

# Relationship between Social Capital and General Health among the Iranian University Students: A Cross-Sectional Study

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## Keywords

General health · Social capital · Students · Iran

## Abstract

The most basic axis of a society's economic and social growth is health, and social capital is a major factor in determining that development. The purpose of this research was to evaluate, among the student body of Iran University of Medical Sciences, the connection that exists between social capital and overall health. This study used a descriptive-analytical approach to cross-sectional research. Students attending the Iran University of Medical Sciences constituted the statistical population. The approach developed by Cochran was used to pick 367 students at random. The demographic information form, two versions of the Delaviz Social Capital Questionnaire (2006), and Goldberg and Hiller's General Health Questionnaire (1979), served as the data collection tools. Using Cronbach's alpha test, the reliability of the first

two sets of questionnaires was determined to be 0.73 and 0.78, respectively. The data were analyzed using descriptive statistics, statistical tests, and regression after being loaded into SPSS version 22. It was shown that general health was significantly related to the factors of gender, location of living, and degree of education ( $p < 0.05$ ). It was shown via the use of regression that there is a statistically significant association between social capital and the two dimensions of group involvement and relationships in networks. These two dimensions had the biggest influence on general health and explained 39% of its variations. The overall health of students was not significantly affected by factors such as age, educational level, or marital status ( $p > 0.05$ ). It is feasible to improve students' overall health if social capital is increased, more students are encouraged to participate in group projects, and students' ties with one another inside and outside their networks are expanded.

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## A Relação Entre o Capital Social e a Saúde Geral Entre Estudantes da Universidade de Ciências Médicas do Irão: Um Estudo Transversal

### Palavras Chave

Saúde geral · Capital social · Estudantes · Irão

### Resumo

A saúde é o eixo mais básico do desenvolvimento económico e social da sociedade, que é influenciado pelo capital social. O presente estudo foi realizado com o objetivo de investigar a relação entre capital social e saúde pública entre estudantes da Universidade de Ciências Médicas do Irão. A investigação atual foi um estudo descritivo-analítico transversal. A população estatística foram os estudantes da Universidade de Ciências Médicas do Irão; ou seja 367 pessoas foram selecionadas aleatoriamente pelo método de Cochran. Os instrumentos de coleta de dados foram ficha de informações demográficas e dois questionários de capital social de Delaviz (2006) e saúde geral de Goldberg e Hiller (1979), cuja confiabilidade foi obtida por meio do teste alfa de Cronbach de 0,73 e 0,78, respetivamente. Os dados foram digitados no software SPSS-22 e analisados com estatística descritiva e testes estatísticos e de regressão. As seguintes variáveis: sexo, local de residência e escolaridade apresentaram relação significativa com a saúde geral ( $p < 0,05$ ). Utilizando a regressão entre capital social e saúde pública, foi obtida uma relação estatisticamente significativa, e as duas dimensões de participação de grupo e relações em rede tiveram o maior impacto na saúde pública e revelaram 39% das suas alterações. Não foi observada qualquer relação significativa entre idade, local de estudo e estado civil com a saúde geral dos estudantes ( $p > 0,05$ ). É possível aumentar a saúde geral dos estudantes através do aumento do capital social e da ênfase no aumento da participação dos estudantes no trabalho de grupo e no aumento das suas relações inter-redes.

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### Introduction

In recent decades, noncommunicable diseases, often known as chronic diseases, have emerged as the primary danger to global health and the leading cause of mortality throughout the globe [1]. Currently, noncommunicable illnesses are responsible for more than 53% of the disease burden and 59%

of the world's total fatalities [2, 3]. However, by the year 2020, noncommunicable diseases will be the primary cause of 60% of the disease burden and 73% of all deaths [4]. Statistics compiled by the United Nations indicate that more than 52 million individuals are struggling with their mental health. The most significant dangers to people's health in Iran are behavioral and mental problems [5], and the country has a prevalence rate of 23.6% for mental disease on average [6].

Even though genetic and infectious factors play an important part in both health and the occurrence of diseases, attention is now being focused on the social background and context of diseases, and it has been found that health is more dependent on social factors than it is on medical interventions [7]. Health, as defined by the World Health Organization, is not only the absence of sickness but rather the presence of full mental, bodily, and social well-being [8]. Interventions that are both efficient and inexpensive are what modern social models of health are looking for in order to improve the overall health of people living in a society [9]. In fact, it is impossible to provide an accurate picture of the state of health and disease in a society without taking into account the socioeconomic factors that play a role in the development of many diseases, both physical and mental, including the fact that many of these diseases are strongly associated with social factors [10, 11].

The level of social capital in a community is recognized as one of the most influential on an individual's health [12, 13]. An example of social capital is a collection of informal standards or values that are held in common by members of a group with whom collaboration is possible. The terms "trust," "collaboration," and "interrelationships" between members of a group are all examples of the kinds of notions that are included under the umbrella of social capital. The purpose of social capital is to guide a group toward objectives that are recognized by the larger community [14, 15]. This phenomenon is successful in enhancing access to social care, and its decline is related to sickness and bad health. To put it another way, if the public's health is prioritized, then a significant portion of the focus should unavoidably be placed on social interactions and problems [16]. The spread of health information, the possibility of more health-adapted norms and behaviors, social control of health-threatening behaviors, easier access to local facilities and services, and psychological processes like effective support can all affect a person's overall health [17, 18].

In the last several decades, a great number of studies have been conducted to explore social capital and the significance it has for college students [19–21]. According to the findings of several studies [22, 23], perceived stress [24], physical activities [25], mental health issues [26], and

the academic performance of students, social capital has been shown to have a correlation with all of these variables [9, 27]. According to research conducted in Australia by Bye et al. [28], social capital helps students feel more satisfied with their university lives, which in turn may improve their academic performance. In addition, a study that was conducted on the students of Tabriz University of Medical Sciences in Iran revealed that social capital had a substantial association with the student's perspectives on the use of tobacco products [29]. In Iranian health studies, less attention has been paid to the importance of the effects of social variables on health, and the importance of many key determinants in this area, such as social capital, has still been neglected. In addition, the importance of the effects of social variables on health has received less attention. This study investigates the relationship between health and social capital among university students, who are one of the most important social groups in any country. Taking into account how important health is and the fact that social capital is one of its most important parts, this research looks into the relationship between health and social capital among university students.

## Methods

### Design and Participant

This was a cross-sectional, descriptive-analytical study. In 2018, all students at Iran University of Medical Sciences ( $N = 9,000$ ) were included in the statistics population. The contestants' minimum age was 18 years, while their maximum age was limitless. The list of all students was acquired after gaining ethical approval from the university. To ensure that everyone had an equal chance of being chosen, a simple random sampling approach was used to choose the samples. As a result, each student was assigned a code, the samples were chosen using a table of random numbers, and they were requested to collaborate in person. In circumstances where the questionnaire was incomplete or one individual refused to participate, another person was chosen at random. The capacity to answer questions, being a student at Iran University of Medical Sciences, and willingness to engage in the study were all inclusion requirements. The sample size was established using Cochran's approach, which resulted in 369 people being selected as the sample size, of which 2 questionnaires were incomplete and 367 questionnaires were evaluated as research data.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left( \frac{z^2 pq}{d^2} - 1 \right)}$$

$$= \frac{\frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2}}{1 + \frac{1}{9,000} \left( \frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2} - 1 \right)} = \frac{384}{1.0383} \cong 369 \quad (1)$$

### Measures

Two standard surveys and demographic questions to gather data, Delaviz (2006) [30] Social Capital Questionnaires (2006) and Goldberg and Hiller (1979) [31] General Health Questionnaire were utilized. The Delaviz Social Capital Questionnaire features 27 items and four subscales of trust, group engagement, local community participation, and social network linkages. The scoring technique is based on a five-point Likert scale, with the scores of questions 18, 19, and 20 reversed, and the other questions scored at 4 for entirely agreed and 0 for completely disagreed, for a total score of 108. According to Delaviz [30], the reliability of this questionnaire based on Cronbach's alpha is 0.85. In this research, the questionnaire was provided to 30 students before collecting the primary data, and after collecting it, a Cronbach's alpha of 0.78 was found, which is a satisfactory number and indicates that the questionnaire has high internal reliability. The Goldberg and Hiller General Health Questionnaire comprises 28 questions and four subscales, each with seven items. Somatic symptoms, anxiety and sleeplessness, social dysfunction, and severe depression are all included in these measures. A low score on any subscale implies health, whereas a high score shows pain and the lack of health in a person. In this research, Cronbach's alpha of 0.738 was used in this research to validate the reliability of the general health questionnaire [31].

### Data Analysis

To convey the status of variables and characterize the findings, SPSS software (Version 22, SPSS Inc., Chicago, IL, USA) and descriptive statistics such as frequency, percentage, mean, and standard deviation were employed. The data were found to be normal using the Kolmogorov-Smirnov test at  $p > 0.05$ . To analyze the link between the hypotheses, analysis of variance, independent  $t$  test, and Pearson correlation coefficient were employed, and multiple linear regressions using the entry technique were used to assess the predictive ability of the social capital variable. A significance threshold of  $p < 0.05$  was used in this investigation.

### Ethical Considerations

In order to adhere to ethical issues, the code of ethics (IR.IUMS.REC.1395.95-04-153-28574) was received from the Iran University of Medical Sciences in the first step. Also, a written agreement was received from the participants throughout the research, and they participated in the study willingly. They were informed that their personal information would be kept secret, and they had the right to exit the study. After receiving instructions and being pleased with the research ethics, everyone who was asked to participate in the study completed the questionnaires.

## Results

In this study, 367 people were included in the study. The mean age of the participants was 26 years, and most of them were in the age group of 25–30 years. 54.5% of participants were female, and 65.9% were single. Also, 79.3% of the respondents were unemployed (Table 1).

**Table 1.** Demographic information of participants (*n* = 367)

Variables	Dimensions	Number	%
Age	Under 25 years	127	34.6
	25–30 years	144	39.2
	Over 30 years	96	26.2
Gender	Male	167	45.5
	Female	200	54.5
Marital status	Married	125	34.1
	Single	242	65.9
Occupation	Employed	76	20.7
	Unemployed	291	79.3
Education level	BA	158	43.1
	MA	139	37.9
	PhD	70	19.1
College	Health sciences	59	16.1
	Medical sciences	53	14.4
	Paramedical sciences	52	14.2
	Rehabilitation sciences	50	13.6
	Behavioral sciences and mental health	51	13.9
	New medical technologies	50	13.6
	Management and information	52	14.2
Place of residence	Dormitory	231	62.9
	Out of dormitory	136	37.1

Table 2 shows the status of social capital and general health variables and their dimensions. Social capital in some dimensions (trust, group participation, and relationships in the social network) was reported as medium and low. In all the samples, trust was one of the examined dimensions at a low level, and its mean and standard deviation were  $10.97 \pm 2.14$ . In other dimensions, the percentage of people who reported average status was higher than the percentage of people who reported low status, but in none of the dimensions, high status (suitable) was reported. For general health status, the results showed that the social dysfunction dimension is worse compared to other dimensions, and 93.4% of the samples reported it as medium or high, while in the anxiety dimension, the mean, and standard deviation were  $13.46 \pm 3.36$ . Only 3% had high anxiety. Also, in terms of somatic symptoms and depression, 5.7% and 5.4% of people were in poor condition, respectively (Table 2).

There was a substantial link between gender and overall health, with males having a higher mean score of general health (13.85) than females (12.15). In other words, men had better overall health than women. There was a substantial difference in people's general health based on their degree of education, with Ph.D. students having bet-

ter overall health than other groups. There was a substantial association between the site of living and overall health, with nondormitory students having better general health (13.72) than dormitory students (12.30). That is, nondormitory students had better health than dormitory students. Social capital was also linked to general health, implying that people with more social capital had better overall health. There was, however, no statistically significant association between age, marital status, work status, or college attendance and overall health (Table 3).

Multivariate regression showed a relationship between the dimensions of social capital and students' general health. Among the dimensions of social capital, two dimensions of group participation and relationships in networks have significant predictive power for the dependent variable, i.e., general health. These two variables together predict 39% of the variance in general health (Table 4).

## Discussion

The purpose of this research was to look at the link between social capital and overall health among students at the Iran University of Medical Sciences. The findings

**Table 2.** Description of the dimensions of social capital and general health

Variables	Dimensions		Frequency	%	Mean	SD
Social capital	Trust	Low	367	100	10.97	2.14
		Moderate	0	0		
		High	0	0		
	Group participation	Low	89	24.3	17.47	3.92
		Moderate	278	75.7		
		High	0	0		
	Participation in the local community	Low	96	26.2	14.22	1.38
		Moderate	271	73.8		
		High	0	0		
	Relationships in social networks	Low	53	14.4	12.25	2.46
		Moderate	314	85.6		
		High	0	0		
General health	Somatic symptoms	Low	26	7.1	14.59	3.04
		Moderate	320	87.2		
		High	21	5.7		
	Anxiety	Low	59	16.1	13.46	3.36
		Moderate	297	80.9		
		High	11	3		
	Social dysfunction	Low	24	6.5	14.77	3.19
		Moderate	312	85		
		High	31	8.4		
	Depression	Low	34	9.3	14.16	3.24
		Moderate	313	85.3		
		High	20	5.4		

revealed a substantial association between social capital and general health; i.e., increasing social capital improves people's health, which is consistent with past studies on this topic [32–34]. Gilbert et al. [35] discovered in a comprehensive review and meta-analysis research that building social capital increases people's odds of health by 27%. Furthermore, social connections and trust (both aspects of social capital) boost the likelihood of excellent health by 39% and 32%, respectively. Although most research has focused on men and women, several studies have shown a link between social capital and mental health among students [24, 36]. Social capital is an important resource for individuals because it has a large impact on their ability to act and their quality of physical life. It also provides conditions for the individual to enjoy the social support of the group and the community, which comforts them and reduces their anxiety, ultimately leading to the person's mental and general health. Through sentiments of trust, life expectancy, involvement, and the encouragement of collective action based on mutual trust and mutual empathy, social capital may

**Table 3.** Relationship between demographic variables and general health among participants

Variables	Coefficient	p value	Correlation with general health
Age	0.94	0.09 <sup>a</sup>	No
Gender	-0.504	0.001 <sup>b</sup>	Yes
Marital status	0.112	0.11 <sup>b</sup>	No
Education level	1.012	0.001 <sup>c</sup>	Yes
Place of residence	-1.54	0.001 <sup>b</sup>	Yes
Occupation	-0.007	0.27 <sup>b</sup>	No
College	0.122	0.18 <sup>c</sup>	No
Social capital	2.147	0.001 <sup>a</sup>	Yes

<sup>a</sup> Pearson. <sup>b</sup> t test. <sup>c</sup> ANOVA.

even lessen the desire to engage in high-risk health behaviors [37–40].

Two measures of social capital in this study, group membership and ties in networks, showed a greater link with overall health, which is consistent with previous re-

**Table 4.** Multivariate regression analysis to predict general health through social capital

Predictive variables	<i>B</i>	SE	Beta	<i>T</i>	<i>p</i> value
Constant	1.2230	0.271	–	4.535	0.001
Trust	–0.008	0.014	–0.029	–0.548	0.584
Group participation	0.41	0.009	0.275	4.400	0.001
Participation in local community	0.015	0.018	0.035	0.849	0.397
Relationships in networks	0.100	0.013	0.418	7.540	0.001

$r = 0.62, R^2 = 0.39, \text{ADJ. } R^2 = 0.385, F = 58.316, \text{Sig} = 0.001.$

search [40–42]. Gilbert et al. [35] have shown that social connections improve one's chances of being healthy. Social networks help people play different roles and improve their health by instilling self-esteem and self-worth in them. Participation in the community and volunteer groups improves mental health by providing a feeling of identity, belonging, and self-worth. It is very important to improve these aspects of social capital through the right interventions and planning. The study's findings revealed a link between gender and overall health, which was consistent with previous research [43–45]. Furthermore, males had better overall health than women, which was consistent with Yiengprugsawan et al.'s 2011 results showing women had lower levels of health [46–48]. This issue is caused by gender limitations in society [49] which may also be evident in the academic setting for female university students. Male students are not restricted from spending time outside the dormitories, but female students are. In addition, female students have fewer athletic and cultural opportunities than male students, which might have an impact on their health.

The findings revealed that the average general health of students varied depending on their degree of education, with Ph.D. students having the best overall health. Ghaderi et al. (2015) [50] discovered a substantial link between overall health (anxiety and depression) and students' education. However, our findings contradicted those of Maghsoudi et al., 2015 [51]. This might be because doctoral students' personalities have been shaped in some manner, and they have removed themselves from the dangerous activities of undergraduate and graduate students. They also feel more autonomous and confident as a result of the financial assistance provided by the institution, which may have an impact on their health. Finally, students with a higher educational level have greater access to health information and awareness to engage in healthy and preventative activities, which will benefit their health as well.

The findings indicated that there is a link between housing status and overall health, with nondormitory students having better health than dormitory students. Mazhariyad and Rozbe [52] found a substantial link between housing status and overall health, which is consistent with our results. However, the findings of Namazi et al. [53] contradicted our findings. Being in a dorm and away from home may have a variety of psychological repercussions on a person, including a lack of emotional support and supervision from family. A person's health may also be harmed by poor food quality, inadequate dormitory amenities, and the presence of smoking housemates, among other things. In general, people think that living in a dorm, going through different situations with limited amenities, and not being able to control the environment and people around them could be bad for the health of the students.

However, there was no significant association between age, marital status, employment, or college and students' overall health, which is similar to the findings of previous research [51, 53]. Other research, however, has shown outcomes that contradict ours. For example, Warren-Findlow et al. [41] show that mental health improves with age. However, Yiengprugsawan et al. [46] discovered that elderly people had worse overall health. Health decline with aging might be a normal occurrence. This is because as individuals age, their physical conditions deteriorate, and they may experience various physical and mental ailments, as well as serious issues due to a lack of social capital and assistance. Furthermore, in a study conducted by Yiengprugsawan et al. [46], single people had worse overall health than married people. The discrepancy between our findings and those of other studies may be attributed to the kind and amount of samples used, as well as the statistical population of students, while in other studies, people of a larger age range (women and men) were investigated.

The current study is one of the few that investigates the link between social capital and health among Iranian stu-

dents and gives data to university administrators, which can be used to improve students' social capital and overall health. The limitations of this study include the participants' unwillingness to complete the questionnaires; conducting a cross-sectional study on only one university's students and not investigating the causal relationships between variables; completing the questionnaires by self-report; and the possibility of bias in the given answers. More study is needed on the subjects of social capital and student health, as well as approaches to improve them using other research tools and methodologies, such as qualitative methods and educational interventions.

## Conclusion

According to the findings, there is a substantial connection between social capital and overall health, and the results also demonstrated that the two aspects of social capital that have the biggest influence on overall health-care group involvement and connections in networks. It is possible to improve students' health as a whole if social capital is increased, more students are encouraged to work on group projects, and students spend more time talking to each other in their networks.

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## Statement of Ethics

Ethical approval was obtained from the Iran University of Medical Sciences (IR.IUMS.REC.1395.95-04-153-28574) and was obtained from the Iran University of Medical Sciences. Written consent was obtained from all participants.

## Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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None.

## Author Contributions

All authors participated and approved the study design. J.Y.L., S.F.I., and M.A.M.G. contributed to designing the study. A.A.D. and A.A. collected the data and analyzed it by M.M., A.Z., and M.A.M.G. The final report and article were written by S.F.I., J.Y.L., and A.A. All authors read and approved the final manuscript.

## Data Availability Statement

All data generated or analyzed during this study are included in this published article. Other data may be requested from the corresponding author.

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