

Evaluating the Correlation between the Sense of Place and Social Capital in Urban Spaces of Tehran; Case Study: Saadatabad, Naziabad, and Narmak Neighborhoods

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ABSTRACT

The studies on social capital have identified the neighborhoods as important urban physical spaces in which the informal social networks create important processes for welfare. The theoreticians believe that although social capital implicitly has no clear spatial aspect, there is a strong tendency to the sense of place, especially the local sense of place. Understanding the relationship between social capital and the sense of place assuming that social interaction takes place at the local level, is a basis for social cohesion. Therefore, the emotional attachment of the residents to the neighborhood stimulates civic participation and facilitates the awareness of the strengths and weaknesses. The sense of place has a non-physical dimension and can create a sense and perception in the individual that affects his/her social presence and social capital. The current study aimed to identify the correlation between the sense of place and social capital components among the Tehrani citizens. In a descriptive-correlational design, 300 residents in Saadatabad, Naziabad, and Narmak neighborhoods were selected by a simple random sampling method and answered the researcher-made questionnaire. The data were analyzed by the use of descriptive statistics and the Pearson correlation coefficient. The results indicated that generally, there is a positive and significant correlation between the sense of place and social capital components. However, by neighborhood, there was no significant correlation between the sense of place and social capital in the Saadatabad neighborhood, however, a positive and significant correlation was observed in Naziabad and Narmak neighborhoods. Among the components of social capital, informal charitable participation was the most correlated with the sense of place. The information flow component was the least correlated with the sense of place. Assessing these relationships can help urban planners to provide solutions for improving the efficiency and effectiveness of urban public spaces as well as interventions to increase social capital.

Keywords: Urban Public Spaces, Sense of Place, Social Capital, Social Trust.

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1. INTRODUCTION

The studies on social capital have identified the neighborhoods as important urban physical spaces in which the informal social networks create important processes for welfare and quality of life (Cattell, 2001; Forrest & Kearns, 2001; Hays & Kogl, 2007). Most of the research in this field considers the necessity of paying attention to the interaction between the social networks, social capital, and people's connection with the place(s) in which social processes are defined (Jorgensen, 2010). It has motivated the urban planning experts to understand the neighborhood as much as possible as a significant issue for those who live in it. For a long time, paying attention to neighborhoods as the most outstanding urban space affecting the social interactions of residents has been studied by researchers (Forrest & Kearns, 2001). Understanding the social capital correlation with the assumption that social interaction takes place at the local level is a basis for social cohesion. Therefore, the emotional attachment of the residents to their neighborhoods stimulates civic participation and facilitates awareness of its strong and weak points (Manzo & Perkins, 2006). Forrest & Kearns (2001) state that although the social capital has no spatial dimension, it has a strong tendency towards the local sense. Therefore, the definition of place from the perspective of those living in it requires the existing beliefs, emotions, and behaviors in it as much as the need to feel the value of that place (Jorgensen, 2010).

The evidence shows that people are attached to the places they perceive as meaningful. This attachment affects their presence and participation in the places (Manzo & Perkins, 2006). There are various concepts describing the correlation between the people and the spatial environments, however, perhaps, the sense of place is the most important one (Jorgensen & Stedman, 2001). The sense of place is the sense of attachment to the locations and places and is created by a meaning the individuals obtain based on their experiences of a place (Amsden, 2007). The correlation between the sense of place and the behavior has been investigated in previous studies (Walker & Ryan, 2008; Scannell & Gifford, 2010; Chapin & Knapp, 2015). These studies have conceptualized the sense of place as the precedent. In addition, those living in places with strong physical identities are motivated to interact more with one another and the environment and create social capitals (Dale, Ling, & Newman, 2008). In addition, the concept of the sense of place affects the rate and type of the relationships between the individuals in the society, and this relationship in the social groups that belong to a specific place leads to an increase in the social capital and their trust. The sense of place the citizens have in their urban space can be one of the important factors in the creation of the social capital in the city. In society, the social capital is being accumulated, and the residents

increasingly cooperate to identify the problems, share the ideas, and detect solutions to the problems that are beneficial for the whole society (Debertin & Stephan, 2013).

Payton (2003) investigated the effects of feeling of spatial belonging and social capital on civic performance. The results indicated that there is a significant correlation between the sense of place, social capital, and civic performance in terms of natural resources management. Rabbani Khurasgani et al. (2011) in an article entitled "Assessment of the social capital at the neighborhood level" investigated the dimensions of the social capital in the neighborhoods of District 9 of Mashhad City and concluded that the average social capital of individuals at the neighborhood level is a little lower than average. Rahnema & Razavi (2012) concluded in a study that the model of the effectiveness of the sense of place in increasing the social capital is explained by the participation mediator variable. In other words, in an indirect interaction relationship, strengthening the sense of place leads to an increase in participation and social capital.

Sheikhi et al. (2015) in a comparative study on the formal and informal dwellings in the new cities of Parand and Nasim Shahr showed that a sense of place in the informal accommodation of Nasim Shahr is more than in Parand. Also, the social capital of Nasim Shahr's residents is higher than that of Parand. Moreover, Soini et al. (2012) investigated the rural residents' perception of the landscape based on the sense of place (indicating the man-place correlation) in the Nurmijärvi Region near Helsinki, Finland. Based on the results, a strong sense of place led to place preservation.

Chigbu et al. (2013) have introduced the lack of sense of place in the Nigerian rural areas as a development deterrent in these regions. In another study, Rabbani and Habibi (2011), by analysis of the role of urban spaces in creation of the social capital, concluded that the rate of social capital is significantly different regarding the different quality states of the urban spaces. Zanganeh et al. (2014) investigated the effects of sense of place and social capital on improving the participation of old neighborhoods of Sabzevar and concluded that the two variables of social capital and sense of place significantly affect the level of residents' participation in improving the neighborhood. Therefore, it seems that people are attached to places that they perceive as meaningful which itself affects their presence and participation in the places, and motivates the individuals to interact more with one another and the environment and create social capital.

Therefore, in addition to the sense of place, social capital also is an important factor in the urban planning and design process (Manzo & Perkins, 2006). Many environmental quality promotion plans try to use social capital to achieve the environmental

qualitative goals. The related literature shows that strong social networks lead to more support from the protective policies of the city's physical environment (Dean et al., 2016). Since besides allowing for the relationships between the citizens, the public spaces of the city should be able to help with the social capital production process in the sustainable human development process. Addressing such spaces in Iran requires appropriate planning and design and efficient interventions, and since the studies that have dealt with the correlation between social capital and sense of place are scarce, the current study has dealt with the spatial component of the social processes, especially the sense of place and social capital.

It is noteworthy that Iranian urban spaces have not been able to influence the development of social capital in the contemporary city as they should be, and it has been in a way that today's city can either not organize the social capital resulting from citizenship exchanges of existing human capital or even sometimes prevented the formation of such capitals in a negative way, while the higher the social capital in an urban management system, the lower the costs of the social and economic interactions, and the various actions to develop, protect, preserve, and promote the city's body. Based on what was mentioned, and regarding the gap in the specific studies of urban sociology in the area of social capital on the one hand, and the lack of a specific approach to the qualitative category of the city by the urban planners, on the other hand, has led to less attention paid by previous studies to the correlation between the sense of place and social capital in the urban spaces which are different in terms of the cultural, economic, and social nature. Therefore, the current study aimed to detect the correlation between the sense of place and social capital components in three urban neighborhoods namely the Saadatabad, Naziabad, and Narmak. Besides, we have compared the sense of place and social capital in three spaces with distinct identities. Thus, the main hypotheses of the current study are:

1. There is a correlation between the sense of place and social capital components in the urban spaces of Tehran.
2. The correlations between the sense of place and social capital in Saadatabad, Naziabad, and Narmak neighborhoods are different.

To achieve the research objectives, after providing the related literature, the details of the methodology were explained. Then, the results were mentioned in the form of a correlation between the sense of place and social capital, and finally, the correlations were explained and limitations and suggestions for further studies were expressed in the discussion and conclusion chapter.

2. LITERATURE REVIEW

Social capital is an intertwined set of connections,

relational bonds, and links. The concept of connection implies the social relationships, interactions, and communications of the individuals in the sociable arenas of society or institutions. To put it simply, social capital is the product of the humans' familiarity with one another and stems from an origin such as acquaintance and trust, leading to positive results in individuals' lives.

2.1. Social Capital

The term 'social capital' was first introduced by Hanifan (1916) meaning everyday assets in the form of the presence of goodwill, fellowship, mutual sympathy, and social intercourse among a group of individuals and families. To put it simply, social capital is the product of the humans' familiarity with one another and originated from an origin such as acquaintance and trust, leading to positive results in individuals' life (Seydaei et al., 2009).

Social capital is a set of social system norms that increases the levels of solidarity and cooperation between the society's members and decreases the costs of interactions and communications (Fukuyama, 2006). Trust is one of the most important constituents of the social capital that leads to cooperation, participation, and interactions between the individuals in social groups and expands and facilitates the individual's social relations with other people in the society. Existence of trust and social capital can protect society's stability. In other words, it is trust that determines how the norms and systems in a community can reach stability (Grootaert et al., 2005).

Therefore, social capital is the social relations and interactions established between the individuals based on social norms that lead to trust between the social actors. These interactions take place in the social networks or lead to the creation of them, ultimately leading to the achievement of the common goals of actors. Thus, the social capital is not necessarily material, nor does it exist in the individual, but it is created and manifested in the relations between the individuals (Putnam, 2013).

Bullen (1998) introduces the dimensions and indicators of social capital to be participation in the local community, acting in the society's context, sense of trust and security, neighborhood relations, relationships with friends and family, capacity to accept differences, work relationships and, the value of life. From Coleman's perspective (1988), social capital manifests itself in three forms which are: commitments, expectations, and trustability in the social structures, information networks, and effective norms (Eriksson, 2010, p. 17). From Bourdieu's perspective, social capital is the product of the accumulation of potential or real resources that are related to the ownership of a sustainable network of more or less institutionalized relationships between people that are created by membership in a group

(Bourdieu, 1983).

Coleman (1988) believes that social capital only comes into being and is formed when, firstly, it is placed in a specified social environment such as a neighborhood in which some people are standing against each other, and secondly, a relation is established and flows between them. This issue introduces urban public spaces as a bedrock for the presence of individuals and the subsequent establishment of social relations as a necessary condition for the formation of social capital. On the other hand, where daily activities occur in the public spaces, fulfillment of some activities depends on the use of urban spaces. Various urban spaces significantly affect social capital (Yoo & Lee, 2016). Some social problems in urban regions are the outcomes of social capital weakening in the urban community. The combination of a good urban design and structure and the cultural nature of the city is very important to strengthen the social capital (Syaom et al., 2014).

During the last decades, several studies have been conducted on the assessment of social capital and its social, economic, and political outcomes, and each theoretician has considered different dimensions and indicators to assess it, based on the definition they have provided. Table (1) shows the most dimensions and indicators of the social capital from the perspective of different scholars. Since there is no consensus among the experts in terms of social capital indicators, those measures of it with the highest overlap with previous studies and could be investigated in the urban public space were selected. Finally, to assess and measure the social capital component, nine dimensions namely the Interactive Network, Generalized Trust, Interpersonal Trust, Social Support, Information Flow, Informal Collaborative Participation, Informal Charitable Participation, Formal Participation, and Sense of Security were used. Each of these dimensions will be defined in the following.

Table 1. Dimensions of Social Capital from the Scholars' Perspective

Scholar	Dimensions and Measures
Bryant & Norris	Social participation, social commitment, level of empowerment, sense of community membership, social networks
Putnam	Trust - Norm - Networks (Awareness, Participation, and Civic Institutions)
Bullen & Doyle	Participation in the local community, activity in the context of the community, sense of trust and security, neighborhood relations, interactions with friends and family, capacity to accept differences, work relationships, value of life
Fukuyama	The crime rate, family breakdown, drug use, lawsuits, and complaints
Organization for Economic Cooperation and Development	Social Participation - Social Support - Civic Participation-Social Network
World Bank	Groups and networks, trust and cooperation, collective activities, information and communication, solidarity
Brham & Rahem	Household income, employment status, religion, education, age, household size, gender, women participation

Putnam (2013) states that the interaction network is formed when relations are organized and predictable based on specific and common behavioral norms, supervised by others. Therefore, he emphasizes two interaction networks: the intragroup interaction network which implies trust and cooperation-based relations between the members of a group, and other groups are strangers to them, and the intergroup interaction network which implies trust between different groups in the society. From Gideons' (2009) perspective, social trust is the individual's good opinion about the people of the society which expands and facilitates his social relations with others. In his opinion, interpersonal trust is the trust

in social institutions and organizations as well as the legal entities such as the police, judges, teachers, professors, etc. Fukuyama (2006) focuses more on generalized trust and states that the stronger the extent of external relations with their positive external effects, the greater the radius of social trust (Fukuyama, 2006).

Kaplan (1995) considers social support to be any stimulant that helps with the advancement of the objectives of the supported individual. He considers two dimensions of support: tangible social support and social mental support. Security means becoming immune, being safe, and at peace. The sense of security

is a kind of positive mentality and psychological orientation of citizens towards the impact of the presence and occurrence of events in the field of social security, political stability, identity cohesion, and land security (Nowruzi & Fooladi, 2009). Participation means the effective participation of the group members in the collective affairs by mobilizing all the potentials of the group to use in the decision-making process. Offe & Fuchs (2002) believe that the type of participation (formal, informal, charitable, and informal collaborative) of people can be different in terms of the type of effect on social capital (Offe & Fuchs, 2002). Therefore, three types of formal, informal charitable, and informal collaborative participation were investigated in the current study.

2.2. Sense of Place

Phenomenologically, the sense of place means relating to a place by understanding symbols and everyday activities. This sense can be created in the living place of the individual and grow and expand over time (Relph, 2008). The sense of place is the place character with a meaning close to the spirit of place. In phenomenology, experience is the most important pillar of perception and it is the mental purification and attainment of the essence of things (Falahat, 2006). In fact, the spirit of place is placed within the place itself, but the sense of place is formed in the user's mind.

According to environmental psychology, human beings need a specific sensory, emotional, and spiritual experience of the living environment. These needs are met through an intimate interaction and a kind of identification with the place they are living in. This intimate interaction and identification is called the spirit or sense of place. Mentally, the sense of place is a catalyst that changes an environment into a place. The process of deep experience of the place is not an object, but a living organism that is realized after consecutive reciprocal adaptations. Therefore, the individuals-place relations require specific stability. The environment attains these characteristics by the combination of natural and human order (Falahat, 2006).

Hummon has introduced five senses of place: ideological rootedness, taken-for-granted rootedness, place relativity, place alienation, and placelessness. Therefore, the sense of place is a factor that changes a space into a place with specific sensory and behavioral features for specific special people. The sense of place, in addition to bringing the environmental peace and comfort, supports the cultural concepts desired by the people as well as the social and cultural relations of the society in a specific place and reminds the past experiences and achievement of the identity for the individuals and the visual comfort. Therefore, paying attention to the sense of place and uniting this sense among the citizens can be a unifying link between the individuals (Van Putten et al., 2018).

The presence of a sense of place in urban spaces leads to the creation of special relations between the individual and the environment. The concept of a sense of place has been discussed and evaluated on various scales. It starts from the home level and ends on larger scales such as the neighborhood and the city. Meantime, it can be noted that the urban spaces are among the most important parts of the cities for which the presence of a sense of place among the citizens is one of the most valuable assessment criteria. The studies show that the physical features of the environment are effective in the creation of a sense of place by the creation of specific meanings and activities. Providing activities from space is met by variable characteristics of the environment such as temperature, sound, and the possibility of individual activities as well as social interactions by static elements of the environment such as dimensions, proportions, and forms. Recognition and emotion towards space are obtained by understanding the meanings, symbols, formal and semantic aesthetics of space, and identification with it (Mirgholami & Aisham, 2016).

3. METHODOLOGY

The explanation is indicating the elements, factors, or mechanisms involved in the creation of a state or regular sequences of social phenomena. Also, in the scientific explanation, a search for the reasons for a specific event or a regular sequence is intended.

3.1. Research Design and Participants

The present study is applied, descriptive-correlational research. The statistical population includes all space users in the Saadatabad, Naziabad, and Narmak neighborhoods. Regarding the vastness of the statistical population, the following formula is used to determine the sample size for the estimation of the proportion parameter concerning the qualitative attributes. In this design, the qualitative attribute is defined as follows:

“A proportion of people who are present in the studied squares and streets and live in that neighborhood.”

$$N = \frac{\left[z_{1-\frac{\alpha}{2}} \right]^2 (p \cdot (1 - p))}{d^2}$$

In the current study, since the proportion parameter “P” is not known, to maximize the sample size and subsequently, the accuracy of the results, this value has been considered to be P=0.5. Considering a value of 0.06 for the absolute error and 0.05 for the maximum type I error α , the minimum sample size was calculated to be 267. Since there was the possibility some questionnaires were filled incompletely due to unwillingness, impatience, etc. of the participants, the sample size in the current research was increased to 300. Therefore, 100 participants in Saadatabad, 100 in Naziabad, and 100 in Narmak were selected by

simple random sampling.

The selected neighborhoods are located in three municipal districts of Tehran (Districts 2, 8, and 16 which are located in the north, center, and south of Tehran, respectively) which are different socially, economically, and culturally. The research area in the current study included the Saadatabad, Naziabad, and Narmak neighborhoods, and the streets and squares that matched the objectives of the current study were selected by reviewing previous studies and considering the research nature. In the selection of the passages, it was tried to check for relative quality in the first look, and since urban space is a space for social interactions, it was tried to select passages that had an appropriate level of citizens' presence in urban public space. In this regard, the most important spaces in each neighborhood were selected, which were:

- District 2: Saadatabad neighborhood; Saadatabad street, Kaj Square.
- District 8: Narmak neighborhood; Ayat Street and Haft Howz Square.
- District 16: Naziabad neighborhood; Madaen Street, Bazar Dovvom Square.

3.2. Research Instrument

Researcher-made Questionnaire: A researcher-made questionnaire was used to assess the sense of place and social capital dimensions. Regarding the theoretical framework and the related literature in this field, five main components were selected for assessment of the social capital state (interaction network, sense of security, social support, trust, and participation). The questionnaire assesses the following variables: sense of place (5 items), intragroup interaction network (3 items), intergroup interaction network (3 items), generalized trust (6 items), interpersonal trust (7 items), social support (4 items), information flow (5

items), informal collaborative participation (7 items), informal charitable participation (4 items), formal participation (3 items), and the sense of security (6 items). All the questions were formulated in the Likert scale (only a little, to some extent, not at all, rather much, very much) and only the questions related to the participation dimensions were yes/no questions.

To determine the validity of the questionnaire, the face and content validity methods were used. Thus, the questionnaire was sent to the urban planning experts and professors and their corrective opinions and criticism were applied to it. Finally, it was prepared based on their opinion and confirmation. Also, the internal consistency of the questionnaire was calculated based on Cronbach's alpha, and its value was obtained to be 0.68 for the sense of place, 0.67 for the intragroup interaction network, 0.62 for the intergroup interaction network, 0.85 for the generalized trust, 0.83 for the interpersonal trust, 0.60 for the social support, 0.85 for information flow, 0.52 for the informal collaborative participation, 0.76 for the informal charitable participation, 0.68 for the formal participation, and 0.60 for the sense of security, all being at an appropriate and acceptable level. The overall Cronbach's alpha for all dimensions of social capital was obtained to be 0.64.

3.3. Implementation Method

To collect the data, first, the participants were selected randomly and the research objective was explained to them. After persuading them to cooperate, the questionnaires were distributed among them, and then, they were collected. Also, to analyze the data, the statistical procedures were used for comparison of the variables in terms of mean by neighborhood, and the Pearson correlation coefficient was used to identify the correlations between the variables.

Table 2. Demographic Information of the Participants

Neighborhood	Gender	(%)	Marital status	(%)	Ownership Type	(%)
Saadatabad	Male	48	Single	65	Tenant	20.7
	Female	52	Married	35	Owner	77.2
					Government-Leased	2.2
Naziabad	Male	40	Single	43.6	Tenant	13.7
	Female	60	Married	56.4	Owner	86.3
					Government-Leased	-
Narmak	Male	50	Single	46.7	Tenant	16
	Female	50	Married	53.3	Owner	84
					Government-Leased	-

4. RESULTS AND FINDINGS

The data was gathered from people in selected urban public spaces of Tehran. The mean age of

the participants was 30 years old in the Saadatabad neighborhood, 33 years old in the Naziabad neighborhood, and 38 years old in the Narmak neighborhood. The age of participants ranged from

17 to 83 years old. Also, in terms of economic status, among the total 100 selected citizens in the saadatabad neighborhood, 16% had an excellent economic status, 45% had a good status, 31% had an upper middle status, 6% had a middle status, and 2% had a lower middle status. Among the citizens in the Naaziabad neighborhood, 16% had an excellent economic status, 32% had a good status, 17% had an upper middle status, 33% had a middle status, and 2% had a bad economic status. And finally, among the citizens in the Narmak neighborhood, 6% had an excellent economic status, 22% had a good status, 29% had an upper middle status, and 43% had a middle status. The mean period of residence was 8

years in the Saadatabad neighborhood, 26 years in the Naziabad neighborhood, and 16 years in the Narmak neighborhood. Other additional descriptive features are listed in Table 2.

The results indicated that the difference observed between the studied neighborhoods was significant according to the F-test (Table 3). In other words, it can be said there is a significant difference between the three neighborhoods of Saadatabad, Naziabad, and Narmak in terms of a sense of place from the residents' perspective. A comparison of the means revealed that residents of the Narmak neighborhood had a greater sense of place compared to the other two neighborhoods.

Table 3. Comparison of the Neighborhoods in Terms of the Sense of Place

	Mean	Standard Deviation	Minimum	Maximum	F-Value	Significance Level
Saadatabad	16.1522	1.97754	11	20	7.818	0.000
Naziabad	17.0918	2.19224	13	20		
Narmak	17.4891	2.83035	8	20		
Totoal	16.9149	2.41431	8	20		

Based on results in Table 4, the Naziabad neighborhood had the largest intragroup interaction network while the Narmak neighborhood had the smallest one. There were no significant differences between the neighborhoods in terms of the intragroup interaction. Naziabad neighborhood had the largest intergroup interaction network while Saadatabad had the smallest one, and there were no significant differences between the neighborhoods in this

regard. Also, the Narmak neighborhood had the highest generalized trust while Saadatabad had the lowest, and there were no significant differences between the three neighborhoods in terms of this component. Naziabad had the highest interpersonal trust while Saadatabad had the lowest, and there were no significant differences between the three neighborhoods in terms of this component.

Table 4. Comparison of Mean Values of Social Capital Components in the Studied Neighborhoods

Social Capital Components		Mean	Standard Deviation	Minimum	Maximum	F-Value	Significance Level
Intragroup Interaction Network	Saadatabad	11.301	2.150	7	15	2.390	0.0930
	Naziabad	11.593	2.250	6	15		
	Narmak	10.850	2.739	3	15		
Intergroup Interaction Network	Saadatabad	8.0704	2.727	3	12	19.440	0.000
	Naziabad	10.766	2.520	4	15		
	Narmak	8.253	3.564	3	15		
Generalized Trust	Saadatabad	11.863	4.163	6	22	39.88	0.000
	Naziabad	15.793	3.834	7	24		
	Narmak	15.950	2.652	11	22		
Interpersonal Trust	Saadatabad	16.330	3.417	10	22	9.282	0.000
	Naziabad	18.449	2.929	14	25		
	Narmak	17.206	4.002	10	24		

Social Capital Components		Mean	Standard Deviation	Minimum	Maximum	F-Value	Significance Level
Social Support	Saadatabad	15.640	3.557	8	25	7.818	0.000
	Naziabad	20.806	3.611	12	25		
	Narmak	19.230	4.099	9	25		
Information Flow	Saadatabad	17.660	4.166	5	25	12.937	0.000
	Naziabad	20.170	3.800	10	25		
	Narmak	17.760	3.877	5	23		
informal Collaborative Participation	Saadatabad	19.590	1.700	7	13	32.865	0.000
	Naziabad	8.908	1.122	7	11		
	Narmak	8.867	2.147	7	14		
Informal Charitable Participation	Saadatabad	5.080	1.011	4	8	5.559	0.004
	Naziabad	4.810	0.841	4	7		
	Narmak	4.630	1.011	4	8		
Formal Participation	Saadatabad	18.690	4.234	10	26	45.264	0.000
	Naziabad	21.234	3.382	15	28		
	Narmak	23.470	2.917	14	29		
Security	Saadatabad	18.69	4.234	10	26	45.264	0.000
	Naziabad	21.33	3.382	15	28		
	Narmak	23.47	2.917	14	29		

Also, the results of table 4 indicated that the Naziabad neighborhood had the highest social support while Saadatabad had the lowest, and there was a significant difference between the neighborhoods in terms of this component. Naziabad neighborhood had the highest information flow while Saadatabad had the lowest, and there was a significant difference between the neighborhoods in terms of this component. Saadatabad had the highest informal collaborative participation while Narmak had the lowest, and there was a significant difference between the neighborhoods in terms of this component. Saadatabad neighborhood had the highest informal charitable participation while Narmak had the lowest, and there was a significant difference between the neighborhoods in terms of this component. Narmak neighborhood had the highest formal participation while Saadatabad had the lowest,

and there was a significant difference between the neighborhoods in terms of this component. Narmak neighborhood had the highest sense of security while Saadatabad had the lowest, and there was a significant difference between the neighborhoods in terms of this component.

Pearson correlation coefficient has been used to determine the correlation between the sense of place and the dimensions of social capital (Table 5). The results indicated that generally, the sense of place and all components of social capital are significantly and positively correlated. Among the components of social capital, informal charitable participation was the most correlated with the sense of place. Also, the information flow was the least correlated with the sense of place.

Table 5. Correlation Matrix between the Sense of Place and Social Capital Components

Row	Social Capital	Sense of Place	
		Correlation Coefficient	Significance Level
1	Intragroup Intercational Network	0.385**	0.000
2	Intergroup Interaction Network	0.406**	0.000
3	Generalized Trust	0.301**	0.000
4	Interpersonal Trust	0.284**	0.000
5	Social Support	0.352**	0.000
6	Information Flow	0.220**	0.000
7	Informal Collaborative Participation	0.372**	0.000
8	Informal Charitable Participation	0.421**	0.000
9	Formal Participation	0.351**	0.000
10	Sense of Security	0.291**	0.000
11	Social Capital	0.354**	0.000

**Significance lower than 0.05

The Pearson correlation coefficient results indicated that there is no significant correlation between the sense of place and social trust in the Saadatabad neighborhood (Table 6). However, the sense of place and social capital were significantly and positively correlated among the residents of the Naziabad

neighborhood. In other words, the higher the sense of place, the more influenced the citizens' social capital. There was a relatively strong correlation between the sense of place and social capital in the Narmak neighborhood.

Table 6. Pearson Correlation Coefficient between the Sense of Place and Social Capital Components

Variables	Sense of Place		
	Neighborhood	Correlation Coefficient	Significance Level
Social Capital	Saadatabad	-0.90	0.508
	Naziabad	0.38	0.34
	Narmak	0.401	0.000

5. DISCUSSION AND CONCLUSION

The main objective of the current study was to investigate the correlation between the sense of place and the formation of social capital. To do so, the correlation between the sense of place and social capital in three neighborhoods of Tehran was investigated. Results indicated that generally, the sense of place is significantly and positively correlated with social capital, i.e. the higher the quality of this component in the urban space, the higher the possibility of formation and increase of social capital. Also, results indicate that the sense of place was significantly and positively correlated with all social capital components at the 95% level. These findings are in line with those of Brocato (2006),

Payton & Payton (2003), Buthet et al. (2006), Dass (2005), Rahimi et al. (2020), and Rahnama et al. (2012).

In addition, in the current study, the correlation between social capital and the sense of place in three neighborhoods of Narmak, Naziabad, and Saadatabad was investigated. The results indicated that Narmak had the highest sense of place and Saadatabad had the lowest. Also, it was revealed that there is no significant difference between the sense of place and social capital in the Saadatabad neighborhood. In other words, the existence or lack of this component does not affect the rate of social capital among the citizens of this neighborhood. Also, the results indicated that a sense of place is significantly and positively correlated with the social capital at a 95%

confidence level in the Naziabad neighborhood and a 99% confidence level in the Narmak neighborhood. In other words, it can be said that to the extent that there is more "sense of place" in the urban space of these two neighborhoods, it directly and positively influences the formation of the social capital of the citizens in that neighborhood.

Explaining the research findings, it can be said that they are indicative of an appropriate state in the Narmak and Naziabad neighborhoods in terms of social capital indicators and the sense of place. These two neighborhoods have managed to preserve their nature as distinct neighborhoods with a specific identity, over time. In these neighborhoods, the residents have a kind of emotional attachment to the neighborhood and they are pleased to live in it. The social ties among residents are strong and this social communication and interaction have led to the promotion of a sense of place and a high sense of belonging to the place among residents. Also, religious activities and legibility elements have promoted a sense of place. In these neighborhoods, indicators such as neighborhood participation, social cohesion, participation in local affairs, sense of security and safety, trust, and identification with the place are at a high level. So, it can be said that neighborhoods with a specific identity and better sense of place such as the Narmak and Naziabad neighborhoods were proved to correlate with the social capital. However, it seems that in a newer-built neighborhood such as Saadatabad, in which the spatial identity, cohesion, and social ties among its residents are not as much as those of other neighborhoods, there is no correlation between the sense of place and social capital. These findings are in line with those of Mi Hai Loo (2011), Rahimi et al. (2020), and Yi & Lee (2016).

The current study also had some limitations. First of all, only three urban spaces in Tehran were investigated and many spatial types have remained uninvestigated. Therefore, there is no awareness of the effects of a similar correlation in other spaces, and the results cannot be easily generalized to other neighborhoods. Second of all, the functional relationship has not been evaluated in the current study. Thus, only the concurrence relationship between the sense of place and social capital has been evaluated. However, which one can predict the other is not known. Therefore, it is suggested to evaluate the functional relationship between the sense of place and social capital in the urban space alongside other variables in future studies to identify the predictive factors of these two components. Also, the correlation between the sense of place and social capital in other urban spaces such as traffic circles, parks, etc. should be investigated. On the other hand, it is recommended to evaluate the effects of new constructions on the social capital of neighborhoods' residents, and finally, study the correlation between the spatial qualities strengthening the sense of place and social capital.

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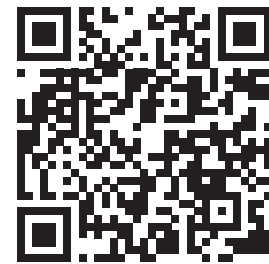
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