 2005). Accessibility, legibility, vitality, diversity and comfort, are the key urban design attributes that define a successful place. It is claimed that the success of urban places is influenced by the ability of these places to accommodate human activity effectively (Jacobs, 1961). For instance in residential environments, open spaces that host various personal and group activities for the young through to the elderly, are of foremost importance in increasing place attachment. Comfort and safety are recognized as indispensable predictors for attachment (Hidalgo et al. 2001).

3.2. Social (bonding) predictors

One of the most notable predictors that help us to measure place attachment is the duration of residence. In most cases, people who have lived in a place for a long time show greater attachment to the place (Hidalgo et al. 2001). Number of relatives in a place and ownership of the house also increase the sense of attachment. The extant social meaning of a place normally has a notable influence on those who are new to the community. Place attachment is nourished by daily encounters with the environment and neighbours, seasonal celebrations, continued physical personalisation and upkeep and beliefs about home and neighbourhood (Brown, Perkin & Brown, 2003). Drawing from past research, we expect place attachment relates to temporal and financial investments, social cohesion and control and low fear of crime. These variables also are indicators of healthy neighbourhoods (Brown et al, 2003). Sacred structures can also foster communal bonds. In addition, religious ceremonies engage the believers to experience the place history and geography. These places are treated as collective possessions by the religious community and constituted as an important part of the collective conscience (Mazumdar, Sh., Mazumdar, 2004).

3.3. Effective predictors decreasing place attachment

3.3.1. Physical (rootedness) predictors

Changes to the physical setting, types of uses and street activities may consequently erase what is precious and meaningful to the community, particularly those who have a long-term attachment. Lack of meaning in places adversely affects the sense of place and identity. In broad terms, the weakening of sense of place is facilitated by economic globalisation, standardised products and generic urban environments with little authentic connection to local landscapes, ecosystems, history, culture and

community (Wheeler, 2004). As housing stock ages along with its residents, the owned homes are converted for renting and tenants that move in tend to be less wealthy. With decline, residents who can afford to move may leave, stimulating vacancies, rental conversions, and high residential turnovers. Some stay because they have no choice but many achieve high attachment with longer years of residence. Highly attached residents are often older and spend more time in their neighbourhood. Home ownership also represents an investment that predicts both neighbourhood quality and place attachment (Brown et al, 2003).

3.3.2. Social (bonding) predictors

Increased levels of crime lead to decreased place attachment. Gradual loss of the public realm erodes the memories of a place and diminishes the sense of belonging (Shamsuddin & Ujang, 2008). Decreased community-based activities and increased immigration results in loss of attachment of inhabitants to their environment (Brown et al, 2003). Increasing social sustainability means more effort is made to preserve the physical qualities of a place and physical protection of the inhabitants and their public property. In sustainable neighbourhoods, with social control and public attention to the environment, more investment is dedicated to maintenance and restoration. With high levels of attachment to their property, inhabitants are willing to remain in the place despite hygienic or safety problems.

Table 1. Effective predictors on place attachment.

Predictor value	Dimension	Predictor
Positive	Physical	Physical sustainability, Functional sustainability, Unique characteristics, Accommodating activities, Comfort, Open spaces, Safety, Accessibility, Vitality, Diversity, Legibility
Positive	Social	Length of residence, Number of relatives, Ownership of the property, Reputation of the place, Daily encounters, Physical personalization, Beliefs and religions, Collective possessions, Collective behaviors, Social control, Low fear of crime
Negative	Physical	Unfit development, Changing physical setting, Changing types of uses, Changing activities, Lack of meaning, Formal globalization, Economic globalization, Standardization
Negative	Social	Cultural globalization, Crime growth, Weakening identity, Lack of social contributions, Immigration

Place attachment results from the social sustainability of a place. Meaning and identity are the outcomes of place attachment. Increasing place attachment in residential environments maintains personal and collective identity of inhabitants. Usually, sense of identity is accompanied by some satisfaction and wellbeing, which goes on to increase public acceptability. Social contributions, safety and sense of familiarity increase through a heightened sense of place attachment (Brown et al, 2003). The best conditions for attachment occur when people develop attachment toward not only their own home but also neighbourhood and city at the same time. In most cases, research shows that the feeling of attachment is high in some scales but low in the others. Regarding research on place attachment there are notable themes: Firstly main indicators of significant predictors in place attachment are the main activities and potentials formed in residential, commercial, recreational spaces etc. For instance: in a commercial area, the predictors that increase place attachment are those that influence the economic potential, such as accessibility (Shamsuddin & Ujang, 2008). Secondly, people who are attached to a place are not necessarily proud of living there (Knez, 2005). Thirdly, there is not always a decisive outcome when

measuring the relevant predictors of place attachment. The predictors are relative, and they differ, even to the point of contrast from case to case.

4. Case study

Regarding the above-mentioned negative aspects of place-attachment and mentioning current planning standards for residential developments in Tehran, we find that these combine together to produce unfit development in every zone of the city and lead to a widely experienced loss of local identity. Current urban development decreases place attachment and loses much of the meaningful and diverse spatial experiences. The main reasons for choosing the Ekbatan Residential Complex have been primarily mentioning the physical destruction of other established settings, poor supervision of development regulations by the authorities and high levels of immigration from other towns to other zones in the city. The Ekbatan residential complex allows us to study a mid-income social class that is relatively uniform and benefit from common services. A great number of inhabitants have been living there for many years; there is an abundance of outdoor space which provides opportunities for social activities, all of which have been identified as contributory predictors of social and physical place attachment. Outdoor spaces are semi-private, have natural surveillance, and enjoy regular use by the whole community throughout the complex. The Ekbatan Complex was built as a project of contemporary apartment buildings in the western part of Tehran, Iran. The Construction of the Ekbatan complex started in 1975 for the purposes of mass housing with 15,500 dwellings in an area of 2,208,570 m^2 located in west of Tehran.

5. Methodology

Of the 156 inhabitants participated voluntarily in this study, two participants were eliminated because they had left too many questions unanswered. The final sample was composed of 154 inhabitants. Of the total sample, 57% were male, and 43% female. All participants lived in dwellings at the time the study was undertaken. Participants were selected from all of the three phases of the complex. The three groups showed no significant differences in their response to the questions. The average age of the participants is 27 years. They have been living for an average of 11.4 years in dwellings, 14.2 years in neighbourhoods and 24.5 in Tehran. Identification marks of the questionnaire covered age, sex, marital status, social class, homeownership, length of residence in dwelling, neighbourhood, and city and the number of people in each dwelling. According to the research of Hidalgo and Hernandez, we used a 2*3 factorial design on the first part of the questionnaire. On this part, the dimension of attachment had two levels of social and physical, and three scales of dwelling, neighbourhood and city. We selected the sentence `I would be unhappy to leave my house/neighbourhood/city' that has been used previously by researchers to measure attachment (Hidalgo et al., 2001) and which meets with this requirement. This sentence forces the subject to imagine a break or distancing situation, which helps to reveal place-attachment. This also meant a consideration of leaving the social, as well as the physical environment. To differentiate between physical and social dimensions of attachment, another two items were included on each scale in which the subject had to either leave the physical or the social environment. We asked the participants what they would feel if the people they lived with moved (social attachment to house/neighbourhood/city), as well as what they would feel if they moved with the same people (physical attachment to house/neighbourhood/city). Replies range from 1 (I would be truly sad to move) to 4 (I prefer to move). On the second part, we asked the individuals to identify main predictors that are crucial to them within the study scales of dwelling, neighbourhood and city. They could describe the predictors they felt relevant to them, or they could choose the proposed predictors on the questionnaires. The predictors were based on the characteristics of the complex, both socially and physically. In order to test whether there were differences between the

sample subgroups, we carried out the same analysis but added age and sex. Age was reclassified in four groups of 18-24, 25-34, 35-60 and over 60s to have a greater number of subjects in each condition.

Table 2. Overall attachment to dwelling, neighbourhood and city for various age groups.

Age Group	Dwelling	Neighborhood	City
18-24	56%	65%	52%
25-34	52%	64%	62%
35-60	50%	70%	70%
Over 60	100%	100%	95%

Table 3. Effective predictors on place attachment on dwelling and neighbourhood scales.

| Scale	Value	Predictor	Mean score
Dwelling	Positive	Tranquility	50.63%
		Safety	29.12%
		Central HVAC systems	11.39%
		Dwelling size	8.86%
	Negative	Lack of maintenance	54.61%
		Overcrowding	28.21%
		Cultural tensions	9.24%
		Other predictors	7.24%
Neighborhood	Positive	Open spaces	45.33%
		Service facilities	38.66%
		Daily encounters	10.61%
		Number of relatives	5.4%
	Negative	Lack of maintenance	37%
		Overcrowding	25%
		Cultural tensions	18.75%
		Lack of contribution	9.37%
		Accessibility problems	6.25%
		Crimes	3.63%
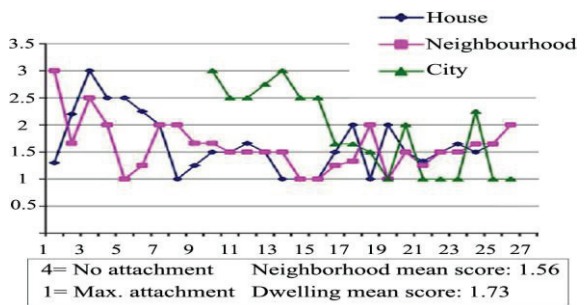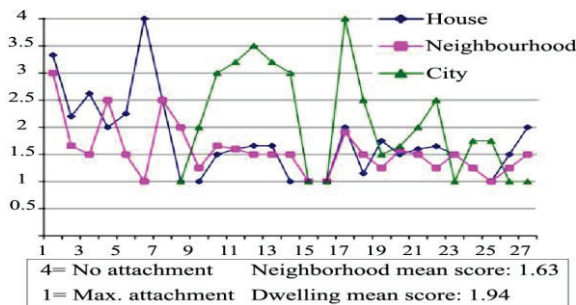
Fig. 1. Attachment and length of residence relationship.   Fig. 2. Women attachment and length of residence.

6. Results

The objective of this research is to identify the predictors that affect place attachment, and compare the degree of this attachment from a cross-section of the places of residence. We calculated average scores for various dimensions of attachment. Table 3 shows the most positive and negative predictors in developing overall attachment on dwelling and neighbourhood scales. Table 2 includes relevant information on overall attachment to dwelling, neighbourhood and city in different age groups. The mean attachment scores vary regarding scale as well as age group. The subjects in the sample are quite attached to their neighbourhood, which is consonant with the results of previous studies (Hidalgo et al. 2001, Cuba & Hummon, 1993). According to the findings, neighbourhood attachment is of higher importance than dwelling and city attachment, while dwelling attachment is more significant than city attachment. The younger age group shows higher scores on dwelling attachment than they do on city scales. Attachment of the intermediate groups to the city is significantly higher than their attachment to the dwellings. The results yield no significant differences between the oldest group regarding attachment levels to dwelling and neighbourhood but their attachment to the city is less than the other groups. An inter-group comparison revealed that attachment is superb with age and length of residence (Table 2, Figure 1). The analysis also suggests that women develop more attachment to dwelling, neighbourhood and city than men (Figure 2).

7. Discussion

In the Ekbatan residential complex, community attachment is significant, and neighbourhoods play the most prominent role in people's attachment to the place. As expected from past research, long-term inhabitants and home owners developed a more positive overall place attachment. Furthermore, residents with a higher fear of crime, cultural tensions, less social cohesion and control also felt less overall place attachment. Despite the socio-economic similarity of community, residents experienced more positive place attachments if their neighbourhood had a greater proportion of home owners, and less fear of crime. From past research, we expected the dwelling to play a more significant role in resident attachment, but in this case, the community regarded the neighbourhoods as the most influential factor. Regarding the differences between subgroups in all cases, we find that women have greater place attachment than men. This result is in accordance with the findings of previous research. Similarly, attachment to place increases with age, although which one is the most significant range also changes with age. For example, in younger age group, the dwelling involves greater attachment. Also, intermediate age group are attached to the city, but older age group show no differences between the dwelling and the neighbourhood attachment.

It is hard to judge between the overall importance of the neighbourhood and the city for the inhabitants, regarding the limited research sample. It has to be pointed out, that all people are attached to their neighbourhood. In some cases, especially younger and older age groups are not attached to the city. It is worth noting that the public realm and recreational spaces are extremely hard to find in other areas, in the city, as a result of land prices. As expected from past research, physical and psychological conditions of dwelling, neighbourhood or city affect the significance of each place for inhabitants' attachment. The dependence of the younger age group for their home environment could be the cause of their higher attachment to dwelling than city. The intermediate group's attachment to the city was significantly higher than house attachment. The reason of this matter could be the importance of the city in providing the necessities of life for those ages, for example, job opportunities. The results yielded no significant differences in the oldest group regarding attachment level to the dwelling and neighbourhood but attachment to the city is less than the other groups. The reason could be the dependence for the dwelling

and neighbourhood as a result of decreasing physical abilities, and decreasing the need for profession based travel. The complex is successful in its provision of both the physical and the social necessities of urban life. Most of the residents showed an attachment to the neighbourhood. The nature of mass produced houses tends to diminish the overall attachment to certain dwellings. This occurs regardless of the social attachment associated with the existence of family. The subject of this study produces a physical attachment greater than social. Up to now, a great number of studies have highlighted the importance of the social dimension in the growth of attachment. This work has also shown the importance of the physical dimension. Without doubt, People become attached to the social and physical aspects of a place and these two components of place attachment are experienced in parallel. However, as we can see in the Ekbatan Complex, the physical dimensions underlie significant predictors in the social dimensions of attachment, within an urban setting. This distinction has been highly significant for previous research at both the theoretical and empirical level. In any case, it will be necessary to check whether this result can be extrapolated to other residential areas with differing characteristics.

Acknowledgements

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