

# A Study on the Role of Security Parameters in Creating the Sense of Place Attachment Case Studies of Aseman and Yasamin Residential Complexes in Maragheh in Iran

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**Abstract:** Physical and social environment plays a key role in establishment of emotional, behavioral and cognitive relationships and place attachment is the result of physical qualities and activities in the place through which individuals feel committed to their environment. Today, crime and insecure feeling about it in urban districts is a major concern of people, which is very influential in one of the social pathologies. Security is one of the qualitative indicators of urban life. Since present urban spaces are factors for occurrence of urban anomalies and hence insecurity in the cities, it is necessary to study the quantitative and qualitative aspects of the security, both physically and socially, within each of urban spaces. Considering the role of security in the feeling of attachment to a place, the present paper takes a descriptive analytical approach to identify the parameters and indices influencing the feeling of security and its impacts on place attachment via composite indices and questionnaires along with correlation and comparative analyses in Yasamin and Aseman residential complexes in Maragheh. The data collected were analyzed through SPSS computer application and based on the purpose, one sample t-test and multiple regression were used. Findings revealed that social security and place attachment in the samples under study were in a desirable condition. However, results from regression analysis demonstrated that among all security parameters, parameters of territory and supervision had the biggest influence on improving the feeling of place attachment in residential complexes of the city under scrutiny.

**Keywords:** Feeling of security; Place attachment; Residential complex; Maragheh; Territory

## INTRODUCTION

A closer look at the role of physical and social environment in formation of emotional, behavioral and cognitive bonds reveals that place attachment is the outcome of physical qualities and activities that makes individuals committed to their environment. The importance of place attachment is in its major significance in promoting responsibility, cooperation and self-assistance in residential complexes and offers a more decent solution for issues and improved conditions of life. Socially speaking, place attachment provides the ground for the residents to better supervise current and local affairs and follow social issues more enthusiastically. This helps them make collective attempts to their issues and face environmental threats more efficiently. The present study presupposes that "in order to increase social relations, space quality and social life, feeling of security is of a significant importance and its effectiveness could be measured with attachment to a place". Residents believing in the safety of their residence feel more attached to it. This place attachment makes them well prepared for facing crimes and misdemeanors (Comstock, 2010; Lewicka, 2010: 38). Secure atmosphere in adjacent flats facilitates residences' acquaintance and improve local social bonds (Wu, 2008; Buys, 2007; Maas, 2009; Leyden, 2003). Therefore, the main question the present study aims to see "if factors effective on the feeling of security could satisfy the demands of the residences in residential complexes so that attachment to the place is created and to what extent these indices influence residences' attachment". Increased attachment to the place through improved security is one of the major goals of the present study.

## METHODOLOGY

The present study is based on document analysis conducted through surveys, description and observation. In document analysis section, prominent documents on attachment to the place and security are reviewed to extract a proper theoretical framework for research methodology. Thus, an analytical and inferential approach is taken to conduct psychological studies on environment, dimensions of place attachment and the

feeling of security. Then, place attachment and the feeling of security are investigated in some cases. Finally, security indices was extracted and their effect on place attachment was studied. The data were mainly collected through questionnaires. The statistical society of the study included 250 apartments in the residential complexes under study. The size of statistical sample was determined using Cochran's sample size formula to be 100. The questions in the questionnaire were designed considering research questions and theoretical framework of the study via common options in statistical studies. The present study had 5 categories and 15 items in case of social security indices and 3 categories and 13 items to evaluate place attachment. Cronbac's alpha was calculated to be 0.86 to ensure reliability of the questionnaire. The collected data were then analyzed via SPSS computer application. In order to assess and evaluate the probable relationships between research hypotheses, Pearson correlation coefficient, multiple variable regression and single sample T tests were utilized. The dependent variable of place attachment was examined using place identity, emotional attachment, place attachment and social bonds<sup>1</sup>. The independent variable of security was on the other hand measured through indices like social anomalies, territories, quality of physical environment and adjacency of the residence with needed facilities were assessed through a questionnaire in the residential complexes under study<sup>2</sup>. Finally, the effect of indices of security were examined on place attachment in selected residential complexes as the main goal of the present study. The study was conducted in two residential complexes named Yasamin and Aseman in the northern ring-way of Maragheh, adjacent to each other in a balmy region of the city. Selection of the complexes in an urban location helped the authors control interfering variables like adjacencies, climate, economic condition, access to urban services and facilities and cultural and religious situation. Controlling human interfering variables was also considered in both questionnaire distribution and selecting target groups in the sample under study. Using a systematic cluster method in the process of distributing questionnaire aiming to overlap target groups was an effective factor in this study. Table 1 demonstrates the condition of the cases of the study adjacent to each other.

Table 1: Characteristics of the cases of the study (Yasamin and Aseman Residential Complexes) Source: Authors

title	Number of apartments	Level of occupancy	Density	Area	Adjacencies	Images
Yasamin	Total 18 apartments in two blocks	46% in two blocks	414% in 9 stories above the ground level	Total area of stories in 14405.94 m; total area of each story 1122.80 m <sup>2</sup>	On the east with Aseman complex and on the other sides with streets	

<sup>1</sup> In this regard, the following statements were made: the answer to these statements were strongly disagree, disagree, neither agree nor disagree, agree and strongly agree. I have sweet memories about my residence. I have a good feeling when I enter my residence. Compared to other places, when I come to my residential complex, I feel relaxed. I worry about damage and destruction in my residence. I feel secure when I enter my residential complex. I do not plan to move for I am used to my residential complex. I feel happy when I pass time in my residential complex's yard. I like my residential complex more than other ones. I tell other where I live and feel proud of it. I feel prestigious when I meet and communicate with my neighbors in my residential complex. When I am in trouble, my neighbors help me. We set plans for hobbies with my neighbors. Programs in the residential complex are held with all residence's cooperation.

<sup>2</sup>In this regard the following statements were asked with options of strongly disagree, disagree, neither agree or disagree, agree and strongly agree. I am satisfied with the security guard performance. I trust security measures taken in this residential complex. If I am away for some days my neighbors will control my apartment. There is no concern over robbery in my residential complex. There are no quarrels and rows in this complex. There are no disturbances for families in this complex. I am satisfied with my neighbors. There are cozy places in the yard where I can relax. Semi-private spaces are predicted for the families to be in touch with each other. The lobby and the semi-private spaces are not accessible to the public. There are no empty or deserted spaces in this complex. I am satisfied with night-lights in the complex. I can stroll around the yard with confidence and no concerns at night. I have access to public transportation right in front of the complex. I have an easy access to convenience stores and supermarkets.

Aseman	Total apartments in two blocks	8	48% in two blocks	576% in 12 stories above the ground level	Total area of stories in 13077.90 m <sup>2</sup> ; Total area of each story 1000.14 m <sup>2</sup>	On the west with Yasamin complex and on the other sides with streets		
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Table 2 shows the range of human variables in the study.

Table 2: the range of human variables in the study (source: the authors)

samples	age							gender		Marital status		education			
	Under 10	Under 20	Under 30	Under 40	Under 50	Under 60	Under 70	male	female	single	married	High school diploma or lower	College degree	Bachelors degree	Masters or over
Yasamin	-	5	19	12	9	5	-	21	29	17	33	10	18	15	7
Aseman	-	6	11	18	10	5	-	19	31	13	37	10	12	17	11
Total	-	11	30	30	19	10	-	40	60	30	70	20	30	32	18

**Place attachment**

The feeling of place attachment (the feeling of an individual’s attachment to a place) is the highest form of relationship between a human and a place. This attachment plays a significant role in the presence and continuation of his presence in a place. Individuals attached to a place helps him see himself as a part of the place based on his experience from symbols, concepts and functions with which the individual makes a mental anchor and this creates the attachment in activities and behaviors between people and environment and people and people in the environment (Lewicka, 2010; Comstock, 2010). Individuals develop their emotional bonds with their place and this brings satisfaction to them. This place provides the ground for controlling, creation, security and comfort in an individual’s territory (Altman & Low, 1992). According to Scannel and Giford (2010) place attachment is a multidimensional concept defined by individual, psychological and local dimensions of an individual. Considering the theoretical framework and library studies, indices of place attachment could be categorized and evaluated as follows.

**Social bond with place**

These variables refer to characteristics of the environment facilitating place attachment or preventing it (Lewicka, 2010: 38). Scholars emphasizing spatial factors believe that a secure public space in adjacent units provide an opportunity for people to meet and help build and develop local social bonds (Wu, 2008; Buys, 2007; Maas, 2009; Leyden, 2003). Studies have shown that major portion of neighbors’ communications occur in educational and recreational centers, gyms etc. these place including green spaces and parks create a pleasant location for neighbors to meet and interact. This integration reinforces the social feeling and induces place attachment. High levels of social interaction among residents could promote attachment to neighboring apartments. Among all social factors, the effect of social bonds and relations on attachment to the residence are of greater significance. Social relationships refer to interactions between neighbors and includes behaviors like borrowing and lending tools, babysitting, informal meetings, asking for emergency help etc. these interactions help neighbors offer emotional, individual, information and hardware support from each other (Chavis and Wandersman, 1990: 58). Face to face communication among neighbors and keeping the trend creates emotional attachment, improves friendships and increases social trust (Chalabi and Amirkafi, 2004).

**Identity and the sense of place**

The sense of place or the identity of place is an assistive relationship between human and his environment. This sense is the result of human’s judgment and perception from his environment and acts as an important factor in coordination of individual and environment. Exploiting environment by humans and preserving the environment along with being attached to it (Falahat, 2006; Daneshpoor et.al. 2009). An individual’s evaluation from space is in the form of three descriptive cognitive dimension of imaginations, memories, thoughts, conscious or unconscious beliefs of an individual about his surrounding, evaluative emotional dimension of individual’s preference toward place and his judgment about it and the position and subject of individual’s need from a place and his needs and expectations from a place (Proshanky, 1978: 161). Since place attachment is the result of the identity of a place for humans, the feeling of place identity comes

after objective evaluation of the presuppositions (place identity in the minds of the audience), human, type physicalism to the place and living in a place (Abel, 2000: 142; Alexander, 1977: 81; Mesch and Manor, 1998: 57- 88). The tendency and curiosity to define self through making connection between human and environment and investigating about the nature of self and dialectic relationship clarify identity (Pakzad, 1996: 100).

### **Emotional attachment to a place**

With respect to the place as a deep and complex aspect of human experience from world and the effect of an action and demand on referring the meaning to manmade places (Afroogh, 2008: 1- 5), place becomes part of human personality and place identity becomes part of personal identity. The fact that "I am here" explicitly means that "I am" (Madani Poor, 2000: 54). Thus, the length of staying in a residence and age are among social and demographic factors influencing attachment. The importance of the length of staying factor in creation of place attachment was first discussed in the classic works of Kasarda and Johnowitz (1974). Their findings confirmed the systematic model of local society. According to this view, collapse of societies and deterioration of emotional attachment are the outcomes of increasing movement of residents.

### **Place attachment**

As human needs and expectations are met, the possibility of development of emotional relationship with place is created. Therefore, the concept of residence and its formation in the close relationship between human and place with the fulfilment of human expectations. The expectations met create the sense of attachment to the residence (Carp, 1973). Abraham Maslow, American Psychologist, designed a pyramid out of human needs. In this pyramid, the hierarchy of human needs begins with primary needs like physical needs and goes on with the need for security, need for belonging, need for respect and need for self-actualization. For him, reaching different stages of satisfaction or meeting human needs could only be possible through meeting the needs in a lower stage (Pakzad, 2007: 32).

### **Security**

The need for security is an essential need for humans negligence of which affect reaching other needs like the need for attachment, need for respect and need for self-actualization (Pakzad, 2007: 33). Lack of security leaves negative impact on the quality of life and human behavior. This imbalances freedom of action and access to public buildings and spaces (Hooper & Droug, 2007: 2). Security in urban environments has two objective i.e. the crime rate and subjective i.e. the feeling of security (Sardareh & Adeli, 2010). The feeling of security is defined as perfect satisfaction with the place (Toscano et.al. 2007: 78). Considering the studies conducted in the field, principles of security in residential spaces could be listed as follows.

### **Social supervision**

Jacobs (1961) emphasizes on supervision on operational fields to separate the public and private spaces. For Jacobs, the prerequisite for designing a successful complex is that the individual feels secure among strangers. Instead of police, Jacobs proposes techniques like voluntary control grids by people, observing design standards, calculated adjacency of functions and activating users to control the environment and face disorder to reach peace and social security. Oscar Newman (1973) nurtured Jacob's views and emphasized on redefining and supervising different areas. In his book titled "the defendable space", Newman conducted a study in crime inducing neighborhoods in New York City. In case of redesigning spaces, he suggested that urban spaces have to be introduced so that they are livable and people do the controlling job instead of police.

### **Territory**

Jeopardized territories risking territories could greatly affect the feeling of security so that in traditional societies, entering the property of someone was considered an intrusion and ruined their relaxation (Bowerse, 2004). Humans use space to make connections, preserve his rights and conserve the resources. These supervisions are imposed over pieces of land and other masses coming with the individual. Spatial supervisions end in psychological outcomes like excitement, satisfaction, pride or surrender (Lynch, 2002: 256). In case residents and the influential groups in urban space lose the potential to identify the space, individuals and place, the feeling of mental security deteriorates due to crime rate. Thus, residents should have the right to know and identify the individuals working in the urban space (Newman, 2008: 20- 28). Stopping strangers to prevent being a victim to crimes may at first hinder criminal activities, yet, can potentially segregate societies and increase limitations. Controlled entrances and meeting for and with strangers improves the security in the city (Madani Poor, 2000: 119, 124). Some of the interviewees were dissatisfied with free spaces which were at times terrifying. There is a correlation between size of the space and its perceived territory so that the smaller the space the further the feeling of cordiality, security and inclination to social interaction will be. In large spaces, there is always a feeling of lack of fences and insecurity following it (Hall, 2000: 54). Avoiding creation

of large spaces with separate and predefined functions for different ages and genders to attend could improve the feeling of security significantly (Newman, 2008: 82- 83). Organizing and creating conditions for attending free corners increase livelihood in these spaces and remove the feeling of insecurity (ibid: 28- 44).

### Social anomalies

People look for places in which they could meet other people with similar characteristics like class, ethnicity, religion, economic class, lifestyle, education, income, child education and racial background (Marcus & Serkisian, 1986). Changes in lifestyles, conflicts in cultural and social norms, movement of an urban population to another location and its effects on removing social attachments, social relationships and finally releasing limitations and social controls demonstrates that conditions of urban life are of great influence on social anomalies. Population growth and its impact on reducing social attachments, deep social relationships, increased social conflicts due to residence of subcultures, increase crime rate and neglecting maintenance, hygiene and health are among the most important social anomalies in the contemporary cities (Farjad, 1991: 189- 282).

### Physical environment and its quality

The need for visual beauties, are among the most unknown needs. Maslow believes that this need exists in some people. These people feel sick when they see ugliness and feel between when they see beauty (Pakzad, 2007: 37). Being far from ugly agents and the feeling of coordination, order and concordance along with pleasant feelings are all related to the beauty of the place (Taghi Zadeh, 2007). In order to investigate the relationship between perceiving environmental dimensions and place satisfaction, architectural and urban design characteristics like coordination between buildings in spite of the variety in their construction, coordination of the colors used in them and the environment, proper details and forms of the buildings, balance between open and closed spaces, proper safety of passages, sufficient width of passages, potential for proper transportation, access to important centers of the city, sufficient green spaces, and hygiene in the place are important factors affecting place satisfaction (Bonaiuto, 2002).

### Adjecencies and neighborhoods

Satisfaction from the residence depend hugely on factors like facilities, coordination with the place, stability, visual characteristics, management, financial value, social texture and residents' view toward similar apartments (Marcus, 1992). Services and facilities of a place includes all factors helping supply resents with their need in various areas like residence, recreation an overall increase quality of life. Urban service an alien play a great role in physical quality of neighborhoods and can make great contribution to various economic, social and cultural functions of neighborhoods. This finally ends in improved welfare for residents in a neighborhood. The tendency to stay in a place is directly related to the quality of life and status of living there. Increased service per capita is also directly related to the tendency of residents to live in a particular residence. Provision and elevating service per capita improve the quality of life and this eventually increases attachment, motivation and tendency of people to live, preserve and maintain their residence.

### Research findings

The present study took the following measures to analyze the data collected.

In order to investigate the level of reliability of the parameters, Cronbach's alpha was calculated for each item. The Cronbach's alpha values for security with 15 items and attachment with 13 items are demonstrated in table 3.

Table 3: the level of reliability of the parameters used in the process of the study; source: authors

subject	supervision	social anomaly	territory	physical environment	adjacency	social security	place attachment
number of items	3	4	3	3	2	15	13
Cronbach's alpha	0.762	0.846	0.763	0.870	0.895	0.762	0.847

In order to evaluate the condition of place attachment composed of three parameters of place identity, emotional attachment and social connection, the one-way t test was utilized to calculate the statistic and degree of freedom of the index to be  $t=10.21$  and  $df=99$  respectively with  $sig=0$ . considering the fact that  $sig$  is less than 0.05, it is significant. The difference in the mean of the answers provided by respondents to place attachment is significant in relation to 3; thus, their difference is significant. In other words, answers provided by respondents are either higher or lower than 3. Since the mean difference is positive and 0.599, mean of responses is higher than average and residents' satisfaction from their place attachment is average and above average (table 4).

In order to evaluate the feeling of security in the subjects under study, one way t test was used. Results from the one-way t test for the feeling of security reveals the fact that the statistic and degree of freedom is  $t=14.35$ ,  $df=99$  respectively with the  $sig=0$ . Therefore, the zero hypothesis is rejected in the 0.05 level. In other

words, the mean difference of the responses is significant with 3. Overall, considering the mean difference of 0.673 and the points mentioned above, residents in residential complexes under study were satisfied with the social security index (table 4).

In order to evaluate supervision in the subjects under study, one way t test was used. Results from the one-way t test for supervision reveals the fact that the mean of satisfaction of residents from supervision was 3.78. On the other hand, the statistic and degree of freedom is  $t=12.51$ ,  $df=99$  respectively with the  $sig=0$ . In other words, the mean difference of the responses is significant. Thus, considering the mean difference of 0.781 and the points mentioned above, residents in residential complexes under study were satisfied with the supervision index (table 4).

For social anomalies in the subjects under study, results from one-way t test for the index of residents' satisfaction from social anomalies condition revealed the fact that with  $t=10.56$ ,  $df=99$  and  $sig=0$ ,  $sig$  will be significant and the zero hypothesis is rejected. This confirms the significant relationship between significant difference between respondents' response in the statistical sample and the number 3 as the theoretical mean of the study. Besides, considering the positivity of the mean difference (mean difference= 0.775), it could be concluded that the mean of the responses is above 3 and therefore, residents' satisfaction from the condition of social anomalies with the mean of 3.77 is average and above average (table 4).

In order to evaluate the condition of territory in the subjects under study, findings from the one-way t test for the index under study revealed that the mean of the residents' satisfaction from the condition of territories in the complexes under study in the city of Maragheh was 3.18 with  $t=2.34$ ,  $df=99$  and  $sig=0.021$ . Thus,  $sig$  is significant and the zero hypothesis is rejected. Therefore, the mean difference of the responses are significantly different from the value of the theoretical mean and the mean difference of 0.81 for the condition of territory is average and above average (table 4).

In order to investigate the physical environment and its condition in the samples under study and to test the level of equality of the mean with the theoretical mean of the study, the one way t test was used. Since the values of  $t=7.62$ ,  $df=99$  and  $sig=0$  were calculated, the zero hypothesis is rejected. In other words, the difference in the responses provided by the residents with the number 3 is significant. Furthermore, considering the mean difference of 0.696 and its positivity, the mean of the responses from the respondents was over 3 and therefore, the residents' satisfaction from their physical environment in the residential complexes under study in Maragheh is average and above average (table 4).

In order to investigate the condition of the adjacency with facilities in the sample under study, the t value and the degree of freedom is  $t=11.38$  and  $df=99$  with the  $sig=0$ . Since  $sig$  is less than 0.05, it is significant and the mean difference of the responses provided by respondent about adjacency of the residence with the facilities needed is significant in comparison to the theoretical mean of the study i.e. 3. This means that responses provided by respondents are either above or below three. Since the value of mean difference is a positive 0.935, mean differences of the responses is above average and residents' satisfaction from adjacency of their residence to the facilities they need is average and above average (Table 4).

Table 4: results from one-way t test for indices of social security in the complexes under study in Maragheh; source: authors

variables	mean	Test value= 3			Mean difference	95% confidence interval of the difference	
		T	df	Sig (2-tailed)		Upper	Lower
Social security	3.67	14.35	99	0.000	0.673	0.766	.580
Place attachment	3.59	10.21	99	0.000	0.599	0.715	0.482
Supervision	3.78	12.51	99	0.000	0.781	0.9037	0.6563
Social anomalies	3.77	10.56	99	0.000	0.775	0.9206	0.6294
Territory	3.18	2.34	99	0.000	0.181	0.3321	0.0277
Physical environment	3.69	7.62	99	0.000	0.696	0.8781	0.5150
Adjacency to facilities	3.93	11.38	99	0.000	0.935	1.098	0.7731

The relationship between criteria of social security with place attachment are studied with five indices. Furthermore, since each index of social security and place attachment used several questions, the questions were analyzed after they were combined. Considering the distance between questions related to each variable, Pearson correlation coefficient was used to investigate the correlation between variables. Pearson correlation coefficient between two variables of overall social security criterion with place attachment in residential complexes of Maragheh is 0.514 and the level of significance in 0.05 alpha region was 0.000. Since the calculated error is less than 0.01, with 99% degree of confidence it could be said that there is a significant relationship between criteria of social security and place attachment. Besides, considering all the data on the table five dimensions of social security criteria except for adjacency of residence to the facilities have a direct and significant relationship with place attachment. In other words, the better the condition of each of the dimensions, the further the attachment to the place will be. A comparison in correlation coefficients

demonstrates that the strongest relationship is between social security indices and territory with 0.536 coefficient (table 5).

Table 5: results from Pearson correlation coefficient for the relationship between place attachment with social security indices; source: authors

Social security indices affecting place attachment	Number of respondents	Pearson correlation	Level of significance
Supervision	99	0.548	0.000
Social anomalies	99	0.336	0.001
Territory	99	0.563	0.000
Physical environment	99	0.216	0.032
Adjacency of residence to facilities	99	-0.017	0.869

In order to see which indices of social security in residential complexes of Maragheh could have a better effect on creation of place attachment, multiple linear regression method was utilized (Tables 6 and 7).

Table 6: summary of the regression model elaborating place attachment related the criteria of social security; source: authors

Model	Correlation coefficient R	R square coefficient	determination	Balanced coefficient	F value	Level of significance of F test
Enter	0.744	0.554		0.530	23.066	0.000

Table 6 demonstrates a multivariable regression analysis including dimensions of social security i.e. supervision, social anomaly, territory, physical environment and adjacency of residence to necessary facilities. According to its findings, independent variables remaining in the equation are concurrently 0.744 dependent to the dependent variable. Besides, findings revealed that these variables could elaborate 55% of the changes in place attachment related to indices of social security. Beta coefficient demonstrates that the territory variable had a stronger effect compared to other predicting variables (beta= 0.471) (table 7).

Table 7: coefficients of the effects of regression model elaborating place attachment with social security criteria; source: authors

Variables	Nonstandard coefficient (B)	effect	Standard coefficient (Beta)	effect	t value	Level of significance of t
Fixed value	1.26		-		3.92	0.000
Supervision	0.376		0.404		4.59	0.000
Social anomaly	0.168		0.213		2.17	0.032
Territory	0.357		0.471		6.49	0.000
Physical environment	-0.026		-0.041		-0.526	0.600
Adjacency of residence to facilities	0.193		-0.271		- 3.153	0.002

### Discussion and analyzing research finding

Results from the study shows that the condition of security criteria in residential complexes of Maragheh is average and above average from the point of view of their residents. In case of place attachment, the condition is rated average and above average. In order to investigate the relationship between indices of social security with place attachment from the point of view of residents, Pearson correlation coefficient was utilized. Its results revealed that the relationship between these two variables is 0.514 and significant in the 99% level of confidence. Therefore, it could be concluded that the more the satisfaction from security indices in Maragheh residential complexes are, the further place attachment we will have in these regions of the city. Comparison of correlation coefficients reveals that the strongest relationship among social security indices is for the territory with the 0.563 coefficient. Later on, in order to comprehend the effect each independent variable has on place attachment, multivariable regression was used. Its results demonstrated that the model used has a proper relationship with the collected data. The quintet dimensions of security except for adjacency of residence to the necessary facilities have positive and significant relationship with place attachment. In other words, as the condition of each dimension improves place attachment increases as well. Results from the model showed that the territory variable (0.471) had the strongest effect on promoting place attachment in residential complexes under study. The adjacency variable on the other hand had the least effect on promoting place attachment.

### DISCUSSION

Finally it could be concluded that in order to increase the feeling of security in residential complexes, indices of security, especially territory and supervision must be further considered and residential complex designs must have specific criteria and regulations to improve the indices of security. Besides, in order to

improve the condition of territory and supervision, standards have to be compiled by authorities so that residents have the sense of security in the complex and eventually increase place attachment. This improves mental health in residents. Nevertheless, these standards need a separate study through which regulations of design and architecture could be reinforced.

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