



Testing the Structural Model of Neighborhood Attachment and its Interrelation with Neighborhood Satisfaction and Social Participation: Three Case Studies on Mixed-use (Commercial and Residential), Traditional and Modern Urban Fabrics in Tabriz

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Received 28 April 2015;

Revised 25 July 2015;

Accepted 20 August 2015

ABSTRACT: Neighborhood attachment is closely related to concrete and abstract conceptions that set the scene for a variety of interactions among the residents. It is on the basis of social-physical location which happens over time. Neighborhood attachment also enhances the possibility of residents' social participation in urban neighborhoods and has a bilateral relationship with residents' satisfaction. The current study aims to test a model that presents an interaction among constructs of neighborhood attachment, residents' satisfaction, and also residents' social participation in urban neighborhoods. In this study, the latent variables were determined and described using recent researchers' theories and also running confirmatory factor analysis. Confirmatory factor analysis and structural equation modeling were used to test a model using a sample of 300 residents (2015) of AmirKhiz, Maghsoodieh, and Ferdous in Tabriz, Iran. The main theoretical contribution of this research study is the presentation of a multi-level model incorporating three constructs of neighborhood attachment, satisfaction, and residents' social participation in neighborhoods. The findings finally revealed that the two constructs of neighborhood satisfaction and attachment positively and significantly influenced the social participation. However, in the model in which the two constructs of neighborhood attachment and satisfaction were included simultaneously, the effect of neighborhood attachment decreased which, in turn, signifies the mediated influence of neighborhood attachment on social participation through neighborhood satisfaction. Finally, the result of the depicted path diagram by structural equations modeling indicated that the model fits with observed data

Keywords: Neighborhood Attachment, Neighborhood Satisfaction, Social Participation, Urban Neighborhood, Multilevel Model, Confirmatory Factor Analysis.

INTRODUCTION

Since the beginning of the 1990s, Considerable changes have been made in the socio-spatial configuration, physical landscape, and functional structure of urban neighborhoods (Temelová & Dvořáková, 2012). If urban planners wish to have a proper and unlimited understanding from urban structure, they need to make a suitable relationship with the social occasions that play a role in neighborhoods formation. The structure of neighborhoods and its impacts on residents' daily life

are among the issues that have recently been taken into consideration by many experts. Every neighborhood has its own dynamic and unique environment and provides the most appropriate condition to reach an urban sustained development in that planning through neighborhood is influential in creating urban sustained development. In line with this, the chance for social attachment and participation should also be provided. Providing the precepts of attachment, satisfaction, and concepts of social participation based on the conditions and demands of neighborhoods for the purpose of effective urban

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management and promotion of social living have always been emphasized by urban experts and researchers.

The concept of neighborhood might be defined in four types: 1) neighborhood as an environment that has a specific ecological situation in a bigger environment 2) neighborhood as a social symbol 3) neighborhood as an environment with special strategic role 4) neighborhood as an environment with special atmosphere (Lang, 1987). These definitions highlight the capability of neighborhood in playing a vital role in urban structure. Neighborhoods are usually identified by their specific boundaries and positions in city (Mumford, 1954). Neighborhood norms and values form the first concrete contact of resident with social-cultural interactions and often strengthen social participation in the form of face to face interactions. Unfortunately, in Iran, due to the weakness of planning system, domination of a functional-physical approach in urban and regional plans, inefficient policies and approaches in dealing with urban neighborhoods, and also lack of attention to the important role of urban neighborhoods in promotion of social and economic levels, the problems of urban neighborhoods have remarkably highlighted (Soleimani et al., 2014). With the beginning of increasing urban living period in Iran in the early of the 1960's, extensive changes were made in three land, life, and conceptual layers of cities such as changes in form, performance, identity, and social structure of cities (Majedi et al., 2014). New neighborhoods in recent years have been built up in an inconsistent way largely due to extensive need to housing. Lack of consistence with context architecture (Ghods & Asgharzadeh, 2013), imitating from joint models, and lack a consistent structure with context of some neighborhoods (Hojjat & Latifi, 2010) are some features of some extant neighborhoods. However, in residents' perspectives, activity domains are of more importance than framework elements which, in turn, highlight the importance of planning to elevate the social interactions and levels of neighborhoods. More consideration of physical-framework or population factors and lack of attention to social factors in many of conducted research studies have caused their findings to be useless in practical steps. Accordingly, this study is, in fact, an attempt to investigate the three constructs of attachment, satisfaction, and social participation in neighborhoods of Tabriz. The following three research questions are then addressed in this study:

1) What are the dimensions of urban neighborhood in the residents' social participation, neighborhood satisfaction, and neighborhood attachment?

2) How neighborhood attachment can affect the social participation satisfaction in urban neighborhood?

3) How does the relationship between the three constructs (attachment, satisfaction, and social participation) is manifested in different modern and traditional neighborhoods?

The present study tries to shed light on these dimensions and their influences. It also aims to offer viable strategies to be practically used in Tabriz neighborhoods.

NEIGHBORHOOD ATTACHMENT

Place attachments are emotional bonds that form between people and their physical surroundings (Manzo & Devine-wright, 2014). It involves positively experienced bonds and sometimes occurs without awareness developed over time from the behavioral, affective, and cognitive ties between individuals and or groups and their socio-physical environment (Scannell & Gifford, 2010; Manzo & Devine-wright, 2014). Unger and Wandersman (1985) identified three components of neighboring behavior: (1) social support and network ties (community-level bonding SC); (2) cognitive mapping of the physical environment and symbolic communication (captured in our model by place definition, interdependence, and identity); (3) affective attachment to neighbors and to place (which we see as sense of community and place bonding) (Unger & Wandersman, 1985). In research relevant to place attachment, a place can range in scale from a furnishing or some other environmental feature to a room, building, neighborhood, city, landscape, or region (Creswell, 2004; Lewicka, 2008, 2011). Neighborhood attachment relates to one's emotional connection to physical and social environments (Comstock et al., 2010). Neighborhood attachment is a social-psychological process that captures one's emotional connection to his or her social and physical surroundings (Brown et al., 2004). It promotes stability, involvement, and investment in the physical and social characteristics of the neighborhood, which can benefit both the resident and the neighborhood, especially in deprived neighborhoods (Comstock et al., 2010). Neighborhood attachment is a multi-dimensional concept in which social, psychological, and behavioral elements and facets are interrelated (Bastani & Nikzad, 2014) and it signifies residents' positive mental feeling to the neighborhood which, in turn, leads to emotional, cognitive, and behavioral relations, residents' commitment to their neighborhood and their tendencies to maintain these relations in different stages of life (Amirkafi & Fathi, 2011). Behavioral attachment represents a person's interaction and conflict with the neighborhood (Woldoff, 2002) and is usually measured by indices such as place belonging and social participation in the neighborhood



(Bastani & Nikzad, 2014). Emotional attachment to neighborhood gatherings reflects the feeling of being at home and also a strong tendency to live in specific places and unwillingness to leave there (Goudy, 1990). Neighborhoods with high levels of collective efficacy may have residents with higher levels of neighborhood attachment (Brown et al., 2003). Studies have assumed that attachment to neighborhood is higher than to other geographical scales (Casakin et al., 2015). Additionally, given the related research findings, the length of residence in the neighborhood and social processes such as collective efficacy correlated with neighborhood attachment (Comstock et al., 2010). This research study investigates the neighborhood attachment with cognitive, emotional, and behavioral sub-dimensions, which is the first hypothesis test, in Tabriz different neighborhoods.

NEIGHBORHOOD SATISFACTION

Satisfaction is typically regarded as a general standard to measure the quality of environment (Rafiean et al., 2009). It might influence the quality of a neighborhood residents in different dimensions (Sirgy & Cornwell, 2002; Zenker & Rütter, 2014). Neighborhood satisfaction is the complex perceptual constructs of a person based on his/her objective and subjective environments and personal characteristics (Amérigo & Aragonés, 1990). It is widely believed that aggregated neighborhood attributes predict a resident's overall neighborhood satisfaction (Marans & Rodgers, 1975). Research has suggested affective factors on neighborhood satisfaction that broadly include aesthetics, physical characteristics, socioeconomic characteristics, and socio-demographic characteristics (Hur et al., 2015).

In another study, the proposed factors include good place to live, pride in neighborhood, physical condition, safety, cleanliness, appearance of houses, quality of parks and overall neighborhood satisfaction (Lee et al., 2008). More importantly, homeownership is believed to be a prominent factor contributing to neighborhood satisfaction (Galster & Hesser, 1981). The literature distinguishes three main groups of determinants: personal/household characteristics; subjective evaluations of neighborhood attributes and subjective evaluation of the dwelling; and objective neighborhood characteristics (Permentier et al., 2011). Neighborhood satisfaction has classically been related to residents evaluation about a number of contextual and social features of their environments (Corrado et al., 2013). Neighborhood satisfaction is regarded as a global concept since it is a consequence of assessments of the environmental quality

of life aspects relevant to the social, physical, economic and geographic area (Jeffres & Dobos, 1995). The question of which of these aspects are most important for neighborhood satisfaction is difficult to answer, because studies vary greatly in the range of variables they cover and their sample population. In some studies, satisfaction or dissatisfaction with housing appears to be the most important predictor of neighborhood satisfaction (Westaway, 2009). For example, traditional neighborhood satisfaction theory indicates that real and perceived neighborhood characteristics and household characteristics determine neighborhood satisfaction (Hur et al., 2015). Despite numerous attempts to understand the characteristics and underlying mechanisms of neighborhood satisfaction, only a few researches in the literature have examined the effects of mortgage foreclosures and residents' neighborhood satisfaction (The same). There has been no agreement on the geographical boundary of a neighborhood in previous neighborhood satisfaction studies (Lee et al., 2008). Given the above-mentioned points, this study investigates the neighborhood satisfaction with proximity to work place, closeness to amenities and facilities, familiarity with the district, closeness to relatives and friends, similarity with residents, the neighborhood social reliability, and proportionality with economic conditions sub-dimensions (testing the 6 hypothesis).

SOCIAL PARTICIPATION

Participation in social activities and the formation of social ties, networks, and capital are crucial in shaping not only the quality of life and health of an individual, but also in creating socially sustainable communities (Delmelle et al., 2013). Community participation is defined differently by different people according to their social, economic and political context (Xu et al., 2010). Social participation has been recognized as a type of behavioral/structural aspect of social capital that facilitates the development of one's social networks and sense of social integration (Swaroop & Morenoff, 2006; Szreter & Woolcock, 2004). The relationships between social participation and these variables are suggested in social capital theory (Guillen et al., 2010). Traditionally, social participation has been almost exclusively measured by the number of social contacts (Grootaert et al., 2004; Lindström et al., 2002). Researchers have suggested that one pathway that may link social participation to health is through the enhancement of one's social relationships and social capital (Szreter & Woolcock, 2004). Social participation is a central part of the definition of social



capital. Social capital has mostly been defined and operationalized as social participation in civic matters and other social activities, and generalized trust to other people (Lindström et al., 2003). In other words, social participation provides opportunities for individuals to gain access to resources to which they might not otherwise have had access (Szreter & Woolcock, 2004). Citizen responses and opportunities for participation are thus likely to be different in urban areas (Xu et al., 2010). social participation is considered to be the major aim of outpatient rehabilitation (Kennedy et al., 2005). The more active participations neighborhoods' residents have, the more likely the chance of success will be. Additionally, by more participation, the deprived group of society will also make use of its consequences. Residents' participations cause the decision making system to move to concentrated planning and governmental management toward neighborhood and bottom-up management based on needs, amenities, capabilities, and priorities (Alizadeh Aghdam et al., 2013). Given the above-mentioned points, the study investigates the social participation variable with participation in decision makings, participation in neighborhood gatherings, participation in public-utility activities, participation in providing some of neighborhood costs, participation in revamping the neighborhood hygiene, participation in ensuring the security of neighborhood, participation in beautifying the neighborhood, participation in developing the neighborhood, and also cooperation with urban agents on neighborhood affairs sub-dimensions (testing the 5 hypothesis).

RELATIONSHIP OF ATTACHMENT, SATISFACTION, AND SOCIAL PARTICIPATION

Satisfaction, intended as a cognitive judgment based on the attainment of some standard or aspiration, is often considered a global indicator of perceived neighborhood quality. By contrast, attachment is viewed as an affective component of individuals' overall response to their neighborhoods. (Corrado et al., 2013). In fact, some overlaps between satisfaction and attachment may emerge, as both concepts are likely to tap cognition and affect (for example, Hunter, 1974; Fishbein and Ajzen, 1975; Kaplan and Kaplan, 1982). For instance, emotional involvement with the neighborhood may produce a sense of attachment that transcends any objective evaluation about the neighborhood. Also, one can feel satisfied with one's neighborhood but fundamentally unattached to it if one has not developed any social or

emotional ties to the place (Connrly & Marans, 1985). Neighborhood attachment reflects a general feeling of satisfaction with the residential area (Brown & Werner, 1985) that develops through daily interactions between neighbors. It is not surprising that most research in place attachment has focused on neighborhood (Casakin et al., 2015). In addition, researchers have found a link between neighborhood satisfaction and neighborhood attachment, which could be considered an indicator of an individual's well-being and adjustment to her/his own urban residential environment (Bonaiuto et al., 1999). Neighborhood attachment is an important factor that determines political and civic participation, which further help to enhance neighborhood stability. More complicated than neighborhood attachment alone is the relation between neighborhood attachment and social participation (Wu, 2012). Participating in neighborhood activities and repetitive visiting of neighbors is highly related to residential satisfaction (Amerigo & Aragonés, 1997). Factors such as residents' social homogeneity and using planning patterns to create safe, attractive, and comfortable conditions for families in neighborhoods significantly increase the interaction and attachment levels among families of neighborhoods. The related literature reveals that the three constructs of attachment, satisfaction, and social participation are tightly interrelated in neighborhoods' level (Wu, 2012, Hur et al., 2015). Therefore, by providing these conditions and factors in a neighborhood, a sustained residential neighborhood with appropriate conditions is created. This leads to an extension in neighborhood and meta-neighborhood networks (connecting and bridging social interactions) and finally a sustained society. Given the above-mentioned points, the study investigates the three constructs of attachment, satisfaction, and social participation that tests hypotheses 2, 3, 4,7.

RESEARCH DESIGN

The analytic framework of the study entails testing of the following research hypotheses (Fig. 1):

Hypothesis 1: Neighborhood attachment, as the latent variable, is a composite of cognitive, affective, and behavioral sub-dimensions.

Hypothesis 2: Neighborhood attachment positively influences the social participation of residents.

Hypothesis 3: Neighborhood attachment positively influences neighborhood satisfaction.

Hypothesis 4: Neighborhood satisfaction has a positive impact on the residents' participation.

Hypothesis 5: Social participation, as a latent



variable, is a combination of different sub-dimensional participations such as: participation in decision makings, participation in neighborhood gatherings, participation in public-utility activities, participation in providing some of neighborhood costs, participation in revamping the neighborhood hygiene, participation in ensuring the security of neighborhood, participation in beautifying the neighborhood, participation in developing the neighborhood, and also cooperation with urban agents on

neighborhood affairs.

Hypothesis 6: Neighborhood satisfaction, as a latent variable, is a composition of sub-dimensions of proximity to work place, closeness to amenities and facilities, familiarity with the district, closeness to relatives and friends, similarity with residents, the neighborhood social reliability, and proportionality with economic conditions.

Hypothesis 7: The overall model of the depicted structural equations fits the observed data.

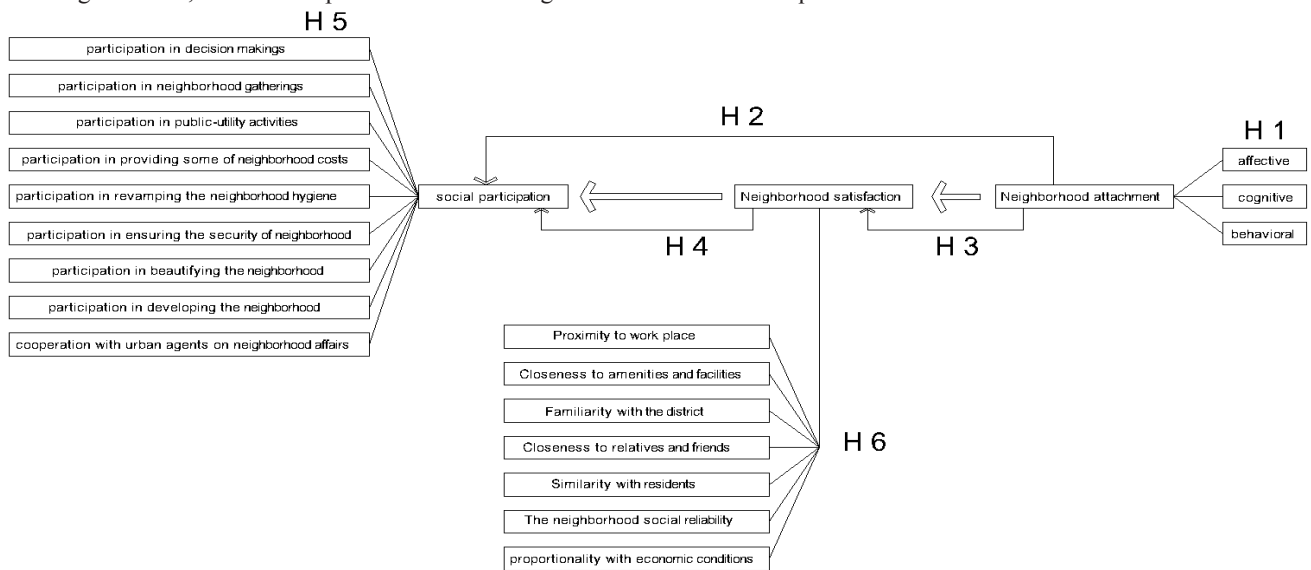


Fig. 1. Proposed Model

The hypothetical model and relations were tested using the gathered data from residents of three urban neighborhoods with traditional fabric (Amirkhiz neighborhood), Modern fabric (Ferdous neighborhood), and Mixed use (Maghsoodieh neighborhood).

In selecting these neighborhoods factors such as oldness, history, culture, modern urban living elements, and neighborhoods applications were taken into consideration. Amirkhiz neighborhood is one of the oldest neighborhoods in Tabriz located in northern part of the city and has a traditional fabric having mostly residential applications. Historically, it was the main place for happening of important events including Constitutional Revolution and Democrat faction. Ferdous is regarded as one of the modern neighborhoods in Tabriz located in scenic area of El-Gölü and has mostly residential application with luxurious buildings and is the living place of wealthy groups of people. Maghsoodieh is one of old neighborhoods in Tabriz that because of being located in the historical and cultural zone of the city is of great importance in terms of tourism attractions.

This neighborhood's structure is a composite of different modern, cultural, and historical elements and involves both residential buildings and business centers. In this study, 350 of the above-mentioned neighborhoods' permanent residents (land lords) were randomly picked out. After collecting the intended data and omitting the inappropriate questionnaires (22 cases), 328 questionnaires were finally analyzed. 46 percent of the participants were female and 54 percent male. Furthermore, 42 percent of them were single and 58 percent were married. The mean average of the participants was 32 years old. 45 percent had a job and 56 percent were jobless. Finally, 38 percent of the participants were from Amirkhiz neighborhood and each of the Ferdous and Maghsoodieh neighborhoods also had about 31 percent of the participants which shows an almost steady distribution among the three neighborhoods (Table 2).

To form the neighborhood attachment construct, the three dimensional construct of Scannell and Gifford (2010) was used that incorporates cognitive, emotional, and behavioral dimensions. To measure the residents' satisfaction from their neighborhoods, seven questions



addressing physical satisfaction, neighborhood services, and social interactions were developed based on the Yuksel et al. theory (2010). Lastly, to develop the social participation construct, 9 questions about informal social participations were formed on the basis of Guillen et al. (2011) definition. All the questions were in the 6-choice form (not at all=1 , absolutely agree=6). As with the reliability of the instruments, Cronbach's Alpha was used and it turned out that its index is 0.85 for the neighborhood attachment construct, .91 for the neighborhood satisfaction, and 0.93 for the social participation construct (Table 1). These measures indicate that the used instruments have appropriate reliability.

MODELING PROCESS

Structure Equation Modeling (SEM) was employed to test the study research hypotheses. To do so, LISREL, 8.50 software was used. This model includes two Measurement and Structural parts. The measurement part is related to the causative relationship between the measures and operationalized methods of variables via its indicators. The structural part is related to the causative relationship of main constructs of the model with each

other. Figure 3 shows the components of this model. In this model, each of the constructs is into an oval and each of their components is into a square. The arrows connecting oval figures to the square ones show the measurement part of the model and the arrows that connect the oval figures to each other represent the structural part of the model. Additionally, to evaluate the model fit, a variety of fit tests such as PNFI, Chi-Square, RMSEA, GFI, PGFI, and NFI are used that are shown in Table 6.

RESULTS

The mean distribution of main constructs are one of the most achievements of this study in that highlighting the mean differences based on different variables such as gender, marital status, and employment status of participants can lead to a suitable understanding of distribution of variables and differences among the means. Independent t-test was employed to reach a suitable understanding of these differences. As Table 1 shows, only the job variable was effective in creating differences in the three constructs and in all the three cases, the mean of employed participants were significantly higher than that of unemployed ones.

Table 1. Mean of Dimensions Based on Gender, Marital Status, and Employment of Participants

	Gender	N	Mean	SD	t-Value	Sig.
Social Participation	Female	152	31.39	13.30	-0.66	0.485
	Male	176	32.30	10.30		
Neighborhood Satisfaction	Female	152	24.82	10.29	-1.07	0.285
	Male	176	25.91	8.02		
Neighborhood Attachment	Female	152	11.35	4.63	-0.43	0.663
	Male	176	11.56	3.98		
Marital status						
Social Participation	Single	137	32.75	10.47	1.13	0.259
	Married	191	31.26	12.62		
Neighborhood Satisfaction	Single	137	25.90	8.04	0.827	0.409
	Married	191	25.05	9.87		
Neighborhood Attachment	Single	137	11.70	3.67	0.864	0.388
	Married	191	11.29	4.68		
Marital Status						
Social Participation	Employed	148	30.27	11.55	2.76	0.006
	Unemployed	180	33.84	11.74		
Neighborhood Satisfaction	Employed	148	26.87	8.83	2.64	0.009
	Unemployed	180	24.21	9.25		
Neighborhood Attachment	Employed	148	12.20	4.13	2.89	0.005
	Unemployed	180	10.86	4.33		



Additionally, to examine the mean difference of constructs in the three studied neighborhoods, One-Way ANOVA was run. Based on Table 2, the mean of the three constructs in the traditional neighborhood (Amirkhiz) was different from that of the two other neighborhoods.

It means that residents of Amirkhiz neighborhood have significantly less scores in terms of neighborhood attachment, neighborhood satisfaction, and neighborhood participation. Figure 2 shows the same finding more vividly.

Table 2. Mean of Dimensions Based on Participants, Neighborhood Fabrics

	Fabrics	N	Mean	SD	F-Value	Sig.
Social Participation	Traditional	123	29.27	13.69	4.945	0.008
	Mixed-use	103	33.36	9.82		
	Modern	102	33.52	10.56		
Neighborhood Satisfaction	Traditional	123	23.34	10.38	5.120	0.006
	Mixed-use	103	26.66	8.19		
	Modern	102	26.63	8.05		
Neighborhood Attachment	Traditional	123	10.62	4.76	3.853	0.022
	Mixed-use	103	11.93	4.00		
	Modern	102	12.00	3.81		

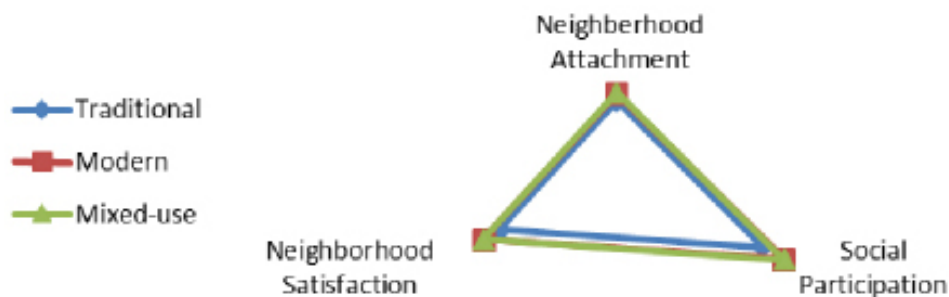


Fig. 2. Diagram of Comparing the Constructs in the Three Neighborhood Fabrics

The correlation indices of the main constructs, as shown in Table 3, indicate a strong, direct, and significant relationship among these constructs. As an

example, the correlation between social participation and neighborhood satisfaction was .867 which shows a very strong correlation.

Table 3. Indicators Correlation Matrix

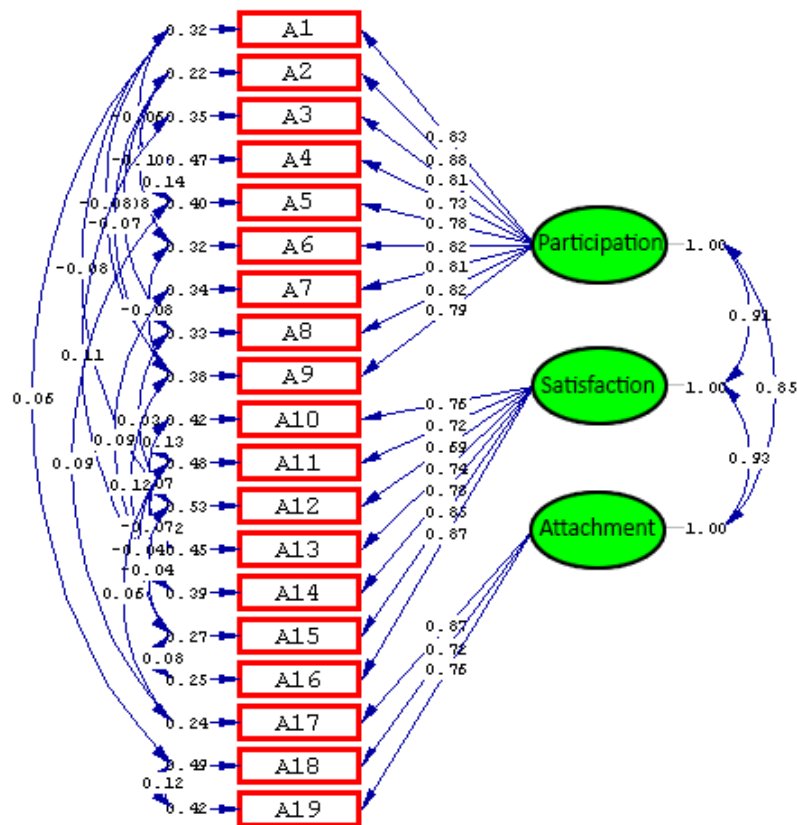
		Social Participation	Neighborhood Satisfaction	Neighborhood Attachment
Social Participation	Pearson Correlation	1	0.867	0.734
	Sig.		0.000	0.000
Neighborhood Satisfaction	Pearson Correlation		1	0.780
	Sig.			0.000
Neighborhood Attachment	Pearson Correlation			1
	Sig.			



One of the present study goals was to examine the fit of its constructs stated in hypotheses 1, 5, and 6. The used confirmatory factor analysis (Table 3) reveals that all factor loadings in the measurement part of the model have desirable indices (above 0.70) that this finding, in turn, indicates the effective role of each of the indicators in evaluation of the latent variables.

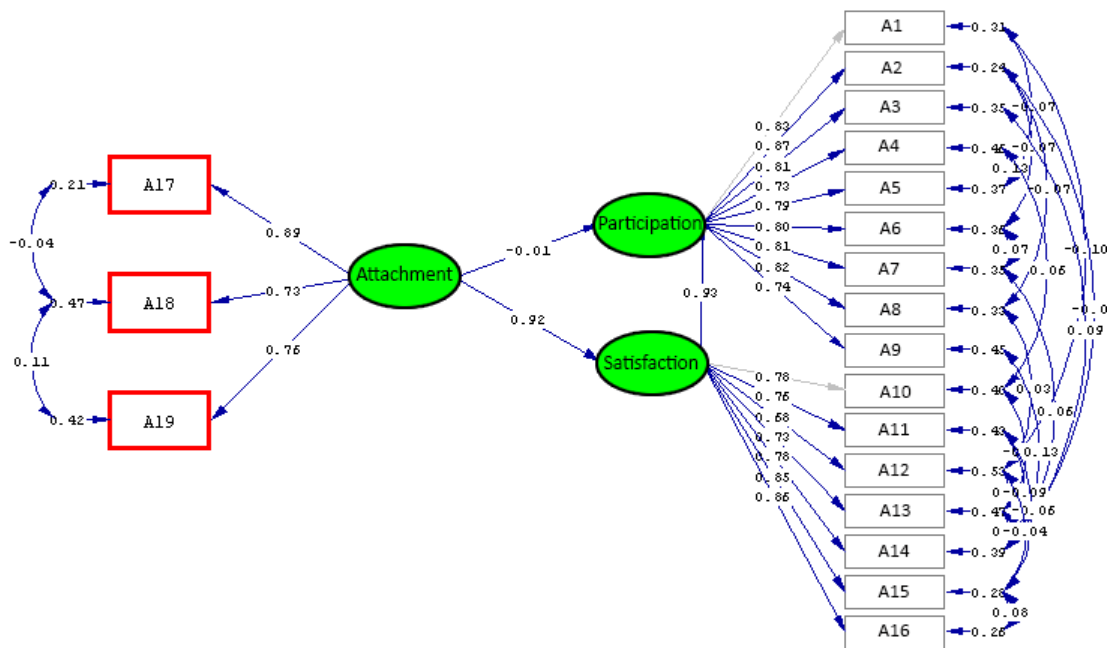
Additionally, as it is shown in Table 4, goodness of fit indices in all the three constructs were acceptable (Hair et al., 2010). As an example, regarding the neighborhood attachment, Chi-square=2.07, RMSEA=0.10, GFI=0.099, IFI=0.099, PGFI=0.33, AND PNFI=0.33. Fig. 4. represents the overall measurement model. Table 4 also shows that as to the fit of the overall model, Chi-square=278.96, RMSEA=0.061, GFI=0.092, IFI=0.097, PGFI=0.061, and PNFI=0.070 which indicates the appropriate fit of the model. Moreover, factor loading of over 0.70 that are all statistically significant ($p \leq 0.001$)

imply that the acceptable convergent validity of the instrument. Therefore, hypotheses 1, 5, and 6 are confirmed. After making sure about the fit of the model, the structural model fit indices (Fig 4) reveals that in this overall model, Chi-square=342.70, RMSEA=0.072, GFI=0.90, IFI=0.96, PGFI=0.61, and PNFI=0.70. These figures show the appropriate fit of structural model with observed data. Hypotheses 2, 3, and 4 are about the causal relationships between the study constructs and their related results are shown in Table 5.



Chi-Square=278.96, df=126, P-value=0.00000, RMSEA=0.061

Fig. 3. Second-Order Confirmatory Analysis of the Constructs



Chi-Square=342.70, df=128, P-value=0.00000, RMSEA=0.072

Fig 4. Path Diagram Model Using SEM

Table 4. Different Models of Hypotheses Ttesting and Their Goodness of Fit Indices

Model	Hypothesis	Chi-Square	RMSEA	GFI	IFI	PGFI	PNFI
Confirmatory Factor Analysis for Neighborhood Attachment	First	2.07	0.010	0.99	0.99	0.33	0.33
Causal Relationship of Social Participation and Neighborhood Attachment	Second	219.83	0.105	0.90	0.94	0.55	0.67
Causal Relationship Neighborhood Satisfaction and Attachment	Third	187.20	0.120	0.90	0.94	0.54	0.68
Causal Relationship of Social Participation and Neighborhood Satisfaction	Fourth	270.27	0.078	0.91	0.96	0.61	0.71
Confirmatory Factor Analysis for Social Participation	Fifth	170.59	0.13	0.90	0.92	0.54	0.69
Confirmatory Factor Analysis for Neighborhood Satisfaction	Sixth	12.05	0.039	0.99	0.99	0.28	0.38
Overall Model	Seventh	342.70	0.072	0.90	0.96	0.61	0.70
Measurement Model	-	278.96	0.061	0.92	0.97	0.61	0.70



The results of the table shows that the standardized impact index of neighborhood attachment on social participation was 0.83 that indicates a direct significant causal relationship between the two variables ($t=14.20$, $p<0.01$; $\beta=0.83$). Besides, the impact index of neighborhood attachment on neighborhood satisfaction was .93 ($t=14.38$, $p<0.01$; $\beta=0.93$) and the impact index of neighborhood satisfaction on social participation was 0.93 ($t=15.38$, $p<0.01$; $\beta=0.93$). These findings indicate a significant and direct impact of independent variable on dependent one which, in turn, shows that hypotheses 2, 3, and 4 are confirmed. The important point, however, is that

despite the significant impact of neighborhood attachment on social participation, as it is shown in the overall model of study (Fig 4), this relationship is very weak and non-significant ($t=-.08$, $p>0.05$; $\beta=-0.01$). It might be stated that the effect of neighborhood attachment on social participation has dropped as a result of simultaneous entrance of this construct and neighborhood satisfaction and its reason should be looked for in the strong and linear correlation of constructs with each other (Table 3). Thus, it can be contended that neighborhood construct, as an intermediate variable, can be taken between the neighborhood attachment and social participation.

Table 5. Regression Model of Causal Relations of the Constructs with Each Other

Model	Hypothesis	Path Standard	Critical ratio (t-value)	P	Result
Causal Relationship of Social Participation and Neighborhood Attachment	Second	0.83	14.20	< 0.01	Confirmed
Causal Relationship of Neighborhood Satisfaction and Attachment	Third	0.93	14.10	< 0.01	Confirmed
Causal Relationship of Social Participation and Social Satisfaction	Fourth	0.93	15.38	< 0.01	Confirmed

DISCUSSION AND IMPLICATIONS

The study revealed that attachment is a complex concept with different dimensions. In this study, the three dimensional model of Scannell and Gifford (2010) was used to develop the neighborhood attachment construct. As the results of confirmatory factor analysis show, the three cognitive, emotional, and behavioral dimensions have appropriate fit with observed data and confirms hypothesis one. This finding is consistent with that of Manzo (2005) and Brown and Perkins (1992, p. 3) that reveal that factors such as fear, hatred, and lack of homogeneity can influence neighborhood attachment. Boolean (1997) also divides neighborhood attachment into two behavioral and perspective dimensions. The behavioral dimension, in turn, incorporates two facets of neighbor relations and residents’ participations in neighborhood affairs. The perspective dimension also involves evaluation and satisfaction of residents from neighborhood (Oh, 2004). Gender and marital status have no impact. The present finding also reveals that the important role of elements such as cultural and environmental factors in creating attachment feelings should not be ignored (Babon, 2006). In fact, it might be maintained that this type of strategic attachment indicates the importance of a source in providing needed services (Stokols & Shumaker, 1981) and is manifested in the

physical features of the system (Vaske & Kobrin, 2001). The present study, in line with findings of Sadeghi and Golrokh (2012), reports that emotional factors such as social interactions, cognitive factors such as evaluation of residents from facilities and amenities, quality of inner spaces, and type of access can increase neighborhood attachment feeling. Additionally, the above-mentioned finding is in keeping with that of Amirkaifi and Fathi (2011) according to which local social variables, access to amenities and facilities, security feeling, and social discipline are tightly related to neighborhood attachment. Differences in neighborhood attachment in different neighborhoods show that attachment is a kind of positive link between individuals and the place surrounding them. In theoretical issues, neighborhood attachment and empirical examinations are regarded as a composite of individual and social experiences in environment (Casey, 2009).

The present study regards neighborhood satisfaction as a construct involving environmental quality, access to facilities and services, and cultural and social relations (Chapman & Lombard, 2006). The results of confirmatory factor analysis signify a desirable fit for the measurement model and together with high figures of factor loadings it indicates the concurrent validity of the instrument. In this study, some other hypotheses



were developed to test the causal relationship between neighborhood attachment, neighborhood satisfaction, and social participation. The second hypothesis indicates the causal relationship between neighborhood attachment and social participation and the obtained 0.83 impact index shows the desirable causal relationship between the two variables. This finding is comparable with findings of Manzo, 2006; Parkes et al., 2002; and Dale and Newman, 2008 that uncovered that neighborhood attachment is effective in high social participation. Additionally, this finding is in keeping with findings of Comstock et al., 2010, Jamshidiha et al., (2014), Hays & Kogl, (2007), and Wu (2012). Rahnama and Razavi (2012) reported that there is a positive relationship between neighborhood attachment and social procedures such as collective efficacy.

The third hypothesis tests the causal relationship between neighborhood attachment and neighborhood satisfaction and the obtained .93 impact index shows a strong and significant relationship between the two variables. The present research is in line with findings of Basolo & Strong, 2002, Mohan & Twigg, 2007, and Parkes et al., 2002 which show that neighborhood satisfaction is a composite of concrete and mental evaluations of residents from the neighborhood life quality. Furthermore, this finding is consistent with the finding of Mohammadi et al., (2013) in which neighborhood satisfaction was reported to be a combination of quality of services, environmental calm, amount of access to resources and facilities. This finding is also in line with the theory of Richards et al., (2008) according to which dimensions of social participation are taken as a composite of active and mostly informal activities of neighborhoods' residents in voluntary and public utility affairs. Like the finding of Jamshidiha et al., (2014), the present study revealed that there is a relationship between job and neighborhood attachment. However, no relationship was found between gender and marital status as neighborhood attachment was more than that of unemployed ones. In sum, this study reveals a close link between neighborhood attachment and social participation (Wu, 2012; Conway & Hachen, 2005). The effect of neighborhood on social participation might be ascribed to some moderator factors such as social interactions, trust, and neighborhood unity (Dassopoulos et al., 2012; Dassopoulos & Monnat, 2011) that are strengthened as a result of neighborhood social relations. It was revealed in this study that the three constructs of neighborhood attachment, neighborhood satisfaction, and social participation in the traditional neighborhood of Amirkhiz were significantly lower than those in the two other neighborhoods. This might be described that the

effect of the neighborhood economic and social factors on satisfaction means that neighborhoods with lower social and economic situations have lower satisfaction (Sirgy & Cornwell, 2002; Kearns & Mason, 2007; Mohan & Twigg, 2007; Baum et al., 2010).

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

Given that the present study considered one important demographic variable along with environmental psychology variables such as neighborhood attachment, neighborhood satisfaction and revealed their interactions, it could be taken as a new window for further research studies to pay more attention to social and demographic variables' relationships. It seems that variables such as social capital, social policy makings, urban institutions' structures, social actions, and neighborhood development could be taken into consideration as issues that might help us to uncover the relationship between different disciplines of social sciences and environmental psychology effectively. As with the methodology, the confirmatory factor analysis used in this research study reveals the high validity of the selected dimensions in evaluating neighborhood attachment, neighborhood satisfaction, and social participation constructs. Therefore, it might be used as an empirical model in different contexts so that its validity is retested. Although the used measurement model signifies the concurrent validity of the model given the factor loadings and goodness of fit indices, testing the model by using one recent validation strategies such as Multi-Trait Multi-Method (MTMM) analysis can double researchers' assurance about the validity of model (Eid, 2000; Eid & Nussbeck, 2009). The current study shows that neighborhood satisfaction in the structural model can neutralize the effect of neighborhood attachment. Therefore, carrying out further studies about these two variables and also reviewing the related literature (Abdollahi et al., 2010) can shed more light on this relationship as understanding about this relationship can be a great help for researchers to control and manage their theoretical models. The findings of this study can be used in social planning of cities and providing necessary conditions for attraction of people's participations in neighborhood development (Manzo & Perkins 2006; Dale & Newman, 2008 and Cook & Halsall, 2015). The studied dimensions are among the neighborhood- based planning facets that could be effective in removing urban social-cultural problems such as informal habitations organization, reduction of poverty, and prevention and



Therefore, it is recommended that further research studies deal with topics such as the relationship of neighborhood attachment, neighborhood satisfaction, and social participation with neighborhood and district development indices, urban management, and social aberrations decrease. Among the specific limitations of the current study, the selection process of understudied districts might be mentioned. In Tabriz city, largely due to the wide distribution of the three some districts (modern urban, traditional, and mixed-use), picking out districts that are completely different from each other is difficult. The selected districts were, however, carefully chosen so that they could be suitable representatives of the above-mentioned structures. This geographical distribution has obviously imposed some restrictions on the research study in terms of time and budget. Furthermore, owing to the cultural mixed structure of these districts, doing further analyses based on social and cultural variables such as education level, and cultural investments is a challenging enterprise. Additionally, Most of the studies that have been carried out in Iran about satisfaction and attachment to neighborhood are based on quantitative approaches and mostly the social survey method. However, these approaches are not very effective in comprehending and revealing the content and depth of issues. Therefore, making use of qualitative approaches such as Grounded theory and Phenomenology could be effective in bridging these gaps.



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