



Investigating the relationship between a sense of neighborhood belonging and social participation among Yazd residents: A cross-sectional study

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Abstract

Background & Aims: Social participation is a key strategy for promoting health and can greatly impact individual health outcomes. This study explores the relationship between the sense of neighborhood belonging and social participation among residents of Yazd city.

Materials & Methods: A cross-sectional descriptive correlational study was conducted in 2023 among 20 to 70-year-old residents of Yazd neighborhoods. The sample size, based on statistical calculations, included 620 participants. Data were collected using a three-part questionnaire covering demographic characteristics, a standard sense of neighborhood belonging, and social participation. The data were analyzed using SPSS24, descriptive statistics, independent t-tests, ANOVA, and Pearson's correlation coefficient.

Results: The mean and standard deviation of social participation scores were 85.36 ± 5.69 , and the sense of neighborhood belonging was 31.15 ± 3.09 . A significant relationship was found between social participation scores and gender. A positive, significant correlation existed between the seven components of neighborhood belonging and social participation levels. Among these, fulfillment of needs and loyalty showed the highest ($r = 0.712, p = 0.00$) and lowest ($r = 0.416, p = 0.02$) correlations with social participation, respectively.

Conclusion: The findings highlight a correlation between neighborhood belonging and social participation. To strengthen social networks and neighborhood identity, implementing educational programs, social and cultural activities, and creating safe public spaces are recommended. Building online and offline social networks, organizing sports and recreational activities, and developing charity initiatives can help reduce insecurity, increase residents' sense of responsibility, improve quality of life, and foster loyalty to the neighborhood, thereby positively influencing social participation.

Keywords: Neighborhood, Social engagement, Social participation, Yazd

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Introduction

Improving health and ensuring the health of people in society is one of the important pillars of the progress of societies. Health standards are being developed and implemented to increase the level of satisfaction, life expectancy, and quality of life. Today, attention is paid to health promotion indicators in all countries of the world. To comply with health standards, various factors have been identified and proposed. However, the role of social factors in health was officially raised for the first time in 1974 (1).

Social participation as an effective strategy in health promotion can affect people's health. Participation of communities and people is not only effective in the field of health but also in the field of sustainable development. In fact, participation is the concept of creating opportunities for all members of a local community and the larger community to participate actively and effectively in the process of development and exploitation. Basically, the community-oriented approach is derived from development measures (2).

One of the ways to strengthen human relations is possible through participation. In a society where the amount of participation, cooperation, and altruism between people is high, people participate in the advancement of other tasks and collective activities while doing personal work. This participation creates a feeling of satisfaction and positive energy towards oneself and the surroundings in people and as a result, increases the level of vitality and happiness at the level of the society (3, 4). The happiness and contentment of individual members of society are realized in the network of exchanges between the social systems. The degree of happiness of individuals is possible with their sense of satisfaction with themselves and their surroundings (5).

As the highest manifestation of human civilization, the city plays a fundamental role in creating a good life for citizens. The World Health Organization considers the environment to be influential on people's social health. The second environment that a person steps into after the family is the neighborhood. Upon entering the neighborhood, a person steps into a new world that he

always tries to get to know. In general, the concept and the word neighborhood can be defined from different ecological, social, psychological, mental, perceptual, architectural (physical), and political dimensions (6). On the other hand, these definitions can be different in various societies and different historical periods. In the ecological approach, a neighborhood is a set of residential and service buildings, which in terms of the social fabric of its residents consider themselves to be from that place and have a range with a walking radius of 10-15 minutes, as well as a spatial integrated range of the city. It is with physical boundaries, which are based on mental understanding or objective signs for the residents who feel the belonging to the place and social solidarity (7). The effective factors in recognizing and defining the neighborhood are the existence of uses necessary to meet the daily needs of residents with walking access, social ties, proximity, ease of walking access of residents from the outskirts to the center of the neighborhood, and so on (8).

The neighborhood and the place where a person lives is not only a physical place and shelter but a phenomenon that a person gives meaning to in his interaction with it and defines and recognizes himself with it. In order for people to participate at the neighborhood level and increase their participation, it is necessary to increase the sense of belonging to the neighborhood. A person's sense of belonging and membership in the neighborhood and the feeling of influence on the social environment in which he lives will increase the level of participation (9, 10). To promote neighborhood-based management, we need people to have a sense of belonging and attachment to the neighborhood and the place they live in and envision an identity for it (11).

The main factor that motivates people to work and participate is the surrounding environment which makes the role of designing a suitable local space to make participation more attractive and understandable (12). Humans have an inner need to connect with the local environment. In the last decade, much research has been conducted in the field of the relationship between the neighborhood environment and the sense of belonging

to the place of life and the impact on the improvement of social health and people's participation (13). The impact of the living environment on human social participation has been proven in several studies. Along with the rapid growth of cities, we are witnessing the deterioration of the environmental quality of urban spaces, which itself has caused various crises in different areas of residents' lives (14-18).

The expansion of cities, such as Yazd, inevitably leads to physical sprawl and increased density. This growth pattern challenges urban planning, affecting equity and the quality of neighborhoods, ultimately reducing residents' attachment to their local environment. Yazd specifically suffers from rapid, scattered growth, shifting from its historically cohesive urban structure to a more diffusely developed one. Such changes have reduced the sense of local identity among residents, contributing to low social participation, higher rates of depression, and social issues. The decline in neighborhood identity due to uncontrolled urban expansion is associated with diminished social participation. This disengagement can exacerbate feelings of isolation and depression among residents, highlighting the need for focused urban planning and community-building initiatives. Therefore, this study was conducted with the aim of investigating the relationship between the sense of belonging to the neighborhood and the social participation of Yazd residents.

Materials & Methods

This study was a descriptive correlation cross-sectional study that was conducted on 20 to 70-year-old residents of Yazd city neighborhoods in 2023. Sampling was done based on the WHO STEP pattern, and the sample size was estimated to be 620 people based on the following formula, taking into account the first type error of 5% and the power of the test at the level of 20%. The WHO STEP pattern is a standardized approach used for collecting, analyzing, and disseminating data (19).

$$n = \frac{Z_{1-\alpha}^2 \cdot p(1-p)}{d^2}$$

$$Z_{1-\alpha}^2 = (1.96)^2$$

$$\alpha = 0.05 / d = 0.035$$

Participants

People's participation in the research was completely free and they participated in the study by fully explaining the details of the study process, goals, disadvantages, advantages, limitations, and obtaining consent online from the researcher, as well as checking the entry and exit criteria. Measures were taken to protect the confidentiality and anonymity of participants. This involves securely handling data to prevent unauthorized access and ensuring that personal identifiers are not disclosed in any reports or publications. The research findings were reported honestly and transparently, avoiding any fabrication or misrepresentation of data. This is crucial for maintaining the integrity of the research.

Entry criteria included an age range of 20-70 years old, living in the desired neighborhood for the past three years, not suffering from physical and mental disabilities, not suffering from vision problems, not having a history of stroke, and not suffering from mental illness.

Sampling was conducted in two stages. In the first stage, two neighborhoods were randomly selected from each of the five economic strata (according to the classification by the Yazd Housing and Urban Development Office based on neighborhood poverty). Subsequently, in each of these neighborhoods, sampling was randomly conducted by drawing lots from household health records at health centers. In total, 10 neighborhoods were chosen from the 50 existing neighborhoods in the city of Yazd. Samples were taken from each economic stratum and each neighborhood proportional to the population size. To enroll participants in the study, detailed and clear explanations were first provided to the individuals, and then informed consent was obtained in writing. The questionnaire was completed through interviews conducted by visiting people's homes.

Data collection

The data collection tool in this research was a three-part questionnaire, including demographic characteristics, a neighborhood sense of belonging

questionnaire, and a social participation questionnaire. Demographic features include age, gender, income adequacy, education, occupation, and marital status.

The neighborhood sense of belonging questionnaire was designed to evaluate residents' sense of belonging to a neighborhood and was used in Arabi's study (14). The validity of the questionnaire was supported by eight experts in the fields of health education, sociology, geography, and human ecology with a CVI of 0.92 and CVR of 0.91. In our study, the questionnaire had a Cronbach's alpha coefficient of 0.91. This scale includes 28 items in 7 subscales of loyalty (7 questions), identification (5 questions), sense of identity (4 questions), membership (3 questions), influence (3 questions), fulfillment of needs (3 questions), and emotional subscale (3 questions) which was designed in the form of a 5-option Likert scale as very little, little, somewhat, much, and very much and was scored from one to five. Each person scored 28 out of a range of 140. A higher score meant a greater sense of belonging to one's neighborhood.

Social participation Questionnaire was used in Arabi's study (14). The validity of the questionnaire was confirmed by eight experts in the fields of health education, sociology, geography, and human ecology with a CVI of 0.97 and a CVR of 0.93 and Cronbach's alpha was 0.92. The reliability of this tool was obtained by researchers using Cronbach's alpha calculation of 0.86. This scale includes 11 items in 3 subscales of readiness for participation (4 questions), neighborhood productivity (4 questions), and neighborhood knowledge (3 questions). The questionnaire was designed in the form of a 5-point Likert scale as very little, little, somewhat, much, and very much and was scored from one to five. Each person got a score in the range of 11-55, where a higher score means higher social participation of the person.

After collecting the questionnaires, the information was entered into the SPSS24 software and was then analyzed using descriptive statistics and independent t-

tests, one-way analysis of variance, and the significance test of the correlation coefficient. A significance level less than $p \leq 0.05$ was considered in all tests. Descriptive statistics were used to summarize the basic features of the data, offering simple summaries about the sample and the measures. These statistics provide fundamental insights into the distribution, central tendency, and variability of the data, laying the groundwork for more complex analyses. To explore differences between groups, independent t-tests were administered. These tests are crucial for comparing the means between two independent groups, helping determine if there is a statistically significant difference between them. Additionally, a one-way analysis of variance (ANOVA) test was conducted to assess the differences among group means in a sample. This test is particularly useful when comparing more than two groups, as it can ascertain whether any of the group means are statistically different from one another. Furthermore, the significance test of the correlation coefficient was applied to examine the relationships between variables. This test helps identify whether there is a significant correlation, providing insights into how variables may be related.

Results

The average age of the subjects was 42.22 ± 5.47 . "Out of the participants, 291 individuals (46.93%) were 40 to 50 years old. Additionally, the gender distribution among the participants was equal, with 310 males (50%) and 310 females (50%). The household income of 354 people (57.09%) was sufficient for their livelihood. The education of 181 people (29.19%) was high school and diploma and 491 people (79.19%) were married. The jobs of 162 people (26.12%) were vacant and 178 people (28.70%) had lived in the neighborhood for 10-20 years. The results showed that there was a statistically significant relationship between the average score of social participation and gender ($p < 0.05$) (Table 1).

Table 1. Frequency distribution, mean, standard deviation of social participation score, and neighborhood sense of belonging according to demographic characteristics

Demographic		Frequency		Social participation			
		Number	Percent	Mean	SD	Mean	SD
Gender*	Male	310	50	44.38	3.91	85.51	5.08
	Female	310	50	17.24	3.32	85.61	5.12
<i>P</i>		0.00				0.19	
Age (year)**	20-40	57	9.19	31.17	3.64	85.19	5.99
	40-50	291	46.93	31.08	3.99	85.04	5.85
	50-60	150	24.19	30.61	3.87	85.65	5.34
	60-70	122	19.67	30.67	3.58	85.38	5.68
<i>P</i>		0.17				0.18	
Economic status of the family**	Weak	102	16.45	31.59	3.64	85.05	5.06
	Moderate	354	57.09	31.07	3.44	85.19	5.59
	Good	164	26.45	31.96	3.15	85.34	5.81
<i>P</i>		0.19				0.22	
Educational level**	Illiterate	92	14.83	31.24	3.08	84.96	5.36
	Elementary	117	18.87	31.19	3.96	85.64	5.67
	Middle school	123	19.83	31.38	3.67	85.37	5.18
	High school and diploma	181	29.19	30.67	3.31	84.61	5.94
	Academic	107	17.25	30.68	3.29	85.66	5.44
<i>P</i>		0.15				0.19	
Marital status*	Single	129	20.80	30.16	3.47	85.64	5.09
	Married	491	79.19	30.57	3.61	85.90	5.16
<i>P</i>		0.20				0.23	
Employment status**	Self-employed	162	26.12	31.69	3.99	85.06	5.34
	Housewife	158	25.48	31.54	3.84	85.17	5.66
	Employee	124	20	31.47	3.07	85.64	5.94
	Retired	98	15.80	31.65	3.63	85.11	5.78
	Unemployed	34	5.48	31.84	3.81	85.94	5.03
	Student	44	7.09	31.49	3.72	85.31	5.31
<i>P</i>		0.21				0.18	
History of living in the neighborhood**	Less than 5 years	120	19.35	30.37	3.37	85.31	5.94
	5 to 10 years	169	27.25	30.64	3.14	85.54	5.33
	10 to 20 years	178	28.70	30.25	3.57	85.67	5.07
	Over 20 years	153	24.67	30.17	3.84	85.31	5.11
<i>P</i>		0.18				0.024	

*Independent T-Test

**ANOVA

The mean and standard deviation of the studied variables and their components are reported. The mean and standard deviation of the social participation score

and sense of neighborhood belonging were 85.36 ± 5.69 , and 31.15 ± 3.09 , respectively (Table 2).

Table 2. Mean and standard deviation of the studied variables and their components

Variables	Mean	SD
Loyalty	21.14	2.25
Identification	15.59	2.02
Sense of identity	12.08	1.99
Membership	9.17	1.35
Influence	9.97	1.91
Fulfillment of needs	8.99	1.08
Emotional attachments	9.37	1.44
The total score of sense of neighborhood belonging	85.36	5.69
Ready to participate	12.05	2.32
Neighborhood productivity	12.96	2.07
Neighborhood recognition	11.97	2.99
The total score of social participation	31.15	3.09

The correlation matrix of the studied variables is presented in Table 3. The results showed that there was a positive and significant relationship between the seven components of the sense of belonging to a neighborhood with the social participation level of individuals. Among

the seven components of neighborhood sense of belonging, the components of the fulfillment of needs and loyalty had the highest ($r = 0.712$, $p = 0.00$) and lowest ($r = 0.416$, $p = 0.02$) correlation with the residents' social participation score, respectively.

Table 3. Correlation matrix of studied variables

Variables	Loyalty		Identification		Sense of identity		Membership		Influence		Fulfillment of needs		Emotional attachments		The total score of the sense of neighborhood belonging	
	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P
Social participation	0.416	0.02	0.514	0.01	0.479	0.02	0.527	0.01	0.469	0.02	0.712	0.00	0.691	0.00	0.519	0.01

Discussion

In recent years, the neighborhood environment has been increasingly considered as one of the important factors affecting people's social participation. The social ecology model, which has an important place in the development and improvement of health and hygiene,

emphasizes the effect of a sense of local belonging on increasing the social participation of residents (20). This study examined the relationship between the sense of neighborhood belonging and social participation among the residents of Yazd city.

The mean and standard deviation of the social participation score was 31.15 ± 3.09 . In Norouzi's study, the social participation rate of individuals was reported to be average (21). In Sheikh Biglo's study, the participation level of residents was reported to be higher than the average level (22). Man is inherently a social being, meaning that humans need to communicate with others, leading to the formation of the concept of participation. Human social life relies on social participation with others, as, from the very beginning of life, people have needed cooperation and collaboration with others to meet their needs. Participation is something that can be realized in various areas, including cooperation, adaptation, acceptance, solidarity, integration, and interaction (23). Education is the foundation of cultural and social development. By being aware of the ways of participation, how to work in it, and the results and consequences of social participation, the mass of people can improve its extent and inclusion with their presence. Social trust is a very important component of participation. People's trust towards each other, people's trust towards institutions, the government, and vice versa cause the development and deepening of social partnerships. It is also possible to strengthen and develop the fields of social participation of people in urban planning through the improvement of urban management practices (13,3).

The results showed that there was a statistically significant relationship between the average score of social participation and gender, and men had a significantly higher level of social participation than women, this finding was consistent with the results of the studies by Sasaki (23) and Takagi (24), but not with the results of the studies by Sarai (25) and Sheikh Biglo (22). Throughout history, biological, natural, and social conditions have shaped the situation in a way that has limited, subjugated, and bound women, and the most important factor that has prevented women from progressing is the views and attitudes that have formed in the heart of society. These stereotypes have penetrated society as stereotypes and are a big obstacle in changing the status of women. What is important in the design of gender stereotypes is the emphasis on

showing the negative characteristics of women and the importance of showing men. A view that is often formed with a fixed, static mentality, lacking scientific support and resistant to any change (26). Stereotypical and traditional female gender roles, including social factors affecting the reduction of women's participation and serious obstacles in social participation, decision-making, and achieving high cognitive levels, lead to communication poverty.

The mean and standard deviation of the neighborhood sense of belonging score was 85.36 ± 5.69 . In Sheikh Biglo's study, the level of sense of belonging to the place of the residents was reported to be higher than the average level (22). In another study, the amount of belonging to the residential neighborhood among the respondents was not high (19). Belonging to the neighborhood represents the positive mental feeling of people towards the residential neighborhood in the city. Neighborhood-oriented and neighborhood-oriented programs are an approach that have been introduced in most areas of urban development and management. The main idea of neighborhood development and planning is to pay attention to local communities, empower them, and participate in the development and decision-making process (20).

The results showed that there is a positive and significant relationship between the seven components of the sense of belonging to a neighborhood with the social participation level of individuals. Among the seven components of neighborhood sense of belonging, the components of meeting needs and loyalty had the highest and lowest correlation with the residents' social participation score, respectively. This finding was consistent with the results of the studies by Arabi (14), Naderi (17), Mobaraki (27), and Sheikh Biglou (22). The continuous social relations between the residents of the neighborhood, the small culture of interaction and cooperation, the preservation of privacy and sanctities, the sense of responsibility for the health and cultural and social health of the environment according to existing traditions and values, and many other functional characteristics are a sign of this belief that in the past, urban neighborhoods have been successful models of

human interactions in the life of big cities. Attachment and belonging to the residential neighborhood show the emotional connection between people and the environment in which they live. This link provides a favorable environment for organizational participation, investment, and collective action of residents in the local community.

One of the strengths of this study is the WHO STEP sampling method. The use of the WHO STEP sampling method is a significant strength as it provides a structured and precise way of selecting samples from the target population. This method ensures diversity and representativity, enhancing the reliability and validity of the study's results.

Weaknesses of this study include reliance on self-reported data can lead to biases such as social desirability or recall bias. Participants may not accurately portray their real experiences or preparedness levels, affecting the study's credibility.

Recommendations for Future Research

Further longitudinal studies or experimental designs are required to explore the causality between interventions and changes in neighborhood belonging or social participation. This would offer clearer insights into the effectiveness of specific strategies.

Conclusion

The results of the study indicate a correlation between the neighborhood sense of belonging and social participation. Creating educational programs and workshops for different ages in the neighborhood, and organizing regular cultural festivals and celebrations that reflect the diversity within the neighborhood can serve as a platform for residents to showcase their cultural heritage and foster mutual understanding and camaraderie. Introducing volunteer initiatives such as neighborhood clean-ups or tree-planting days encourages direct engagement and fosters a sense of accomplishment and ownership among participants.

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Authors' Contributions

Ameneh Marzban and Mohammad-Reza Rezaei designed and conducted the study. Nooshin Yoshanyand Mahdiye Khaleghi Moori supervised the questionnaire preparation. Ameneh Marzban, Mohammad-Reza Rezaei, Nooshin Yoshany, and Mahdiye Khaleghi Moori carried out the field process. Ameneh Marzban drafted the original paper. All authors reviewed the final article.

Data Availability

The data that support the findings of this study are available on request from the corresponding author.

Conflict of Interest

The authors declared no conflict of interest.

Ethical Statement

This article is taken from a research project at Shahid Sadoughi University of Medical Sciences, Yazd, which has a code of ethics IR.SSU.SPH.REC.1401.028 approved by the university ethics committee.

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