Investigating Social Factors of Residential Satisfaction and the Impact on Housing Price in Spontaneous Settlements in Tehran Fringe

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Abstract

Evaluating the degree of residential satisfaction with spontaneous settlements entails a large number of factors. The present study is conducted aiming to specify social variables affecting RS in spontaneous settlements and the impact on housing prices. To do so, structural modeling and regression methods were utilized to assess research hypotheses. The survey was conducted on 200 respondents residing in Qaemiyeh residence located around Tehran. The results of structural modeling confirmed that a sense of belonging, a sense of security, neighbors' conformity and social interactions have respectively manifested specific effects on residential satisfaction (RS). Moreover, the factor of participation in local society has not shown a significant index of effectiveness on RS, nullifying the relative hypothesis. These findings imply that the formation of the appropriate social environment along with proper social interactions among residents can compensate for the physical shortcomings of the place of residence, leading to creating RS. The results also clarified that residents' satisfaction with the social constituents of their residence had explained 12.8% of the housing price soaring in spontaneous settlements.

Subject Areas

Urban Planning, Housing, Residential Satisfaction, Spontaneous Settlements

1. Introduction

The ever-on-the-rise expansion of the cities, along with the increasing dominance of urban life during the past decades has led to the formation of migration trends throughout the world [1]. The negative consequences of these trends are most tangibly observed in developing countries. The excessive rate of immigration has brought about certain dilemmas like the formation of spontaneous settlements and urban fringes [2]. Similar to other developing countries, Iran has been experiencing an unusual rate of migration from villages to urban areas during the past three decades. Statistics reveal that the urban setting population reached 59 million in 2015, while the figure was 25 million in 1985 [3]. Tehran, the capital city of the country, has received the highest number of immigrants, and its population has almost tripled [4]. Simultaneously, spontaneous settlements have popped up at an alarming rate out of the organized urban plan of development sheltering a population of 3.5 million [5] [6]. As a matter of fact, the formation of spontaneous settlements around Tehran is the result of decentralization plans as well as assigning rules for restricting expansion and rapid increases in housing prices. Unfortunately, these settlements suffer from a lack of per capita municipal services in the absence of standardized design patterns due to inappropriate programming. Although, in recent years, new residences and large building projects have been designed to absorb the migration population yet, these settlements seem to be more attractive to the relatively large portion of the population who cannot afford to buy houses in formal parts of the city [7].

Therefore, as a settlement in spontaneous residences around Tehran has begun several decades ago, it seems obligatory to conduct studies focusing on the issue of RS with living in these areas and its reflection on the housing market. To date, various researchers have studied the correlation between physical factors and satisfaction in these settlements [8] [9] [10]. Social factors involved in the creation of RS, however, have not been investigated holistically and comprehensively. While residents' satisfaction with social constituents is a crucial indicator of life quality [11] [12]. This is important because it seems that if social components determining RS are strong enough to provide positive considerable values for the residents, then it seems quite possible that they even ignore other properties and features just to preserve or obtain this advantage. Thus, in the absence of studies on these various elements, the present study seeks to bridge the gap in the respective literature, especially in the Iranian setting. Therefore, the first goal of this study is to analyze and identify social elements affecting RS in spontane-

ous settlements and then evaluate the impact on housing prices. In the next section, a brief review of the literature on RS is explained to highlight effective social components of RS and then analyzing its influence on the housing market. In the section dealing with methodology, data collection and samples are presented. Next, results analysis and associating explanations along with discussion and conclusion are introduced. Finally, recommendations and directions for future studies are stated.

2. Literature Review

2.1. Residential Satisfaction and Its Social Factors

RS has been vastly studied with regard to building environment studies since the early 1960s [13] [14]. It is especially fundamental for programmers, architects, urban designers, and policy makers. RS can be regarded as a dynamic issue since it is largely dependent on residents' needs and expectations and it has slight variations among those residing in different areas [15]. Francescato *et al.* [16] maintains that RS is defined as the negative or positive responses of residents to their living environment. In this definition, the term "environment" not only includes the physical aspects of the place but also encompasses social, economic, and organizational dimensions as well. Ghafourian and Hesari [17] also indicate that RS is considered as the level of experienced satisfaction by a household or its members regarding their existing place of residence. Various empirical studies have been carried out aiming at assessing the level of RS by individuals. Some have focused on the fact that whether residents are satisfied or dissatisfied with their life conditions [18] [19] [20], while others have empirically concentrated on analyzing the different variables affecting RS in a variety of countries [21] [22] [23]. Although these studies have led to profound insight, there is little evidence supporting the presence of a unified, generalizable pattern or specific mechanism regarding RS among people from different settings and countries [24]. In general, the results of the study, as suggested by Galster [25] reveal that in these cases, the term has been evaluated from two opposing empirical approaches. One approach, as taken by Canter [26] and Galster [27], regards satisfaction as the major standard index to facilitate issues related to the residential environment and to meet the needs of users, labeled as the "purposive approach." Such an approach enables researchers to benefit from measures and standards obtained from different user roles and specifications in order to enhance their level of satisfaction with the residential environment, both to direct efforts to realize users' needs and affect their link to their place of living. On the other hand, Galster [25] claimed that RS is a measure to evaluate the visible gap between residents' actual needs and expectations with existing real situations, labeling it "the actual-aspiration gap approach." The fundamental theory behind this approach is that residents consciously build a mental scheme of quality and quantity factors of their residence and adapt their own needs, desires, and expectations to that. Thus, residents tend to compare their residential place to the

ideal standardized scheme established. The more the level of congruence between their living condition and the reference, the more satisfied them would be and vice versa [21]. Therefore, people are willing to adjust and reinforce their residential situation or change their minds regarding their personal needs and wishes or move to another place, in each case, the objective being enhancing the RS of the household [18]. This assumption forms the basis of the "aspiration gap approach" and it has become the most favored conceptual framework by those regarding RS from this perspective [25]. Among the topics related to RS studies, one is social factors [28]. A number of researchers believe that these elements play a more casual role compared to physical factors involved in RS [29]. Therefore, during the past decades, investigating the conception and functions of social indices affecting satisfaction has been vastly considered by scholars in the field leading to the recognition of a cornucopia of factors. In the following, the different social factors of RS will be elaborated on.

The simplest element of human social life is the *social interaction among members*, which is on intrinsic needs. That is the reason why people establish social ties according to their own expectations, desires, specific roles, and limitations [30]. A large body of research has revealed that social ties and bonds are major determining factors in evaluating the amount of satisfaction of residents with their living place [31] [32] [33] [34]. However, the conditions of modern life have slightly reduced the effect of these elements yet providing appropriate social interactions along with the presence of a protective social network in the local society count for enhancing satisfaction [35] and compensating for poor local circumstances [36] [37] [38].

Community participation, as a social factor, refers to the sum of actions and reactions among members of a group to help them achieve a common goal which is almost regarded as acceptable by all members who care for that [39]. Membership in groups and associations in a local society permits individuals to be more connected to their society which, in turn, prevents the separation of a person from their local atmosphere. Such voluntary and effective participation in local activities not only helps an individual generalize their commitment beyond informal institutions and become identified with their community but also leads to a feeling of satisfaction with their residential environment [40]. Some studies have confirmed that residents' voluntary participation in local communities where neighbors interact plays a significant role in maximizing satisfaction [34] [41]. For example, in research conducted by Hur and Morrow-Jones [41], fourteen variables affecting RS were examined using a logistic regression method. They concluded that attending organized social activities in a local setting cooperates with RS positively, and those residing in satisfying situations and locations tend to interact through social participation. Wang and Wang [42] also have concentrated on the impact of conative and emotional factors on RS, concluding that higher RS is due to the high level of involvement and activity both inside the housing and in the neighborhood. Cao and Wang [43] also maintain that individuals get involved in activities in their neighborhood

when they are motivated by the condition of their place of residence, and this would end in higher residential satisfaction.

Along with the mentioned factors, another social factor that has received less attention compared to others is that of "*neighbor conformity and similarity*" which refers to individuals feeling toward the fact that their neighbors have many points in common with them [16] [44] [45]. Kazemeini [46] maintained that neighbor conformity is a characteristic that can upgrade the level of RS. Moreover, there is enough evidence that the perception of a lack of socio-economic similarity among neighborhood residents affects satisfaction [36] [47]. Therefore, in neighborhoods where their residents enjoyed shared property from the social, economic, and racial points of view, the level of RS is likely to be more than in residences where settlers are more heterogeneous. As a consequence, realizing homogeneity and conformity is an incentive for more social interactions and friendly ties among settlers which could lead to an enhanced level of RS [36].

The Sense of belonging to the local society represents the link between the individual and their socio-physical environment [48]. Norouzi Zadeh *et al.* [2] indicate that the term defines an individual's feelings and emotions toward a certain geographical situation which effectively ties a person to a certain location. As a matter of fact, a sense of belonging is a pleasant, positive experience of a place and the result of positive affections and beliefs which a person creates during the process of interacting with a place and identifying it [49]. A corpus of RS-related literature maintains that the degree of belonging of a person to their local society has a significant meaningful effect on increasing RS [6] [38]. For example, Iman and Kaveh [50] used a multi-dimensional approach to investigate the link between a sense of belonging and RS in Foulad Shahr, Iran (n = 384). The study showed that there is a positive, significant relationship (r = 0.593) between a sense of belonging and RS. This implies that the more the residents feel that they belong to their residential area, the higher their level of satisfaction, in general, will be. Furthermore, Sajjad Zadeh *et al.* [51] studied the structural model of PA with RS in traditional residences. The study findings indicated that between a sense belonging and RS there exists a significant correlation of a = 0.84 and the index for PA was proved to be a decisive and effective factor in creating a sense of satisfaction among residents.

Another social variable affecting satisfaction is the sense of security in a residential place [31]. Studies have confirmed that if residents realize that their place of residence is not secure, they are less likely to be satisfied which may gradually lead to their decision to leave the area. In an analysis of a 1997-1998 survey on houses in England, it became clear that feeling secure is a crucial attribute of RS [52]. Chapman and Lombard [53] investigated effective factors on RS. The results showed that in inquiring about factors such as public safety, lack of crime, and felony in a residential setting, less than 10% of the sample population believed that crime is available in their local society, and such mental image of the presence of safety in residence had enhanced their RS. Basolo and Strong [54]

studied the same category in uptown New Orleans, Louisiana, revealing that the most fundamental element of satisfaction with the residence was hidden in shelters' perception of security and safety in their area which in turn reflected a serious concern with regard to crime in local society. In yet another research by Hezar Jaribi and Safari Shali [55], the correlation method was used to specify the link between a sense of security and RS among residents of Tehran's 5th urban region (n = 600). The findings of this study reflected the fact that a sense of security in the local setting contributes toRS.

A concise investigation of these literature shows that various social factors affect RS, the effect and level of influence of each being identified by differences in cultures, races, countries, and ethnic groups [18]. Therefore, it is specifically important to elaborate on the social factors affecting RS from the viewpoint of residents in spontaneous settlements around Tehran.

2.2. Satisfaction with Social Factors and Housing Price

Housing market analysts argue that satisfaction with the social constituents of a specific residence affects the market significantly [11]. Therefore, current theoretical attempts tend to integrate the social components of RS and the economic processes involved. One way is to evaluate and assess the impact of satisfaction on the housing market and how it is reflected in fluctuations in housing prices [56]. In research conducted by Khakpour & Samadi [57], the link between elements affecting housing prices was analyzed. It yielded several results confirming the direct, positively significant effect of social factors on housing prices, and the effect of social factors was recognized as the most influential constituent on housing prices. Blair and Larsen [11] also analyzed the effect of satisfactory relationships and ties among neighbors on housing prices through a semi-logarithm regression model in Dayton, Ohio. The research findings revealed that a desirable social interaction among neighbors is a key factor in enhancing property value and price. Therefore, researchers have come to believe that housing price is the key determining component about housing-oriented issues which is highly obedient to determinants of demand and supply [58] [59].

On the part dealing with supply, those residents who are satisfied with the social factors of their place of residence tend to stay there longer and not leave and sell their housing. Moreover, the possibility of selling their place for a lower price is eliminated due to their willingness to stay, which would guarantee neighborhood stability, and enhance integrity, by encouraging residents to settle for a longer period [11] [60]. Therefore, such a tendency for long-term stay among residents because of their satisfaction along with limited housing supply would lead to soaring property prices [61]. On the other hand, concerning the demand for housing, the price is highly dependent on the potential buyers' perception of the level of existing satisfaction among those already residing in the area. While customers observe that they are satisfied with the social factors of their surrounding environment, they would feel safe investing their money in housing in their respective neighborhoods [11] [58] [59]. RS is the key incentive

for residential dynamicity by changing the rates of demand for housing [27], *i.e.*, an increase in the level of new residents entering the neighborhood is a good indicator of accompanying demand to purchase housing. However, since the rate of supply is subject to several restrictions, enhances in housing prices are inevitable [62] [63].

3. Research Context

During the past decades, the population of Tehran has exceeded 12 million 800 thousand people. Statistics confirm that more than 20% of the added population resides in suburban residences and settlements located around the city [64]. One of the major centers of population attraction in southwestern Tehran is Islam Shahr, located 12 kilometers away from the capital. Although it is largely dependent on Tehran concerning financial and economic issues, from a cultural point of view, Islam Shahr has become a new pole that attracts not only rural immigrants but also those moving from large cities and urban areas. It has succeeded in solving the housing problem for a considerable number of low-income households in Tehran [65].

Since the aim of studying spontaneous settlements in the present study is to analyze the situation of residences in the lands which have been established and developed in vacant lands around a rural area without official plans for the development [7], Qaemiyeh residence was selected as the case sample. Qaemiyeh is the largest spontaneous residence formed around the original kernel. The residence had been a small village in the past that has transformed into a relatively large place setting 9774 people due to the excessive rate of immigration in the past three decades. Its residential context is formed compactly, and 90% of the units have an area under cover of 50 m^2 to 150 m^2. **Figure 1** presents Qaemiyeh's residence map. Concerning local properties, the compact residential area, along with internal construction plans have left no space for green areas and parks inside the residence. In fact, the disorganized alteration of farmlands into residential areas has manifested the lack of green areas in residences more than ever before [66]. Since a wide range of Qaemiyeh's population is employed in Tehran, the public transportation system has been organized by the residents to help facilitate the process of transferring a significant number of passengers on a daily basis. Partoy and Fathalian [8] analyzed the quality of life in Qaemiyeh spontaneous settlements of 175 respondents using the AHP method. By studying 18 and 28 major indices related to housing, they reported that the residents showed low satisfaction because of poor physical conditions as well as lack of sewage system, poor health conditions, inappropriate distribution of transportation facilities, and insufficient urban and recreational centers.

4. Methodology

4.1. Data Collection and Sample

The present study is claimed to be unique in two ways. First, to specify housing price, we neither concentrated on the total medium of price effects nor on

Figure 1. Qaemiyeh residence plan [8].

calculating price based on the building area. Rather, actual deals and housing exchanges in local centers were the focus of our study. Such an approach enabled the present researchers to observe the existing differences in property characteristics and their impact on price variations within the neighborhood. Second, instead of concentrating on the whole series of variables involved in the creation of RS, the present study zooms solely on social factors so that it would be easier to achieve a more narrowed-down, straighter, and more comprehensible index for the concept. The reason is hidden in the fact that when the effect of various factors is considered collectively, it is possible that the specific influence of one single variable might be mitigated or even neglected. Thus, due to the double-sectioned nature of this study, the required data were collected in two phases. During the first phase, a closed questionnaire was used to gather authentic data on the social factors affecting RS in Qaemiyeh. To construct the items in the questionnaire, initially social factors affecting RS were specified by reviewing previous literature. The questionnaire contained 27 questions benefitting from the questionnaires by Golabi *et al.* [67] and Amerigo and Aragones [68]. Golabi's questionnaire was in Farsi; however, we translated items from Amerigo and Aragones's questionnaire to Farsi. To examine validity and reliability, a pre-test was conducted among a sample of 40 people from Qaemiyeh residents. Finally, inappropriate questions were omitted, remaining a 23-item questionnaire. Each item was categorized according to Likert 4-scale ranging from "strongly agree" to "strongly disagree."

The process of data collection was conducted in the period from May 17 to August 28, 2018, via door-to-door visits by asking residents of Qaemiyeh whether they were eager to attend a survey. Although there is no universal agreement on the required sample size [69]; yet, many scholars and researchers believe that a

corpus of 200 would suffice [70]. Accordingly, a corpus of 200 questionnaires was completed by 200 families residing in Qaemiyeh. The number counts for 1/10 of the total households living in residence (n = 2018). However, due to the prediction of incomplete answers by some respondents, originally a total of 240 self-filling paper questionnaires were handed out on seven days of the week from 10 a.m. to 4 p.m. to confirm that a wide range of residents was in the sample. The research team gave general information to residents about the research goal. Out of 240, the residents filled up 221 questionnaires and given back to the research team. Finally, incomplete ones were removed, and only 200 were left. The selected participants shared two characteristics: a) to have a true understanding and comprehension of the questions; the respondents were all over 18 years of age; b) they had lived for at least seven years in the residence. Finally, the obtained data were analyzed based on Smart-PLS software. In the next phase, the houses of 200 residents attending the survey were valued, and the prices were assigned by two local expert realtors in the neighborhood. The approach adopted here to determine each property price creates a theoretical sense. Since the reported property prices were the result of experts' direct observation after visiting each house, the final prices indicate a competitive housing market in the neighborhood. In this stage, to investigate the impact of social elements on housing prices linear regression method was utilized.

4.2. Descriptive Analysis

Demographic characteristics of the respondents reveal that 85 questionnaires (42.5%) were filled up by men and 115 by women (57.5%). Concerning the age group, most respondents (50%) belonged to the ages ranging from 26 to 40. Respondents included 157 married (70%) and 105 of them were property owners (52.5%). Regarding the period of residence, half of the respondents had stayed in the area for 7 to 10 years. Also concerning residents' educational background, most respondents (157) hold high school degrees (78.5%).

5. Results

5.1. Assessing the Model

Assessment of a model by the use of PLS-SEM generally follows a two-step process involving assessment of the measurement and structural models respectively [71]. Assessment of the measurement model entailed an examination of the validity and reliability of the relationships between the latent variables and the related observable constructs. Assessment of the structural model focused on the relationships between the constructs [72].

5.2. Assessment of the Measurement Model

The final model for this study involved six reflective constructs, and all of them were reflective first-order constructs. In the initial assessment of the measure-

ment model, the six first-order constructs (*i.e.*, residential satisfaction, sense of belonging, social interaction, safety, voluntary association, and neighbors' conformity were evaluated. As noted above, all constructs in this model were reflective. Therefore, to assess the measurement model, the criteria for the assessment of the reflective measurement model had to be considered. The reflective measurement model evaluated reliability and validity, as measured by Composite Reliability (CR) and Average Variance Extracted (AVE) [71]. Tests of indicator reliability and construct reliability were conducted to ascertain the reliability of the reflective measurement model. In assessing indicator reliability, the loading of each indicator on its associated latent construct should be higher than 0.7 [73]. However, a loading between 0.4 and 0.7 can be considered acceptable if the CR and AVE of the associated construct are higher than the threshold [71]. Table 1 indicates that most of the indicator loadings were higher than 0.7, with X12 being the exceptions, in which the CR and AVE of the safety construct, were higher than the threshold. Two coefficients are typically considered when assessing construct reliability: CR and the more common Cronbach's alpha coefficient (Chin, 2010). However, CR is more suitable for PLS-SEM [71]. Table 2 indicates that both the CR and Cronbach's alpha for all first-order LVs in the measurement model exceeded 0.7. These results indicate that the measurement model was internally consistent and reliable.

The construct validity of the reflective measurement model was a function of convergent and discriminant validity [71]. Therefore, the AVE values of the LVs had to be higher than 0.5 for their convergent validity to be considered acceptable [72]. AVE is used to measure the amount of variance in an LV as a product of its indicators [72]. Table 2 shows that the AVE for all the constructs exceeded 0.5. Therefore, the measurement model's convergent validity was highly acceptable. Discriminant validity is the extent to which each construct is distinct from other constructs in a model [72]. Two measures must be assessed to determine discriminant validity. The AVE of each construct should be higher than the highest squared correlation of the construct with any other LV in the model, and an indicator's loading with its associated LV must be higher than its loading with any other LV [71] [74]. The comparison of the square root of the AVE for each construct with the correlation of the remaining constructs is depicted in Table 1 and indicates the acceptability of the discriminate validity for all of the constructs in this framework.

5.3. Assessment of the Structural Model

Two tests were necessary to complete a preliminary assessment of the structural model and the conceptual framework, namely the R-square (R2) measure for the endogenous constructs and the path coefficients [71] [72]. The path coefficients must be significant; however, R2 can be varied depending on the research area. Chin [72] suggested values of 0.67, 0.33, and 0.19 as measures of R2 to be considered substantial, moderate, and weak, respectively. The R2 value of the

Table 1. Discriminant validity assessment for first order constructs.

No.	Construct	1	2	3	4	5	6
1	Sense of Security	0.740					
2	Sense of Belonging	0.399	0.831				
3	Neighbor's Conformity	0.397	0.591	0.805			
4	Participation	0.428	0.270	0.385	0.798		
5	Social Interaction	0.493	0.559	0.547	0.401	0.867	
6	Residential Satisfaction	0.586	0.540	0.643	0.517	0.578	0.786

Table 2. Results of the assessment of measurement model for constructs.

Construct	Items	Factor loading	CR	Cronbach's alpha	AVE
Participation	X1	0.747			
	X2	0.856	0.840	0.717	0.637
	X4	0.789			
	X5	0.740			
Social Interaction	X8	0.764	0.866	0.793	0.617
	X9	0.808			
	X10	0.828			
	X11	0.785			
Sense of Security	X12	0.676	0.828	0.729	0.547
	X13	0.791			
	X14	0.701			
	X15	0.719			
	X16	0.881			
Sense of Belonging	X17	0.843	0.918	0.888	0.691
	X18	0.857			
	X19	0.847			
	X20	0.731			
Neighbors' conformity	X22	0.865	0.880	0.817	0.649
	X23	0.768			
	X24	0.851			
	X25	0.855			
Residential Satisfaction	X26	0.879	0.901	0.835	0.752
	X27	0.869			

endogenous construct in this study was 0.468; therefore, this value was considered moderate and acceptable. According to **Table 3**, the value of the path coefficient for the effect of sense of security, sense of belonging, social interac-

tion, and neighbors' conformity on satisfaction were respectively 0.176, 0.269, 0.173, and 0.167, and the p-value of all of them was lowers than 0.05. As a result, the hypotheses related to these relationships were accepted.

Besides that, the P-value of participation in satisfaction was 0.1 which was higher than 0.05. These results show a sense of belonging contributes to residential satisfaction (see Figure 2).

5.4. Regression Analysis

To test the effect of social elements involved in RS on housing prices Linear Regression method was used. Moreover, according to data asserted in Table 4, the degree of correlation between RS and expert-reported housing prices equals 0.128. This indicates that residential satisfaction can specify variation in housing price by relatively 12.8%. Also, the adjusted R2 is calculated to be 0.035.

6. Discussion

The present study aimed to specify the social elements affecting RS in residents of spontaneous settlements. As can be inferred from Table 2, a total of 23 components from the five social variables were studied. The research model showed that the four variables of sense of belonging, sense of security, social interactions, and residents' conformity have impacts on RS, while the variable of participation in local society did not display a significant relationship with RS in the present study.

Sense of belonging is recognized as the strongest predictor of RS. In fact, by forming a sense of belonging and affection between residents, a strong emotional link is established between them. This, in turn, would lead to the creation and enhancement of RS. Although Qaemiyeh residence lacks proper physical and environmental properties, suitable facilities and services, yet it has created an affective, emotional belonging among residents, which affects RS. In other words, Qaemiyeh's residence suffers from poor physical-environmental condition and a lack of social facilities and services; however, it has succeeded in creating an atmosphere for the residents to have a high emotional and affective sense of belonging to the area. This finding is in line with the results of previous studies of Amerigo & Aragones [68], Aiello *et al.* [38], Sajjad Zadeh *et al.* [51], and Amir Kafi & Fathi [75].

Table 3. The result of hypotheses testing.

Path	B	Standard Deviation (STDEV)	T-Value	P-value
Senseof security --> Satisfaction	0.176	0.083	2.134	0.017
Sense of belonging --> Satisfaction	0.269	0.098	2.752	0.003
Neighbors' conformity --> Satisfaction	0.173	0.089	1.934	0.027
Participation --> Satisfaction	0.100	0.079	1.266	**0.103**
Social interaction --> Satisfaction	0.167	0.098	1.712	0.044

Table 4. Regression model summary.

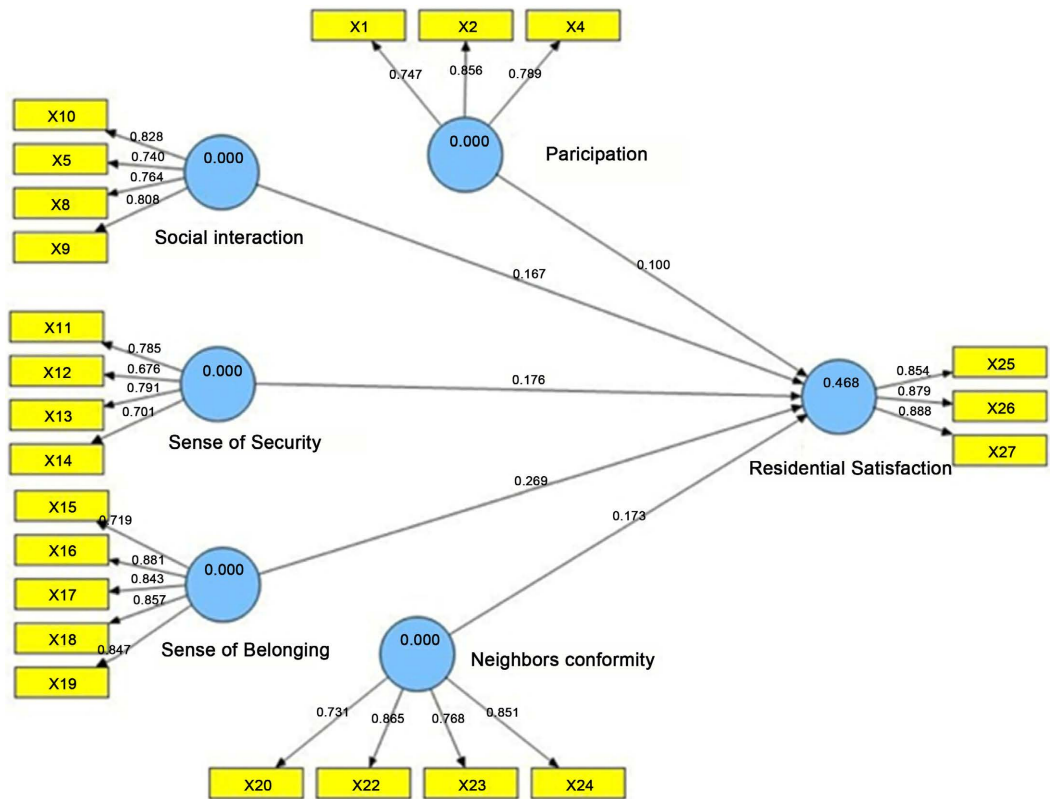| Model	B	Adjusted R2	t	P
1	0.128	0.035	4.467	0.037

Figure 2. Model of the study.

Sense of security is the second factor affecting RS. In fact, security is one of the most precious values of any given residence and it plays an essential role in creating residential satisfaction among residents of Qaemiyeh residence. The presence of police forces on emergency occasions, and non-official factors such as familiar neighbors and residents are among the factors with considerable effect on evaluating the security of the investigated residence. On the other hand, the presence of commercial and business functions at the edges of streets in this residence has provided informal supervision during different hours of the day. Based on this result, one can claim that by enhancing a sense of security, reducing tensions, and improving the social environment and spontaneous settlements can have residents with a growing level of RS. The results of this hypothesis are in line with Hezar Jaribi and Safari Shali [55].

The third social element affecting RS, according to the results is recognized to be neighbors' conformity and homogeneity. In general, people seek places where they can live in peace and be close to other individuals who share similar characteristics with them such as ethnic and socio-economic variables, lifestyle, religion, etc. [44]. Therefore, observing such similarities and homogeneity with

others encourages enhancing social ties among residents which, in turn, can lead to increasing RS. The strongest factor identified among Qaemiyeh residents was that of social and ethnic similarity. In fact, co-existence among neighbors who have shared ethnic backgrounds and numerous common points concerning social status has influenced the lifestyle of the residents, and they have managed to adapt themselves to the existing situation by selecting a certain way of life based on their social background. This finding is in line with the study of Azizi [76].

Moreover, the results confirmed that social interaction is another indicator of evaluating RS. Expended social ties among residents are also crucial interaction-based components. One can claim that co-existence and positive social relations are strong factors contributing to RS, the strength of which depends directly on the quality of such ties. However, this only happens when the supporting network is strong and not disorganized [77]. In other words, knowing many people in society does not necessarily mean strong social support is an indicator of RS, but as indicated in previous studies [17] [78] people feel satisfied with their local community and their interactions only if the society seems friendly, honest, and supportive. In Qaemiyeh's residence, face-to-face contact and strong social ties have affected residents' sense of satisfaction. Despite poor environmental conditions in residence, interactions among residents are obvious, specifically in religious settings such as mosques. The two mosques in Qaemiyeh have created an appropriate location for establishing and holding social ties among the residents. This finding confirms previous results obtained by empirical research studies by Chapman & Lambard [53], Golabi *et al.* [67], and Khodaei & Pour Kheiri [33], emphasizing the impact of social ties on RS.

The impact of participation in local activities on RS was another research hypothesis. However, research findings did not yield any significant correlation between the two as indicated in Table 3, although such correlation has been confirmed by many studies. The reason for eradicating the above hypothesis may be traced to a variety of factors such as poor services, facilities, recreational centers, and green areas inside the residence, as enumerated in Partoy and Fathalian [8] and Balvayeh [79]. The formation of organized, voluntary activities which reflect common points is subject to the presence of a suitable setting along with non-governmental institutions and organizations. As stated by a lady participant in our survey: "due to the lack of parks and recreational centers in our residence, the possibility of attending group activities and voluntary local projects is very limited." On the other hand, the reason might be as stated by some other residents "due to long work hours to provide for expenses of living; no time is left for voluntary social activities." In fact, as stated by Piran [80], when residents do not own the required financial resources, they tend to show unwillingness to participate in locally organized activities, and the process of social budget development would encounter serious barriers. In general, the findings of the present study seem to be in line with Sajjadi and Sadeghi [81], which had announced a poor level of resident involvement in Islam Shahr residences and its relationship with RS. This finding is contradictory to those asserted by

Amerigo & Aragones [29], Kahana *et al.* [82], and Ibem & Aduwo [21].

The present study also concentrates on another hypothesis dealing with the assumption that RS with social elements has an impact on housing prices. Empirical findings verify the hypothesis indicating that the proposed model can explain and specify housing prices by 12.8%. It was also revealed that RS with social components explains 12.8% of the housing price increase. Such a finding is in line with the empirical results of Khakpour and Samadi [57] and Blair and Larsen [11]. In fact, the effect of desired factors in housing prices soaring, especially in spontaneous settlements, is driven by supplementary factors of demand and supply. It is well-realized that wherever residents have the opportunity of establishing ties with neighbors and other settlers in the area, formal and informal relationships are formed and gradually strengthened. This would lead to an enhanced sense of belonging among neighbors, and social interactions would facilitate the process of achieving a more comfortable living which, in turn, ends in a safe and secure neighborhood with social stability [75] [83]. Therefore, fewer residents would show the inclination to sell their places. On the other hand, by realizing the presence of satisfaction among residents, more migrants and potential buyers tend to buy houses in the area or pay higher amounts of money for the deal. The constraints on supplying a sufficient number of houses along with enhancing demand would lead to a significant increase in housing prices within spontaneous settlements. However, as discussed by Blair and Larsen [11], future comprehensive studies are required to specify whether the price enhancement is controlled mainly by demand or supply. More precisely, if the increase in housing prices leads to a lower rate of selling among residents one can conclude that settlers do not tend to move and the price is directed by the factor of supply. Yet, if the observed price soar ends in a higher rate of house sales, it is mostly a demand-driven phenomenon [11]. Decision-making about this issue is subject to future more detailed observations and investigations. Therefore, as claimed by the findings of this study, policymakers and governmental and non-governmental personnel involved in macro-scale decision-making for urban development are highly interested in creating satisfaction with the social factors of a neighborhood. Although creating change in physical microstructures of spontaneous settlements seems to have certain difficulties due to the compactness of the residential context, it is possible to benefit from strategies such as supporting social NGOs to create a local community without changing micro- structure, enhancing supervision in the neighborhood level as well as creating shared green areas and parks to encourage social interaction among residents.

7. Conclusion

Originally, the present study aimed at identifying those social factors which led to the creation of RS in Qaemiyeh spontaneous settlement in Islam Shahr, Tehran. It further attempted to evaluate the impact of these elements on property prices. The research findings introduced four elements of sense of belonging, social interaction, residents' conformity, and sense of security as the prevalent fac-

tors affecting RS of residents under study. Results accompanied by the research model specified that sense of belonging has the most evident influence on the RS of users in this residence, which is followed by the sense of security, residents' conformity, and social interaction. Moreover, participation in local society activities previously recognized as a social element affecting RS did not display any significant impact level. Therefore, based on the discussed issues, one can claim that although Qaemiyeh's spontaneous settlement lacks urban facilities and amenities, from a social point of view, it has succeeded in creating RS. The results also confirmed that social components of a residence have a determining role in increasing housing prices both through reducing supply by property owners and increasing demand by new customers. In fact, the major consequence of our findings implies that urban managers and planners of the nation should always pursue efforts to develop and enhance the level of RS by residents in such neighborhoods.

Limitations and Direction for Future Research

Although the present study paved the way for future related research projects, there were cases of restriction in this study that can be eliminated or enhanced for a better outcome. The number of respondents attending this study equals 200, which is the minimum sample size in SEM methods. It is possible to increase the population size to achieve results that can be generalized more easily. Secondly, generalizing the data obtained might be very limited. It is probable to identify various patterns in different settings with regard to cultural variations. Therefore, it is better to analyze other spontaneous settlements in Iran and around the globe. This enhances the validity and generalizability of the present study. Thirdly, in this study, the hypothesis regarding the effect of participation on RS was rejected while it has been frequently confirmed by other studies. Therefore, it is recommended to carry out other studies to investigate the presence or absence of correlation between the two variables in a presumed model. Additionally, in future studies, it can be taken into consideration that respondents' ideas should be categorized based on their demographic characteristics so that different levels of satisfaction can be identified in a more comprehensive model to undertake new strategies. Finally, the importance of attending to more comprehensive studies to specify whether price soar is subordinate to the supply factor or is directed by demand in the market, especially in the setting of spontaneous settlements, is completely realized.

Conflicts of Interest

The authors declare no conflicts of interest.

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