Investigating the Relationship between Urban Space Factors and Social Capital in Historical Context: Evidence from City of Tehran

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Abstract

Social capital is a concept which can be mostly debated through the sociological and decision-making points of view. This article has tried to review the relation between key aspects of urban places and social capital. For analyzing the information Expert Choice software are been used for converting qualitative factors to the quantitative ones. The outcomes propose that there is a direct relation among permeability, pedestrian-orientation and socialization indicators with social capital for the other. Nonetheless, there is the fluctuating relation between permeability quality and social capital. About local places this correlation is positive and for places in city scale has a negative and indirect correlation.

Keywords: urban space, social capital, permeability, socialization, historical context

Introduction

Nowadays, leading attitude of all urban design activities, especially restoration of historical environment, is movement to axis of social and social dimensions of urban life. Actually what gives meaning to historical context isn't merely its body and the physical and visual aspects, but it is the social areas of urban activities of the theme of which has to be recognized and in order to be maintained and improvement of social life quality through context, environment's potentials and urban qualities have to be improved. Hereby grounds of continuous presence toward historical context and so making social interactions and active social life through historical background are provided.

Toward the regeneration of historical fabric, according for some definite features of these parts of the town, social qualities proportional to visual, functional and spatial qualities become important. Synchronous to grounds of restoration urban context's activities, important concepts of urban designing which are effective on improvement and organizing urban spaces qualities, can present new parameters plus physical and graphical concepts for social and psychological subjects of the inhabitants in order to preserve and revive historical context.

From the research available social qualities and social capital to be a feature plagued by social communications along with the missing link of countless plans for restoration of historical fabric, are concentrated depending on extensive studies about urban qualities proposed through historical context. Based on conceptual definitions of social capital, improving it through historical context isn't likely unless by applying some changes so as to advance related urban qualities. Surveying functional elements of social capital implies that their existence and augmentation can be a mechanism for improving development and urban life quality and their absence and erosion is a hurdle for social development. Urban qualities as tool for urban designers for improving and organizing the surroundings have ale providing necessary cause for formation and enhancement of social capital's grounds.

Comprehending the relation between social capital index and correlated urban qualities, it is crucial to make available some assessments and analysis about amount of urban qualities' changes and amount of capital index. Before presenting the analysis according to many urban elements and qualities at the condition of social capital, there are a few concise descriptions offered in our section about notions of social capital and urban qualities connected with it.

Social capital

Social capital is frequently misused and features unrelated and incomplete definitions (Adler & Kwon, 2002; Woolcock, 1998). Reasoning behind social capital presents issues through the lowest volume of urban crime to enrichment of healthy citizen life (Aldrige et al., 2002). The primary research surrounding this subject is undoubtedly an article written by Hanifan through the University of West Virginia in 1916. Here bigger mostly described human and academic aspects of social capital. Hanifan defines social capital as below:

"By social capital, I mean good affair, friendship, mutual sympathy and social communication of a group of persons and families which form a social unit or a rural community. In order to make a place as business organization or developing it, capital accumulation is necessary." (Piran, 2006)

The first time, sociologists presented the idea of social capital. Since 1980 this idea enters social sciences terms especially sociology. Jane Jacobs (1961) and Bourdieu (1986) have offered reasoning behind social capital to use primary form. Then people like Putnam (1993) and Colman (1988), expanded it (Woolcock, 1998).

In Fukuyama's opinion social capital is informal institutionalized norms which encourage cooperation between some individuals. Domain of norms produced by social capital can contain mutual norms between two friends or complicated religious taught (Fukuyama, 1995). Turner defines social capital as group of potential and actual sources which are arose between activists and organizations by membership in social networking sites (Turner, 1993).

In the short, social capital take account of relations based upon trust and deal through social networking sites (Share'pour, 2001). Landry and Lamari identify social capital as a collective notion the foot of that will be discovered through separate behaviors and ideas (Landry and Lamari, 2000).

Roots with the relation between social capital and urban matters might be searched through The Death and Life of Great American Cities by Jane Jacobs. From her viewpoint compressed social networking sites in old and countries and mixed urban countries are some sort of social capital which show more duty about cleanness, deficit of street crimes and also other decisions about improving life feature rather than official organs for instance police.

Putnam defines social capital as several arrangements of social organization for instance trust, norms and networks which often can improve society's efficiency by facilitating proceedings (Putnam, 1993). James Colman proposes five different for social capital:

1- Formed bonds
2- Access to information
3- Social norms
4- Acquisition authority
5- Corporate identity (Colman, 1998)

Fukuyama has been presented notion of social capital mostly in relation with economic successes an organizations' effectiveness (Fukuyama, 1995). With regards to Bourdieu, social capital is caused by some sort of consciously or unconsciously collective or individual investment and that is available indirectly short-term and long-term after consolidation or reproduction of social public services (Bourdieu, 1986).

In manifestation of social capital notion the below divisions are offered:

A)   Loyalty, B) Trust, C) network communications, D) Individual authority, E) corporate identity, F) interaction, G) social norms, and H) credit (Mousavi, 2006).

Glaser et al. have stated using social bases for the reason that best source to progress welfare and economic recovery through a community comprising social norms and networks. In studies about effective elements on social capital, there many factors measured. Glaser et al have inference negative correlation between rearrangement of residence and level of social capital, positive relationship between length of dwelling and social capital (Glaser et al, 2000).

In other studies, link between age, marital status, quantity of children, education and kind of ownership on level of social capital are surveyed. In Brehm and Rahn's opinion, social capital is usually a collective concept the foundation which happens to be individual behavior, attitudes and talents. They presume that Ethnic and linguistic heterogeneity, difference toward family, religion and cultural patterns are going to complete forming behaviors and principles making social capital (Brehm & Rahn, 1997: 1005).

In another study, variables like family's income plus the labor market condition, composite index of occupational status (including Job security and income levels), religion and religious deal, education, age, city against country and household size are assessed in line with social capital (Kulynych and Smith, 2002). John Gehl has addressed the relation between organizing urban spaces and efficiency of urban spaces available as one hand and continuous presence of folks and degree of public life and social interaction alternatively (Gehl, 1987). Jane Jacobs has clarified the relation between Pedestrian-oriented as an urban quality and security, increase of people's presence and increase of social communications (Jacobs, 1961). William Whyte has focused on the consequence of vitality of urban spaces on increase of social communications (Whyte, 1980).

Concluding from existing attitudes and views, social capital is usually a set pf networks, norms and values which facilitate collaboration between and within the groups as a way to achieve mutual profits (table 1).

Table1: the measurements to evaluate the components of social capital

Dimension classification	dimensions	variable
Formal trust	trust	Social capital
Non-formal trust		
Generalized trust		
Environment trustability		
Security feeling		
cooperation	norms	
collaboration		
Capacity to accept difference		
Efficacy feeling		
Life value		
Social intermediary		
Socio-economic participation		
Social participation	networks	
Civil participation		
Social integration		

Socialization

There are several descriptions presented for thought of socialization as an urban quality, each of them points with sides beyond many. These descriptions has routine patterns of life and urban relocations and also ideas like collective memories, belonging to place and etc. on the other hand, an intensive definition of the several aspects and popular features of socialization is hardly found. Several definitions of socializations and difficulty of presenting an intensive definition will not be easily possible.

Richard Neutra distinguishes socialized spaces as places for mental relaxation of human which assists citizen to seek out role and effect of the city on formation of his personality (Mitcherlich, 1969).

Halprin called the spaces where urban lives shaped and let people totally free various high variety, people oriented spaces and believes that the fact is these spaces make special quality and personality for the city (Halprin, 1972: 210). Zucker by centering on squares, recognized socialized spaces as factors which can make society an authentic community as opposed to mere aggregation of persons (Zucker, 1970). Gehl emphasizes on appealing on the space more than more features and concept to attractiveness of any city according to those who gather to use public facilities and invest some time there. In their point of view, a desirable urban space is space where personally meeting to fellows and experiencing by senses is possible (Gehl, 1987:118). Lang states socialized spaces as receptive places and considers that such spaces are those who can progress one's experience, have human scale. Often be a ground for various activities and behaviors and become able of getting promising behaviors of citizens (Lang, 1994: 120).

Picturing socialization is much more perceptible where get-together some volume of citizens is possible to be able to experience presence from the space rather than passing by and talk with space and also other people. Put simply, thought of socialization is manifested like a spatial risk of gathering a collection of human communities in different forms of dating life which appears in urban spaces such as neighborhood unit, district (Montgomery, 2006).

Bianchini measured thought of socialization as public social life and considers that it's a reaction of communication between whom found in urban places (Bianchini, 1990). This means, urban socialization is definitely the resultant of society's norms and social values which can be manifested through urban spaces. Where urban socialization is truly achieved, the dating life may be claimed to get stronger a sense place and native identity. These specification of urban socialization implies that to be able to comprehensively understand socialization and recognize its ability of improving dating life quality as being an achievable goal in urban spaces, it is crucial that first are aware that how theories of place, community and public dating life effects on each other. Mentioned concepts have overlap and interact while method of overlapping a variety of them is academically bluer.

About rogues issue, Montgomery considers that mixture of socializing life and identity develop a totality the popular features of which isn't clear through any its components separately and can certainly in mental health of society (Montgomery, 2006).

Pedestrian-orientation

Irregular development of non-public spaces in a single hand and domination of car in human life within the other, have lessened incredible importance of public urban fields in people lives and prevented establishment of active social communications through public spaces. This is mainly responsible for understanding urban space happened so fast. These consequences of disregarding human with the exceptional needs are attended by a lot of scholars to find out that why urban spaces are rejected or what feature do urban spaces lack through which they offers necessary grounds for

presence and residence of an individual? The interest rate of modern the years have caused need to have being free, incuriosity and dissociation between citizens (Madanipour, 2000; Schelhorn et al., 1999).

Hike is named the oldest and most elementary type of urban travels which is often disregarded while designing urban transportation systems (Zegeer et al., 2002). Looking briefly at urban developments and implemented projects there's no question that nowadays the thought of human- oriented "communication" and "connection" is forgotten (Pakzad, 2006).

In truth, public spaces are changed for being passageways in domination of cars and there isn't any more places left for human with the exceptional presence. Disregarding human and making them more relying on car and destroying hike equipment, have caused serious problems. Accordingly designing urban spaces as afoot-oriented places for presence and interaction is often a certain need of a typical urban plan. If planning and designing of urban spaces and rehearse specifications are to make sure that encourage hiking then vitality find its which were found to city, because such qualities increase amount of interactions and return urban space to the real position.

Cent has targeting "move" through cities and emphasizes on incredible importance of place relations of persons by seeing, hearing, touching and the clear way of relating. He believes that speed of move has direct hitting the ground with urban context. Deficit of hitting the ground with the community is a result of domination of car on human's life. Moreover, urban spaces have significant effects on people's understanding. Cent says that "urban spaces is often a theme which emanates from presence and relations of an individual, are getting to be places for staring rather than talking and interaction" (Madanipour, 2000). Gehl has concluded as part of his research that pavement and performance system that helps afoot are effective on continuing development of my space and improvement of social interactions level (Gehl, 1987).

In public areas spaces, each running activity gives supportive element for other activities. People go to public facilities as a way to experience interaction with other people who do different activities. Therefore, if public spaces get separated and earn several units a variety of activities, the specified ground for afoot-orientation and persons' presence will likely be weakened (Bahreini, 1998). Moreover, presence of numerous sets of different social and cultural levels, genders and ages have caused an effective social mixing which improves social interactions. Many research is implemented about elements effective on afoot-oriented namely forming the place, proper distribution of urban attractions, attractive places for hiking and social attributes of the community (Theakomen, 2001). In addition there are density, Diversity and design which are effective (Cervero & Gorham, 1995; Cervero & Kockelman, 1997; Greenwald & Boarnet, 2001).

Permeability

Accessibility and Permeability which are matched to urban patterns are studied in several aspects. As an illustration theory of urban economics (Alonso, 1960), assessment of efficiency degree of public services (Pacione, 1989; Knox, 1978), theory of spatial justice based upon development of degree of physical use of urban facilities (Talen and Anselin, 1998), assessment of degree of need to increase usage mixing and improving choice for enjoying urban transportation systems (Levine, 1998). Access quality as well as function for improving Coherence and unity of activities are certainly one the leading axis for urban researches about good method of city (Lynch, 1981; Jacobs & Appleyard, 1987; Duany & Plater-Zyberk, 1991).

In recent researches about accessibility, this quality is been surveyed in three levels; zone, metropolis and neighborhood to be able to offer solutions for the improvement (Congress for the New Urbanism, 2000). Carmona and Tiesdell have divided permeability to physical and visual. Visual permeability is ability of seeing ways and passages through an environment while physical

permeability is implies on their capability of undertake that environment. In most cases it is also possible that physical permeability exists devoid of the visual permeability and the other way around (Carmona and Tiesdell, 2007). The method of permeability and accessibility is a sun and rain Bentley brilliant colleagues have counted being a respondent component of the environment. Noting what places can or cannot go and even accessible uses could be indexes to bear in mind to be able to evaluate quality of permeability (Bentley et al, 2003).

In line with incredible importance of social proportions of urban designing through the research on hand, a relation between social capital and quality of permeability will be found.

Methodology

In accordance with modality of these studies and mentioned social aspects, stamping grounds inside of a limited perhaps the city and linking passages totally can be considered as an ideal network for evaluation and comparison how much social capital index with changes of urban qualities and assessment the relation between them. Social nodes (stamping grounds) are district and fixed points toward phantasm of persons that have behavioral setting. Recognizing and registering social nodes is first done dependent on field observation through whole studied area within times. Then questionnaires are employed as a way to assure the accuracy. Research into the results of them questionnaires surveys exact location of stamping grounds of district in people's phantasm, their preferences and expectations about nodes' space and primary estimate of urban qualities.

In the research in hand, the analytic hierarchy process (AHP) is chose for determining the measures of sub-measures in line with essence of qualities and defined sub-measures and Simplicity, flexibility and chance of Simultaneous applying qualitative and quantitative standards. First help AHP process is generating a hierarchy structure with the subject which contains goals, standards, options and relation between them.

Since mentioned method is used an accessory for final purpose with the research in hand, mathematical equations and formation of binary matrices are avoided for being mentioned and left to be achieved by Expert choice software. The defined sub-measures per quality, strategies to evaluating them and as well calculated weights per sub-measure emerges depend on AHP in table 1.

This article in hand has concentrated around the resultant of pedestrian-oriented and socialization is in comparison with the index of social capital rather than comparing them separately, because the defined sub-measures per quality have complementary role. Accordingly the two of these qualities are foundation comparison with social capital index.

Results & Discussion

In line with the result of using Cochran formula the questionnaires were distributed between 334 persons from the selected area. Research into the results suggests the level of social capital in social nodes and links.

The relationship between social capital and the resultant quality of the pedestrian orientation and socialization

In diagram 1, the calculations' results of resultants of pedestrian orientation and socialization are weighed against social capital index. Comparing results and analyzing questionnaire's questions employed for measuring a higher level social capital and even results of analysis and Quantification of urban qualities (pedestrian orientation and socialization) gained from analytic techniques of urban designing, it truly is concluded there is direct outcomes of amount changes of pedestrian orientation and socialization qualities and a higher level social capital index. In the plain English nodes and links the place that the resultant of pedestrian orientation and socialization qualities tend to be more optimum, have an overabundance of level of social capital index.
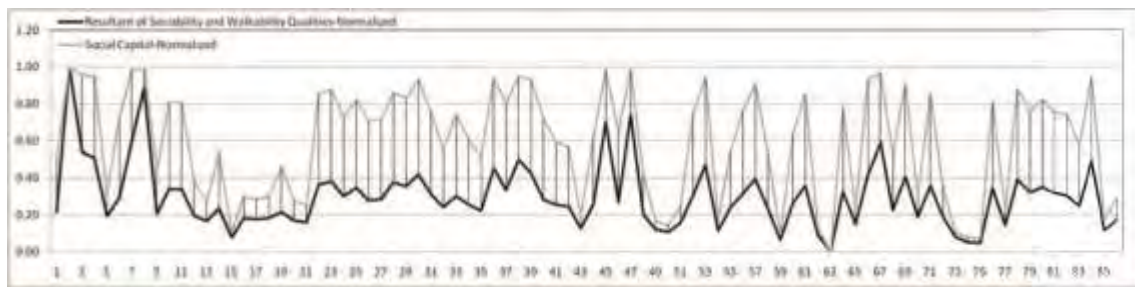
Table 2- the weights for each based defined variable based on technic of AHP

	Sub-quality(sub-parameter)	Weight based on AHP
socialization	Investigating the appealing uses for pedestrians	1.084
	Compatibility of use mixing	1.021
	people-oriented urban furniture	1.204
	designed space and possibility of community	1.2.0
	climatic comfort	1.309
Pedestrian-orientation	Investigating the appealing uses for pedestrians	1.236
	safety against motorists	1.211
	interference of pedestrian path and motorists	1.093
	paving for pedestrians` movement	1.106
	pedestrians` movement flow in initial and secondary use	1.319
	Effective width in pedestrians` movement path	1.188
	Serving surface of pedestrians` movement path	1.261
permeability	connection with immediate area	1.274
	connection to main paths of surrounding	1.302
	visual permeability (transparency and generality)	1.287
	permeability in block scale distance, and mean of length and width of urban blocks surrounding the node،	1.212
	permeability in block scale (number of dead-ends in urban blocks)	1.183
	permeability in block scale(the sum and mean of areas within urban blocks surrounding the nodes and links accessible from dead-ends	1.072
Social capital	trust	1.055
	network	1.324
	cooperation	1.167
	collaboration	1.120
	capacity to accept difference	1.231
	efficacy feeling in life	1.173
	social intermediary	1.141
	social support	1.139
	social participation	1.205

The analysis on hand concludes that to find out direct relation between changes of considered qualities and social capital index, this relation just isn't linear. When the resultant of pedestrian orientation and socialization qualities in the node or lines are n times with the resultant of brand new qualities in other node or link, it are not argued that social capital index in first node or link is n period of social capital within the other link or node. Use of in conclusion is of importance to codifying urban plans determined by social issues with urban designing.

Social capital as a latent concept through social communications is definitely an index improvement of which isn't directly possible. Based on researches about social capital mentioned in first part of this article, environmental qualities of urban spaces are significant elements for a higher level social capital. Therefore, by searching and understanding hoe urban qualities and social capital

relates, urban spaces qualities, applying them as urban designing tools is possible as a way to improve a higher level social capital index.
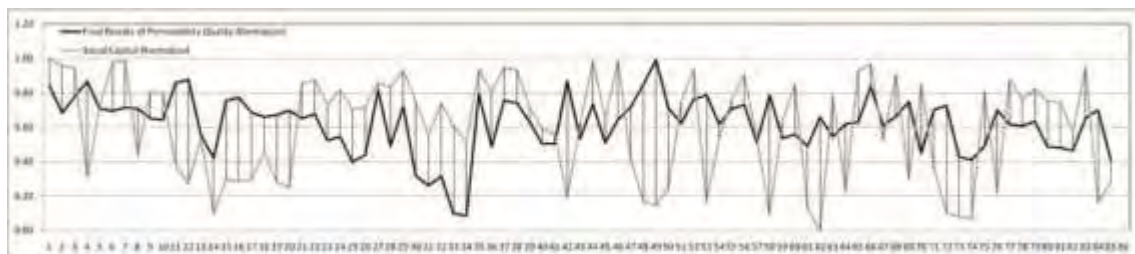

**Diagram 1: comparing the resultant of pedestrian orientation
and socialization indexes with social capital**

The relationship between social capital and quality of permeability

Comparing upshot of permeability quality analysis and social capital index toward nodes and links of studied area as historical context implies on dual relations. As shown on primary analysis of comparing diagram between two recent elements, in many nodes and links there exists direct relation between changes of permeability quality and upshot of social capital index and other nodes and links Inverse relation is seen. Result more research into the diagrams, shows that in nodes and links through streets with main purpose of passing (passages second level in this particular research), permeability quality has Inverse relation with volume of social capital index. Put simply, the greater gets the permeability of node or link, the less becomes the amount of social capital index. In nodes and links inside the context, there exists direct relation between permeability quality changes and volume of social capital and the greater gets the permeability the greater increase the condition of social capital index. In both recent relations, the outcome relations usually are not linear and quantity of urban quality changes will not be equal with changes of social capital index.

In diagram 2, calculations' upshot of permeability quality and social capital index entirely nodes on the area are compared. This comparison implies dual relation between changes of two above elements. Frankly in many nodes increase of permeability has grown volume of social capital index and in many others its increase has decreased of social capital index.

**Diagram 2: Comparing the results of pedestrian orientation
and socialization indexes with social capital**

Conclusion

Measuring the idea of social capital and investigating several definitions of that and as well its involved components imply on effect of several elements with effective complex relationships. Measuring and identifying involved components and determining the volume of influence of each is quite difficult which definitely seems to be brought on by mental, social, cultural and … routes of social capital notion.

Through each meaning of social capital, a definite characteristic of it is been focused to make sure that there are many functioning classifications presented for it. Even though in recent researches effect of countless social and human factors is surveyed for example age, gender, wealth amount, education and etc., quality of urban places as grounds of formation on this social capital is been ignored.

In this article definite theoretical and operational explanations of social capital accepted by many researchers, are thought to be foundation setting the questionnaire and defining the amount of social capital factor. Regarding that interaction is usually a basic concept for social capital and presence and strengthening through public urban places needs enhancing the distinctive urban qualities, the investigation comparing and assessing the volume of modifications to social capital variable with urban qualities is studied. Qualities plagued by social features for example comparing the subsequent of pedestrian orientation and socialization are considered regarding their relation to social capital level. And over social qualities, the effect of permeability as a noticeable and physical quality on social capital level is considered. The effects of this research indicates direct relation between comparing the resultant of pedestrian orientation and socialization qualities with social capital and dual relation between permeability quality and social capital. In places on nonlocal passageways a reverse correlation toward zones from the context and direct correlation between permeability quality and social capital factors are found. The outcome relations between urban qualities and level of social capital indexes will not be linear; the reason of that should be impressibility of social capital from many other factors they both have diverse special effects based on studied areas.

References

Adler, p. & woo kwon, s. (2002). Social capital: prospects for a new concept, Academy of management Review, 27(1), 17-40.

Aldridge, s.; Halpern, D. & Fitzpatrick, S. (2002). Social capital: a discussion paper, Performance and Innovation Unit.

Alonso, W. (1960). A Theory of the Urban Land Market, Papers and Proceedings of the Regional Science Association, 6: 149–158.

Bahraini, Seyed Hossein (1377). Urban design process, Tehran: Tehran University.

Bentley, Ian; L. Oc, Alan, Maureen, Paul, Mac Galin, Sue and Graham-Smith (2003). The responsible environment, translated by Mustafa Behzadfar, Tehran: Iran University of Science and Technology.

Bianchini, F. (1990). Flagship projects in urban regeneration, New York: McGraw-Hill.

Brehm, J. & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital, American journal of political science, 41(3), 999-1023.

Bourdieu, P. (1986). The forms of capital, in: J. G. Richardson (Ed.) Handbook of Theory and Research for Sociology of Education, New York: Greenwood Press, 241–258.

Carmona, M. & Tiesdell, S. (2007).Urban Design Reader: The Dimension of Urban Design, Architectural Press.

Cervero, R. & Gorham, R. (1995).Commuting in transit versus automobile neighborhoods, Journal of the American Planning Association, 61(2), 210–225.

Cervero, R. & Kockelman, K. (1997). Travel demand and the 3Ds: density, diversity, and design, Transportation Research Part D: Transport and Environment, 199-219.

Colman, J. S. (1988). Social Capital in the Creation of Human Capital, American Journal of Sociology, 94:95-120.

Coleman, James (1998). Foundations of Social Theory, translated by M. patience. Tehran: Ney publication.

Congress for the New Urbanism (2000). Charter of the New Urbanism, New York: McGraw-Hill.

Duany, A. & Plater-Zyberk, E. (1991). Towns and Town-Making Principles, New York; Rizzoli.

Fukuyama, F. (1995).Trust, the social virtues and creation of prosperity, New York: The Free Press Paperbacks.

Fukuyama, Francis (2003). Social and technological developments in the Information Age (interview), translated by Ali Bakhtiari ¬ son, Imam Sadiq University Research Bulletin, No. 11 and 12.

Gehl, J. (1987). Life between Buildings, Translated by J. Koch, New York.

Glaser, E., Laibson, D., & Sacerdote, B. (2000). The Economic Approach to Social Capital, NBER Working Paper Series. Working Paper 32.

Greenwald, M.J. & Boarnet, M.G. (2001). Built environment as determinant of walking behavior: analyzing nonwork pedestrian travel in Portland, Oregon, Transportation Research Record: Journal of the Transportation Research Board, 33-41.

Halprin, L. (1972). Cities, Massachusetts: the MIT Press.

Jacobs, J. (1961). The Death and Life of Great American Cities, Harmondsworth, Penguin.

Jacobs, A. & Appleyard, D. (1987). Toward an urban design manifesto, Journal of the American Planning Association, winter, pp. 112–120.

Knox, P. L. (1978). The intraurban ecology of primary medical care: patterns of accessibility and their policy implications, Environment and Planning A, 10, 415–435.

Kulynych, J., & Smith. S. S. (2002). It may be social, but why is it capital? The social construction of social capital and the politics of language, Politics and society, 30 (1).

Landry, R., Lamari, N, .M. (2000). Does Social capital determine innoviation?, Paper presented at the 4th international conference on technology policy and innoviation Brazil.

Lang, Jon (1994). Urban Design: The American Experience, New York: Van Nostrand Reinhold.

Lang, J. (1987). Creating architectural theory: The role of the behavioral sciences in environmental design. New York: Van Nostrand Reinhold.

Levine, J. (1998). Rethinking accessibility and jobs–housing balance, Journal of the American Planning Association, 64(2), 133–149.

Lynch, K. (1981). A theory of good city form, Cambridge, Mass: MIT press.

Madani-Pour, A. (1379). Urban design, attitude towards the social and spatial processes, translating F. Mortazaei nezhad, Tehran: Processing and urban planning.

Mousavi, Mirtaher (1385). Community participation component of social capital, Journal - Social Welfare, 23 (6): 92-67.

Mitcherlich, A. (1969). Die Unwirtlichkeit Unserer Stadte; Anstiftung Zum Unfrieden, Edition Suhrkampverlag, Frankfort.

Montgomery J. (2006). Community Strengthening through Urban Sociability, Department for Victorian Communities, Urban Cultures Ltd.

Pacione, M. (1989). Access to urban services—the case of secondary schools in Glasgow, Scottish Geographical Magazine, 105(1), pp. 12–18.

Pakzad, J. (2006). Deep thoughts on urbanism (3), from space to space, Tehran: New City Development Corporation.

Piran, P. (2006). A universal concept, and the concept of social capital, with emphasis on the situation in Iran, Journal - Social Welfare, 23 (6): 44-9.

Putnam, R. D. (1993). Making Democracy Work: civic traditions in modern Italy, Princeton, N. g.: Princeton University Press.

Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community, New York: Simon & Schuster.

Schelhorn, T. (1999). Streets: an agent-based pedestrian model, UCL, 9.

Talen, E. & Anselin, L. (1998). Assessing spatial equity: an evaluation of measures of accessibility to public playgrounds, Environment and Planning A, 30, pp. 595–613.

Therakomen, p. (2001). Mouse. Class: The Experiments for Exploring Dynamic Behaviors in Urban Places, A thesis submitted in partial fulfillment of the requirements for the degree of Master of Architecture University of Washington.

Turner, Jonathan Edge (1372), Sociological Theory, translated by A. Lahsaeizadeh, Shiraz: Navid Shiraz.

Whyte, W. H. (1980). The Social life of Small Urban Spaces. Washington D.C.: The Conservation

Woolcock, m. (1998). Social capital and economic development: toward a theoretical synthesis and policy framework. Theory and Society. 27: 151-208.

Zegeer, C.; Seiderman, C.; Lagerway, P.; Cynecki, M.; Ronkin, M. & Schneider, R. (2002). Pedestrian Facilities Users Guide - Providing Safety and Mobility. University of North Carolina, Highway Safety Research Center. McLean: Federal Highway Administration.

Zucker, Paul (1970). Town and Square, from the Agora to the Village Green, the MIT Press, Massachusetts.