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New Ranking of Mixed-Use Urban Centers Focusing on the Concept of Happiness*

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ABSTRACT

The concept of happiness has been differently defined in different eras, due to the complexity and diversity of human worldview. During the period from ancient times to the Enlightenment era, happiness had been defined only in the fields of felicity, pleasure, and ideology, while during the period from the beginning of the industrial age to the mid-twentieth century, it has been defined using numerical-economic metrics. With the beginning of the second half of the 20th century, interdisciplinary studies have become significant in the field of happiness economics, leading to social relations and interactions to be explained as a determinant indicator for the economic components of happiness. Considering the role of mixed-use urban centers in forming new social interactions, the present study aims to define the components of happiness to investigate the significance of each component in mixed-used urban centers including different commercial, cultural, and recreational uses through case studies (including Kourosh, Arg, Galleria, Samarqand, Heravi, and Kian mixed-used urban centers in Tehran city). To this end, first, according to the review of previous studies on the factors enhancing users' social interactions and happiness in mixed-used urban centers, the three components of diversity, density, and discrete space design are defined as the main criteria for Analytical Hierarchy Process. Next, considering the need to rank centers, a three-level multiple indicator model is developed and implemented based on three main criteria (diversity, density, and discrete space design) and nine sub-criteria (cinemas, restaurants and food courts, playgrounds, various shops, elevators and escalators, indoor-outdoor connection, horizontal openness, shared space, and security). The results indicate that space design (in the form of the discrete space design), as the most effective criterion, plays the most important role in ranking mixed-use spaces based on the desirability of happiness. Moreover, according to the results of the analysis, Kourosh mixed-use center obtained the highest rank, implying that it provides a happier atmosphere for the users.

Keywords: Concept of Happiness, Mixed-use Urban Centers, Ranking, Social Interactions.

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1. INTRODUCTION AND PROBLEM STATEMENT

Changes in the foundations of urbanization and the problems of living in industrial cities have caused happiness and social interactions to become one of the necessities of urban life in the post-industrial era, making the design of happy urban spaces an undeniable necessity. In this regard, physical space and settings are required to provide happiness and social interactions. Modern urban spaces, available in the form of mixed-use centers to most people, provide an extensive ground for meeting such innate needs. Since the 1990s, in Tehran, mixed-use urban centers have been constructed, due to the encouragement of investors, to gather various settings to meet a wide range of citizens' needs. It is noteworthy that developing public space within the commercial, recreational, and cultural space has not been intended in the construction of the abovementioned centers in Tehran. in addition to commercial space, the centers have provided an opportunity to meet citizens' cultural and recreational needs by including a playground for children, restaurants, cafes, bookstores, etc. The common feature of these centers is that all of them are considered lifestyle centers according to the classification presented by the International Council of Shopping Centers (ICSC).

Therefore, the present study aims to investigate the factors enhancing happiness in mixed-use (commercial, cultural, and entertainment) centers in Tehran metropolis and rank the mixed-use urban centers in Tehran according to the desirability of happiness. To this end, using the Analytical Hierarchy Analysis (AHP) technique, the desirability of happiness in the mixed-used urban centers exploited in the 2010s in Tehran (including Kourosh, Samarqand, Arg, Galleria, Heravi, Kian mixed-use urban centers) is assessed and then, the mentioned centers are ranked. Figure 1 shows the research process, including three steps.

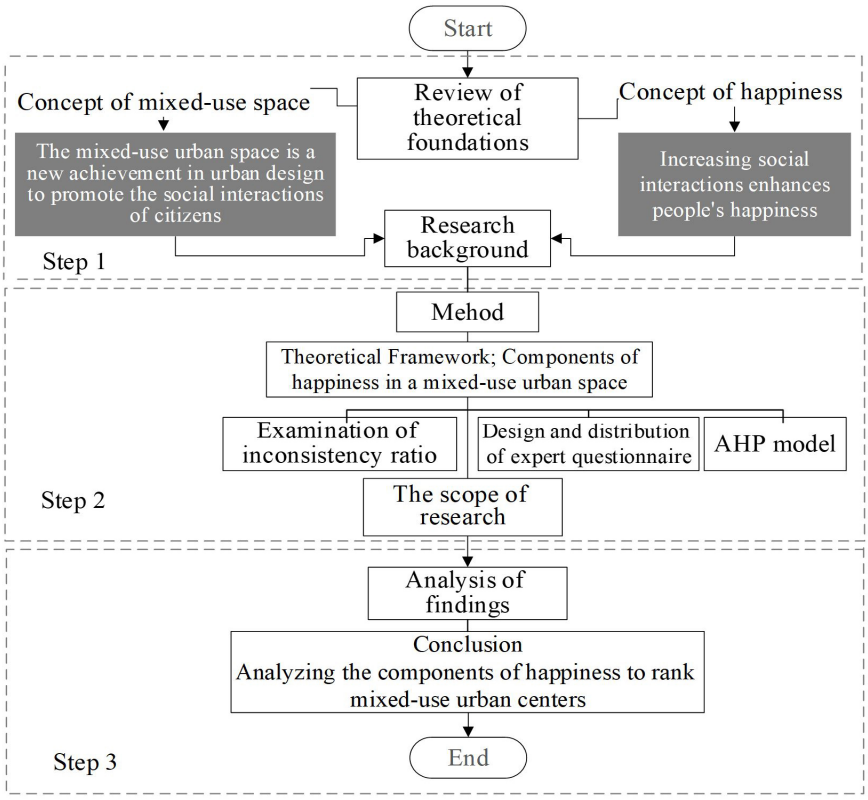

Fig. 1. Research Process

2. THEORETICAL FOUNDATIONS AND FRAMEWORK

In the present study, the "theoretical foundations and literature review" section includes 4 sub-sections. The first sub-section addresses the concept of happiness in three fields of philosophy, science, economics, and social relations. In the second sub-section, mixed-use urban centers are introduced as a new space, with features enhancing citizens' social relations and happiness, in today's cities, and its existence in different periods is investigated. Next, according to national and international research on happiness in mixed-use urban centers, the components of

happiness are identified and extracted, as summarized and presented in the form of the theoretical framework in Figure 2.

2.1. The Concept of Happiness

Happiness has a long history in human life, which is why there is extensive literature on it. In the present study, studies on happiness are divided into four areas: the philosophy of happiness, the science of happiness, the economics of happiness, and social relations. In contemporary definitions, the abstract concepts of happiness in ancient times, the rationalistic views of it in the Enlightenment era, and the economic and numerical measures used to define it in the first half of the 20th century are left aside, and it is emphasized on above all the relationship between happiness and social relations.

2.1.1. The Philosophy of Happiness

The philosophical view of happiness began with Socrates' question about how to live (Sellars 2018, 12). The art of living is the first relationship between theoretical happiness and practical happiness and discusses issues such as the way people live and the direct effects of people's lives on each other. Dohmen (2003) states the philosophy of happiness according to Plato, Aristotle, Epicurus, Seneca, etc. is all based on Socrates' ideas on the art of living. Relating happiness to perfection led to the creation of an ideological happiness trend. The characteristic of ideological happiness is being mass, uniform, state, and perfectionism (Kazemi 2016, 93).

2.1.2. The Science of Happiness

With the beginning of the Enlightenment era, the world, along with the progress of natural sciences, has tended toward the view that man and his social progress depend on materials and numerical metrics. Utilitarian philosophers configured many algorithms to measure individual and collective happiness and founded the basis of the philosophy of collective happiness - the science of happiness (Zevnik 2013, 12). Jeremy Bentham (1996, 31) proposed the principle of utility and stated since happiness is really a collection of pleasures with no pain and suffering, the best method and policy for governments is to maximize happiness and minimize suffering. In his book "An Inquiry into the Nature and Causes of Wealth of Nations", Bentham warns that it is a delusion to believe that wealth and welfare alone bring happiness (Montgomery 2013, 33). Daniel Kahn et al. (1999, 25) stated, the best way to judge happiness is to completely calculate the good and bad moments of a person's life. After Kahnman, Martin Seligman conducted scientific studies on the measurement of individual happiness. His studies were compiled under the title of positive psychology, as a scientific version of the philosophy of the art of living, in 2003 (Ryan and Deci 2000, 142). Positive psychologists believe that their superiority lies in enabling people to grow and make conscious choices that lead to a happier living. Ed Diener (2011, 245) claimed that compared to the philosophical nature of happiness, one can provide systematic, empirical, and scientific accounts of happiness. As a pioneer of empirical happiness, Veenhoven (1997, 1) recognized the valuable heritage of empirical happiness research as the assignment of the greatest happiness to the greatest number of people as an objective expression to measure it. According to the observations of Ryan and Deci (2001, 144), the main scientific method for the happiness perspective is the assessment of subjective well-being. In studies on subjective well-being, happiness is generally thought of as life satisfaction, which is measured using people's self-reports (Veenhoven and Hagerty 2006, 1). In the early 1990s, Richard Davisson has attempted to separate the sources of positive and negative emotions in the human brain. He has found that seeing happy pictures more activited the left side of the volunteers' brains, while seeing unhappy pictures activated the right side (Urry Nitschke et al. 2004). In addition, biological psychologists such as John T. Cacioppo have used electrodes to measure small movements in facial muscles due to different emotions. He has shown that participants' satisfaction, dissatisfaction, and indifference show different reactions at different levels of people's happiness (Cacioppo et al. 2008).

2.1.3. Economics of Happiness

Economics of happiness as a new field of interdisciplinary studies has revolutionized economic theories in recent decades. Previously, the common belief was that increasing per capita income and welfare, health, and educational achievements causes people to experience a higher level of happiness. The economics of happiness showed that targeting the above components alone cannot lead to more satisfaction and happiness of people. This later became known as The Easterlin Paradox (Sen 2008). Easterlin (2016) showed that happiness did not increase in the United States despite the doubling of per capita income. Amartya Sen (2008), a famous development theorist, emphasized the necessity of enhancing the level of happiness in societies, and defined it as the achievement of using development patterns. Helliwell and Barrington-Leigh (2012) found that life satisfaction was more important than material well-being when communicating with other people. According to the hedonic treadmill theory, which was first described by Brickman and Campbell in 1971, as income increases, people's ideals change when comparing their living conditions with others, and this causes them to be unhappy (Frederick and Loewenstein 1999, 34).

Also, the adaption theory claims that changes in living conditions affect people's happiness, but over time, their effects are lost and happiness returns to its

previous level. Social comparison theory, which was first raised by Leon Festinger, proposes that what is important for a person's satisfaction is his relative position in relation to a selected group of people who respect him (Blanchflower and Oswald 2008). These groups are called reference groups.

2.1.4. Happiness and Social Relations

Studies on the economics of happiness have indicated that the relationship between improved economic criteria and increased happiness of people is not clear, as it was thought. Wilson studied happiness in 1967 and identified the social dimension as one of the most important dimensions of happiness. The social dimension of happiness depends on the individual's tendencies toward society, such as his interest in communicating with other people and having a positive influence on them (Diener and Suh 1997). Abbott and Sapsford, in their research entitled "Life Satisfaction in Post-Soviet Russia and Ukraine", have shown that there is a direct relationship between human capital, material conditions, social context (support, trust, and social obligations), and family conditions with the level of happiness and life satisfaction of the studied subjects (Abbot and Sapsford 2006). Christian Bjornskov (2008) has examined the relationship between social capital and happiness in the USA for the period 1983-1998 through a secondary analysis of panel data from 9 statistical centers and indicated that social trust positively affects happiness. In his research, Chang (2009) has concluded that all components of social capital (contributions to non-profit organizations, volunteering, social and community involvement, and trust) influence subjective happiness. In their research, Leung et al. (2013) have found an element such as belongingness has a significant relationship with happiness. Growiec and Growiec (2010) have investigated the simultaneous effect of social capital on happiness in Central and Eastern European countries and concluded that social capital has a positive effect on individual happiness.

The results of the studies indicate that in the present era, social relations are more effective in people's happiness than factors such as economic factors, gross national growth, cognitive factors, and even hereditary factors. Researchers have found an undeniable relationship between happiness and social relationships.

2.2. Mixed-use Urban Space

The idea of mixed-use urban centers, in modern urbanism, has been formed to increase social interactions in urban spaces. Although this idea has existed for a long time in various forms in different cities of the world, it has always had its supporters and opponents. Mixed-use urban centers are a vague and controversial idea with many definitions. However, all definitions show a consensus on human activities in the surrounding environment and the development of his interaction with the environment.

Mixed-use urban centers refer to the space where the residents' activities are carried out in a certain area of the land by using natural resources and human potential. In another definition, mixed-use urban centers are defined as the space humans need to live and meet various needs (Gong 2009).

Some opponents describe the idea of mixed-use urban centers as a heterogeneous model with an unbalanced combination of residential, commercial, industrial, administrative, agricultural, and recreational uses. According to them, such spaces are considered undesirable spaces for citizens due to high traffic, lack of parking space, presence of heavy vehicles, and environmental pollution (Croucher, Wallace and Duffy 2012).

From 3500 to 1000 BC, in civilizations such as Mesopotamia, Egypt, and Greece, the idea of division in cities was common so that services were centralized around religious elements, and other areas were dedicated to housing. From 700 BC to 1900 AD, the cities witnessed the beginning of the growth of mixed-use. For example, one can refer to the placement of commercial space on the lower floors of residential buildings. This is also seen in Islamic cities, where most houses were located around retail stores, bazaars, religious spaces, and other services. From 1750 to 1850, with the advent of the industrial revolution, the problems of mixed-use centers arose in cities. In the 1960s and 1970s, the idea of the mixed-use urban center was again considered and proposed as a solution to activate large urban areas. From the late 1970s to the end of the 80s, mixed-use development was also accepted as a solution for empowering worn-out areas in cities. From 1990 to 2000, mixed-use urban centers were considered the main element of sustainable residential neighborhood design, as well as smart growth principles, and were developed in a vertical, horizontal, or combination of both forms (Nabil and Abd Eldayem 2015).

In the second half of the 20th century, mixed-use urban centers were established to empower worn-out areas and increase human interactions in the city. Mixed-use urban centers promote social relations in cities by attracting people, and increasing land value, tax revenues, and pedestrian and bicycle traffic. According to the sub-section 2.1.4 on the definition of happiness in the present era based on social interaction, Figure 2 shows the relationship between mixed-use urban centers, as a platform for increasing interaction, and the concept of happiness in the form of a theoretical framework.

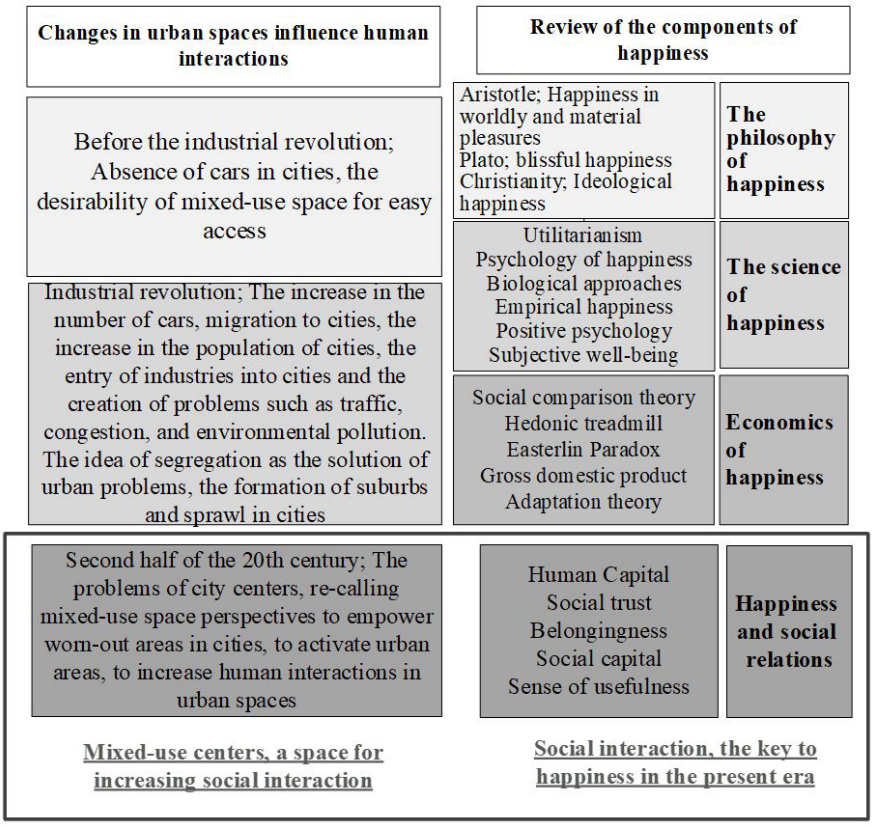

Fig. 2. The Theoretical Framework of the Concepts of Happiness and Mixed-use Urban Centers

3. RESEARCH BACKGROUND

By reviewing previous studies in Tables 1 and 2, this section attempts to create a link between the mentioned concepts in the field of happiness, focusing on social relations and mixed-use urban centers.

Karras has introduced very interesting criteria for vitality in cities: dynamic economy, mixed use, traffic, compactness of vibrant streets, dynamic neighborhoods, ambitious people, old buildings with more than 100 years old and cultural value, universal appeal, and proper access. Many other researchers have also studied the factors affecting happiness and vitality in shopping spaces, malls, and mixed-use spaces. In their research, Khastou and Saeidi Rezvani (2010) have divided the factors affecting happiness and vitality into four categories, and in the category of design factors, they have mentioned variables such as legibility, sense of place, architectural distinction, connection of different parts, friendly environment, and security. In their research, Sarvar, Salahi Sarighkhanbiglou, and Mobaraky (2016) have discussed the role of commercial complexes in creating urban space and introduced factors such as the presence of public areas and physical and natural elements in the space, the ability to change space for various uses, the connection and integrity of spaces, the presence of mixed uses, the responsiveness of space to different social groups, visual and functional permeability, safety, social security, temporality, and population density to be effective in the dynamism and happiness of the urban space. In their research, Izadpanah and Habibi (2019) have investigated the position of malls as public space and identified criteria such as accessibility, sociability, attraction and repulsion, inclusiveness and deprivation, security and control as factors due to which malls are assessed to be desirable and suitable public space by buyers. Rahimi and Jafari (2018), in their study entitled " The Measurement of Livability of Historical and Modern Commercial Spaces in the city of Tabriz", have recognized mixed-use and flexibility as important factors enhancing the vitality of these centers. Bahrami and Khosravi have introduced comfort and convenience, sense of security, navigation and legibility, accessibility and permeability, attractiveness and social interactions as spatial-behavioral factors affecting the quality of coexistence of shopping centers. Golkar (2006) considers vitality to be equivalent to the quality of urban design. He introduces legibility, sense of time, sensory richness, belongingness, permeability and movement, mixed use and form, quality of public space, climatic comfort, safety and security, flexibility, compatible with the environment, energy efficiency, and cleanliness as factors affecting vitality.

Siadati and Alalhesabi (2014) have identified density, environmental comfort, enhanced identity, legibility, walkways, permeability, visual diversity and beauty, transparency, enclosure, emphasis and pause, the quality of the environment, diversity of uses, green space and vegetation, and expansion of public space as factors influencing happiness in the city. Nahavandi et al. (2017) have assessed the vitality of supporting spaces in mixed-use urban centers with factors such as security, night-time economy, dynamic economy, vegetation, variety of uses, increasing the quality of the environment, enclosure, permeability and access, legibility, environmental comfort, and density.

Table 1. Introducing the Components of Happiness in the Mixed-use Urban Space According to Previous Studies

Researcher	Year	Component of Happiness in Urban Spaces
Montgomery	2013	- Diversity and density against sprawl and segregation
Karras	2015	- Dynamic economy, mixed use, compactness, cultural buildings, and universal appeal
Bershaw-Chapman	1384	- Diversity, appropriate public space, shopping and recreation, mobility, and leisure
Ian Bentley	1390	Permeability, diversity, legibility, flexibility, visual compatibility, and customization
Golkar	1386	- Legibility, sense of time, permeability, movement, mixed-use and form, public realm, safety, and security
Khastou et al.	1389	- Legibility, architectural distinction, connection of different parts, friendly environment, and security
Bahrami & Khosravi	1393	- Comfort and ease, security, legibility and navigation, accessibility and permeability, attraction, and interaction
Alalhesabi	1393	- Density, comfort, identity, legibility, permeability, variety and beauty, quality, enclosure, emphasis and reflection
Sarvar et al.	1394	- Public and natural arena, changeability, correlation of space, mixed use, density and security
Nahavandi et al.	1396	- Security, night-time economy, vegetation, variety of uses, the quality of the environment, enclosure, permeability and access

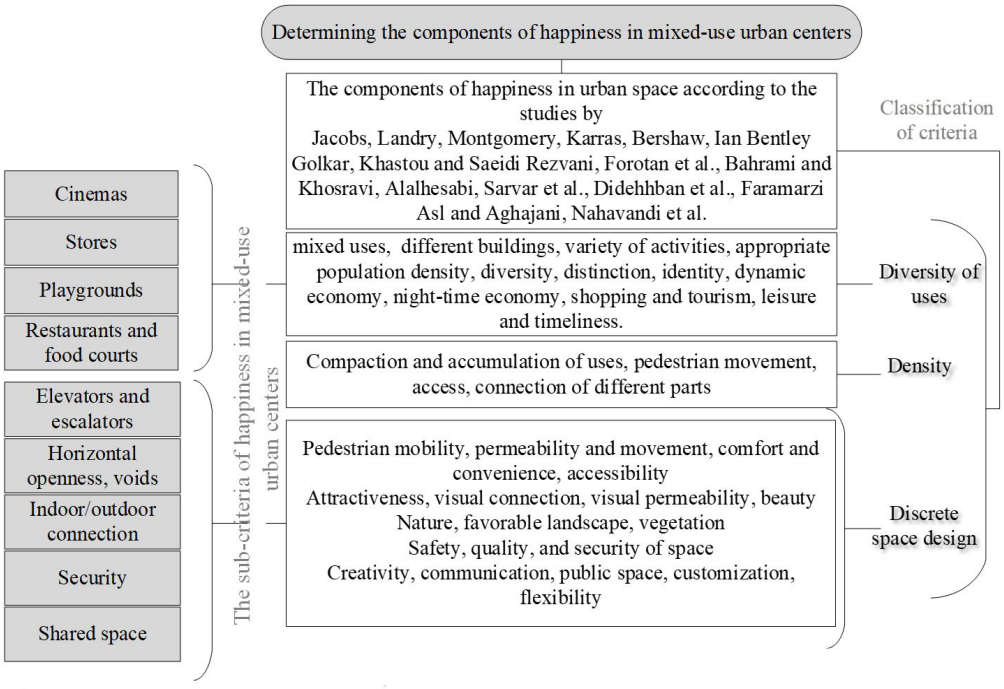

Fig. 3. Research Method According to the Theoretical Framework

4. METHOD

According to the study of the existing concepts in the field of happiness in mixed-use urban centers, the present study was carried out using a three-level multi-indicator AHP model, as shown in Figure 3.
As seen in Figure 3, the first level includes the main assessment components, including diversity, density, and discrete space design, as the criteria for the AHP model. The second level includes other components related to happiness in mixed-use urban centers, including restaurants and food courts, stores, playgrounds, cinemas, security, shared space, elevators and escalators, horizontal openness, and indoor-outdoor connection as the sub-criteria for the AHP model. The third level includes the selected mixed-use urban centers in Tehran (including Kourosh, Arg, Galleria, Samarqand, Heravi, and Kian mixed-used urban centers). In the three-level multi-indicator model, using the expert questionnaire, each level of the model is weighted relative to the higher level, and finally, the studied mixed-use urban centers are ranked according to the model goal.

4.1. AHP Model

In the present study, a three-level multi-indicator model was used to rank the mixed-use urban centers studied. Figure 4 shows the three-level model used in the present study. In the first stage, the criteria are compared to the goal. In the second stage, the sub-criteria are weighted according to the criteria. Next, the options (case studies, here) are weighted according to the sub-criteria. The final weights according to which the options are prioritized indicate the ranking of the options considering the research purpose.

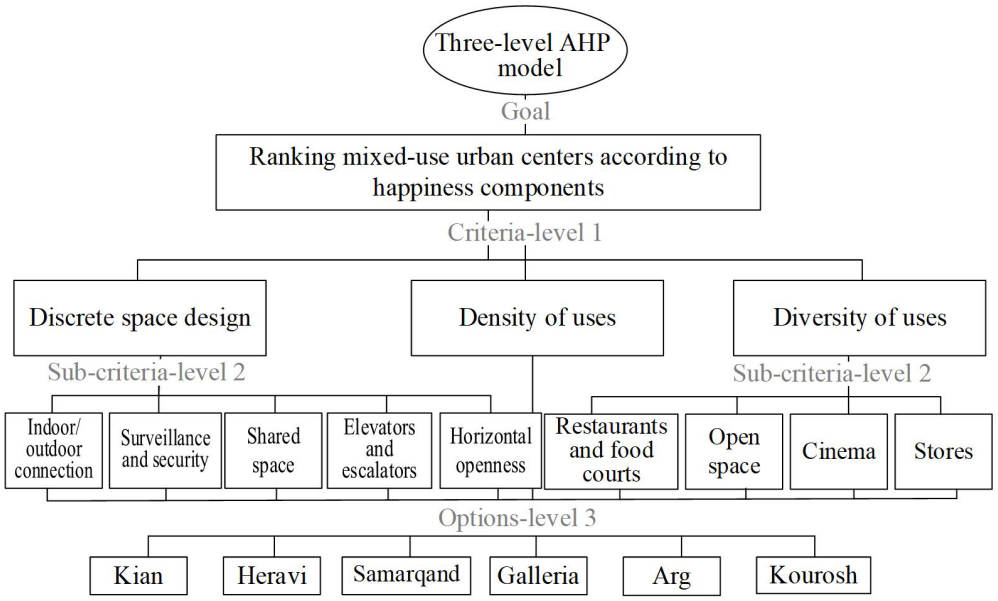

Fig. 4. The Levels of the AHP Model Used for the Analysis of Mixed-use Urban Centers According to the Concept of Happiness

4.2. Design and Distribution of Expert Questionnaire

In general, there is no formula or method to accurately determine the sample size in the AHP technique. Due to the difficult access to experts and the limitation in the number of experts in specialized fields, 5 to 35 experts are asked to fill out the questionnaires (Baby 2013; Melillo 2016). The questionnaire was designed in three parts A, B, and C, as described in Table 2. The importance of each component was determined within the range [1,9]. Next, they were weighted using the AHP model.

Table 2. The Three Parts of the Questionnaire

Part	Description
Part A	Pairwise comparison matrix of level 1 (criteria) relative to the target
Part B	Pairwise comparison matrix of level 2 (sub-criteria) relative to level 1(criteria)
Part C	Pairwise comparison matrix of level 3 (options) relative to level 2 (sub-criteria)

4.3. Inconsistency Ratio (I.R.)

In the AHP technique, inconsistency in each set of judgments is investigated by a coefficient called the inconsistency ratio. If the inconsistency ratio is smaller than 0.1, the consistency in the set of judgments is accepted (Qodsipour 2016, 10).

5. THE SCOPE OF RESEARCH

The direction of investment in Tehran has been changed since the 1990s. New mixed-use urban centers were established to attract more population in many parts of Tehran. The conducted studies indicate that more than half of the users go to these mixed-use spaces in Tehran with purposes other than shopping (Shirmohamadian and Azizi 2020). There is no detailed study on the classification and number of mixed-use urban centers in Tehran. In the European classification of shopping centers provided by ICSC, physical size and rental area were considered. In the American classification, similar to the European one, at first, only physical criteria were considered (DeLisle 2005). Guy states that none of the classifications have had universality so far. From their point of view, geographers and economists began to classify commercial complexes (Guy 1998) and many characteristics such as the type of goods offered, the purpose of the trip, etc. were ignored in the classification of shopping centers (Eppli and Benjamin 1994).

In the present study, after reviewing all classifications of mixed-use urban centers, the class of lifestyle centers in the United States was considered. This class includes the centers with cinemas and various stores, including restaurants, playgrounds, and various shops. Accordingly, Galleria, Arg, Kourosh, Samarqand, Kian, and Heravi mixed-use urban centers in Tehran were placed in this class. Chaharso mixed-use center (due to the specialization of commercial stores), Jam Center (due to being dedicated to children), and Iran Mall, Megamall, and Platinum centers (due to lack of full opening) were not included in this class.

5.1. Criteria and Sub-Criteria of the AHP Model

As seen in Table 3, the criteria and sub-criteria of happiness in urban mixed-use spaces have been extracted from previous relevant studies and placed in three categories: diversity, density, and discrete space design. The "diversity" criterion refers to the diversity of uses in mixed-use urban centers. Studies indicate that the diversity of uses brings the social diversity of the users and enhances interaction and happiness in mixed-use urban centers. The "diversity" criterion includes sub-criteria of playgrounds, restaurants and food courts, shops, and cinemas in mixed-use urban centers, as explained in Table 5. The "discrete space design" criterion refers to the provision of space for taking a break from everyday life by making it possible to perform simultaneous and selective activities for the user. As listed in Table 5, this criterion includes sub-criteria of security, shared space, elevator and escalator, horizontal openness, and indoor/outdoor connection. As described in Table 3, the "density" criterion refers to the compaction and accumulation of different uses. Increasing density in mixed-use urban centers increases population density, social interaction, and happiness in mixed-use urban centers.

Table 3. The "Density" Criterion and Its Sub-Criteria

Criteria	Description
Density	Compactness and accumulation of uses: As the distances decrease and the density of users increases, the possibility of movement and interaction in the space increases, leading to an increase in the interaction and happiness of people.
Images	 Heravi Mixed-use Urban Center  Galleria Mixed-use Urban Center  Kourosh Mixed-use Urban Center  Samarqand Mixed-use Urban Center

Table 4. The "Discrete Space Design" Criterion and Its Sub-Criteria

Criteria	Sub-criteria	Description
Discrete space	- Horizontal Openness - Elevator and Escalator - Indoor/Outdoor Connection - Shared Space - Security	- Horizontal openness: (Voids) it causes visual continuity and increase the interaction and happiness of people. - Elevator and escalator: Facilitating vertical connection in space increases mobility in space for different age groups with different physical abilities, leading to the increased happiness and interaction in space. - Indoor/outdoor connection: It increases the communication of people inside the centers with the urban landscape, green space, etc., leading to their increased happiness. - Shared space: The existence of a shared space leads to selective activities, increasing the interaction and happiness of people. - Security: Increasing the sense of security in the space causes people to further trust each other, leading to an increase in their happiness and interaction.
Images	 Heravi Mixed-use Urban Center	 Galleria Mixed-use Urban Center
	 Arg Mixed-use Urban Center	 Arg Mixed-use Urban Center

Table 5. The "Diversity" Criterion and Its Sub-Criteria

Criteria	Sub-criteria	Description
Diversity	- Cinema - Restaurants and Food Courts - Playgrounds - Stores	- Cinema: The presence of cinema complexes, along with other activities, attracts different groups and increases the possibility of interaction and happiness. - Stores: The variety of stores in mixed-use centers increases the interaction and happiness of people. - Restaurant: Providing food in the food courts and restaurants satisfies more tastes and increases the possibility of interaction and happiness. - Playgrounds: Considering playgrounds for children and adults provides the possibility of simultaneous activities for different age groups, especially women and children who are the main target users of mixed-use centers, leading to the increased interaction and happiness of people.
Images	 Kourosh Mixed-use Urban Center	 Arg Mixed-use Urban Center
	 Heravi Mixed-use Urban Center	 Kian Mixed-use Urban Center

6. FINDINGS

According to the studies on happiness in urban mixed-use spaces, the components of happiness were determined according to the theoretical framework presented in Figure 3. In this section, using the AHP technique, the introduced mixed-use urban centers were ranked based on the components of happiness. According to the experts' opinions, the findings were listed in the pairwise comparison matrices, and the ranking weights were obtained, as listed in Tables 6, 7, and 8. In the first step (Table 6), the criteria were weighted relative to the goal. In this step, the "discrete space design" criterion obtained the highest rank according to the pairwise matrix from the expert questionnaire.

Table 6. Rankings of the Criteria Relative to the Goal

No.	Criteria	Priority
1	Discrete Space Design	43.9 %
2	Diversity	40.5 %
3	Density	15.5 %

Tables 7 and 8 show the weights obtained for the sub-criteria defining the discrete space design and diversity. According to the obtained results, restaurants and food courts have the highest rank among diversity sub-criteria, followed by cinemas, playgrounds, and other stores. The indoor0outdoor connection obtained the first rank among the discrete space design sub-criteria, followed by horizontal openness, shared space, elevators and escalators, and security.

Table 7. Rankings of Diversity Sub-Criteria

No.	Sub-criteria	Priority
1	Food Court and Restaurant	49.8 %
2	Cinema	23 %
3	Playground	13.8 %
4	Other Stores	13.4 %

Table 8. Rankings of Discrete Space Design Sub-Criteria

No.	Sub-criteria	Priority
1	Indoor/Outdoor Connection	30.2 %
2	Horizontal Openness	24.7 %
3	Shared Space	17.1 %
4	Elevator and Escalator	15.3 %
5	Security	12.7 %

Table 9 shows the rankings of options (studied mixed-used centers). As seen in this table, the Kourosh mixed-use center has the highest rank in terms of the desirability of happiness components in the mixed-use urban space, followed by Arg, Galleria, Samarqand, Heravi, and Kian mixed-use urban centers.

Table 9. Rankings of options

No.	Options	Weight
1	Kourosh	0.332
2	Arg	0.245
3	Galleria	0.123
4	Samarqand	0.119
5	Heravi	0.108
6	Kian	0.073

Moreover, the inconsistency ratio was calculated for the goal, criteria, and sub-criteria. Considering that the values obtained for the inconsistency ratio are smaller than 0.1, it is acceptable.

7. DISCUSSION AND CONCLUSION

Considering the complexity and dynamics of the "happiness" concept based on human insight throughout history, in the present study, happiness was defined with a focus on social relations. Considering the definitions presented for the "happiness" concept in ancient times, the Enlightenment, and the industrial revolution eras, one can find that with the beginning of the second half of the 20th century, the strong link between happiness and economic factors broke and happiness has been considered to be related to social relations. Accordingly, urban spaces were proposed as an important platform for creating social relations and increasing happiness, leading to the attraction of many architects and urban planners to the spatial visualization of happiness in the city. So, mixed-use urban centers with a new approach were considered to be a suitable platform for improving efficient social interactions to provide an opportunity to strengthen social relations and increase happiness in the city in contrast to the sprawl and segregation of industrial cities. In the present study, according to the previous studies, the theoretical framework provided the main components of happiness, including density, diversity, and discrete space design, and the sub-criteria of indoor/outdoor connection, horizontal openness, elevator and escalator, shared space, surveillance and security, restaurants and food courts, cinemas, playgrounds, and other shops to rank the desirability of happiness and social interaction. Using a three-level AHP model, the Kourosh, Arg, Galleria, Samarqand, Heravi, and Kian mixed-use urban centers were ranked in terms of the components of happiness. The results showed that the Kourosh mixed-use center obtained the highest rank in terms of the desirability of happiness components, followed by Arg, Galleria, Samarqand, Heravi, and Kian mixed-use urban centers. Also, the ranking of the same-level components in the AHP model showed that, among the criteria, the discrete space design obtained the highest rank, followed by diversity and density, respectively. The existence of food courts and restaurants (among the sub-criteria of the diversity criterion) and the indoor/outdoor connection (among the sub-criteria of the discrete space design criterion) obtained the highest ranks. According to the obtained results, one can acknowledge that paying attention to the space by relying on the happiness components introduced can determine new indicators for the design of new mixed-use urban centers with a focus on increasing the users' happiness.

REFERENCES

- Abbott, Pamela, and Roger Sapsford. 2006. "Ethics, politics and research." *Data collection and analysis* 2 (2006): 291-312.
- Baby, S. 2013. "AHP modeling for multicriteria decision-making and to optimise strategies for protecting coastal landscape resources." *International Journal of Innovation, Management and Technology* 4, no. 2 (2013): 218. http://ijimt.org/papers/395-M696.pdf
- Bentham, Jeremy. 1996. *The collected works of Jeremy Bentham: An introduction to the principles of morals and legislation*. Clarendon Press.
- Bjornskov, Christian. 2008. Social capital and happiness in the United States. *Applied Research in Quality of Life*: 3, 43-62. https://link.springer.com/article/10.10072%Fs114826-9046-008-
- Blanchflower, David G., and Andrew Oswald. 2008. Is well-being U-shaped over the life cycle? *Social science & medicine* 66(8): 1733-1749. https://doi.org/10.1016/j.socscimed.2008.01.030
- Cacioppo, J., L. Hawkley, A. Kalil, eds. 2008. *The science of well-being*. United Kingdom: Oxford University Press.
- Chang, Wen-Chun. 2009. Social capital and subjective happiness in Taiwan. *International Journal of Social Economics* 36(8): 844-868. https://doi.org/10.11080306829091096711 8/
- Croucher, K., A. Wallace, and S. Duffy. 2012. "*The influence of land use mix, density and urban design on health: a critical literature review*." York: University of York. https://www.gcph.co.uk/publications/361_the_influence_of_land_use_mix_density_and_urban_design_on_health
- DeLisle, James R. "US shopping center classifications: challenges and opportunities." *Research Review* 12, no. 2 (2005): 96-101. https://www.jrdelisle.com/research/US%20Classifications.pdf
- Diener, Ed, and Robert Biswas-Diener. 2011. *Happiness: Unlocking the mysteries of psychological wealth*. John Wiley & Sons.
- Diener, Ed, and Eunkook Suh. 1997. "Measuring quality of life: Economic, social, and subjective indicators." *Social indicators research* 40, no. 1: 189-216. https://doi.org/10.1023/A:1006859511756
- Dohmen, Joep. 2003. "Philosophers on the" Art-of-Living". *Journal of Happiness Studies* 4, no. 4: 351-371. https://link.springer.com/article/10.1023/B:JOHS.0000005772.71260.0
- Easterlin, Richard A. 2016. "Paradox lost?." *USC-INET Research Paper* 16-02. http://dx.doi.org/10.2139/ssrn.2714062
- Eppli, Mark, and John Benjamin. 1994. "The evolution of shopping center research: a review and analysis." *Journal of Real Estate Research* 9, no. 1: 5-32. https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1047&context=fin_fac
- Frederick, Shane, and George Loewenstein. 1999. "16 Hedonic adaptation." In *Well-Being. The foundations of Hedonic Psychology*, edited by D. Kahneman, E. Diener, 302-329. N. Schwarz. NY: Russell Sage.
- Golkar, K. 2006. Vitality and liveliness in the city with the help of urban design. *Shahrnegar* (39): 24-38.
- Gong, Xiaoning. 2009. "Land use classification proposed for SEEA." Paper presented at the *15th Meeting of the London Group on Environmental Accounting*, November 30- December 4, 2009. FAO Statistics Division. https://seea.un.org/sites/seea.un.org/files/6_57.pdf
- Growiec, Jakub, and Katarzyna Growiec. 2010. "Social capital, well-being, and earnings: Theory and evidence from Poland." *European Societies* 12, no. 2: 231-255. https://doi.org/10.1080/14616690902718381/
- Guy, Clifford M. 1998. "'High street'retailing in off-centre retail parks: a review of the effectiveness of land use planning policies." *The Town Planning Review* 69(3): 291-313. https://www.jstor.org/stable/40113800
- Helliwell, John F., and Christopher P. Barrington-Leigh. 2012. "How much is social capital worth?." In *The social cure*, *Identity health and well-being*, edited by Jolanda Jetten, Catherine Haslam, Alexander, and S. Haslam, 55-71. London: Psychology Press. 10.3386/w16025
- Izadpanah, M., and M. Habibi. 2019. Analysis and evaluation of the position of malls as a public space, case study: Palladium shopping center in Tehran. *Sustainable City* 1(4): 37-56. 10.22034/JSC.2019.90905
- Kahneman, Daniel, Edward Diener, and Norbert Schwarz, eds. 1999. *Well-being: Foundations of hedonic psychology*. Russell Sage Foundation.
- Khastou, M., and N. Saeidi Rezvani. 2010. The Effective Factors on Urban Spaces Vitality (Creating a Lively Urban Space with Emphasizing the Concept "Pedestrian Mall"). *Hoviatshahr* 4(6): 63-74. 20.1001.1.17359562.1389.4.6.6.9
- Leung, Ambrose, Cheryl Kier, Tak Fung, Linda Fung, and Robert Sproule. 2013. "Searching for happiness: The importance of social capital." In *The exploration of happiness : Present and Future Perspectives*, edited by Antonella Delle Fave, 247-267. Dordrecht: Springer. http://10.1007/S109028-9208-010-
- Melillo, P., and L. Pecchia. 2016. "What is the appropriate sample size to run analytic hierarchy process in survey-based research." In Proceedings of the *International Symposium on the Analytic Hierarchy Process*, 4-8. London,

UK.

- Montgomery, Charles. 2013. *Happy city: Transforming our lives through urban design*. UK: Penguin.
- Nabil, Noha Ahmed, and Gehan Elsayed Abd Eldayem. 2015. "Influence of mixed land-use on realizing the social capital." *HBRC Journal* 11, no. 2: 285-298. https://doi.org/10.1016/j.hbrcj.2014.03.009
- Nahavandi, E. et al. 2017. Spaces' Livability in Modern Commercial Centers. *Manzar* 9(40): 54-67. http://www.manzar-sj.com/article_59537.html
- Qodsipour, H. 2016. *Analytical Hierarchy Process (AHP)*. Tehran: Amir Kabir University of Technology.
- Rahimi, L., and F. Jafari. 2018. The Measurement of Livability of Historical and Modern Commercial Spaces in the city of Tabriz (Case Study: Tabriz Historic Bazaar and Crystal Tower). *Spatial Planning Quarterly (Geography)* 7(4): 41-56. 10.22108/SPPL.2018.102165.1080
- Ryan, Richard M., and Edward L. Deci. 2000. "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being." *American psychologist* 55, no. 1: 68-78. 10.1037066-0003/X.55.1.68
- Ryan, Richard M., and Edward L. Deci. 2001. "On happiness and human potentials: A review of research on hedonic and eudaimonic well-being." *Annual review of psychology* 52: 141. https://doi.org/10.1146/annurev.psych.52.1.141
- Sarvar, H., V. Salahi Sarighkhanbiglou, and O. Mobaraky. 2017. Analysis of the role of commercial land uses in urban dynamics and creation of new urban spaces, case study: Laleh Park complex of Tabriz. *Urban Ecology Researches* 8(1): 29-49.
- Sellars, John. 2018. *The art of living: The Stoics on the nature and function of philosophy*. Routledge.
- Sen, Amartya. 2008. "The economics of happiness and capability." *Capabilities and happiness* 27. http://hdl.handle.net/10419223227/
- Shirmohamadian, Sh., and Sh. Azizi. 2019. Evaluating the Effective Factors on the Quality of Women Leisure from Interactionist Approach in Urban Mixed-use Centers (Case study: Kourosh mixed-used center). *Hoviatshahr* 14(2): 95-108. 10.30495/HOVIATSHAHR.2020.15021
- Siadati, A., and M. Alalhesabi. 2014. An approach towards increasing vitality in the streets as urban spaces. *The first national conference on urban planning, urban management and sustainable development*. Qazvin. https://civilica.com/doc/360970
- Urry, Heather L., Jack B. Nitschke, Isa Dolski, Daren C. Jackson, Kim M. Dalton, Corrina J. Mueller, Melissa A. Rosenkranz, Carol D. Ryff, Burton H. Singer, and Richard J. Davidson. 2004. "Making a life worth living: Neural correlates of well-being." *Psychological science* 15, no. 6: 367-372. https://doi.org/10.1111/j.0956-7976.2004.00686.x
- Veenhoven, Ruut. 1997. "Advances in understanding happiness." *Revue québécoise de psychologie* 18, no. 2: 29-74. http://dx.doi.org/10.1007/S112055074--005-X
- Veenhoven, Ruut, and Michael Hagerty. 2006. "Rising happiness in nations 1946–2004: A reply to Easterlin." *Social indicators research* 79, no. 3: 421-436.
- Zevnik, Luka. 2014. *Critical perspectives in happiness research: The birth of modern happiness*. Springer Science & Business Media.

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