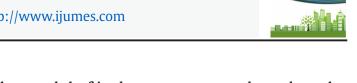
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# **ORIGINAL RESEARCH PAPER**



Explanation of the effective indexes on the model of in-between spaces based on the theory of planned perception-behavior with the quality-of-life approach in residential complexes

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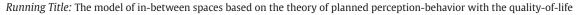
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# ABSTRACT

Establishing a stable relationship between the three elements of man, nature and architecture is a problem that most architects and researchers seek to realize after the emergence of environmental and cultural problems caused by modern architecture. A joint is an element that mentally and objectively provides the possibility of connection or separation between different spaces. This element, while helping to understand each space separately, helps to integrate the buildings by defining the hierarchy. In-between space has played a role as the basis of spatial hierarchy in the structure of residential architecture in Iran. Nowadays, intermediate spaces, in the form of semi-public areas such as lobby, common spaces between units, public spaces such as entrances, green space between units, which is sometimes in the form of a courtyard, routes to the whole and semi-private areas. It is divided between the main spaces. The upcoming research has a qualitative approach and its method is descriptive-analytical with content analysis and a combination of inductive and comparative methods. In order to be able to recognize the main factors based on the compatibilism of the theory and apply relativity. The research methodology generally includes three main steps, such as recognizing the theory of perception-planned behavior in the field of architecture, extraction of influential factors according to the type of theory based on its explanation of the proposed indicators with the Delphi method. The results show the main indexes that are so affected in subjects are quality of social behavior, quality of individual behavior and spatial quality.





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### INTRODUCTION

The expansion of urbanization and the consequent increase in housing demand due to the increase in population in Iran's megacities changed the form of residential houses from its traditional form (central courtvard-one- and twostory buildings) to apartments and residential complexes. In this type of architecture, the land has a high economic value and the maximum use of the land in order to build and increase the occupancy level as much as possible has been noticed by the owners and employers. (Hristina et al., 2016) Establishing a stable relationship between the three elements of man, nature and architecture is a problem that most architects and researchers seek to realize after the emergence of environmental and cultural problems caused by modern architecture. (Youmi, 2013) A joint is an element that mentally and objectively provides the possibility of connection or separation between different spaces. This element, while helping to understand each space separately, helps to integrate the buildings by defining the hierarchy. Detail can play a role in all scales of design, from micro to macro scale, from structure to architecture, from volumetric concepts to details and decorations. From one of the pillars of sustainability is a proper connection with the context from various cultural, social, environmental, and economic aspects, with correct design and correct placement of joints, this connection can be formed in a suitable form and ultimately bring a lasting effect. (Kansara, 2016) In-between space has played a role as the basis of spatial hierarchy in the structure of residential architecture in Iran. Nowadays, intermediate spaces, in the form of semi-public areas such as lobby, common spaces between units, public spaces such as entrances, green space between units, which is sometimes in the form of a central courtyard, routes to the whole and semi-private areas such as balconies, inside the unit. It is divided between the main spaces. (Brown et al., 2018) Meanwhile, lack of attention to the quality, detailed spaces and connection of two elements to each other, weakness in organizing them without considering their role in the past architecture of the buildings, has damaged the hierarchy of reaching the main spaces and entering from one space to another. (Farsi Ali and Sanusi, 2013) (Caudwell and Hagger, 2015) The effects of attitude toward behavior and subjective norm on intention are moderated by the perception of behavioral control. (Diz-Mellado et al., 2020) (Arnautovska et al., 2019) As a general rule, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger the individual's intention to perform the desired behavior should be. Finally, given a sufficient degree of actual control over behavior, individuals are expected to carry out their intentions when the opportunity arises. The intention is therefore assumed to be the immediate antecedent of behavior. To the extent that perceived behavioral control is real, it can serve as a proxy for actual control and help predict intended behavior. (Ajzen, 2019) (Fig. 1).

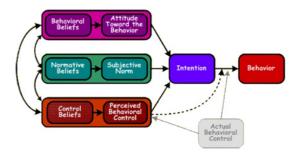


Fig 1: Theory of planned perceived-behavioral (Ajzen, 2019)

In general, the examination of these architectural joints, which in the first type takes place inside the building and in the second type takes place on the building site, is done through physical-spatial examples such as corridors, balconies, etc. Sometimes, in some buildings, the balconies between the floors that connect two blocks are an example of a detailed space, and sometimes, in the traditional way of the contemporary era, connecting the lobby to the outside space can be considered as this issue. Therefore, examining the architectural structure of these spaces on the one hand, and also examining the perceptual behaviors of citizens as residents of the architectural environment, leads the research towards the evaluation of the

structure of the theory in the context of this space. Recognizing the theory of perception-behavior in the context of architecture and explaining its structural model in detailed spaces is the main concern of this research.

### MATERIALS AND METHODS

## Perception-behavior

In the 1950s, ecological psychologists at the Kansas Space Station tried to understand how humans behave in everyday environments, following ecological principles. They recognized the ecological dependence between behavior and environment; And through observations, they realized that situations have a greater impact on behavior than individual characteristics. This change in emphasis from the individual to the environment leads to the concept of the behavioral environment. Behavioral environments are real entities with temporal and spatial boundaries appropriate to their physical components and the people who behave in them (Hagger et al., 2007). People who work in the pharmacy show appropriate behavior in the pharmacy environment. These stable patterns of behavior arise from the social and physical characteristics of the environment. Psychological-ecological ideas contribute to efficient research methods and urban design concepts. To discover individualenvironmental relationships, ecological psychologists observe their behavior in natural conditions through examples and environmental records. Sample records include individuals and their records. These records focus on behavior in the behavioral environment (Hamilton et al., 2017). For urban design, observing natural simplicity in the public environment has led to improvements and highlighted cultural differences (Hamilton et al., 2018) and shows that designers should pay attention to these differences and non-verbal signs. An interconnected set of observations suggests ways to create community. First, functional distances such as common paths, natural gathering places, have a greater impact on indirect interpersonal interaction (Mclachan and Hagger, 2011). Second, different distances between different people support different interactions, intimacy, personality, sociality, and generality. These distances vary by culture, but a comfortable social distance for Americans is four to twelve feet. local spaces and markets, like a specific front yard in a townhouse, signal ownership and control of the individual and others. The combination of these concepts creates environments such as dog walks, community gardens, shared mailboxes, laundromats, and retreats, which support informal interaction by giving users a place to stay comfortably (Phipps et al., 2020). When they make the inhabitants compatible, such environments lead to informal interaction, the formation of friendships and a shared sense of community. Jane Jacobs's (1961) observations of the West Village neighborhood helped her understand what kept the city alive. Adopting his ideas, Newman (1972) examined crime in various housing projects, before and after the reforms. He found that visual surveillance. access control, territorial and local definition, and imagery reduce crime. Although sociocultural factors play an important role (Hamilton et al., 2020), research shows that crime reduction is accompanied by improvements in natural, organizational, access control and environment, image, improved care and elimination of disabilities (Spinks and Hamilton, 2016). White (1980) used the chronology of the public sphere to consider how people use it and the factors that influence it. Functionality and affordability that attract to use is a suitable space, a portable chair connected to the street.

# Theory of planned perception-behavior

Considering the fact that the choice and use of contraceptive methods are a complex behavior and is influenced by various factors, including psychological, personality and social factors, therefore, the above-mentioned factors should be taken into consideration to investigate the behavior. Programmed behavior therapy has been used the most in socio-cognitive approaches and due to having structures that pay attention to the important aspects of behavior change, they can be used in examining the beliefs that exist in the heart of the behavior of choosing contraceptive methods. Be used the theory of planned behavior is one of the most important theories proposed in the dimensions of health behaviors. The originators of this idea were not only interested in predicting behavior, but also wanted to

understand it. For this reason, they began to try to identify the determinants of behavioral intention. The theory of planned behavior emerged in 1988 after many studies to eliminate the limitations and inadequacies of the theory of rational action by adding a component called perceived behavioral control to the theory of rational action. (Hagger et al., 2009) in theories based on Expectations of value are set, events are linked in a chain, and the end point of these psychological events is behavior. Among the valid theories and models, the health belief model, the theory of rational action and the theory of planned behavior are all rooted in the value expectation theory. (Hamilton et al., 2012) The theory of planned behavior originates from social psychology and is used for behaviors that are not under the control and discretion of the individual or that people have little control over them. This theory provides a framework for a systematic and principled examination of behavioral decision-making issues. In fact, the most important determinant of a person's behavior is behavioral intention. The structure of behavioral intention has a central role in both the theory of rational action and the theory of planned behavior. It is assumed that intentions contain motivational factors affecting behavior and indicate how strongly people want to perform the behavior and with what intensity. They strive for it. The intention is introduced in the theory of logical action and the development of planned behavior as a necessary introduction and mediator for behavior. In the framework of these theories, the stronger the intention to adopt a behavior, the more success is expected to perform that behavior. But there is no 100% relationship between intention and behavior. The intention is necessary for behavior, but not sufficient for behavior.

The theory of planned behavior provides a framework for a systematic and principled examination of decision-making issues for a behavior. In his study in 2008, DeFrank proposed the theory of planned behavior as the most reliable theory for predicting the description and understanding of oral and dental health behavior. (Allom et al., 2016) Also Cornea 2 in 2000 proposed the theory of planned behavior as a comprehensive model and Akalani introduced a rationale to explain why people change their health-related behaviors. (Hagger et al., 2017) According to this theory, the most important determinant of a person's behavior is behavioral intention, the intention is the result of the three factors of attitude, mental norms and perceived behavioral control. They originate directly, some through the acquisition of information and others from the direct experience of others. The attitude towards the behavior is a reflection of the result of a person's positive or negative evaluation of adopting that behavior. Mental norms are also influenced by the person's beliefs about the expectations of others and his motivation to fulfill these expectations. So these norms mean understanding social pressures to adopt or not adopt behavior. Normative beliefs, beliefs about whether certain people approve or reject the desired behavior, the individual's motivation to fulfill the expectation of others is the individual's motivation to follow the wishes of others and accept their expectations. Perceived behavioral control means a degree of a person's feeling about how much the performance or nonperformance of a behavior is under his voluntary control. The perception of behavioral control both directly and indirectly through intention may affect the behavior. This structure is influenced by a person's opinion about the level of ease or difficulty of behavior and often originates from real control over behavior. The understanding of behavior control is determined by two actions: 1- Control beliefs that include internal or external factors that can prevent or facilitate behavior. 2-Perceived strength refers to a person's perception of how easy or difficult it is to perform a behavior in any situation in which the person's control beliefs are defined.

### The joint in the field of architecture

The architectural space is born from the relationship between objects or borders and from the pages that do not have the character of the object themselves, but define the limits. These limits may be more or less obvious, form continuous surfaces and create an uninterrupted border or vice versa. There are only a few allusions, for example four columns, that the observer establishes relationships between them and achieves an interpretation of a hidden border. (Kuntz, 2000) Therefore, it can be said that architecture and architecting are among the composite phenomena that are related to the organization of relationships. It is achieved between the components (Hagger et al., 2005) The architect knows that all the points located on a limiting surface do not have the same role. The edges of individual surfaces and the intersection of two or more limiting surfaces of the corner or corner are the main allusions to understand the direction and are considered space, so the eye uses the corners and corners as allusions without needing to focus to understand the space, the material existence of the plates is not necessary to understand the space in such a way that by removing them as far as possible except for the main allusions -Corners and corners - Nothing remains of them, or by summarizing these allusions even to the edge or border, it is still possible to distinguish inside and outside. public, private, element-content, etc., uses the method of contiguity or interference of spaces. He designs transitional and intermediary arenas that belong to both (Hagger et al., 2005). Therefore, when establishing a relationship between two or more things, there is a distance that all two or more things that contribute to the composition have contributed to its formation, have a role in what and how it is, and depending on factors such as quantity and type Sharing the consequences of composition (simple to complex, regular to irregular, functional to non-functional, coherent to plural, fixed to flexible, voluminous to small, geometric to non-geometric) benefit (Kuntz, 2000).

Detailed in the physical field of space according to Lang. This issue does not mean that the arenas are intertwined to the point of creating a disturbance, but it is necessary to pay special attention to the importance of the role and position of transition points in the activity arenas (ibid., 152). Is. There is a hierarchy in the extent and manner of controlling the spatial territory. Different aspects of this hierarchy are achieved with different degrees of personalization, ownership and control (ibid., 186). The type of internal continuity of the arenas is achieved only through the special boundary spaces of those arenas.] (Chermaev and Alexander, 1376: 320-1) The internal continuity of each arena must be completely preserved and the hierarchy between the arenas must be greatly reduced. The effect of relationships between fields will occur; Therefore, the joints between consecutive or adjacent arenas, the degree of their separation, their precise connection with each other, the type of transformation and movement that needs to take place between them, all of them are of vital importance, regardless of the specific size of the arenas or their number. Therefore, the transitional points of the transfer from one arena to another, which at the beginning seemed to be "distances - of secondary importance between the arenas, now, in themselves, come to the fore as main factors and of primary importance, these points of factors They are complete, independent, vital and very important bodies in the planning that are placed in a moving, mechanized and noisy world. Each suitable isolating device has the role of a "joint"... Each joint, the shape It has its own words such as lock and lock, which of them has its own role and position in the hierarchy of joints. According to Lang, the body should be shaped according to the type of activity that takes place in it. It has been realized for a long time that every activity should be carried out in an area with specific physical manifestations and that every area, due to the clarity and consistency of its form, can encourage, represent and maintain the activity for which it was originally planned. In the physical domain, articulation (correlation, which actually expresses difference and difference - something like a hinge or a joint that keeps separate elements continuously separated from each other. Articulation in both categories of technical or engineering joints or points an architectural connection can occur that usually (although not always) these points fall on each other. In architecture, joints always play the role of mediator between the two spectrums that are thought to be opposite or contradictory to each other. The history of architectural elements and systems is the detailed history of connection points. Which also applies to the city plan or its combination. For example, between the vertical and the horizon for example a wall and a roof, transparent and opaque for example, an opening and a wall, the mutual relationship of full and

empty, new and old, moving and immobile, permanent and temporary and... ".

A joint in the physical domain occurs when a thing changes, such as shape and form. Addition and interference are the main modes based on which the basic shapes change. By decomposing a gross shape or form into its constituent pure shapes or forms, the joint points or areas will be more clearly defined. The overall composition of two angular volumes, in terms of the sharing of the surface or angle components and how to combine their contact or encounter with each other according to laws such as proximity, proximity and continuity (Gestalt laws will form different states which are summarized in the 4 main states of proximity, "interference", "adaptation" and contrast).

Methodology

The upcoming research has a qualitative approach and its method is descriptive-analytical with content analysis and a combination of inductive and comparative methods. The current research is planned by using the multiple case study approach to explain and evaluate the role of intermediate spaces on increasing the quality of life based on cognitive-behavioral theory. This research uses both quantitative and qualitative methods of data collection. In carrying out the research steps, the following items are considered in order:

1- Recognizing the theory of planned perception-behavior and explaining the content of architecture in it, focusing on the role of detailed spaces.

2- Explanation of the conceptual model of the structure of joint spaces based on the perceptionplanned space with the approach of the quality of life of residents

3- Derivation of the combined qualitative model

According to the materials presented in chapter one and two, and also the examination of the theoretical foundations and the extraction of the main literary drafts, it can be acknowledged that the subject of detailed spaces in the field of architecture, at a glance, has an intertextual approach in the sociological and psychological definition, which in the field Spatial organization includes spatial categories such as public, semiprivate and private spaces. Now, according to the research approach in recognizing the theory of perception-planned behavior and the fact that this challenge is raised in the context of basic theory, it first needs to recognize the theory in the research method. In order to be able to recognize the main factors based on the compatibilism of the theory and apply relativity. The research methodology generally includes three main steps:

1- Recognizing the theory of perceptionplanned behavior in the field of architecture

2- Extraction of influential factors according to the type of theory based on it

3- Explanation of the proposed indicators with the Delphi method

First, the effective concepts in the theory of planned perception-behavior are extracted, and according to each of the structural components, the factors affecting the quality of life of the residents in the field of architecture and considering the inbetween space are explained. In the following, by using the Delphi method and taking into account the opinions of elites and experts, the effective factors have become the primary suggested indicators that are tested. It is done digitally by researchers using survey software and finally the conceptual model (factors) of the research is extracted.

# DISSCOSION AND FINDING

Recognizing the theory of perception-planned behavior in the field of architecture

The initial understanding of the theory of planned perception-behavior has led to the extraction of the following general approaches:

- The social approach that is proposed in the field of sociology;

- The perceptual approach that is proposed in the field of psychology;

- The spatial approach that is proposed in the field of architecture;

- The anthropological approach that implies in the field of behaviorism.

Accordingly, the theory of planned perceptionbehavior has the following components:

- Behavioral beliefs that are somehow formed in the context of culture and human origin in the social field.

- Behavioral norms that lead to mental norms

and, by nature, the occurrence of a desire in a person, include a category of behavioral norms.

- Control beliefs that, in a general view, originate from the normative culture of society.

Therefore, in this structure, the field of architecture can be examined in parallel in several dimensions, in such a way that architecture is the main actor and reaction catalyst in the relationship between man and the environment. There is a reaction in humans to the act of living in a building like a house. Now, based on this, it is possible to translate the following things as a general look at the type of spaces created in the architectural detail, that voluntary and social behavior in humans can take place in the field of architecture in the detailed spaces in a qualitative state. (Fig. 2 - 4)

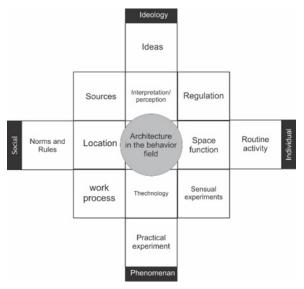


Fig. 2: Architectural identifier components in the field of behaviorism

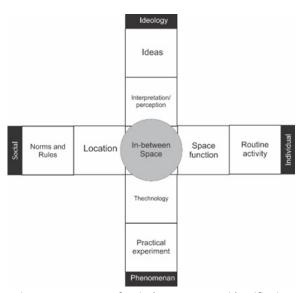
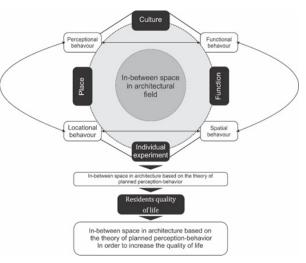
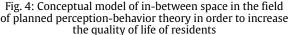


Fig. 3: Components of an in-between space identifier in the field of behaviorism





Therefore, the main components of the research based on the conceptual model of inbetween space in the field of architecture based on the theory of perception-behavior planned in order to increase the quality of life are as follows: (Fig. 5)

In the general extraction of the conceptual model of this model, the following factors can be presented as data examined in the Delphi method. It is necessary to explain that the extractive factors based on the theory are not proposed classically, because based on the proposed theory, the field of architecture and the spaces involved in its spatial organization have a direct relationship with the quality of life, but based on the proposed theory, the cross-sectional relationship of the shape components The other takes on himself. In the continuation of the Delphi method, extractive factors are examined.

#### **RESULT AND CONCLUSION**

#### The Delphi method

The most important task in the Delphi method is the selection of experts and experts in the desired field. In this way, the selected people are given information about the Delphi method and they are invited to participate in this research. Anonymity is one of the important components of this research approach, the questions from the selected specialists and experts are followed by successive questionnaires. In this research, firstly, the initial model is developed based on theoretical foundations and the use of existing models around the concepts of joint space and quality of life. After the initial design, this model was tested and developed through the Delphi method. The use of open-ended questions in the Delphi questionnaire and their analysis in the next stages was a judgment about reaching a consensus among experts and reaching theoretical saturation of the qualitative methods used in the analysis of the data obtained in the present research. The collection of field data in the current research began with the collection of questionnaires in the first stage of the research and the extracted data were analyzed through descriptive statistics and gualitative analysis.

Delphi method findings

In this research, the exemplary dimensions of the effective qualities in the architecture of detailed spaces and the quality of life are used as the default in the first stage, extracted from the theoretical foundations for the subject, and then the dimensions of the landscape and components of the green roof are presented according to the hypothesis of the research. Is. These subcomponents have been expressed based on the estimation of the awareness dimension of specialists and also the perceptual process of citizenship with consideration. These factors are set as a package of suggestions in the panel of experts and elites so that the Delphi method can be planned and applied. A total of 12 factors that were tested with this method to reach the final indicators include: quality of social behavior, quality of individual behavior, psychological security, sense of social institution, sense of belonging to the place, spatial quality, spatial performance, dynamism, accessibility, sense of privacy, spatial coordinates, details, social interactions are factors.

Findings of implementing the Delphi method

In first round, the panel members found 11 factors out of 13 factors that were extracted from successful researches to have moderate, high and very high influence in developing in-between space indicators in the field of the theory of perception-behavior planned in order to increase the quality of life. Residents recognized. The detailed and extended results related to the implementation of the first stage of questionnaire distribution are given in the following table. The accessibility and sense of privacy factors have been removed from the Delphi process due to their average importance of less than 2.5.(Tab 1)

After the implementation of the first stage

Tab 1: the first stage of a fuzzy method in compiling the final indexes of in-between spaces indexes in the field of the theory of planned perception-behavior in order to increase the quality of life of the residents.

No	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Quality of social behavior	15	4.28	0.52	1	5
2	Quality of individual be- havior	15	4.38	0.63	1	5
3	Psychological safety	15	3.11	0.45	1	5
4	A sense of belonging to a place	15	3.21	0.76	1	5
5	Spatial quality	15	4.32	0.51	1	5
6	Spatial performance	15	3.98	0.34	1	5
7	Dynamic	15	2.98	0.38	1	5
8	Spatial coordinates	15	3.10	0.45	1	5
9	The details	15	2.90	0.65	1	5
10	Sense of social institution	15	3.10	0.48	1	5
11	Social interactions	15	3.15	0.58	1	5

of assessment and evaluation of the opinion of the experts of the panel regarding the factors proposed and extracted from the theoretical bases and also receiving the suggestions of the panel members, in this round, in order to observe caution, all the factors extracted from the theoretical bases are again Along with the average opinion of the members in the first round and the previous opinion of the same member, it was provided to all the experts of the panel. The panel members recognized 9 factors out of 13 factors that were presented in the second round as having a high and very high impact (with an average greater than 2.5) on the research framework. The detailed and extended results related to the implementation of the second stage of questionnaire distribution are given in the following table. Kendall's coordination coefficient for the members' answers about the order of the 9 factors that had a high and very high influence in this round was 0.765. (Tab 2)

In the third round of compiling the research

Tab 2: the second stage of a fuzzy method in compiling the final indexes of in-between spaces indexes in the field of the theory of planned perception-behavior in order to increase the quality of life of the residents.

No.	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Quality of social behavior	15	4.38	0.45	2	5
2	Quality of individual be- havior	15	4.45	0.58	2	5
3	Psychological safety	15	3.22	0.40	2	5
4	A sense of belonging to a place	15	3.26	0.60	2	5
5	Spatial quality	15	4.45	0.45	2	5
6	Spatial performance	15	4.12	0.40	2	5
7	Dynamic	15	3.11	0.42	2	5
8	Spatial coordinates	15	3.45	0.52	2	5
9	The details	15	3.05	0.48	2	5

framework, the final indicators, along with the average opinion of the members in the second round and the previous opinion of the same member, were provided to all panel experts. The detailed and extended results related to the implementation of the third stage of questionnaire distribution are given in the table below. Kendall's correlation coefficient for the members' answers about the order of the 9 factors was 0.790. (Tab 3) *Reasons for stopping polling* 

Tab 3: the third stage of a fuzzy method in compiling the final indexes of in-between spaces indexes in the field of the theory of planned perception-behavior in order to increase the quality of life of the residents.

No	Factors	Number of responses	Average	Standard deviation	Min.	Max.
1	Quality of social behavior	15	4.50	0.24	3	5
2	Quality of individual be- havior	15	4.55	0.28	3	5
3	Psychological safety	15	3.48	0.25	3	5
4	A sense of belonging to a place	15	3.35	0.45	3	5
5	Spatial quality	15	4.48	0.38	3	5
6	Spatial performance	15	4.25	0.35	3	5
7	Dynamic	15	3.58	0.25	3	5
8	Spatial coordinates	15	3.65	0.25	3	5
9	The details	15	3.15	0.35	3	5

The results of the three rounds of implementing the Delphi method in the research show that a consensus has been reached among the panel members for the following reasons and the repetition of the rounds can be ended:

1- In the second round, more than 50 percent of the members, 11 influential factors in compiling the final indicators of in-between space indicators in the field of the theory of perception-behavior planned in order to increase the quality of life of the residents, who had an average greater than 2.5 They chose among their agents.

2- The standard deviation of the members' answers about the importance of the factors in the third round has changed significantly compared to the previous rounds.

3- Kendall's coordination coefficient for members' answers about the order of factors in the third round is 0.790. Considering that the number of panel members was more than 10 people, this amount of Kendall's coefficient is considered quite significant.

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4- Kendall's coefficient of coordination for the arrangement of the 9 influential factors in the formulation of the research framework in the third round compared to the second round only increased by 0.025. does not show

5- The points given to the factors by the experts and elites indicate that the characteristic

indicators of green roof form, urban form, readability and visual scale are the highest score and therefore the most effective in realizing the construction and working model. Based on this, the following research framework can be presented as the result of studies, theoretical framework and Delphi method:

#### **REFERENCES** Tab 4: Research framework of the research

Concept added	Components	Index	Туре	Evaluation method	Evaluation scale	
	Dehavior la sy	Quality of social behavior	Qualitative	Questionnaire	Urban region	
A in-between space based on the	Behavior-logy	Quality of individu- al behavior	Qualitative	Questionnaire		
theory of planned	Subjective	Psychological safety	Qualitative	Questionnaire		
· · ·	Functional	The details	Qualitative	Questionnaire	Urban region	
perception-behavior	Spatial	Spatial quality	Qualitative			
with the approach		Spatial performance	Qualitative	Orrections		
of increasing the		Dynamic	Qualitative	Questionnaire	Urban region	
quality of life		Spatial coordinates	Qualitative			
	Perceptional	A sense of belong- ing to a place	Qualitative	Questionnaire	Urban region	

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