Original Article

The study of relationship between social capital and self-rated health in Bandar Abbas, Iran

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Abstract

Background: Health is a key component of an individual's welfare and the standard of living. Social capital has attained a considerable attention in science and policy making since researchers have suggested that it may have a positive impact on the well-being of individuals and the society. The aim of this study was to examine the relationship between social capital and self-rated health.

Methods: A cross-sectional study was conducted among individuals aged from 18 and older, who lived in Bandar Abbas city in 2017. The data used in this study obtained from a questionnaire with multi-stage random sample of respondents. The data were coded, computed, and analyzed by using SPSS software 16 (SPSS Inc., Chicago, IL, USA).

Results: A total of 255 respondents participated in the present study. Approximately 126 (49.4%) were male. The results obtained on age also report that the average age of respondents were equal to 30.08. Additionally, 126 (49.4%) of the respondents were married. The result of the correlation between self-rated health and socio-economic variables, such as income, education, and age confirmed that there was a statistically significant positive correlation between self-rated health and income ($P<0.001$) and age ($P=0.043$). The statistical analysis of *t*-test showed that the respondents who were married ($P=0.01$) and male ($P=0.01$) showed to be healthier compared to the single and female participants.
The results also showed that social trust and social participation were positively associated with desirable self- rated health. Moreover, higher levels of trust and social participation were both associated consistently with high levels of self-rated health. Social trust was also associated positively with desirable self-rated health, after adjusting for the individuals' demographic factors and socioeconomic status ($P=0.001$).

Conclusion: Income and social trust have the most significant influence on self-rated health. Social trust as an indicator of social capital had a significant impact on the self-rated health of respondents. Social trust increases social health and reduces stress and anxiety in individuals.

Introduction

The usage of social factors to explain community health status is not a new phenomenon. Since Durkheim's classic work on suicide, the importance of social integration and social capital has been recognized for population well-being (1). In addition, the notion of 'social capital' has attracted tremendously in the social sciences and public health literature over the last decade (2).

In the public health field, the research which was conducted by James Coleman (3) and Robert Putnam (4) has attracted the attentions.

Social capital is commonly defined as the institutions, relationships, and norms that shape the quality and frequency of the social interactions. Similar to human and economic capital, theories advocate that social capital may generate welfare benefits (5). According to the researches in the past decades, suggested that there is a significant correlation between social capital and self-reported health, mortality rate, and life expectancy (6).

Social capital can be broadly defined as resources emerging from trust (5, 4). Social capital has obtained a considerable attention in science and politics and it could have a positive impact on the well-being of individuals and different countries

In this context, social capital may be particularly relevant to enhance collective actions within communities; furthermore, becoming a potential for health improvements (7). To support this data, evidence suggests that cohesive communities may be more successful in protecting healthcare facilities from budget cuts (8); and reducing the crime rate (9). Social capital may be more important for the physical welfare of living in underdeveloped parts of the world, since they suffer from a relative scarcity of medical services and related social protection systems contrary to their more privileged counterparts in richer societies (10).

Self-rated health is an important indicator of an individual's health status in general (11). This construct has been found to be associated with components of social capital in many cross-sectional studies (12). The differences in the levels of social capital have been suggested to be the reason that some communities have healthier citizens than others (6).

Bourdieu defines social capital, as individual membership in social networks (5). Bourdieu argues that social capital is inequitably distributed by social class and inextricably associated to economic and other resources in a reinforcing cycle in a way that social capital could further contribute to inequalities. The role of inequitable power relations, in determining the type of available resources to individuals through their social networks is central to Bourdieu theory. Bourdieu's approach is particularly relevant as people with disabilities often marginalized and economically disadvantaged in the society (12).

We selected Bourdieu's approach regarding social capital in which by Robert Putnam defined social capital as "features of social organization, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (13). Putnam's conceptualization of social capital defines it as a community-level resource and public benefits (13,4). In making Bourdieu's approach toward social capital, this study focused on the structural aspects of social capital (14) that is, an individual's social networks. In fact, we consider access to both formal and informal networks and the extent to which they may be bonding, bridging, and linking. Bonding networks refer to close informal networks of families and friends; in addition, they are often regarded as a means to '*get by*' (15). Bridging networks refer to weaker and heterogeneous ties between people from various backgrounds (e.g. age and ethnic group) and have the potential to generate resources not available through closer bonding ties, enabling people to '*get ahead*' (6).

In this study, we aimed to assess the association between social capital and self-reported health.

Methods

A cross-sectional study was conducted to evaluate the relationship between social capital and self-rated health which could be investigated and measured objectively, in order to identify trends in the attitudes,

opinion, behavior, or characteristic of population (16).

The population participated in this study, consisted all individuals 18 and older living in Bandar Abbas, Iran. The sample size was calculated by using Cochrane formula where α=0.05, z1- α/2=1.96, and d=0.05. According to the study design, 255 individuals were needed to participate in this study.

A multistage cluster sampling method was used. In cluster sampling, primarily we divided the city into 4 clusters based on the municipal divisions. Then, we randomly selected some clusters from all clusters formed to measure all units within sampled clusters. Often in practical situations, a two-stage cluster sample design is used where a random sample of clusters was selected and within each cluster a random sample of subjects were selected.

The data collection was done by the questionnaire. Two questionnaires were used to measure social capital and self-rated health. For the social capital questionnaire, a five-point Likert scale ranging from 1=very low to 5=very high was used.

Social capital questionnaire in this study was based on Putnam's social capital questionnaire in which used by the previous researchers (17-20). According to this questionnaire, social capital was assessed through interpersonal trust, generalized trust, social participation, and social network.

In order to measure self-rated health, we used the 12-item General Health Questionnaire (GHQ12). The General GHQ was used to detect psychiatric disorder in the general population and within the community or non-psychiatric clinical settings, such as primary care or general medical out-patients (21).

The reliability of GHQ questionnaire was confirmed by other studies, Cronbach's Alpha of 0.90 and 0.87 was reported.

This study was approved by the ethical consideration in which participants assured that their identity and response would be kept confidential. The entire participants provided an informed consent prior to their participation in the study. Additionally, the participation was totally voluntary and all the participants were informed in advance that they could discontinue the study any time that they wanted. In addition, we made sure that we did not take much of participants' time.

Data was analyzed by using SPSS software 16 (SPSS Inc., Chicago, IL, USA). Descriptive statistics, independent t-test, Pearson correlation coefficient, and finally stepwise model regression were used for data analysis. *P* values lower than 0.05 was considered as statistically significant.

Results

In this study, a total of 255 participants responded, 127 (49.8%) male. The statistical results obtained on age also indicated that the average age of respondents was equal to 30.08 with the minimum age of 18 years and the maximum age was 75 years. Also, 126 (49.4%) of the total survey respondents were married and 129 (50.6 %) were single. The distribution of respondents according to the education indicated that 7 (2.7%) of respondents were in primary school, 84 (33%) obtained high school diploma, 65 (25.5%) technician, 79 (31%) had bachelor degree, and 20 (7.8%) had bachelor degree or higher.

Social capital in this study consisted of social trust, social participation, and social network. The mean (SD) score of social trust was 50.7 (8.01). The analysis of frequencies illustrates that the level of social trust among the respondents was at the moderate level (61.6%).

The mean (SD) score for social participation was 11.8 (4.28). 135 (52.9%) of the respondents reported having low level of social participation. Approximately 93 (36.5%) indicated a moderate level of social participation and only 27 (10.6%) of the participants mentioned that they had a high level of participation.

The last indicator of social capital was the social network. The mean (SD) score of that indicator was 34.4 (8.21). The results also revealed that 136 (53.3%) of the respondents had a moderate level of social network in the community. Approximately 65 (25.5%) of the respondents had a low level of social network and 54 (21.2%) received a high score for their social network in their communities.

Social capital as a main variable had the mean (SD) score of 97.01 (15.90). Based on the results, 147 (57.6%) of the respondents reported a moderate level of social capital. About 83 (32.5%) indicated high level of social capital and only 25 (9.8%) reported a low level of social capital.

The mean (SD) score of self-rated health as a dependent variable was 45.58 (8.54). Based on the results, 116 (45.5%) of the respondents reported moderate level of self-rated health. 101 (39.6%) had high level of self-rated health. 38 (14.9%) reported had low level of self-rated health.

Table 1 depicted the association between social capital and the dependent variable. The result revealed that there is a significant association between social participation and social trust with self-rated health. (P=0.05). A high level of participation was related to a desirable self-rated health (r=0.130); however, there was a stronger association between social trust and self-rated health (r=0.168). In other words, respondents with higher levels of social participation and trust reported have a better health than those with lower levels of social capital.

The results of t-test for mean differences of self-rated health based on marital status of the respondents are illustrated in Table 2. The respondents who were married seemed to be healthier compared to the single individuals.

An independent samples t-test was made to investigate the mean difference of self-rated health based on the gender of respondents. The results indicated that there was significant difference in the mean of self-rated health based on the gender of respondents, t=2.38, P=0.01 for self-rated health. The comparison of means also showed that the male group with mean=49.8, had high status in self-rated health compared to the female groups (mean=47.3).

Table 1. Correlation between social capital and self-rated health

	Social participation	Social network	Social trust	Social capital
Self-rated health Pearson Correlation	0.130[*]	0.064	0.168[**]	0.153[*]
P	0.038	0.309	0.007	0.015

[*]. Correlation is significant at the 0.05 level (2-tailed).
[**]. Correlation is significant at the 0.01 level (2-tailed).

Table 2. Comparison between self-rated health based on the gender and marital status of respondents

	Variable	Group	N	Mean	df	t	P
Self- rated health	Marital status	Single	125	47.44	246	-2.39	0.01
		Married	123	50			
	Gender	Male	126	49.88	251	2.38	0.01
		Female	127	47.33			

Table 3. Correlation between socio-economic variables and self-rated health

		Education	Income	Age
Self-rated health	Pearson Correlation	0.013	0.272[**]	0.128[*]
	P		0.83	<0.001	0.04

[*]. Correlation is significant at the 0.05 level (2-tailed).
[**] Correlation is significant at the 0.01 level (2-tailed).

The result presented in Table 3 confirmed that there was a significant positive correlation between self-rated health and income, with r=0.272, *P*=0.005, which indicates that a high level of income is positively related with high level of self-rated health. Table 3. also reported that there was a significant association between the age of respondents and their self-rated health.

In order to further explore the association between social trust, social participation, social network, age, income, and education a multiple linear regression with method of enter was conducted.

Discussion

The finding indicated that there was a significant association between socio-economic factor, such as income and age with self-rated health; nonetheless, there was no significant association with the education. This finding is in contrary to the findings other studies who stated that poor self-rated health was significantly associated with the older individuals rather than younger (24-26). Therefore, it was suggested that older people tend to report poor self-rated health. However, other studies showed income is a significant factor in relation with self-rated health, which means, the higher the income category, the healthier the individual feels on average (6, 24-26). With respect to education, the previous studies have shown that educational attainment is positively associated with self-reported health Yeary et al (27), Kawachi et al. supported this finding (6). However, the findings of the current study are in contrary to the other reports, since educational attainment is not associated with self-reported health.

The result showed that the male respondents had higher self-rated health compared to the female. This finding is similar to the reputes by Nieminen et al. (26) and Cullen et al. (28) data, in which almost all socio-demographic factors, such as gender associate with self-rated health and men are more likely to report good/very good health than women. In contrast, this finding is not consistent with the finding of the research conducted by Hibino et al. who noted that poor self -rated health is significantly associated with male gender (24), suggesting that males tended to report poor self-rated health.

Finding of the current study also showed that social capital and its dimension are associated with self-rated health. Transparently, both social participation and social trust are positively related to self-rated health. Respondents with higher levels of social trust are more likely to report good/very good health and respondents with high level of participation are more likely to report good/very good health, compared to those with low levels of organizational participation. The association between trust and self-rated health found in the present study is partly consistent with the finding of Kawachi et al. (6). Furthermore, Nieminen et al (21) in their research founded that the desirable self-rated health was associated with high levels of social participation and networks and trust and reciprocity.

Eventually, the findings indicated that trust, reciprocity and social participation, and networks contribute to a desirable self-rated health. In the same regard, Han et al. study provided evidence that individual-level social capital is associated with self-reported health, even after controlling for both individual and

Table 4. Multiple regression analysis for variables predicting performance in self-rated health

	Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval	
	B	Std. Error	OR	t	P	Lower Bound	Upper Bound
Age	0.063	0.069	0.072	0.921	0.359	-0.033	0.196
Education	-0.061	0.243	-0.019	-0.252	0.802	-0.185	0.579
Income	.002	0.001	0.257	3.329	0.001	0.001	0.003
Social Participation	0.179	0.176	0.091	1.016	0.311	-0.100	0.454
Social Trust	0.203	0.093	0.184	2.175	0.031	0.022	0.315
Social Network	0.012	0.095	0.012	0.131	0.896	-0.184	0.105
(Constant)	31.617	6.249		5.059	<0.001	21.94	41.77

area-level confounders (20). Moreover, Cullen et al. mentioned that social trust was negatively associated with poor self-rated health, whereas the effect of social participation was not significant (28). In addition, Hogan et al. stated that active social participation and easy access to help from others were associated with good self-rated health, especially in the urban and sparsely populated rural areas (12).

The results of the research showed that among the factors influencing self-rated health, income and social trust had the most significance impact. Considering the economic situation of society and insufficient medical insurance coverage, it is understandable and that the factor of income had a strong and effective role in self-rated health.

Social trust as an indicator of social capital had a significant impact on the self-rated health of respondents. Social trust elevates social health and reduces stress for people. Indeed, the greater the social trust would be in society, the greater the self-rated health. Conclusively, the findings of the present study suggested that social trust and social capital could effectively contribute to a desirable self-rated health of the respondents.

Conflict of interest
Authors declare no conflict of interests.

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