

Explaining the Framework of the Effect of Spatial Organization on the Citizens' Behavioral Patterns (Comparative Study of the Zargandeh and Darrous Neighborhoods using Urban Network Analysis Method)*

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Received 09 July 2019; Revised 06 December 2019; Accepted 03 March 2020; Available Online 20 March 2021

ABSTRACT

Investigating and analyzing the relationship between people's behavioral patterns and the constituent structure of the space in urbanization requires a specific analytical-conceptual framework since they are considered two significant aspects. Thus, the researchers can explain the effect of the spatial organization in the formation of the citizens' behavioral patterns in the different urban spaces based thereon. The current research was an analytical-descriptive study. The required information was collected by studying and reviewing the scientific papers and books (through methods such as taking notes and reading the texts). The Urban Network Analysis Technique was used to determine and scrutinize the relationship between the spatial configuration and the behavioral patterns while explaining the framework to analyze the spatial organization. Then, the different textures of the Darrous and Zargandeh neighborhoods were evaluated using the indicators that can be evaluated using this technique. The main question of the research was as follows: what is the effect of differences in the spatial organization of neighborhoods on the behavioral patterns of citizens? It is noteworthy that the current study was not hypothesis-oriented. The research results emphasized the undeniable effect of the physical environment and the physical structure of the environment on the spatial behavior of individuals and stated that effectiveness and formation of the spatial behavior of individuals depended on the internal and personality characteristics of each individual in addition to the five senses and mental images of the structure of the environment. The physical structure leads to the emergence of quality in the space, which is influential in people's spatial behavior in that space. Indeed, the formation of the spatial behavior of people is different in each environment.

Keywords: Spatial Organization, Behavioral Patterns, UNA, Environmental Psychology.

* This paper is derived from the Ph.D. thesis of the first author entitled "Explaining the effect of the physical-spatial organization of the urban neighborhoods on the residents' behavioral patterns (case study: Zargandeh and Darrous Neighborhood), which was conducted under the supervision of the second author and advisement of the third author in the Faculty of Architecture and Urbanization of the Islamic Azad University, Qazvin Branch, in 2020.

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1. INTRODUCTION

Investigating and analyzing the relationship between people's behavioral patterns and the constituent structure of the space in urbanization requires a specific analytical-conceptual framework since they are considered two significant aspects. Thus, the researchers can explain the effect of the spatial organization in the formation of the citizens' behavioral patterns in the different urban spaces based thereon.

Natural movement theory is one of the theories that has been formed and developed in recent decades regarding the analysis and investigation of the relationship between community and space. Hillier, an English researcher, addressed the effect of the spatial configuration on the formation of social and behavioral patterns in his theory called the natural movement. This theory suggests that in the complexity of the city, the relationship between the components and constituent factors of the city plays a more significant role than each of the components (Hillier et al., 1993). Indeed, Hillier suggested his theory based on natural movement and addressed the effect of the spatial configuration on the pedestrian movement in the city. He stated that the spatial configuration is the most significant cause of the pedestrian movement in the city (Rismanchian & Bell, 2010). One of the methods to understand the geographical space is the "space syntax" approach that is of significant importance in predicting the spatial behavior of the human in urban environments. This theory has been formed and developed in recent decades to analyze and investigate the relationship between the community and space. This theory uses cognitive geometry to analyze the spatial form that is related to the relationship between humans and their surrounding environment, and the interrelationship between humans, leading to producing social processes (Ibid, p. 52).

The current research applied Urban Network Analysis Technique (UNA) to analyze and compare the spatial organization of the neighborhoods with different textures and its effect on the citizens' behavioral patterns. The main purpose of the research was a comparative study and influence of the citizens' behavioral patterns in Zargandeh (with organic structure) and Darrous (with regular structure). It must be stated that the current study was not hypothesis-oriented research.

2. RESEARCH METHODOLOGY

The current study was qualitative-quantitative research to investigate and analyze the behavioral patterns in the different local structures. The required information was collected using the "library-documentary" research method (through taking notes and reading text). Then, the Zargandeh and Darrous neighborhoods maps were inputted into ArcGIS software. Finally, the different outputs for reach, gravity, betweenness, closeness, and straightness indicators were obtained by the tools and formulas related to each index in the UNA technique. Since the reflection is inconceivable without comparison, no scientific research or thought is possible, disregarding comparison. In this research, the comparative comparison was used to recognize the similarities and differences to understand the change of variables.

3. RESEARCH BACKGROUND

The psychological ecology paper in 1994 was considered the beginning of the ecological tendencies in psychology in the 1940s and was affected by Kurt Lewin (Wicker, 1984, p. 3). According to Lewin, a person's emotions and behavior are a function of the tensions between things in the environment of which he/ she is aware at any moment. Lewin called these effects the psychological realities. These psychological realities make something together that Lewin called life space (Mcandrew, 2013, p. 4). His concept of life space means a world that a specific person understands and is affected by (Barker, 1968, p. 1).

Behavior setting theory in urban design was also raised by the ecological psychology of Roger Barker in the late 1960s and addressed the two-way relationship between environment and behavior. It also pointed out that sometimes, the environment does not match our behavior (Lang, 1998).

However, Jan Gehl has conducted many studies in this area and has emphasized this subject since 1987 (Gehl, 2017). Gehl believed that the events and the number of people who use the public spaces, the duration, and the type of activity could be affected through designing the physical environment. Whyte also presented many studies extracted from the street studies based on the research processes in 1971 by introducing his book entitled *Social Life of Small Urban Spaces* in 1980. These studies investigated the public spaces during the day based on the questions, including Which places do we select to use in the public spaces? And How do we locate ourselves to others?

Table 1. Summarizing the Results of Experiences

Researcher	Results Obtained From Experiences	The Tendency of the Experiences to the Main Constituent Factors of the Behavioral Patterns	
		Social Effects	Environmental Effects
Kurt Lewin	The person's emotions and behavior are a result of the function of the relationships between the environmental elements.		
John Lang	Physical forms do not result in the creation of the city.		

Researcher	Results Obtained From Experiences	The Tendency of the Experiences to the Main Constituent Factors of the Behavioral Patterns	
		Social Effects	Environmental Effects
Allan Wicker	The effectiveness of the physique on people's behavior is analyzed in the space.		
Roger Barker	He emphasized the two-way relationship between environment and behavior.		
Jan Gehl	Physical design can affect behavior.		

The current study attempted to present a new experience regarding the effect of the environment on behavioral patterns by analyzing the different physical structures. Also, another distinction was the comparison between the field studies of the behavioral patterns by the output of the analytical maps of the UNA technique.

4. THEORETICAL FOUNDATIONS

In his Dictionary of Urbanism, Cowan defined the environment as a local environment in urbanism, meaning the characteristics of a place, and divided it into two parts: natural environment and artificial environment (Cowan, 2005). The presence of human settlements in nature and human endeavors to enjoy the natural gifts in their habitats is led to a complex relationship between natural processes and the artificial environment. For this reason, the meaning of the environment here is everything that surrounds the human. Therefore, the environment here means whatever that has surrounded human (Dehkhoda, 1974, p. 621). The relationship between man and his environment is a function of his multiple sensory systems. The importance of the human senses is too considerable that "Hall" considered the human sense of space in close relationship with his perception and understanding of his sense. It is also in a close reaction to his surroundings (Hall, 1966). Motivation is the driving force of the behavior. Behaviors are formed to meet human needs. Human needs can be classified into different classes. One of these classifications is the hierarchy of needs developed by Maslow to classify them (Maslow, 1943). This model has been applied in the environmental design disciplines. Behavior was also defined as a way of doing an activity. This activity was also done to meet human needs (Pakzad, 2007, pp. 41 & 48).

4.1. Explaining the Effect of Environment on the Behavior

In the 1950s, two students of Lewin, Roger Barker, and Herbert Wright founded the first courageous research in Oskaloosa located in Kansas called Midwest the purpose of which was to study the effect of the real environments on human behavior. This research was for 25 years and provided valuable information regarding real people's lives in real situations. Over time, more systematic and quantitative observation methods were developed (McAndrew, 2013, p. 6).

Ecological psychology developed by Barker and his colleagues was one of the most significant evolutions in the behavioral sciences that had numerous effects on the design profession. Ecological psychology caused fundamental changes in the traditional research approaches of psychology. This approach considers the transpersonal behavior in the daily living environment rather than the experimental study of the individual's behavior (Lang, 2009, p. 127). Barker and his colleagues realized the two-way relationship between the behavior and physical environment and found out that the effect of the positions in which the individual is, is more than the effects of the individual's characteristics on his behavior. In other words, different people in a similar environment have considerably similar behaviors (Golrokh, 2012, p. 2).

"Environmental psychology" also attempts to create an alignment between the factors of environment and culture and addresses the "psychological study of the behavior in the daily physical environment" (Craik, 1970). According to Stephen Friedman, the traditional studies of psychology focused on the personal or Intra-psychological phenomena of the environment and analyzed the behavior regarding the relationship between the people and the individual's internal moods (Friedman & Joseph B, 1974). However, nowadays, as Altman stated, "environmental psychology" has been redefined and addresses human behavior in the environment and context (Altman, 1975). Indeed, the behavioral environment is the cognitive image of the objective environment that creates the basis of the behavior (Koffka, 1935).

As a physical part of the environment, space can affect the behavior and play a controlling role regarding the behavior. That said, it can encourage or weaken some behaviors.

Inducing behavior: One can induce the people to take some behaviors by space. It is enough to provide a suitable space for people to automatically tend to that behavior or similar behaviors.

Removing behavior: Some behaviors can be removed through space. If a suitable spatial context is not provided for people, their desire to conduct the stated behaviors will be diminished, and this behavior might be removed from the urban space. This is how the influential role of the space is manifested itself in creating a sense of security in people.

In his recent studies, D Acci proved that the constituent elements of the urban structures, such as street, affect

our psychological perception from the spaces and our behavior and suggested that the pedestrian prefer curved paths for walking, which is consistent with the

theories of Kaplan (1988, 1987), Kent (1989), Miller (1998), Bell et al., (2001), Owing and Handi (2009) (D Acci, 2019).

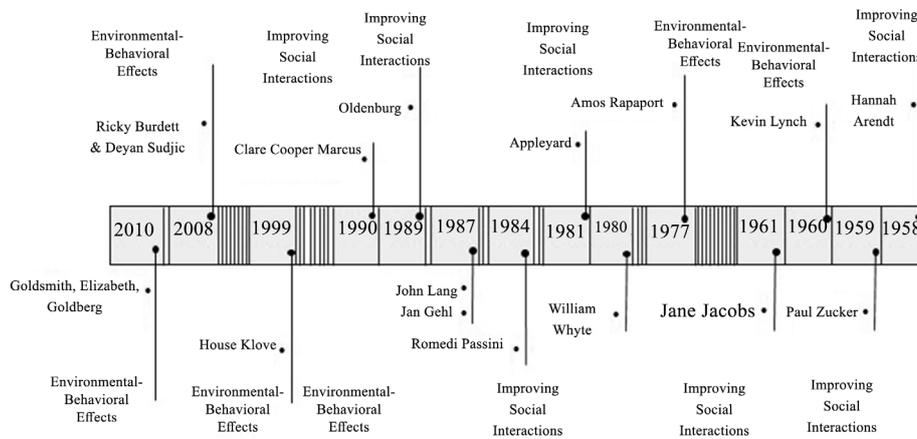


Fig. 1. The Course of the Theorists' Approaches in Praxeology

According to investigating the course of the theorists' theories (Fig. 1), two general classifications can be considered to conclude the theories in praxeology, which includes the effect of social interactions and

the effect of environment on the behavior. The current study investigated the effect of the environment (on a local scale) on the formation of the behavior.

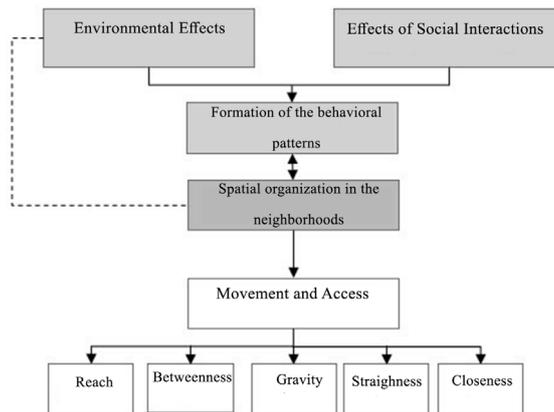


Fig. 2. Conceptual-Theoretical Framework of Research

Spatial organization in the urban neighborhoods consists of land use systems, access and movement, physical form, the structure of the public spaces, and urban landscape. In the current study, given the capabilities of the UNA technique, it was used to study the variables of the access and movement system (Fig. 2).

4.2. Analysis by Urban Network Analysis Technique (UNA)

Urban Network Analysis was presented as a Plugin for a GIS platform that can easily combine the analysis of the network with other types of data and spatial

analysis methods. This toolbox was a result of the efforts of Martin Landuse and Environmental Studies Center, UCL University Department of Space, Human Space Laboratory, and other researchers in the field of spatial network analysis (Latora, Porta, & Crucitti, 2005). This comprehensive toolbox can calculate five types of indices of the network analysis in a spatial network. These five indicators are as follows: reach, gravity, betweenness, closeness, and straightness. The formula and mathematical definition of each index were presented in Table 1.

Indicator	Mathematical Definition
Reach	$Reach[i]^r = \sum_{j \in G - \{i\}, d[i,j] \leq r} w[j]$
Gravity	$Gravity[i]^r = \sum_{j \in G - \{i\}, d[i,j] \leq r} \frac{w[j]}{e^{\beta \cdot d[i,j]}}$
Betweenness	$Betweenness[i]^r = \sum_{j,k \in G - \{i\}, d[i,j] \leq r} \frac{n_{jk}[i]}{n_{jk}} \cdot w[j]$
Closeness	$Closeness[i]^r = \frac{1}{\sum_{j \in G - \{i\}, d[i,j] \leq r} (d[i,j] \cdot w[j])}$
Straightness	$Straightness[i]^r = \sum_{j \in G - \{i\}, d[i,j] \leq r} \frac{\delta[i,j]}{d[i,j]} \cdot w[j]$

Fig. 3. The Mathematical Definition of the Indicators of the Urban Network Analysis (Sevtusk, Ekmekci, & Kalvo, 2016)

5. INTRODUCING THE STUDIED AREA

Darrous and Zargandeh neighborhoods are located in the District 3 of Tehran. These two neighborhoods are similar to each other in terms of cultural, economic, and geographical features. Their different morphological features and different spatial and physical organization were the reasons to select them as case studies. Zargandeh neighborhood has an organic-natural structure while Darrous neighborhood has a regular and almost grid structure. According to the above research approach, the selection of these two neighborhoods provides a proper ground for analyzing, evaluating, and comparing the effects of the physical-spatial organization on the formation of the behavioral patterns.

6. ANALYSIS AND DISCUSSION

According to the above definition, the main road network of the Zargandeh and Darrous neighborhood was considered as the input data to analyze the spatial network in GIS using the UNA toolbox. First, the road network layer was converted into a set of network data to analyze. Also, weighting to the land use was considered to determine the weight of Zargandeh and Darrous neighborhoods to analyze the network based on the weight of the land use to present a better and more precise analysis. Also, to determine the gravity index for the assumed neighborhoods and control the degree of the distance decay in this indicator, the β index was considered zero to be not considered distance decay due to the large scale of the network.

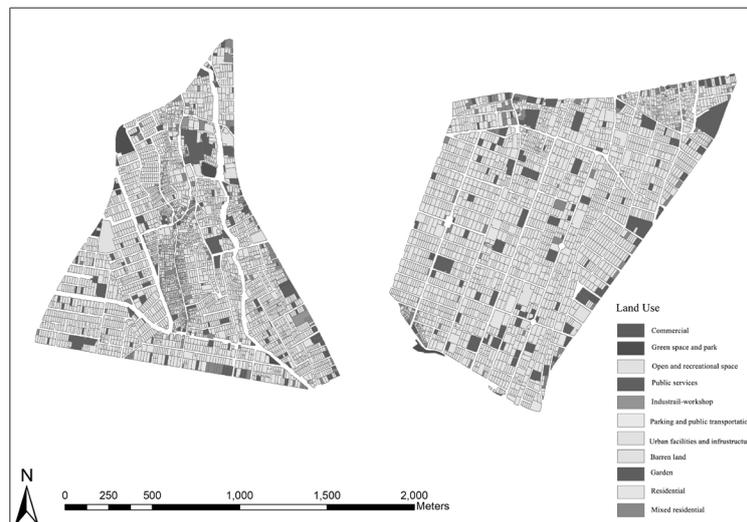


Fig. 4. The Land Use of the Darrous (Right) and Zargandeh Neighborhoods (Left)

6.1. Reach Centrality

Reach index measures the number of access nodes in a default radius in the network. In a graph, the reach index for a given node represents the number of nodes that are in the desired radius of that node in

the network. If each node in the network has a specific weight (such as population, number of employees, etc.), the reach index is equal to the sum of the nodes that are at the assumed distance from the assumed node in their weight.



Fig. 5. Analysis of the Reach Index in the Darrous (Right) and Zargandeh Neighborhoods (Left)

The radius defined for the reach index was 500 meters, arguing that land uses located at a distance of 500 meters can be attractive for pedestrian movement and affect the increase of the attractiveness of each other. Accordingly, reach nodes within the assumed radius in the network were calculated and evaluated. The weighting done in the maps was also based on the evaluation of the importance of land use. It is possible to understand the potential areas clearly in terms of accessibility using the maps provided. According to the conducted weighting, different land uses can be suggested or criticized.

In the Zargandeh neighborhood, its central texture has been able to have more access, and important land uses of the neighborhood were concentrated in this part. In contrast, Darrous neighborhood has two main cores in both its northern and southern parts and the land uses

are more balanced in terms of reach index.

6.2. Gravity Centrality

Whereas the reach index studies the number of the available nodes in the assumed radius, gravity additionally measures the required factors of the spatial impedance to reach each node. In this index, it is assumed that the accessibility of the assumed nodes is proportional to the gravity (weight) of the nodes in the assumed radius from that node. It is also inversely proportional to the distance between the assumed node to the nodes in the assumed radius. The inverse effect of the assumed distance on the gravity index has an exponential decrease. The exact form of the distance decay can be controlled by the β index. This index varies based on the method of travel.



Fig. 6. Analysis of the Gravity in the Darrous (Right) and Zargandeh Neighborhoods (Left)

In the analysis of the gravity index, the access in the assumed radius was analyzed considering the spatial

impedances to move towards each node. According to the presented maps and characteristics, it can be seen

that which blocks have more attraction for travel than other blocks.

According to Figure 6, if a block has less distance to other blocks based on the considered accesses, it will have more degree of attraction and higher gravity. According to the applied filter in this indicator, the blocks with more access in the reach index have become more limited. However, the total concentration of accesses in Zargandeh and Darrous neighborhoods has not been changed, and fewer blocks have access, considering spatial limits.

6.3. Betweenness Centrality

The betweenness of a node refers to the fraction of the shortest distance between each pair of nodes in the network by the sum of the passing distances from the assumed node in the network. Its index is usually used to estimate the potential of the passerby at the assumed nodes in the network. If more than one shortest path is found between two nodes in a network, then each of the equidistant paths is given equal weight such that the weights sum to unity.



Fig. 7. Analysis of the Betweenness index in the Darrous (Right) and Zargandeh Neighborhoods (Left)

In the analysis of the betweenness index, according to the extracted map and characteristics, it can be seen which blocks have the higher traffic than others. The accessibility between the blocks is possible less in the Zargandeh neighborhood due to the numerous dead-end alleys. Few blocks also have access to different nodes in the output map of the betweenness. However, the travel possibility is very high, particularly in the main paths and vehicle structure in the Darrous neighborhood due to its regular and connected structure. It also has more access to the blocks due to its open-end access. Also, there is more permeability in the Darrous neighborhood than in the Zargandeh

neighborhood.

6.4. Closeness Centrality

The closeness index of a node is the reverse sun of the required distance to reach an assumed node from other nodes located in a system in the assumed reach radius along with shorter distances. Whereas the betweenness centrality presents the passerby volume of a node, the closeness index represents the value of closeness of a node to other nodes in the assumed reach radius of the area. If the reach radius is not assumed, it will be equal to the whole network.

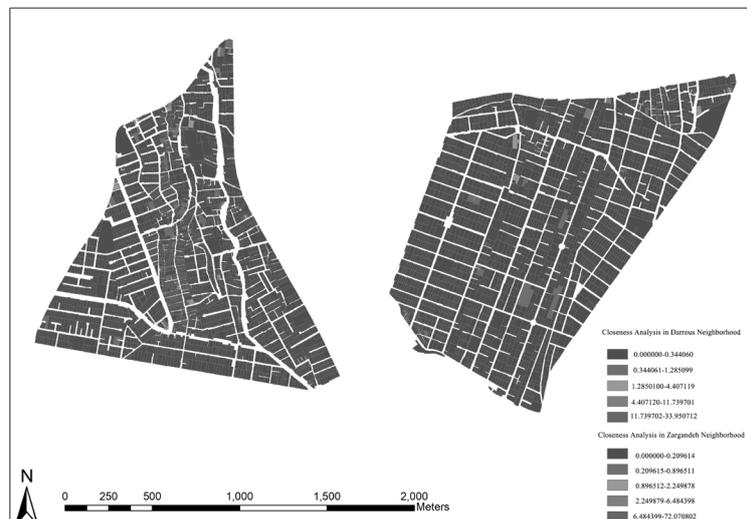


Fig. 8. Analysis of the Closeness Index in the Darrous (Right) and Zargandeh Neighborhoods (Left)

In the output map of the closeness centrality in the neighborhoods, the degree of closeness of the blocks that have more closeness than other blocks and the blocks with less closeness were presented.

The degree of closeness was very few in the Darrous and Zargandeh neighborhoods. That is said, they have less closeness with a total of more distances. Therefore, they have more metric distance to the other blocks on the network lines, and more closeness can be seen in the parcels with more closeness that have reduced their metric distance on the access network than other blocks by the main accesses and more connection nodes.

6.5. Straightness Centrality

The straightness index presents the limit in which the shortest distance between the assumed nodes with all the nodes in a network resembles the Euclidean and a straight line. In other words, this index compares the definitive deviation of the distance caused by the geometrical bumps of the road network with the straight distance between two nodes. It is obvious that the more the distance between two nodes in a network, the less its difference will be with the straight connecting line between two nodes (Sevtsuk, Ekmekci, & Kalvo, 2016).



Fig. 9. Analysis of the Straightness Index in the Darrous (Right) and Zargandeh (Left) Neighborhoods

According to the analysis map of the straightness index, it can be seen what blocks have more straight paths than the total paths leading to that block.

The volume of the blocks in the Darrous neighborhood with more paths was more than in the Zargandeh neighborhood, and the intensity of the concentration

in this index is in the central part of the neighborhood context. In Darrous neighborhood, especially in the southern and northern parts, due to the direct paths and in general, the context of the neighborhood has more intensity in terms of this index.

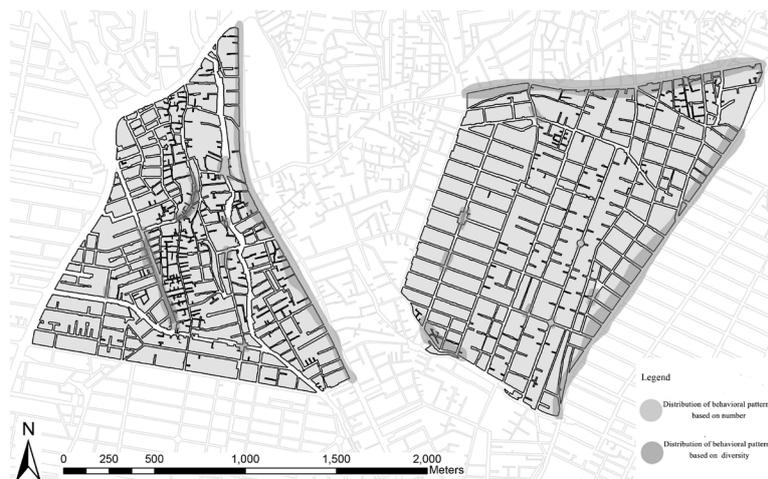


Fig. 10. Behavioral Map in the Darrous (Right) and Zargandeh (Left) Neighborhoods

In Figure (10), the surveyed behavioral patterns (using the field method) were presented in a behavioral map. The analyzed variables were compared and

investigated by comparing the dispersion of the behavioral patterns and their diversity (three main behavioral patterns, including standing, sitting, and

moving) using the UNA. In the provided behavioral map, the main areas of the emergence of the behavior in the Zargandeh neighborhood are broader inside the context. Daneshvar and Daliri streets have more referral land use, due to which various behavioral

patterns have been formed. However, in the Darrous neighborhood, in a limited and cross-sectional manner, there are behavioral patterns in only parts of Hedayat Street, Hedayat Square, and Rastvan Street.

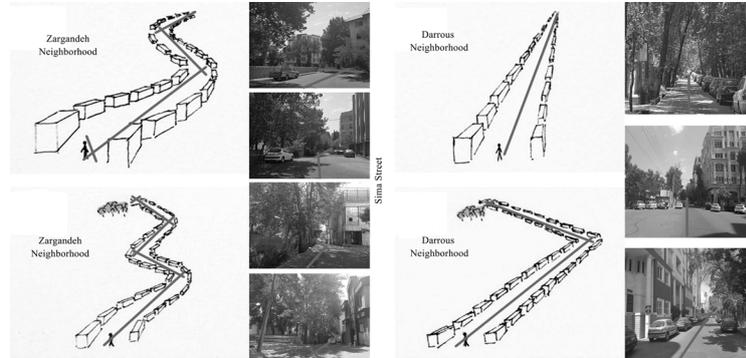


Fig. 11. Spatial Analysis of Hedayat Street (Darrous Neighborhood) and Sima Street (Zargandeh Neighborhood)

Studying the gravity index on some parts of the Darrous neighborhood, such as Hedayat street, revealed that the analysis output of the current situation was consistent with the behavioral map. However, the analysis was not correct in many of the other parts of this neighborhood. However, in the Zargandeh neighborhood, a great part of the gravity analysis was consistent with the behavioral map. In the analysis of

the betweenness variable, some parts of the Darrous neighborhood with more traffic to other blocks were determined, and limited parts of the determined context have the mentioned behavioral patterns, and a great part of it only has limited traffics. In the Zargandeh neighborhood, the analysis was more precise. It can be said that there is a two-way relationship between the analysis of the variable and the current situation.

Table 2. Investigating the Adaptability of the Behavioral Patterns to the Analyzed Variables in the UNA

Neighborhood	Darrous Neighborhood					Zargandeh Neighborhood				
	Straightness	Closeness	Betweenness	Gravity	Reach	Straightness	Closeness	Betweenness	Gravity	Reach
Adaptability to the Formation of the Behavioral Patterns	Low	Very Low	Medium	High	Very High	Low	Medium	High	Very High	Very High

By investigating and comparing this variable with the behavioral map of the current situation, it can be said that there is a minimum relationship between this variable and the situation of the Zargandeh neighborhood. However, given that this interpretation indicates a very low closeness value in the Darrous neighborhood, the formed behavioral patterns are very limited. The analytical output of the straightness indicates that the volume of the blocks with more leading straight paths is more than the total paths leading to that block, and it is consistent with the behavioral patterns. However, in the Darrous neighborhood, a great part of the determined blocks with strong straightness does not have a strong relationship with the formation of the behavioral patterns. By investigating the form and shape of the access paths in the context of the two neighborhoods

(Fig. 3), it can be realized that the sense of pursuit and curiosity in the path is a cause for the formation of the various behavioral patterns and settings.

7. CONCLUSION

If the spatial qualities of the urban streets are considered for the desirability of walking in functional, semantic, and physical aspects, the centrality factor of being activity of the path for the pedestrian can be considered as the most significant functional index. In this regard, type, distance, and access to land use are significant, and this quality can be achieved by the stated parameters. Therefore, the current study aimed to investigate the quality of the functional attraction of the paths in the case study (Darrous and Zargandeh neighborhoods

located in District 3, Tehran municipality) using the Urban Network Analysis Toolbox for ArcGIS. The results and findings of this analysis are as follows: as a result of studying the variables of reach, straightness, and gravity in the Zargandeh neighborhood, there is a great overlapping with the current situation in the behavioral analysis maps, and it was very low in the study of the betweenness and closeness variables and is not justifiable. However, in the investigation of the variables of the urban network analysis method in the Darrous neighborhood, the closeness variable was consistent with the situations of the present behavioral patterns. Other variables, such as straightness, betweenness, gravity, and reach do not have a two-way relationship with the current situations.

It seems that the urban network analysis can provide the opportunity to present the recommendations for the improvement of the behavioral patterns in selecting the best places in terms of access and support the road network for the emergence of these patterns. The two-

way relationship between the current situation and what has been stated in the urban network analysis can be seen in some parts of it. Comparing the various variables in the urban network analysis in the access and movement system led to various results presented in Table 3. Any change in the imagination of the environment in the people's perceptions is reflected by the elements, such as markets, parks, and other urban facilities, or affects it. Perceiving the distances of the places are affected by factors such as the geometry of roads. A curved path or a path with many intersections looks more distant compared to a path with the same distance yet straight. This difference in perception indicates that why people are ready to take the longer paths even at similar distances in the airports or the stops of the regional shopping centers or the places that are visible in far distances. Pleasant elements such as parks seem closer to stationary points than unpleasant elements such as highways.

Table 3. Summary of the Theorists' Point of View with the Results of Research Experiences

Theorists	Theorists' Point of Views	Checking Consistency	
		It is Consistent.	It is Not Consistent.
Edward Hall	The relationship between the human and environment is a function of his multiple senses.		
Amos Rapaport	Culture is a significant factor in the formation of human activities.		
John Lang	Environment and culture are the two main constituent factors of human behavior.		
Roger Barker	The situations in which the person is affects his/her behavior more than his/her personal traits.		

Another result of the current study is the effects of the form and structure of the spatial organization of the two neighborhoods. Considering that these neighborhoods have two different structures (Darrous with regular and grid structure and Zargandeh with organic and natural structure), the dispersion of the activity cores and its broadness in the Darrous neighborhood is more than the Zargandeh neighborhood, and it is possible to use the land use in a broader radius in the Darrous neighborhood more, and the accessibility is more on the macro-scale. It is significant since the improvement of the daily and social activities in the cities can be seen in a place that creates the commuting areas and pedestrian paths in the urban neighborhoods. Growing this issue leads to the emergence of more behavioral patterns in the urban space. The common characteristic in all selective, recreational, and social activities occurs when the external conditions are suitable for stopping and wandering around, the best situation and the worst undesirable situation are presented physically, mentally, and socially, and being in the environment is pleasant in any terms. The Urban Network Analysis tool has presented the desirability well in these two neighborhoods in terms of access, spatial features, and land use.

The results of the current study have emphasized the undeniable effect of the physical environment and physical structure on the spatial behavior of the people and indicated that the degree of effect and formation of the spatial behavior of the people (especially in the movement and access system) depends on the internal and personal traits of each person along with the five senses and mental images from the environmental structure. The physical structure leads to the emergence of quality in the space, which affects the spatial behavior of the people in that space. Indeed, the formation of the people's spatial behavior is different in each environment.

Another result of this research is the possibility of the formation of the row stores with high capability to form the different behavioral patterns in the irregular or organic structures. However, the grid structures in the margins of the context emphasize the formation of the behavioral patterns or provide a place in some settings. The presence of the citizens in the organic context is more due to the provocation of the sense of curiosity, tracing, and discovering the space than the grid context. It provides the possibility of the proper arrangement of the land use, considering the designers' and planners' purposes.

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HOW TO CITE THIS ARTICLE

Paknezhad, N., Tabibian, M., & Latifi, G. (2021). Explaining the Framework of the Effect of Spatial Organization on the Citizens' Behavioral Patterns (Comparative Study of the Zargandeh and Darrous Neighborhoods using Urban Network Analysis Method). *Armanshahr Architecture & Urban Development Journal*. 13(33), 209-220.

DOI: 10.22034/AAUD.2020.193706.1933

URL: http://www.armanshahrjournal.com/article_127769.html

