

Neighborhood Intimacy as Perceived by Women Living in Urban Areas and its Association with Personal and Social Network Characteristics

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ABSTRACT

Background: The purpose of this study is to determine association between personal, family, neighborhood, and social network characteristics and perceived intimacy in the neighborhood by the women.

Methods: In this cross-sectional study, we applied a two-stage sampling method to choose a representative sample of 150 married women and housewives, aged 15 to 49 years, who had education between six and twelve years and lived in the urban areas of the Khorasan-e-Razavi province of Iran. Association between personal, family, neighborhood, and social network variables, with the perceived neighborhood intimacy, was assessed through univariate and multiple linear regression.

Results: Based on the multiple model, there were significant associations between neighborhood intimacy as perceived by the women and their education level (Standardized Beta=-0.190, $P=0.019$), length of residence (Standardized Beta=0.175, $P=0.029$), self-rated health status (Standardized Beta=0.177, $P=0.029$), and their individual social network size (Standardized Beta=0.211, $P=0.030$).

Conclusion: The potential predictors including length of residence, self-rated health, and size of the respondents' personal social networks had a direct association with the women's perceived neighborhood intimacy, while the education level of the respondents had an inverse association with the neighborhood intimacy, as another potential predictor. Neighborhood intimacy could express the social health condition of the community members.

Keywords: Iran, neighborhood, urban population, women's health

INTRODUCTION

Intimacy is a crucial element of interpersonal behavior,^[1] and its effect on individual health and well-being has been considered.^[2] There are different kinds of definitions for intimacy in the literature. It is for example seen as "*an emotional state in which two persons, or a group, have a sense of commonality,*

of sharing, and security. Both in the psychological and existential literature, the general term 'acceptance' is becoming increasingly popular in the description of such feelings as trust, security, and love".^[3] Buckler has also represented Erikson's definition of true intimacy in his report as, "a fusing of identities that stimulate a harmonic relationship between these identities, while simultaneously retaining each person's individuality".^[4]

Intimacy is also considered as a broad behavioral category.^[4] Schaefer et al.,^[5] have mentioned different types of intimacy including emotional, social, intellectual, recreational, and sexual. *Emotional intimacy*, which is evaluated in this article, is the experiencing of feeling closeness; the ability and freedom to share resources openly, in a non-defensive atmosphere, when there is supportiveness and genuine understanding. Emotional intimacy can be considered as 'a psychological event' that occurs when the trust level between two people is high.^[5] It fosters a mutual sharing between them. Indeed, emotional intimacy is a mutual self-disclosure.^[3]

Individuals may feel different levels of intimacy in the community they live in, such as, their neighborhood. Neighborhood, as a subunit of a society, is a genuinely amorphous concept. Neighborhood generally refers to a geographically bounded area.^[6] It is operationally determined by using some boundaries such as physical distances, number of buildings, blocks, Census Tracts, and ZIP code levels.^[7,8] In Bruhn's book, it is also indicated that '*neighborhood has been variously defined as comprising of a certain degree of physical and symbolic space or social networks within that space*'.^[9] Neighborhoods would be particularly proper analysis units for understanding community bonds such as intimacy among the neighbors, because they suggest a defined identity to generate shared interests and experiences.^[10] It is hypothesized that neighborhood measures, which could be subjective or objective, are used to describe neighborhood characteristics and influences of the neighborhood attributes on personal behaviors. 'Researchers extensively use the subjective measures in their studies. They usually ask their respondents to report their perceptions of their neighbors concerning particular dimensions. The researchers could also ask the neighborhood residents to describe their perceptions about their neighborhoods.'^[6] Neighborhood intimacy as

perceived by the individuals can only be obtained by interviewing the neighborhood residents, which is also considered as a subjective measure. This index would be measured as an 'emotional feeling of intimacy as perceived by an individual between him/her and his/her neighbors as well as among the neighbors'.

According to Bruhn's book, "*the form and substance of neighborhood ties are dependent on how neighborhood boundaries are defined*".^[9] In this research, the neighborhood has operationally been defined as, "the street that the samples' houses are located in". Besides, the highest level of intimacy in a neighborhood for a person was subsequently defined as, "a sense of emotional sympathy in the neighborhood so that an individual could share his/her problems as well as sorrows with the neighbors without any fear or concern. He/she would also trust that the neighbors would assist them if they need help. Generally speaking, there is a sense of social and emotional security in the neighborhood". The perceived neighborhood intimacy may also be considered as an index for individual social health evaluation.

There were many researches focusing on the subject of intimacy.^[11-14] In addition, a wide range of personal and social factors that may affect perceived intimacy by the community members have been identified by some researchers.^[15-17] However, most of them assessed various types of intimacy in a relationship between two persons rather than the emotional intimacy that an individual may perceive in a neighborhood. In this research, we assessed neighborhood intimacy as perceived by the women and its associations with some personal, family, and neighborhood factors as well as individual social network (SN) characteristics.

METHODS

Sampling and study population

Conducting this study, we used a part of the data of a larger population-based study, which assessed personal and SN characteristics, and its associations with the willingness to volunteer in '*the Women Health Volunteer program*'. This is an Iranian Community Health Worker program which is known as a government-based participatory action. This cross-sectional study was conducted

in the Khorasan-e-Razavi Province, one of the largest and most populous provinces of Iran (roughly 5.5 million inhabitants [about 7% of the national population]), in 2010. The research population was married and the housewives were in the age range of 15 and 49 years. They had an education of between 6 and 12 years. They also lived in the urban regions of the province. Our subjects were women who had registered in the urban health centers' dossiers of the province and expressed their agreement to participate in the research. There were nearly 150 health centers in the province, which were actively engaged in the Women Health Volunteer program. For selecting the respondents, a two-stage sampling method was applied. It meant we first systematically selected 50 of the urban health centers. Using a simple random sampling method, we then selected 150 subjects (i.e., three samples in each health center). The data were collected by a questionnaire via face-to-face interview.

Data collection tool

There was a two-part questionnaire to collect the data. The first part was about the respondents' personal, family, and neighborhood variables. The variables were length of residence of the respondents in her neighborhood, the age and education level of the respondent, as well as her husband, family size, wealth index of the family (which was calculated through family size of the subjects divided by the number of available rooms for their families), and self-rated health status (SRH) (via a five-point Likert-scale question). The second part of the questionnaire was allocated to the individual's SN factors including personal network size and density. Determining the women network sizes, each respondent listed other people who had a relationship with her. The network density was measured by the proportion of possible connections between the members of each respondent's SN that were actually present. The validity of the questionnaire was determined by content and face validity. We used the Cronbach's Alpha coefficient to assess the internal consistency of the questionnaire. The coefficient was calculated as 0.73. The questionnaire's reliability was assessed through a test – retest with a mean of 0.82 for the Intra-class Correlation Coefficient (0.74 – 1.00). The neighborhood intimacy as perceived by the

respondent was reported and their perceptions were then re-scaled into a 0 – 100 range of intimacy among the neighbors.

Data analysis

We entered the data into Stata (version 10) and first extracted the distribution Tables of the independent variables, as well as the neighborhood intimacy, as the dependent variable of our research. We then entered all the former variables in a univariate linear regression model with the intimacy score, separately. Then, as Jewell indicated, those variables with $P < 0.2$ were selected to enter the multiple model.^[18] Using the multiple linear regression model, we finally assessed the association between neighborhood intimacy as perceived by the women and their personal as well as the SN characteristics. In the final model, independent variables with $P < 0.05$ were reported as statistically significant.

Ethical considerations

The researchers first got an approval letter from the Institutional Review Board of Tehran University of Medical Sciences. Then, they obtained the authority of the managers of the Universities located in the province concerning the research project. Agreement of the respondents to participate in the research was obtained before the interviews. The respondents were informed of their rights if they wanted to cease their participation during the interview.

RESULTS

We analyzed the data of 146 (out of 150) filled questionnaires. The frequency of neighborhood intimacy as perceived by the women has been reported in Table 1 and the means and standard deviations of the respondent's characteristics are shown in Table 2. The number (percentage) of respondents who had children under the age of two years was 47 (32.2%) and 99 (67.8%) respondents did not have any children under two years of age in their families. The mean neighborhood intimacy was 42.13 (out of 100) (SD=1.93). The results of the univariate linear regression are reported in columns 2 and 3 of Table 3. We entered the selected independent variables in multivariable linear regression. The results are shown in the

Table 1: Distribution of the neighborhood intimacy in terms of respondents' personal and social network variables

Variable name	Neighborhood intimacy			Total number (%)
	Low number (%)	Moderate number (%)	High number (%)	
Age (year)				
<25	22 (47)	17 (36)	8 (17)	47 (100)
25 – 35	30 (43)	27 (39)	13 (18)	70 (100)
>35	9 (31)	9 (31)	11 (38)	29 (100)
Education level (year)				
6 – 8	20 (37)	20 (37)	14 (26)	54 (100)
9 – 12	41 (45)	33 (36)	18 (19)	92 (100)
Length of residence (year)				
<5	39 (48)	30 (37)	12 (15)	81 (100)
5 – 10	16 (41)	13 (33)	10 (26)	39 (100)
11 – 15	1 (10)	5 (50)	4 (40)	10 (100)
>15	5 (33)	5 (33)	5 (34)	15 (100)
Number of siblings				
<2	8 (47)	5 (29)	4 (24)	17 (100)
3 – 5	31 (42)	26 (36)	16 (22)	73 (100)
>5	22 (39)	22 (39)	12 (22)	56 (100)
Husband age (year)				
<31	23 (42)	22 (40)	10 (18)	55 (100)
31 – 40	30 (48)	23 (36)	10 (16)	63 (100)
>40	8 (29)	8 (29)	12 (42)	28 (100)
Husband education (year)				
<6	11 (46)	10 (42)	3 (12)	24 (100)
6 – 8	18 (39)	17 (37)	11 (24)	46 (100)
9 – 12	26 (42)	23 (37)	13 (21)	62 (100)
>12	6 (43)	3 (21)	5 (36)	14 (100)
Self-rated health				
Very low and low	4 (100)	0	0	4 (100)
Moderate	19 (46)	15 (37)	7 (17)	41 (100)
High and very high	38 (38)	38 (38)	25 (24)	101(100)
Network size				
6 – 10	25 (46)	20 (37)	9 (17)	54 (100)
11 – 20	34 (43)	28 (35)	17 (22)	79 (100)
>20	2 (15)	5 (39)	6 (46)	13 (100)
Network density				
>0.6	8 (25)	13 (41)	11 (34)	32 (100)
0.6 – 0.8	27 (48)	18 (32)	11 (20)	56 (100)
0.8 – 0.9	13 (43)	9 (30)	8 (27)	30 (100)
0.9 – 1.0	13 (46)	13 (46)	2 (8)	28 (100)
Child under two years				
Yes	22 (47)	17 (36)	8 (17)	47 (100)
No	39 (40)	36 (36)	24 (24)	99 (100)

last four columns of Table 3. As is seen, there are significant associations between the perceived neighborhood intimacy and women's education level (Standardized Beta ($S\beta$)=-0.190, $P=0.019$), length of residence ($S\beta=0.175$, $P=0.029$), SRH

($S\beta=0.177$, $P=0.029$), and individual SN size ($S\beta=0.211$, $P=0.030$). Figures 1-4 also show the association between the perceived neighborhood intimacy and women's education level, length of residence, SRH, and individual SN size, respectively.

DISCUSSION

A high level of perceived intimacy between the neighbors would affect other neighborhood characteristics as well as neighbors' actions, such as, improvement in the helping behavior. It could also improve the living quality of the neighbors via creating a peaceful condition in the neighborhood.

As it was shown in the multiple model of linear regression, the length of residence, women's education level, SRH, and individual SN size were significantly associated with the perceived neighborhood intimacy. According to the findings, the length of residence, SRH, and SN size had a direct association with the neighborhood intimacy, as perceived by the women. Although, the education level of the subjects had an inverse association with the outcome.

Mean size and density of individual SN of the

Table 2: Means and standard deviations of the independent variables among the respondents

Variable name	Mean	Standard deviation
Age (year)	29.59	6.90
Education (year)	9.91	2.07
Length of residence in neighborhood (year)	7.33	0.64
Number of siblings	4.92	2.06
Age of husband (years)	34.17	7.73
Education of husband (years)	9.31	3.58
Self-rated health status	3.84	0.70
Social network size	12.99	5.62
Social network density	0.75	0.18

Table 3: Association of independent variables with the perceived neighborhood intimacy through univariate and multiple linear regression

Variable name	Univariate results		Multiple results			
	Standardized beta	P value	Un-standardized beta	95% CI	Standardized beta	P value
Age (year)	0.165	0.047	0.066	-0.011 – 0.142	0.325	0.092
Education level (year)	-0.166	0.046	-0.128	-0.234 – (-0.021)	-0.190	0.019
Length of residence (month)	0.213	0.009	0.003	0.004 – 0.060	0.175	0.029
Number of siblings	0.044	0.599	-	-	-	-
Husband age (year)	0.146	0.078	-0.031	-0.098 – 0.038	-0.169	0.377
Husband education (year)	0.033	0.689	-	-	-	-
Self-rated health	0.121	0.144	0.353	0.037 – 0.668	0.177	0.029
Network size	0.226	0.006	0.053	0.005 – 0.100	0.211	0.030
Network density	-0.209	0.011	-0.433	-1.931 – 1.048	-0.054	0.558
Presence of children under two years of age	-0.034	0.686	-	-	-	-

respondents was 12.99 and 0.75, respectively. Our density mean was close to 0.67, which was measured in Kane's research.^[19] However, the mean SN size of her study as well as that of the Heidari^[20] and Cornwell *et al.*^[21] researches are different from our finding. There are many potential causes for this discrepancy, such as, gender, age (Cornwell *et al.*), and health status (Heidari) differences, between our respondents and theirs. Besides, our respondents listed anyone who contacted them without any limitation, while in the above-mentioned studies, only network members who had close contact with the subjects were recorded. Thus, it seems the SN size difference would be justifiable.

There was a direct association between the perceived intimacy and the length of residence of the women in their neighborhood. It meant that the greater the length of residence in the neighborhood, the greater was the sense of intimacy in the neighborhood, reported by the respondents. Our finding would be comparable with the Sampson's *et al.* results. They found that greater mobility by the residents could decrease the collective efficacy.^[22]

We found an association between the perceived neighborhood intimacy and SRH among the women. Abada *et al.*, also found that perceived neighborhood cohesion was a protective factor for health status.^[23]

In the present study, there was also a direct relationship between the size of the women's personal SNs and the outcome. Indeed, the greater the size of the network, the higher was the level of the perceived neighborhood intimacy by the

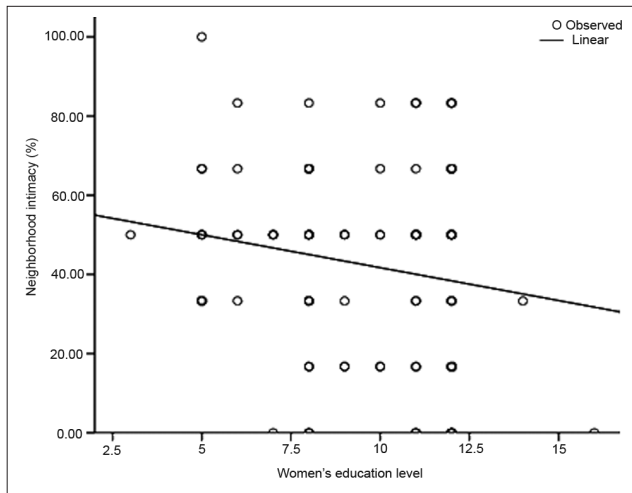


Figure 1: Association between the perceived neighborhood intimacy and women's education level

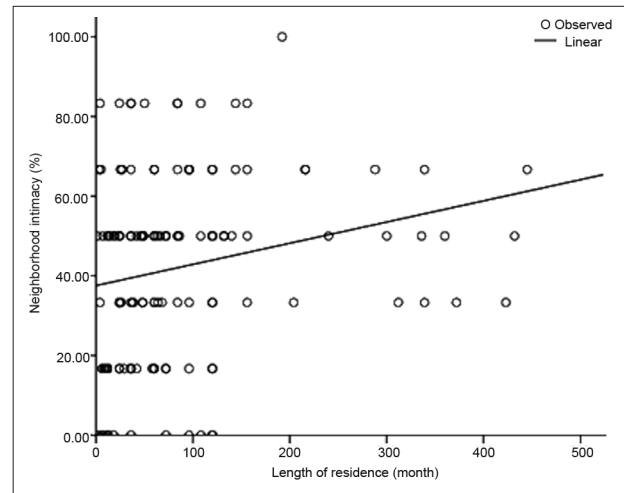


Figure 2: Association between the perceived neighborhood intimacy and women's length of residence in their neighborhood

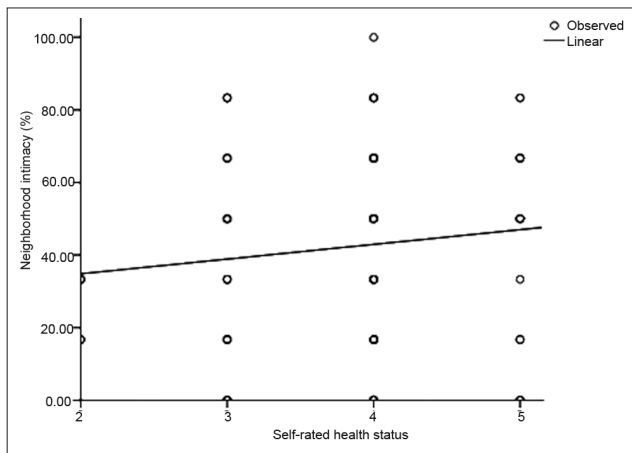


Figure 3: Association between the perceived neighborhood intimacy and women's self-rated health status

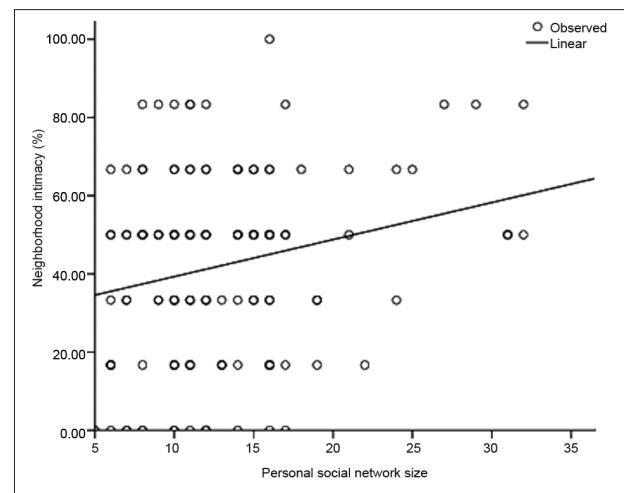


Figure 4: Association between the perceived neighborhood intimacy and women's personal social network size

respondents. Tong *et al.* demonstrated that people who exhibit a higher level of trust among SN members should therefore have bigger SNs.^[24] In Nah's study, an association between neighborhood intimacy and online as well as offline community engagement has been indicated.^[25] In this view, the result of our study would be comparable with Nah's finding.

We found an inverse association between the respondents' level of education and emotional neighborhood intimacy as perceived by the women. It meant the greater the level of education, the lower the neighborhood intimacy as perceived by the women. Contrary to our finding, Kunaszuk proposed that individuals who had higher level of education reported a higher level of emotional intimacy.^[26] It may be because of the discrepancies

between ours and her sampling selection methods. In our research, the respondents were selected only among females, while in her research, both males and females were selected as respondents. Besides we restricted our sample selection method in terms of education level. Our subjects were women who had an education level of between six and twelve years, while in her research there were no restrictions for sample selection. Hence, the difference would be justifiable.

In our research, there were also no significant association between some potential factors and the reported neighborhood intimacy, as perceived by the women. There were, the number of siblings and age of the respondents, age and education level of

their husbands, the wealth index of the family, and density of the women's SN.

We did not find a statistically significant association between age and neighborhood intimacy as perceived by the respondents. The result of our study was similar to the research result of Shulman *et al.*^[27] Unlike our result, Cicognani and Zani who studied conflict styles had some outcomes in families, which showed that age could inversely affect on perceived intimacy.^[28] They demonstrated that intimacy scores in the younger group of the adolescents were higher than in the older group. There was a difference in the level of study between our research and theirs. It meant that our investigation was done at the neighborhood level, while their research was applied at the family level. Hence, the difference in the results might be justifiable because of this discrepancy. Meanwhile, there was a noticeable difference between the sample features of the two researches in terms of the sex, age groups, and occupations.

As this was shown, the level of education in the women was inversely associated with the perceived neighborhood intimacy. It meant that anyone who had a higher level of education reported a lower level of intimacy among her neighbors. It might be because of less willingness to contact the neighbors with more educated individuals, and therefore, they perceived a lower intimacy level among the neighbors and in their neighborhood as a whole. This would be more important because we restricted the range of education level of the subjects in this study. To enhance social contacts as well as improve perceived neighborhood intimacy by highly educated women, one of the effective interventions would be instruction of interpersonal communication methods embedded in the primary and secondary school curriculum and determining its importance in human life, for students.

Although there were increasing evidences that focused on the intimacy of interpersonal relationships, as perceived by people, there was a gap in the knowledge of neighborhood intimacy, as perceived by the individuals as a whole. In this study we attempted to bridge that gap. One of the strengths of this research was the emphasis on emotional intimacy among neighbors, which was perceived by the neighborhood members. Thus, our study could help for a better understanding of neighborhood characteristics.

There were also some methodological considerations in the research. Feeling of neighborhood intimacy was highly correlated with the size of the neighborhood. It meant that the larger the geographic unit of the neighborhood, the less neighborhood intimacy was perceived by the neighbors. So, the relations between neighborhood intimacy as perceived by the women and the independent variables would change if our selection criteria of the neighborhoods were replaced with other criteria. Besides, perceived intimacy was a self-reported measure, based on individual-level perception. Echeverria expressed that, "*A limitation of this type of measurement is that the associations may reflect same-source bias*".^[29] Indeed, perceived intimacy in a neighborhood could be influenced by other factors. For example various levels of depression and loneliness might affect the intimacy as perceived by community members.^[30] It was also indicated that emotional intimacy was highly correlated to relationship satisfaction.^[31] It meant that the current challenges of a woman with one neighbor could influence such measurements as a whole.

In this cross-sectional study, we could only show the potential associations between some personal, family, neighborhood and SN factors, and neighborhood intimacy as perceived by the women. We know that temporality between the independent and dependent variables could not be investigated by cross-sectional research. Besides, there might be other potential confounding variables, which were not considered in our research. So, the authors suggest a longitudinal study.

In conclusion, neighborhood intimacy could be considered as a useful index for the evaluation of the social health of community members. It could be associated with the level of education, length of residence, SRH status, and personal SN size.

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