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Evaluating the impact of urban landscape elements on the sense of security and local belonging-case study: Tongdejie, China

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Introduction: The urban landscape is a pivotal element shaping the urban space and significantly influences its desirability or undesirability. It has a profound connection with people and their living environment, playing a crucial role in providing identity and a sense of peace to citizens. As urbanization expands and population density increases, the importance of security as a basic need within the urban structure becomes even more significant. A confusing, unattractive, or monotonous urban space can adversely affect citizens' feelings and reduce their sense of security.

Methods: In this research, we investigated the relationship between urban landscape components and the sense of local belonging, as well as the relationship between the sense of security and the urban landscape. We sought to understand how the design and planning of the urban landscape can have a positive impact on urban life and increase citizens' sense of belonging to the city and its surroundings.

Results: Our findings revealed a positive and significant correlation between the sense of local belonging and the sense of security. Living in a safe, attractive, and desirable environment fosters and strengthens feelings of belonging to the environment. This strengthening of the sense of belonging increases residents' satisfaction and enhances the quality of life in cities.

Discussion: The urban landscape serves as a powerful tool that, when optimally designed, can positively influence urban life and enhance citizens' sense of belonging to their city and its surrounding environment. By prioritizing security and creating aesthetically pleasing and engaging urban spaces, cities can significantly improve the well-being and quality of life of their residents.

KEYWORDS

urban landscape, urban landscape elements, sense of security, sense of local belonging, security

1 Introduction

The city is the manifestation of human life, which crystallizes in time and place, and as the greatest achievement of mankind during the past and present periods, it has been studied and researched a lot, and the penetration of new sciences into the field of artificial environment, theories has created the new related to the city. Urban landscape is one of the most important urban topics and issues, which is considered the attention of architects, designers and urban planners, landscape architects, designers and environmental psychologists and sociologists (Çilek, 2023). The urban landscape is like the appearance and outer shell of any city, which catches the eye of every viewer for the first time. This outer shell, in addition to being taken over by itself, is made and treated by the internal factors of the society. Urban landscape somehow shows its inner spirituality. Many environmental, economic, political, cultural and social factors influence the formation of this outer shell. The urban landscape of each society is formed based on the sum of the above factors and it is also a sign and a symbol to read these conditions and can influence the formation of social characteristics of each society (Maroofi and Ansari, 2014). The urban landscape is more than a problem of urban planning and design. The urban landscape is primarily a question of values, human goals and the recognition of social responsibilities by the members of society. Today, in the developed world, cities act as competing companies that try to take a greater share of the capital market, outstanding talents and global attention. In this way, they compete with each other to provide good and outstanding urban landscapes. Therefore, apart from its role as a layer in the formation of the urban form, the urban landscape serves as a tool for governments to increase the ability to attract tourists and global capital. Therefore, cities with a favorable visual environment are able to increase the aesthetic experience of the citizens, improve the mental image of the society and strengthen their civic pride. Also, by validating the image of the city at the national and international level, it will strengthen the city's competitive ability to attract as much capital and creative layers as possible (Guanabara et al., 2003). The urban landscape is the surface of contact between human and the phenomenon of the city and for this reason, a significant part of the knowledge and environmental emotions of the citizens is formed under its influence (Corburn, 2009). Chaos in the urban landscape causes social, cultural, legal, legal, moral and psychological anomalies (Zekavat and Momenian, 2019). The urban landscape is the surface of contact between human and the phenomenon of the city and for this reason, a significant part of the knowledge and environmental emotions of the citizens is formed under its influence (Riechers et al., 2022). Chaos in the urban landscape causes social, cultural, legal, legal, moral and psychological anomalies.

In this Maroofi and Ansari study (Maroofi and Ansari, 2014), an attempt has been made to answer the question, what is the relationship between the urban landscape and the sense of belonging to the environment? The hypothesis of the research is that there is a positive correlation between the urban landscape and the sense of belonging to the environment in the society. The results confirmed the existence of a relationship between the components of the urban landscape and the sense of belonging to the environment with a confidence level of 95%. The aim of a Maroofi research is to investigate the role of urban landscape components in enhancing the sense of security in urban spaces. Security is considered as one of the basic needs of citizens in urban structures and is of special importance due to the effect on the feeling of peace and comfort of the environment for citizens. In this research, the relationship between the sense of security and the urban landscape is examined. Participation of citizens in the maintenance of space, paying attention to historical places, creating a familiar environment, using water, trees, light, and furniture are some of the proposed solutions to increase the sense of safety in the urban space.

This study is compiled with the aim of evaluating the impact of urban landscape elements on the sense of local belonging and sense of security. The main question and hypothesis of the research is: Is there a relationship between the urban landscape and the sense of security and sense of local belonging of the residents in people who live in the same area? It seems that there is a significant relationship between the elements of the urban landscape and the sense of security and sense of local belonging in the studied statistical population. Also, according to the mentioned hypothesis, the variables of this research are: urban landscape, sense of local belonging and sense of security.

2 Theorical concepts

2.1 Urban landscape

From the urban point of view, various definitions have been presented. The urban landscape is the surface of human contact with the phenomenon of the city and a tool by which the city can be read as a text (Kim and Brown, 2021). The view of an urban space is all the available information from the space that can be received by the senses and processed in the process of perception. In general, there have always been two different aspects of this word in the opinions of experts. Some specialists consider the urban landscape as an objective reality, while others believe that the urban landscape can be defined in the minds of citizens and from their perspective, and another group considers both objective and subjective aspects to be prominent characteristics of the urban landscape (Fathi et al., 2020). As much as the urban landscape is a tool and a means for shaping and retelling the social, economic and political conditions of every society, it is equally affected by the various conditions of society. In other words, the urban landscape is made up of the sums of geographical, climatic, environmental, economic, social, cultural, political, administrative and legal conditions of each society (Fisher, 1988). The urban landscape can be examined in three scales: macro, medium and micro.

On a macro scale, factors such as; urban geography (topography, the existence of forests and rivers), the shape of the city (which is the result of the growth of the city over time), distinct areas (the presence of lakes or physical elements such as barracks and airports), important urban points and signs, the main roads and edges of the city are involved in the formation of the urban landscape (Hauer et al., 2016). In the medium scale, factors such as; the condition and composition of building blocks, the condition of roads, the manner of placing building masses, the level of occupation, the density and height of buildings, the method and style of construction, the state of vegetation (masses of trees and bushes), dominant human activities (The presence and movement

of people in the city) are among the factors influencing the urban landscape. In the micro scale, factors such as; the architectural style and design of buildings, the condition of the land (sidewalks, sidewalks, gardens, open spaces, canals, rivers, streams), the condition of materials (type, quality, material, color, and texture), the condition of side extensions (balconies, construction facilities, statues), urban facilities and furniture (light poles, telephone booths, trash cans, benches), vegetation (trees, shrubs, bushes separately or next to them) (both the type and color of vegetation) are important factors affecting the urban landscape (Loka and Sumadja, 2017).

The components and elements that make up the body and form of urban spaces are considered to be urban landscape elements. The physical components that make up the urban space include; the floor, body, roof and elements (components) located in the space (Kropf, 2013). Operational definition: the urban landscape is one of the variables of this research, according to the definitions provided and the index proposed by the experts, four elements were selected as urban landscape elements to be studied in this research; 1) the type of design of streets and squares, 2) the quantity and quality of vegetation in the neighborhood, 3) urban furniture and street lighting and the state of facades, 4) the flooring of streets and surface water atmosphere. In choosing these elements, attention has been paid to their comprehensiveness and also the presence of these elements in the studied statistical population (Xi et al., 2022).

2.2 A sense of local belonging

The feeling of belonging to a group, society and a special place is one of the essential feelings in human social life (McMillan and Chavis, 1986).

From the point of view of social psychology, it creates a sense of social belonging, a language and a framework through which a person can gain knowledge and awareness about how people function in groups and communities (Comstock et al., 2008). The feeling of belonging and attachment to the place constitutes a higher level of the sense of place, which plays a decisive role in the success of any place in order to attract, benefit and continue being present in the place (Ujang, 2012). The feeling of belonging and attachment to a place based on a sense beyond the awareness of settling in a place leads to the connection of a person with the place in such a way that he considers himself/herself a part of the place. Based on his/her experiences of the signs, meanings and functions of the place, he/she imagines a meaning and a personality for the place in his/her mind, which is unique and different from other places, important and respectable in his/her eyes (Ahari and Sattarzadeh, 2017). The sense of belonging to the environment and place (neighborhood and city) is also a kind of sense of belonging. The existence of this feeling also brings a kind of individuality and growth for a person. It causes residents to feel responsible and participate in social activities related to the desired location (Manzo and Perkins, 2006). The sense of belonging to the localities by influencing the amount of social participation in the locality accelerates and facilitates the development process of the localities. Therefore, it can be said that the sense of belonging to places, along with the factor of social solidarity in the neighborhood, can play an important role in its physical and social development (Mamonov et al., 2016).

Operational definition: According to the stated theories and the need to limit the desired components in this research, the feeling of belonging to the neighborhood is a dependent variable with three items: the level of satisfaction with the neighborhood, the desire to continue living in the neighborhood, the awareness of It has been evaluated for its events (Stedman, 2002).

The influence of urban landscape elements on the feeling of belonging to the environment of the urban landscape is a part of the shape of the city that the observers perceive. In other words, the shape of the city in the urban landscape layer becomes a directly perceptible quality, that is, the city landscape is a perceptible objectivity and the space we perceive from the existing reality of the city around us (Can et al., 2019). The pleasant feeling that a person has of living in an urban environment naturally comes from the correct placement of all factors, spaces and physical elements. These factors make sense in the form of an urban landscape (Matsuoka and Kaplan, 2008). Creating desirability in the urban landscape can play an effective role in increasing the feeling of satisfaction with the quality of the environment and subsequently increasing the quality of life (khoram, 2019).

The correct perception and legibility of the environment is an essential component in the emotional satisfaction of life in the city. Therefore, any urban landscape that can leave a clear image of it can play a more effective social role, because it helps people to know where they are, read the environment and adjust their activities in a more favorable way. Such an urban landscape increases collective symbols and memories and group communication (Romice et al., 2017).

Urban landscape is formed in relation to social, environmental, economic and cultural conditions and it also rereads these conditions. Social conditions are one of the most important factors affecting urban landscapes. Meanwhile, social capital (as one of the components of social conditions) can play a significant role in protecting, preventing destruction, forming, organizing and developing urban landscapes in every society. The sense of belonging is one of the important signs and factors in evaluating the relationship between man and the environment and creating quality human environments (Nenadovic and Epstein, 2016).

2.3 Urban landscape—a sense of security

With the expansion of the urbanization process and the increase in population density, it is necessary for the urban space to be in such a way that the citizens feel safe, comfortable, safe and pleasant to be in the urban space (Sahito et al., 2020). Achieving a sense of security in an urban landscape is more about understanding the meaning and desirability of space, which can be used to study the spiritual connection between phenomena and humans (Chawla, 2020). Due to its objective-subjective nature, the urban landscape gives designers the possibility of direct evaluation and intervention (Sharifkazemi and Hosseinpour, 2021). Therefore, there is a meaning hidden in each environmental stage, which is evaluated by people during a two-stage process. In the first stage, an almost immediate reaction to the shapes and patterns of the environment takes place in the mind, which is called the “inspiration” stage. In the second or cognitive stage of “perception,” it is the decoding of environmental cues that exist in objects and their relationships.

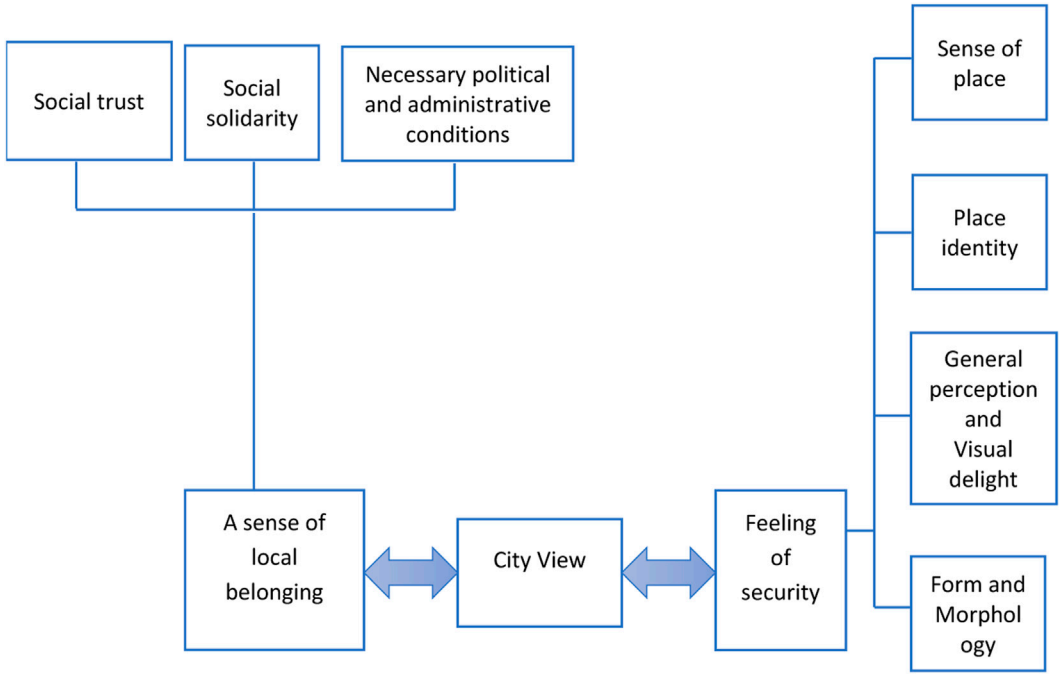

FIGURE 1
Schematic view of the influence of social components on the urban landscape.

Based on this, "human organizes the received information in his/her mind, and in addition to the components of the environment, he/she depicts the order or relationship between them in his/her mind and gives meaning to it." Then, based on the meaning formed in his/her mind, he/she feels security or insecurity about the environment. Observing the visual and human proportions in the scale of the space causes harmony and creates order, and finally by creating peace, it gives a sense of security in the space. Therefore, the role of the urban landscape in the sense of security can be well understood.

Since the urban space is a public place that is always used by people, it should not only improve the quality of urban life but also play an important role in increasing the vitality in the space. Therefore, establishing security for citizens is one of the most essential priorities of urban planners, which includes; appropriate studies and solutions to improve security at the local level (Costamagna et al., 2019). The study of (Majidinia et al., 2018) showed that the urban landscape and its design and its role in establishing and increasing security have a significant impact. On the other hand, creating an environment where citizens can feel safe also increases the quality of the area. Operational definition: According to the stated theories and the need to limit the desired components in this research, the sense of security, which is a dependent variable, has been evaluated with four items: sense of place, identity of place, general and visual pleasure, form and morphology.

According to Figure 1, the feeling of belonging to the environment and the feeling of security are, on the one hand, the result of the existence of a suitable and attractive urban landscape, and on the other hand, it causes the creation of a suitable urban landscape. The above diagram shows how the sense of belonging affects the urban landscape, in other words, it can be said that the sense of belonging affects the urban landscape in four areas. a) protection and maintenance of valuable elements in the urban landscape, b) preventing the destruction of the urban landscape, c) visual beautification and cleanliness in the urban landscape, d) construction and development of urban landscapes. Since it is not possible to measure the impact of the sense of belonging on the urban landscape due to the impossibility of extensive involvement and influence of residents and citizens in the urban landscape, therefore, in measuring the impact of these two variables, the impact of the components of the urban landscape on the environmental sense of belonging was investigated. Since the evaluation of the impact of social components, especially the sense of local belonging on the urban landscape requires the provision of conditions for the participation and extensive involvement of citizens in the formation of the urban landscape. Therefore, in this research, the two-way relationship between the urban landscape and social conditions was investigated. The connection of urban landscape components on the sense of local belonging had been discussed.

3 Methodology

This research is a survey type, and the method of collecting information in the theory and research basics section is library, and in the field studies section, a questionnaire tool is used. In this research, in order to measure the existence of a significant correlation between the urban landscape and the sense of local belonging and the sense of security, Structural Equation Modeling was used. In SEM analysis, there can be two types of observable variables, observed variable and latent variable, and since the urban

landscape variable is obvious and the variables of sense of local belonging and sense of security are latent, this method has been used in this research. A correlation model generally shows non-directional relationships (two-way) between variables. In this method, firstly, the appropriateness of factor loadings of hidden variables, validity and reliability, and the goodness of fit criteria of the model are examined, and finally, the relationships between the variables are investigated.

A factor loading represents the strength of the relationship between a factor (latent variable) and an observable variable. There is a range of values between zero and one for factor load. An association that has a factor load of less than 0.3 is considered weak and is not considered. A factor of between 0.3 and 0.6 is acceptable, and a factor greater than 0.6 is highly desirable. To check the convergent validity of each construct, they introduced the AVE index (Average variance extracted) and stated that the AVE value for each construct should be more than 0.5 (or 0.4) in order to say that the target construct is valid. AVE coefficient is calculated through the following Eq. 1.

$$\mathrm{AVE} = \frac{\sum \lambda^2}{n} \tag{1}$$

In these relationships, λ represents the standardized factor load of questions or questionnaire items, while n represents the number of items in the questionnaire or question. Cronbach's alpha and composite reliability are used to evaluate the reliability of the measurement model. In terms of reliability, Cronbach's alpha is a classic measure, as it can also be used to evaluate internal stability (internal consistency). The Cronbach's alpha value must be greater than 0.7 in order to be considered reliable. Composite reliability is one of the methods of measuring the reliability of the cr coefficient. To calculate it, first calculate the standardized factor loadings of each item and the standardized error, and then calculate the coefficient value using the following Eq. 2.

$$\mathrm{CR} = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + (\sum \delta)} \tag{2}$$

In these relationships, λ represents the standardized factor load of questions or questionnaire items, and δ represents the standard error. If the CR coefficient is estimated to be greater than 0.6, the reliability of that scale is acceptable, and if it is greater than 0.7, then the reliability of that scale is considered appropriate. Also, the CR coefficient greater than or equal to 0.8 represents very good reliability of the scale.

If the CR coefficient is greater than or equal to 0.9, it can be said that the reliability of the scale is excellent.

Evaluating the fit of a model occurs when the model fits a series of observed data and the implicit covariance matrix of the model is equated with the covariance matrix of the observed data when a model is estimated; Statistics such as: standard error, T-Value, etc. are estimated to evaluate the fit of the model with the data. If the model is testable but does not fit the data properly, correction indices, which are a valid tool for evaluating the desired changes in the model statement, are used to make the model fit the data. The most important index of model fit is the 2χ test, but because the 2χ test works under certain conditions and these conditions are not always met, a series of secondary indices are also provided. The most important of these indicators are: GFI, CFI, RMSEA. The optimal modes for these tests are as follows in Table 1.

TABLE 1 Recommendations for model evaluation; Some rules of thumb (Schermelleh-Engel et al., 2003).

Fit index	Ideal fit	Acceptable fit
χ2	0 ≤ χ2 ≤ 2df	2df ≤ χ2 ≤ 3df
p-value	.05 < *p* ≤ 1.00	.01 < *p* ≤ .05
χ2/df	0 ≤ χ2/df ≤ 2	2 <χ2/df ≤ 3
RMSEA	0 ≤ RMSEA ≤ .05	.05 <RMSEA ≤ .08
RMR	0 ≤ RMR ≤ .05	0 <RMR ≤ .10
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI< .95
CFI	.97 ≤ CFI ≤ 1.00	.90 ≤ CFI< .97
GFI	.95 ≤ GFI ≤ 1.00	.80 ≤ GFI< .95
PNFI	.60 ≤ PNFI ≤ 1.00	.50 ≤ PNFI< .60

In general, in the structural equation modeling methodology, the sample size can be determined between 5 and 15 observations for each measured variable (5Q < *n* < 15Q, where Q is the number of observed variables and n is the sample size). Therefore, in this research, according to the observed variables, the sample size is 100 people.

After determining the indicators of each variable, a questionnaire was prepared and the desired questionnaire was randomly distributed among 120 residents of the area and finally 100 questionnaires were completed and collected and the information was analyzed. In the following, the results related to the analysis of the collected data are reported. The purpose of any research is to answer a set of questions or test some hypotheses (Farrugia et al., 2010).

After determining the indicators of each variable, a questionnaire was prepared. The desired information was randomly collected from the statistical population of 100 residents of the region, and after completing the questionnaires, the obtained data were analyzed using "SPSS" and "AMOS" software. Then the obtained results were compared with the results expected by the hypotheses.

3.1 Inferential statistics

It is important to consider inferential statistics when sampling is involved. As a result of analyzing descriptive statistics, using inferential statistics, validity (confirmatory and convergent), reliability of the model, and goodness of fit indicators, we evaluated the results of internal relationships in the model. First, the significance of the regression weight (factor loading) of the constructs of sense of local belonging and sense of security was checked using confirmatory factor analysis technique and AMOS software. This review is necessary to ensure the adequacy of measurement models and the acceptability of their indicators in the measurement of structures.

TABLE 2 Demographic characteristics of respondents.

Characteristic		Abundance	Percent
Gender	Female	34	34.0
	Male	66	66.0
Marital status	Single	20	20.0
	Married	80	80.0
Age	Less than 25 years	9	9.0
	25–40 years	22	22.0
	40–55 years	36	36.0
	More than 55 years	33	33.0
Level of education	High school	13	13.0
	Diploma	21	21.0
	Associate degree	43	43.0
	Masters degree	22	22.0
	Bachelor degree	1	1.0
Residence in Tongdejie, China (year)	Less than 2 years	13	13.0
	2–5 years	22	22.0
	3–6 years	14	14.0
	15 to 10 years	22	22.0
	More than 15 years	29	29.0

TABLE 3 Descriptive statistics of research variables.

Characteristic		Average	Standard deviation	Very little (%)	Low (%)	Somewhat (%)	Much (%)	Very much (%)
A sense of local belonging	Social trust	3.16	0.950	7.00	11.00	47.00	29.00	6.00
	Social solidarity	3.40	0.765	3.00	4.00	47.00	42.00	4.00
	Necessary political and administrative conditions	3.36	0.948	6.00	8.00	37.00	42.00	7.00
Feeling of security	Sense of place	3.41	0.854	2.00	9.00	44.00	36.00	9.00
	Place identity	3.44	0.903	1.00	14.00	36.00	38.00	11.00
	General perception and Visual delight	3.33	0.922	5.00	9.00	41.00	38.00	7.00
	Form and Morphology	3.20	0.974	3.00	21.00	38.00	29.00	9.00
Urban landscape	City View	3.26	0.960	4.00	16.00	38.00	34.00	8.00

4 Results

4.1 Demographic characteristics

In this part, the demographic characteristics of the respondents such as gender, age, level of education and their residence history have been investigated. The information about the gender of the respondents in Table 2 shows that 66% of the respondents are male and 34.6% are female. 80% of people were married. Most of the respondents, 43%, had a diploma. 29% of them have lived in Tongdejie, China for more than 15 years.

4.2 Descriptive statistics of research variables

Table 3 shows the frequency distribution and the mean and standard deviation of the research items. As can be seen, the average

TABLE 4 Estimated factor loadings and their significance test.

Characteristic		Skewness	Kurtosis	Factor load	Path coefficient	The standard error	t-value	*p*-value
A sense of local belonging	Social trust	0.394	0.194	0.622	1			
	Social solidarity	0.679	1.392	0.741	0.959	0.17	5.642	<0.001
	Necessary political and administrative conditions	0.7	0.428	0.669	1.073	0.204	5.265	<0.001
Feeling of security	Sense of place	0.207	0.189	0.751	1			
	Place identity	0.151	−0.449	0.675	0.95	0.146	6.49	<0.001
	General perception and Visual delight	0.543	0.366	0.746	1.072	0.149	7.206	<0.001
	Form and Morphology	0.013	−0.507	0.697	1.059	0.158		<0.001
Urban landscape	City View	0.263	−0.257					

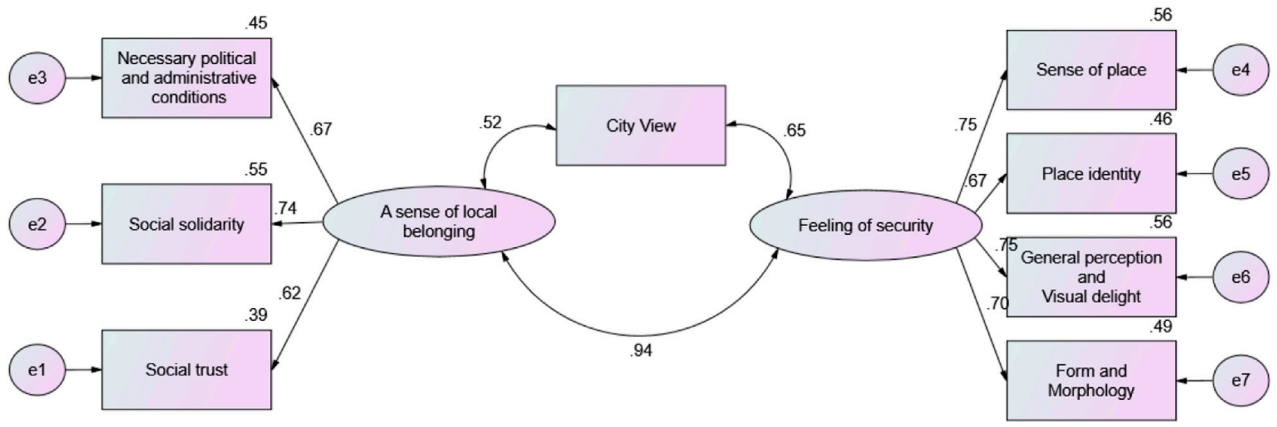

FIGURE 2
Results of standard coefficient model fitting (factor loadings).

of all variables is higher than the average of the questionnaire; 3. The highest mean related to the identity of the place related to the sense of security was 3.44 and the standard deviation was 0.903. The lowest average is related to social trust index, sense of local belonging with a value of 3.16 and a standard deviation of 0.765. It can be seen that respondents chose many and very many options more than few and very few options in response to all questions. It can also be seen that 8% of the respondents were very satisfied from the urban point of view. 34% were satisfied a lot, 38% somewhat, 16% a little and 4% were very little satisfied from the urban point of view.

Before conducting the confirmatory factor analysis, the normality of the data has been checked. The normality of the data in AMOS software is evaluated by Kurtosis and Skewness indices. Kurtosis coefficient and skewness are two basic indicators of data distribution (Zhang et al., 2023). Researchers consider the values of these two indices to be between (−1.96 and +1.96) in the best case for the normality of the data (Westland, 2015). The obtained values for Kurtosis and skewness coefficient in Table 4 show that all the data are in the range of ±1, which indicates the normality of the data.

According to Figure 2, all obvious variables are reported as factor loadings in the fitted model. The factor loading of a structure can be calculated by calculating the correlation between the indicators of that structure and the structure itself. When this value is equal to or greater than 0.5, it indicates that the variance between the construct and its indicators exceeds the variance of its measurement error. Therefore, the measurement model can be considered valid in terms of confirmatory validity (Shrestha, 2021).

In Figure 2; Table 4, it can be seen that the factor loadings of all indicators of both constructs of sense of local belonging and sense of security were more than 0.5 and acceptable. Also, their *p*-value is less than 0.001, it shows that the items of sense of local belonging and sense of security have a significant effect in their measurement and the model has appropriate confirmatory validity.

Also, in Figure 3, it can be seen that in order to improve the goodness of fit indices, the model has been modified and correlation has been included between the two variables of sense of local belonging and sense of security. Figure 3 displays the unstandardized coefficient estimates.

The reliability of the constructs was checked using Cronbach's alpha coefficient and composite reliability coefficient. Researchers have

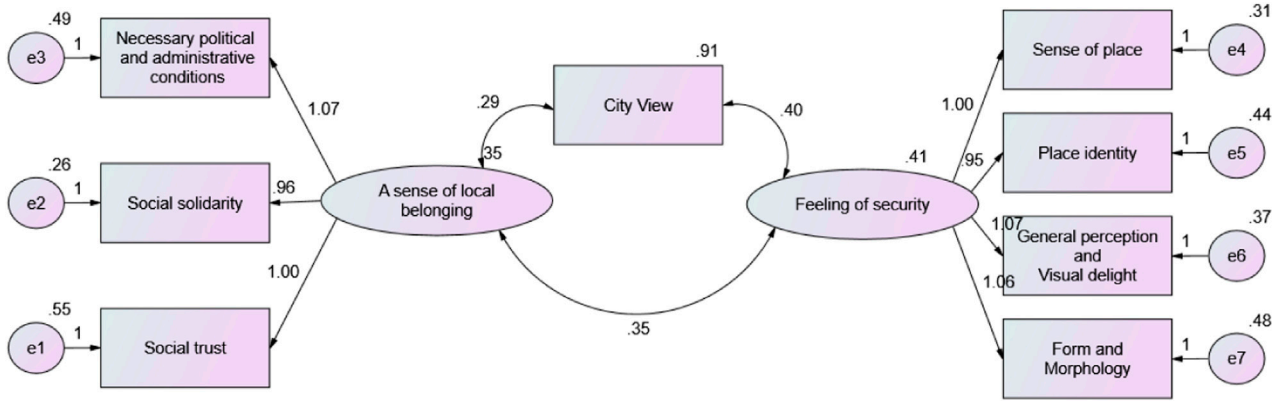

FIGURE 3
The fitting results of the unstandardized coefficients model.

TABLE 5 Checking the reliability and validity of the model.

Characteristic		Cronbach's alpha	CR	AVE
A sense of local belonging	Social trust	0.707	0.760	0.461
	Social solidarity			
	Necessary political and administrative conditions			
Feeling of security	Sense of place	0.809	0.803	0.515
	Place identity			
	General perception and Visual delight			
	Form and Morphology			

TABLE 6 Goodness of fit indices of the model.

Index name	Symbol	Acceptable value	The ideal amount	The value of the model	Result
Degrees of freedom	(df)	-	-	97	-
Chi-square	(χ^2)	$2df \leq \chi^2 \leq 3df$	$0 \leq \chi^2 \leq 2df$	28.637	Ideal
Optimized chi-square	(df/χ^2)	$2 < \chi^2/df \leq 3$	$0 \leq \chi^2/df \leq 2$	1.591	Ideal
good for him	(GFI)	$.80 \leq GFI < .95$	$.95 \leq GFI \leq 1.00$	0.931	Acceptable
Root mean square residual	RMR))	$0 < RMR \leq .10$	$0 \leq RMR \leq .05$	0.038	Acceptable
Comparative fit index	(CFI)	$.90 \leq CFI < .97$	$.97 \leq CFI \leq 1.00$	0.964	Acceptable
The root mean square of the estimation error	(RMSEA)	$.05 < RMSEA \leq .08$	$0 \leq RMSEA \leq .05$	0.077	Acceptable
Normalized short fit index	(PNFI)	$.50 \leq PNFI < .60$	$.60 \leq PNFI \leq 1.00$	0.586	Acceptable

set values above 0.7 for the appropriateness of these two indices (Teo and Noyes, 2011). Also, the AVE index was used to measure the validity of the model constructs. This coefficient shows what percentage of the variance of the studied structure was influenced by the measures of that structure (Haboudane et al., 2002). The researchers have determined the values of 0.5 and above for the appropriateness of this index (Fornell and Larcker, 1981). But values above 0.4 are also acceptable. According to Fornell & Larcker (1981), if the AVE is less than 0.5, but the CR is higher than 0.6, the validity of the construct is still sufficient (Zhang, 2022). As can be seen in Table 5, Cronbach's alpha coefficient and composite reliability of both constructs of sense of local belonging and sense of security are more than 0.7. As a result, the data have acceptable and appropriate reliability. Also, AVE for the sense of security is more than 0.5 and for the sense of local belonging is more than 0.4. As a result, according to the appropriateness of the composite reliability coefficient, the validity of the structure is confirmed.

TABLE 7 Checking the correlation between variables.

Path			Standard coefficient	Coefficient	The standard error	t-value	*p*-value
A sense of local belonging	<-- >	Urban landscape	0.523	0.294	0.081	3.615	<0.001
Feeling of security	<-- >	Urban landscape	0.649	0.396	0.085	4.65	<0.001
A sense of local belonging	<-- >	Feeling of security	0.937	0.352	0.08	4.395	<0.001

To analyze the hypotheses, the developed theoretical model must first be processed in order to determine how much the collected data supports the theoretical model. To check this, the quantitative indicators of goodness of fit of the model (CFI, GFI, RMR, etc.) are used. If the general indicators are acceptable, or in other words, the theoretical model is confirmed, then the relationships within the model can be examined. The fit indices of the model along with their optimal values are presented in Table 6. These indicators have shown the good fit of the models.

According to the results presented in Table 6, it can be seen that all the indicators of goodness of fit of the model are acceptable. Therefore, it can be concluded that the theoretical model of the research is an acceptable model and it is possible to confidently examine the relationships within the model and the values of the correlation coefficients between hidden and manifest variables. The results related to the correlation of the variables and their tests are presented in Table 7. In order to test the hypothesis, a partial index (*p*-value) and significance number (t-value) were used. Correlation coefficients must meet a number of conditions in order to be significant: either the first index value (*p*-value) is less than 0.05 or the second index value (t-value) must be greater than 1.996 (Sajadi et al., 2019).

5 Discussion

In Table 7, it can be seen that the correlation coefficient between the feeling of local belonging and urban landscape is estimated at 0.523 and is significant ($p < 0.05$). Therefore, it can be concluded that there is a positive and significant correlation between the sense of local belonging and urban landscape. The result of this research is consistent with the study of Maroofi and Ansari (2014). The existence of a relationship between the components of the urban landscape and the sense of environmental belonging has been reported with a confidence level of 95% in their research. The sense of belonging to a place is one of the important topics in urban planning, which can play a great role in the planning and development of cities. In such a way that citizens' high sense of belonging to their neighborhood and city is very beneficial for the development and progress of cities in various ways.

Also, the correlation coefficient between the sense of security and urban landscape was estimated at 0.649 and was significant ($p < 0.05$). Therefore, it can be concluded with 95% certainty that there is a positive and significant correlation between the sense of security and the urban landscape. The result of this research is consistent with the study of Sajjadi et al. and Rafian et al. They showed that the components of the urban landscape have an effect on creating security and a sense of security in citizens (sajadi et al. (2019)).

Security and urban landscape are words that, although both are considered a subset of urban planning and landscape architecture, there is a need to examine the relationship between them more closely. Security is of particular importance as one of the basic needs of citizens in urban structures. Therefore, in the studies and research related to the city and the expression of the criteria of desirable urban quality, security has always been considered as one of the important indicators of the quality of life by planners and city planners, and various theories have been presented in this regard.

The results indicate that there is a significant and positive correlation between sense of security and local belonging; the estimated correlation coefficient between these two variables is 0.37 (P0.05). As in other developing nations, the urban landscape in Iran, particularly in major cities, has become pale and lifeless as a result of the imposition of modernization from above, historical confrontation with tradition, and unresolved maternities. The complex intersection of security and urban landscape necessitates a more thorough analysis within the fields of landscape architecture and urban planning. Although both concepts are essential elements of urban development, their complex interrelation requires additional investigation. Security is an essential requirement for individuals residing in urban areas, significantly influencing how they perceive their own protection and overall welfare. Therefore, within the domain of urban studies and investigations pertaining to desirable attributes of cities, security arises as a pivotal metric for assessing the overall standard of living. Since time immemorial, city administrators and planners have acknowledged the critical nature of security in urban environments and have devised a multitude of pragmatic approaches and theoretical frameworks to effectively tackle this concern. Furthermore, the results of our study emphasize the inherent relationship between a perception of security and a sense of local affiliation in urban environments. The correlation between these variables is both positive and statistically significant (correlation coefficient of 0.37, $p < 0.05$). This finding underscores the criticality of cultivating a robust sense of connection to the immediate surroundings in order to enhance residents' perceptions of safety and security. Nevertheless, it is critical to recognize the obstacles that urban landscapes encounter, specifically in developing nations such as Iran.

Urban landscapes frequently confront the consequences of top-down modernization initiatives, historical conflicts with traditional components, and the unfinished work of urban development initiatives, particularly in major metropolitan areas. The decelerated vitality and dynamism of urban spaces can be attributed to the confluence of these elements, which presents urban planners and policymakers with formidable obstacles. Community engagement, sustainable development practices, and cultural preservation must be prioritized in a comprehensive strategy to address these issues.

For progress to be made, endeavors to improve security and rejuvenate urban environments must be informed by a thorough comprehension of sociocultural dynamics, environmental factors, and local contexts. Cities can endeavor to establish more habitable,

secure, and dynamic surroundings for their inhabitants by incorporating ideals of sustainability, resilience, and inclusiveness into their urban planning procedures. Further investigations is warranted to explore the intricate connections that exist among indicators of quality of life, social perceptions, and urban landscape components. Such research should yield significant knowledge that can guide the development of urban policies and practices grounded in empirical evidence.

6 Conclusion

The urban landscape as one of the influencing factors on the social conditions and characteristics of the society can be used in the course of change, transformation and evolution of any society. It is a tool that can have a positive impact on urban life by planning for its optimal design, increasing the sense of belonging of citizens to the city and the surrounding environment. In this way, it affected the responsibility and participation of citizens in social affairs. Security is listed as one of the basic needs of citizens in urban structures and is of special importance. It somehow includes the feeling of peace and comfort of the environment for the residence and life of city dwellers. Security is considered a kind of inner peace and comfort that is obtained from the active components of the environment. The premise of this research is that if the image of urban spaces is confusing, hateful or uniform, it will directly have an adverse effect on citizens and their feelings. Finally, it provides a platform for the emergence of anomalies and reduces the sense of security. In this research, the relationship between the urban landscape components on the sense of local belonging and the relationship between the sense of security and the urban landscape was investigated. Based on the results, sense of local belonging and sense of security had a positive and significant correlation. Therefore, living in a safe, attractive and desirable environment creates and strengthens the feeling of belonging to the environment. Strengthening the feeling of belonging to the environment will increase the satisfaction of the residents and will increase the quality of life in the cities.

It is imperative to recognize specific constraints within this investigation. Initially, the research was limited to Tongdejie, China, which could restrict the applicability of the findings to wider contexts. Future research could be enhanced by including a variety of geographical regions to provide a more thorough understanding of the correlation between urban environments, feelings of safety, and community attachment. Moreover, the research procedures utilized in this study may possess inherent biases or limitations that could potentially affect the validity of the findings. Utilizing a combination of qualitative and quantitative methods or conducting studies over an extended period of time could provide more reliable and comprehensive understanding of this intricate interaction. In the future, there are various paths for further investigation in this field. Examining the effects of particular urban landscape interventions, such as the addition of green areas or improvements in lighting, on inhabitants' feelings of safety and connection to their community could provide significant knowledge for urban planners and policymakers. Furthermore, conducting an inquiry into the impact of socio-cultural elements on individuals' sentiments of security and belonging within urban settings could enhance our comprehension of this phenomenon. Ultimately, it is crucial to cultivate a secure, inclusive, and visually appealing urban environment in order to promote a feeling of belonging and safety among people, hence improving the overall quality of life in cities.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

YZ: Investigation, Writing–original draft. RD: Investigation, Project administration, Writing–original draft.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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