



## **Evaluating Effects of Neighborhood Planning Factors on the Amount of Social Capital in Residential Complexes (Case Study: Chalous and Noshahr Cities)**

Ali Kazemi<sup>1</sup>, Mahlagha Nemati Limaei<sup>2</sup>

1. Assistant Professor, Department of Architecture, Islamic Azad University Branch, Ramsar, Iran.

2. M.A in Urban Design

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### **Abstract**

Paying attention to social capital as new form of capital with developmental essence has been constantly increasing in different fields of knowledge including environmental sciences and planning built environment. In this case, the main question is whether environment planning can impact on creating and strengthening of social capital or not. Accordingly, this study investigates the correlation between two variables of social capital and design factors of neighborhood unit (independent and dependent variables, respectively). Therefore, the correlation method has been used. First, the components which derive from these variables are recognized based on theoretical framework. So neighborhood unit has two main physical and social dimensions in which public services, safety, accessibility, public spaces and territory are components of physical dimension and social ties, satisfaction, sense of belonging and security and peace are components of social dimension. Then their relationship was formulated through a conceptual model. After that, the theoretical findings of study were investigated through some field surveys (by questionnaires) in three residential complexes in Chalous and Nowshahr cities. Based on findings of field survey, the amount of correlation between the variables of study was examined through Spearman's test. Results of the study confirmed that increasing satisfaction of physical and social dimensions of neighborhood units will cause to promote amount of social capital among residents.

**Keyword:** neighborhood, social capital, participation, social ties, membership

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### **Introduction**

Paying attention to the non-physical development of environments, especially in terms of human beings (individual and social), has been increasingly expanding in several parts of environmental sciences, especially urbanism since the last decades of the previous century. In this respect, social capital has been considered as an aspect of social development that originates in interaction and active action of people in a society throughout big or small social networks and many believe that it will have positive effects on social trends and other developmental domains [1, 2, 3, 4, 5 and 6]. So, many urbanites and architects are trying to find guidelines and instructions for the promotion of social capital in urban areas. Sum of these activities have concentrated on finding the appropriate physical pattern for settlements (major or partial) with as much quality as promotes social capital indicators in a distinct community. Such studies are often based on probabilistic or even determinist approaches that pay attention to partial or deterministic effects of the environment on people [7]. According to this, this study tries to investigate and evaluate the effects of qualitative factors of neighborhood unit planning on the social

capital. The Neighborhood unit as the level of urban society that is located between the family (as a small community) and the city (as a big community) can be the ideal place for the expression and strengthening of social activities of individuals through small social groups and networks and strengthens social capital in this scale of the society. The main question of this study concerns the relationship between the level of social capital and the qualitative factors forming neighborhood units. Based on this, the research hypothesis mentions that social groups which experience a better quality of neighborhood unit's factors have a higher social capital. This hypothesis is tested after some theoretical studies on the variables, through the cases studied in Nowshahr and Chalus cities in the north of Iran.

### **2.Literature review**

#### **2.1 Social capital**

Social capital is a sociological concept that has been increasingly considered the same as other types of capital in recent decades within discussions related to major and minor scale developments of societies. This aspect of capital that is created via positive interaction of distinct social activities between people in specific social structures has been defined differently by researchers and different organizations (based on their

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\*Corresponding author.

Kazemy58@gmail.com

point of view) [8]. The concepts used in these definitions can be divided generally into two groups of sociological concepts (such as trust, social networks, group activities, values and non-official norms,) and economic concepts (such as resources and interests, public development, efficiency, gaining skills etc.) [9] in which Social concepts clearly have more important role in creating and define different aspects of social capital. So the substance of social capital comes from the accumulated resources that belong to people in very diverse social systems [9] that originate from this idea that social networks and social relations are valuable assets [10]. According to this, "social capital in general points is related to trusting norms or interactive relations that usually happen within social networks and mainly has positive results and in some cases some negative results" [9]. Dimensions of social capital, based on its mentioned conceptual definitions, can be categorized in three groups of structural, cognitive and normative. The structural dimension notes to models which group members, connect them together and their organizing system and considers their roles, social networks, different relations and trends. The cognitive dimension includes common values among group members such as norms, attitudes and beliefs and the normative dimension points to quality of interactions and relation among members in a group and pays attention to concepts such as trust and connection [11]. The most important indicators and components which have been mentioned in these three dimensions of social capital, according to theories presented by different authors, are trust, social norms and rules, social cooperation, social connection and social membership [5, 12, 13, 14, 15, 16, and 17] that are used in explaining and evaluating output and usage of social capital in different societies. The dominant approach in most of studies about social capital have been emphasizing on its capital aspect and its value as an important resource of wealth in all macro to micro social levels and also its positive effect on promoting and developing other forms of capital. It is the criteria that can be considered in cities and their different parts as places in which all institutions and communities gather and different aspects of their interactions can be studied.

## **2.2. Neighborhood unit**

Neighborhood unit, in the past century, has been one of the most important concepts in the urbanism and in discussions related to residency, especially in the minor scale. This concept has been theorized by Clarence Perry in the 1930s considering micro scale development paradigm [18] and then became a model for many rural residential developments and reconstructions after World War II and still many researchers and experts use this concept and its practical forms in different features. From a theoretical point of view, neighborhood unit is a planned complex that provides house (living place) and related services for a certain population in a limited

territory [19] in such a way that, based on physical determinism approach [7], promotes the sense of belonging to place through making some public spaces and increasing social interactions, [20]. And within this framework, pedestrian access to the services, strengthening of physical territory and the separation of walking and riding traffic in the internal areas are some criteria that form the neighborhood units [18]. Although the concept of neighborhood unit in the western environmental planning models was after the developing and promoting of social concepts in the residential areas in its first decades, its later models in the final decades of the 20<sup>th</sup> century, with an ecological approach paid more attention to diversity of human needs and interaction between human-nature within the framework of environmental behavior, after critical discussions due to the dominance of physical attitude [21]. Comparative study of the neighborhood concept with the district in Iranian cities shows that district has social, historical, mental and physical dimensions [22] that its social dimension is prior compared with physical dimension. While, in the neighborhood unit as a physical/ social unit, the social dimension is posteriori and comes after distinct physical models [20]. Anyway, neighborhood unit in recent theories of residential planning (Pedestrian Oriented Development, Traditional Neighborhood Development, Sustainable Neighborhood etc.) has more flexibility and social and cultural features of society have received more attention [21]. It can be resulted that, according to the mentioned information and based on the evolution of neighborhood unit concept, always two physical and social dimensions have been more prominent in this concept. In the physical dimension, factors such as public services, safety, accessibility, public spaces and territory [18, 19] are more prominent and in the social dimension, concepts such as social relations, satisfaction of the residential place, sense of belonging and identification [20], district security and peace [21] are some of the determining factors.

## **3. The conceptual model of the study**

Theoretical findings illustrated that the concept of neighborhood unit has two physical and social dimensions with each of them including different factors. Based on this, physical factors of neighborhood unit are public services, safety and security, accessibility, public spaces and territory, the implementation of which cause to strengthen social dimension of neighborhood unit and its different factors such as neighborhood relations, satisfaction, sense of belonging, identity and security and peace. On the other hand, the concept of neighborhood unit does not only have physical dimension and its social dimension is as important as the physical dimension, but the implementation and objectification system of physical factors is important and clearly effective on the expression of social factors. On the other side, the

fulfillment of social factors of neighborhood unit impacts on the forming and strengthening of indicators such as trust, social participation, social ties and membership in the networks which are some of the main indicators in the concept of social capital. So we can expect that social capital can be promoted in the whole neighborhood units if they have had appropriate planning. Diagram 1 shows the conceptual model of the study in terms of affecting system of different dimensions of neighborhood unit on the promotion of social capital.

#### 4. Methodology

Since the present study considers correlation between two independent (social capital) and dependent (neighborhood unit) variables it is deemed to be a correlation study. One aspect of these types of study without any necessity to prove a causal relation between variables, explains the nature of the relation between variables [23]. Within this framework, on the one hand, based on the theoretical findings of the study, the evaluation of the samples is done in terms of rate of achievability to the factors of neighborhood unit and on the other hand, evaluation of the amount of social capital is done among the residents of residential complexes (in samples of study) and finally, research hypothesis is tested (based on assessing the relation between variables). Case studies of the research have been done in three residential complexes of Paradise Shomal, Daryae Chalus in Chalus, and Chaharsad Dastgah in Noshahr in Mazandaran province, Iran. Data collection tools were observation, taking photos and a questionnaire. Population of the study included all of the residents of these complexes and there have been 90 questionnaires totally. This population was determined after distributing some sample questionnaires in the cases of the study (residential complexes) and calculating standard deviation. According to this, 38 individuals in Chaharsad Dastgah, 28 individuals in Paradise Shomal and 29 individuals in Daryaye Chalus filled the questionnaires. 60 individuals in the population (about %65) were male and others were female. 10 percent of the population were retired and about %20 were clerks. Also %15 of the population were housewives. The majority of the individuals among the population (about %60) worked in public services and were engineers, salesmen etc. Questions of the questionnaire were codified by variables of the study and also factors mentioned within the theoretical framework of study. In this way, some of the questions considered the qualitative and quantitative features of the complexes in terms of having physical and social dimensions of neighborhood unit such as the existence of social relations, sense of belonging to the complex, satisfaction, having identity, security and peace. Some other questions concentrated on indicators of social capital such as existence of social trust, participation,

and social ties among residents and membership in social groups.

#### 5. Findings

Three residential complexes of Pardis e Shomal, Darya e Chalus and Chaharsad Dastgah have been considered in order to evaluating the theoretical findings of the study. Two complexes of Darya e Chalus and Pardis e Shomal are located in Chalus in the far west of the city and the Chaharsad Dastgah is located in Hafte Tir Avenue of Noshahr (figures 1 to 3). According to the field surveys and information provided by questionnaires from these three complexes, evaluation of results indicating whether they have physical qualities which has to have a neighborhood unit, has been presented in table 1. In the mentioned table, three complexes have been compared (based on respondents' answers) and then have been evaluated and scored on three levels of weak, average and good (after calculating average of respondents answers). According to this, residential complex of Chaharsad Dastgah has a better condition compared with two others and the worst complex in terms of physical factors is Daryaye Chalus. Also, the evaluation of these complexes in terms of social factors of neighborhood units has been illustrated in table 2. Within this framework, Chaharsad Dastgah complex has again a better condition compared to other complexes. Eventually, evaluating the amount of social capital in these three complexes based on the defined factors in the conceptual model has been presented in table 3. This table compares conditions of these three complexes with each other (in three levels of low, average and high). Based on the data presented in table 3, Chaharsad Dastgah complex has higher social capital indicator and after that Paradise Shomal and Darya e Chalus are almost equal.

#### 6. Data Analysis & Discussion

Findings achieved by the field surveys, based on methodology of the research, have been evaluated by Spearman's test and in this way the correlation between the variables is tested. Within this framework, first the correlation between physical and social factors of neighborhood units and social capital (as the secondary hypothesis of the study) are evaluated and then the correlation of the variable of the neighborhood unit (independent variable) with social capital (dependent variable) are tested (the main hypothesis). The correlation test between physical factors of the neighborhood units and social capital (based on table 4) shows that there is a significant relation between physical factors of the neighborhood unit and social capital ( $p=0.04$  and  $r=0.500$ ). Since the significance level  $p=0.04$  is less than  $0.05$ , so the correlation coefficient is significant for  $p=0.05$ . Also, Pearson's correlation coefficient ( $0.500$ ) shows a strong relation between these two variables. So, the research hypothesis is accepted and shows there is a significant relation

between physical factors of neighborhood unit and social capital with 95% reliability. Based on the results of the correlation test between social factors of the neighborhood unit and the level of social capital (according to table 5) there is a significant relation between these two factors ( $p= 0.003$  and  $r=0.600$ ). The significance level of  $p=0.003$  is smaller than  $p=0.01$ , so the correlation coefficient is significant for  $p=0.01$  (with 99% reliability). Also, the amount of Pearson's correlation coefficient in this test is 0.600 that shows a strong relationship between these two variables. Main hypothesis testing for assessing the existence of a

correlation between the variables of neighborhood unit and the social capital (table6) shows that there is a significant relation between these two variables ( $p=0.005$  and  $r= 0.756$ ). Since the significance level of  $p=0.005$  is smaller than 0.01 so the correlation coefficient is statistically significant for  $p=0.01$  and also Pearson's correlation coefficient in this test is 0.756 that shows a very strong relationship between these two variables. So the research hypothesis concerning the existence of a significant relation between the designed model of neighborhood unit and social capital is accepted with 99% reliability.

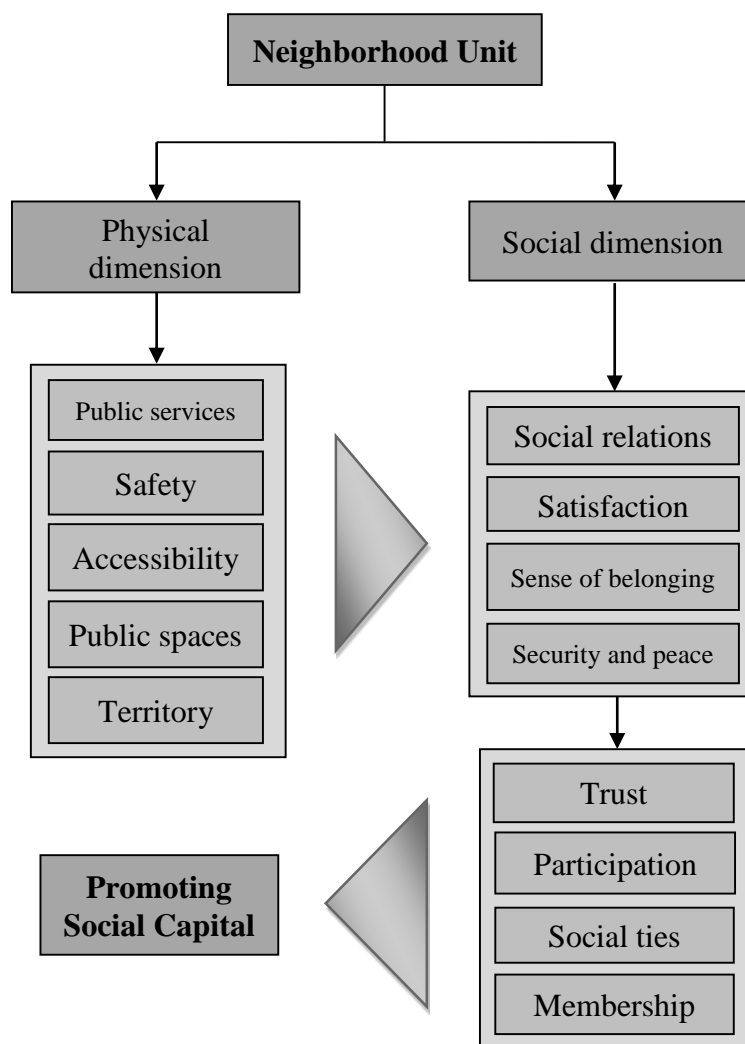


Diagram1. Conceptual model of study in terms of correlation model of neighborhood factors and social capital indicators



Figure1. Chaharsad Dastgah complex



Figure 2. Pardis e Shomal complex



Figure3. Daryaye Chaloo complex

Table1. Evaluating physical factors of neighborhood units in the cases of the study

Indicator	Public services	Safety	Accessibility	Public spaces	territory
Chahrsad Dastgah	Weak	Good	Good	Good	Average
Pardise Shomal	Average	Good	Average	Weak	Good
Daryaye Chalus	Good	Average	Weak	Weak	Good

Table2. Evaluating social factors of neighborhood units in the cases of the study

Indicator	Social relations	Satisfaction	Sense of belonging	Identity	Security and peace
Chaharsad Dastgah	Good	Average	Good	Good	Good
Pardise Shomal	Average	Good	Average	Average	Good
Daryaye Chalus	Weak	Good	Average	Average	Good

Table3. Evaluating the amount of social capital in the cases study

Indicators	Trust	Participation	Social bond	Social membership
Chahrsad Dastgah	High	High	High	High
Pardise Shomal	Average	Low	Low	Average
Daryaye Chalus	Average	Average	Low	Low

Table4. Spearman's correlation test between physical factors of neighborhood units and social capital

Independent variable	Dependent variable	Spearman's coefficient	Significance level
Physical factors of neighborhood units	Social capital level	0.500	0.04

Table5. Spearman's correlation test between social factors of neighborhood unit and social capital

Independent variable	Dependent variable	Spearman's coefficient	Significance level
Social factors of neighborhood units	Social capital level	0.600	0.003

Table6. Spearman's correlation test between neighborhood unit and social capital

Independent variable	Dependent variable	Spearman's coefficient	Significance level
neighborhood unit	Social capital level	0.756	0.005

## 7. Conclusion

The importance of development and using a specific type of capital which nowadays is called social capital which is the result of active interaction of groups of people through different social networks has become obvious more than ever. So preparing the contexts for emerging and expanding this developmental concept in different domains especially knowledge of environment planning has become necessary. This research focused on evaluating possibility of developing social capital through emphasizing the factors of neighborhood unit planning. Based on the theoretical findings (that were examined and confirmed separately through field surveys), the neighborhood unit has two physical and social dimensions. The improvement of the physical dimension (such as public services, safety, accessibility, public spaces and territory) will result the promotion of social factors of the neighborhood unit (such as social relations, satisfaction, and sense of belonging, identity, security and peace). In the following, the improvement of social factors of neighborhood unit will result in promoting the indicators of social capital in the neighborhood unit. Also, the field survey showed that along with improving social and physical factors of the environmental planning in the neighborhood unit, the amount of social capital will increase. This study focused on surveys in three residential complexes in Chalus and Noshahr cities. The residents had different education levels, income and residential facilities. The studies in the future in this domain can be carried out in residential complexes with more similar economic and social conditions of residents and only considering the dimensions of neighborhood unit.

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