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Effect of education based on health belief model on the social capital and quality of life among male teachers

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Abstract

This article is an experimental analysis of the relationship between social capital and quality of life based on the Health Belief Model. The research followed an experimental method. 100 male teachers were selected randomly and assigned to two groups of experimental and control (n=50 each). The instruction was conducted in nine two-hour sessions in the form of pamphlets, lectures, and group discussions and the posttest was performed after 3 months. Data were collected using three questionnaires. The comparison of the pretest and posttest mean scores in terms of the components of the health belief model, social capital, and life quality in both experimental and control groups showed that there was no significant difference between the two groups in the pretest; however, the comparison of the results in posttest showed a significant difference. Leven test calculation, T, and covariance confirmed these differences and reflected the impact of intervention and implementation of the training program on the experimental group. The results of the analysis indicate that the models applied are significant, which confirms the examined propositions. Higher levels of social capital imply greater levels of quality of life at school.

Keywords: Health Education, Male, Quality of Life, Social Capital, School Teachers

Introduction

The concept of social capital and the development of methods and strategies for maintaining or enhancing it have been widely noted recently. The concept can be considered as a means to restore the functions of social organizations and the rate of success, effort, and the popularity of social institutions, groups, and associations. The concept of social capital first was used by Hani Van Reed served in the United States of Virginia education. [1] Bourdieu defines social capital as the sum of actual and potential sources that are concerned with membership in a group that provides each of the members with the support of social capital. Coleman has defined social capital through its function. In his view, social capital is a social-structural resource that is accounted as people assets and capital. From Putnam's perspective, social capital refers to some characteristics of social organizations such as networks, norms, and

trust that facilitate cooperation and coordination for mutual benefit. According to Fukuyama, social capital can simply be defined as a certain set of informal norms or values that may be shared by the group members and collaboration and cooperation are allowed among them. The norms that create social capital must basically include virtues in production such as honesty, commitment, and bilateral relations [2].

Social capital refers to forms of social organization such as trust, norms, and networks that can facilitate the performance of the community through appropriate actions. To measure social capital, indices such as social trust, participation, social interaction, religion, and self-esteem are considered.

A capitalist economy requires a great deal of social capital that depends on the capital supply in the community [3]. Quality of Life (QoL) is a broad concept that encompasses all aspects of life, including health. The term that is used in the various political, social, and economic fields often is used in medical studies, and according to different experts, includes various physical, psychological, social, and spiritual aspects [4].

Health Belief Model (HBM) is one of the oldest health behavior theories and is among the first patterns taken from behavioral science theories to solve health issues. The health belief model more efficiently than any other model suggests that people's beliefs about health problems, perceived benefits of action, barriers to action, and self-efficacy explain their engagement (or lack of engagement) in health-promoting behavior. This model is still one of the most well-known theories with the widest use in health behaviors.

The four-component pattern is explained as perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts have been proposed to explain the readiness for action. There is an extra concept (cues to action) for preparation and behavior fulfillment ability. The concept of self-efficacy or the individual's confidence in successful ability to do the behavior has been added to the model newly. In the late 1980s, HBM was expanded to cover the concept of self-efficacy, as well (Figure 1). Since then, this model has been used in a variety of health behaviors and now is among the most popular models [5].

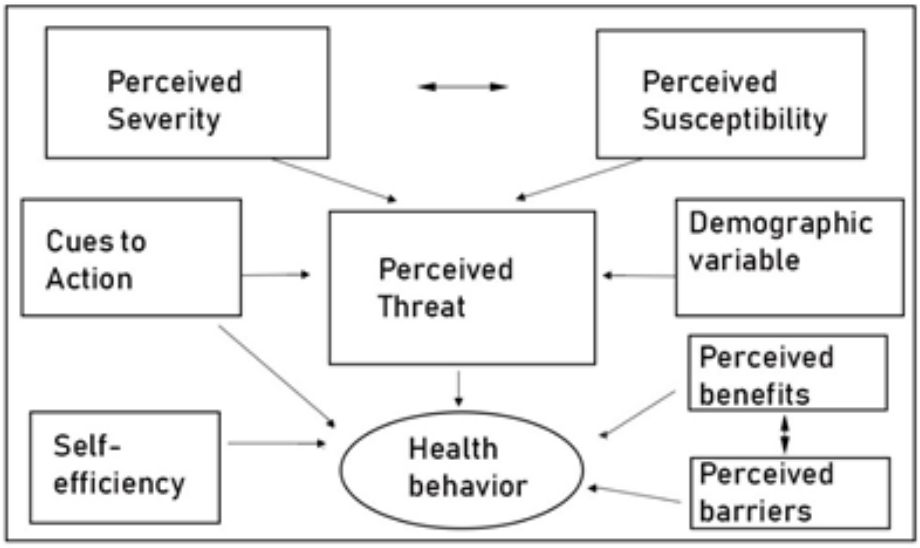

Figure 1 *Algorithm of the health belief model*

In fact, the health belief model provides the opportunity to examine the potential psychological factors influencing the individuals' decision. The model considers six areas that are likely to affect the people seeking help for health-related issues.

The concept of social capital is among the modern concepts used in social science discourse and contemporary political circles at different levels. Although this concept does

not have an old history, its use gradually has increased from the 1990s up to date in academic research and papers, particularly in the fields of sociology, economics, politics, and education in the works by people like James Coleman, Pierre Bourdieu, Robert Putnam, and Francis Fukuyama. According to Coleman, the concept of social capital is as an analytical tool for social research. Coleman was on the belief that social capital in clarifying one of the most important problems of social analysis or what is called micro and macro link can play an important role. Moreover, the use of the social capital concept, due to the globalization and weakening of national governments, as an executable solution to develop problems at the local community level, has been taken into consideration by the policy-makers, planners, and social policy officials [6].

QoL is the subjective evaluation of the positive and negative aspects of life. Although health is an important area of QoL, other concepts such as culture, values, and spirituality can be considered as the QoL [7]. The World Health Organization defines the individuals' perception of their position in life in the context of culture, the value system of society, objectives, expectations, and criteria of each individual as the QoL [8]. Some interpret it as the viability of an area, some as measures for the level of attractiveness, and some others as welfare, social well-being, happiness, and satisfaction [9]. Raphael et al. have defined the QoL as the extent to which one enjoys his important features of life [10]. Costanza et al. have described the QoL as the extent of providing human needs in relation to the perceptions of individuals and groups of their subjective well-being [11]. Therefore, it is often defined in each area according to the expectations of policymakers and social program administrators. Some authors have considered the QoL only as a sense of well-being [12].

The aim of this study was to determine the effect of a training program based on the the HBM on the social capital and QoL among male teachers.

Method

This is an experimental study with a pretest-posttest design to compare experimental and control groups.

The statistical population consisted of all the school male teachers in the city of Baft, Kerman, south east of iran, in 2016, who approximately comprised 500 individuals. Due to the size of the population, a sample of 100 participants was set using Cochran's sample size formula to be used for data gathering. The studied male teachers were first divided randomly into two groups of control and experiment (n=50 each). The inclusion criteria included secondary high school teachers in the city and the exclusion criteria included the reluctance to continue participating in the study and the lack of participation in each of the training sessions (3 training sessions), according to which none of the sample members were excluded from the study. All individuals were subjected to written consent for entering the study and they were assured that the information would remain confidential.

Data were collected using three questionnaires, as follows:

Inventory of HBM: 2-Bullen's social capital designed questionnaire: This questionnaire consists of 31 questions to assess three aspects of social capital, including cognitive (13 items), structural (9 items), and communicational (9 items) dimensions. The cognitive dimension is related to partnership, trust, attitudes, and commitments (items 4-8, 10, 14-16, and 23-26). The structural dimension is linked to decision-making, structure, and activities of groups in the society (items 1-3, 19, 21, and 27-30). The communicational dimension is related to in-group and out-group communication and its quality and quantity (items 9, 11-13, 17, 18, 20, 22, and 31). The questions of this questionnaire are rated on a 4-point Likert scale, including 1) very low, 2) low, 3) high, and 4) very high. The lowest and the highest scores that can be obtained from the questionnaire are 31 and 124, respectively. A higher score reflects higher social capital. The score of the cognitive dimension ranges from 13 to 52, the score of structural dimension ranges from 9 to 36, and the score of communicational

dimension ranges from 9 to 36. The validity and reliability of this questionnaire have been examined among 1200 participants from 5 states of Australia by Onyx and Bullen [14]. The varimax method of factor analysis revealed that the correlation coefficient and the reliability coefficient of this questionnaire are 0.52-0.87 and 0.84, respectively. In the present study, the reliability of this questionnaire was surveyed based on Cronbach's alpha among 40 subjects of the target population. The reliability of the three dimensions was acceptable (for the cognitive dimension: 0.84, for the structural dimension: 0.79, and for the communicational dimension: 0.77).

Quality of life questionnaire: The Persian version of the short-form health survey questionaire (SF-36) was used to collect data on QoL. The total score of SF-36 ranges from zero to 100 and higher scores indicate a better condition. The reliability and validity of this scale have been approved for the elderly in some surveys. The obtained Cronbach's alpha was 0.93 for QoL in this study. After the first phase and completion of the questionnaire, a training program was developed that aimed to raise the teachers' awareness, attitude, and performance towards the promotion of behaviors based on social capital. The content of the educational materials depended on the respondents' answers to the questions on the indicators of social capital. However, the program content generally includes group discussions, lectures, and pamphlets, which were conducted in 9 sessions of 2 hours. The content of the curriculum was adjusted to the pretest questionnaires based on the teachers' responses. The mean values of responses to the components of the health belief model in the control group were as follows: Perceived susceptibility 18.74, perceived severity 15.08, perceived benefits 17.02, perceived barriers 15.56, self-efficacy 42.4, and self-efficacy 18.7 and cues to action 10.7. These components in the test group were approximate as the same as in the pretest. The responses of the secretaries to the main components of social capital in the pretest in the control group were as follows: local participation 16.66, interaction with neighbors 12.44, interaction with family and friends 94.9, and occupational interactions 96.8. Three months after the intervention, the questionnaires were completed for both groups so that the intervention program impact on the investigated sample was determined and evaluated at the end.

For data analysis, descriptive indicators, as well as t-test, paired t-test, and chi-square test, were used. The SPSS-21 was applied for the statistical analysis at $p<0.05$.

Results

100 male teachers from all the schools of Baft city with a mean age of 43.5±10.3 years participated in this study. Table 1 shows the comparison of the results of the posttest components of social capital in both experimental and control groups.

Table 1 *Comparison of the results of the posttest components of social capital in both experimental and control groups*

Variables	Control group		Experimental group		p-value
	Mean	SD	Mean	SD	
General social capital	89.94	14.94	109.44	11.77	0.001
Local participation in society	16.78	3.80	19.90	4.00	0.012
Social agency	19.64	2.98	24.08	2.48	0.006
Sense of security and confidence	12.86	2.19	16.04	1.65	0.017
Interactions with neighbors	12.82	2.12	16.74	1.73	0.021
Interactions with family and friends	8.52	1.43	9.92	0.75	0.019
Tolerance of differences	4.46	1.59	6.14	1.24	0.022
Life value	5.96	0.94	6.24	0.59	0.004
Job interactions	8.90	1.34	10.38	0.75	0.000

The changes in the mean and standard deviation were considered, and at the end,

a comprehensive package was provided to educate increasing social capital. After 9 training sessions, significant changes occurred in the teachers' social capital at the posttest (Table 1).
The changes in the mean and standard deviation were considered, and at the end, a comprehensive package was provided to educate increasing social capital. After 9 training sessions, significant changes occurred in the teachers' QoL at the posttest (Table 2).

Table 2 *Comparison of the posttest results of the components of quality of life between experimental and control groups*

Variables	Control group		Experimental group		p-value
	Mean	SD	Mean	SD	
Physical function	62.50	26.15	59.20	25.38	0.002
Role of physical health disorder	67.54	32.01	98.00	6.85	0.006
Role of emotional health disorder	69.33	42.50	97.33	9.13	0.012
Energy fatigue	70.70	12.37	88.80	2.58	0.001
EW emotional well-being	68.00	13.10	87.36	2.95	0.022
Social function	67.50	18.38	90.00	5.05	0.004
Pain	79.05	17.82	96.20	8.08	0.001
General health	72.10	7.22	84.80	4.84	0.002
General physical health	281.19	42.25	338.20	23.84	0.004
General mental health	275.53	68.74	363.49	10.62	0.001

The changes in the mean and standard deviation were considered, and at the end, a comprehensive package was provided to improve social capital based on the HBM. After 9 training sessions, significant changes occurred in the teachers' social capital at the posttest (Table 3).
The hypothesis test is performed using covariance analysis. Covariance measures the degree of dependence between two random variables. The basic analysis of covariance design is a just pretest-posttest randomized experimental design. covariance analysis result is given in Table 4 The hypothesis to be considered is the mean scores of social capital at the posttest are different between experimental and control groups. therefore , there is a difference between the posttest scores of the experimental and control groups in favor of the experimental group. This analysis is to answer this question: does the training intervention affect the teachers' promotion of social capital in the city of Baft? To investigate this question, the following statistical hypotheses were tested: The mean scores of social capital at the posttest are different between experimental and control groups. In other words, the amount of social capital in the experimental group is greater than the control group in the posttest.

Table 3 *Comparison of the results of the Health Belief Model (HBM) components at posttest between experimental and control groups*

Variables	Control group		Experimental group		p-value
	Mean	SD	Mean	SD	
Perceived sensitivity	18.94	2.53	20.88	1.93	0.002
Perceived severity	15.40	2.23	19.34	1.31	0.001
Perceived benefits	17.06	1.63	19.40	1.26	0.003
Perceived barriers	14.54	3.77	15.52	2.28	0.022
Self-efficacy	22.14	2.39	29.08	1.58	0.014
Cues to action	6.58	0.60	7.52	0.50	0.011

Because of $p<0.001$ and that this value was smaller than the error level of 0.05, this assumption is confirmed with 99.0 reliability. Thus, it can be said the mean scores of social

capital at the posttest of experimental and control groups were different (Table 4).

Table 4 *Results of covariance analysis at the posttest of experimental and control groups concerning social capital*

Source	Sum of squares	Degrees of freedom	Mean square	F	Sig.
Posttest	993809.610	1	993809.610	5512.059	0.001
Groups (group membership)	9506.250	1	9506.250	52.725	0.001
Error value	17669.140	98	180.297		
Total	1020985.000				

R Squared = .350 (Adjusted R Squared = .343)

Discussion

the research showed that there was a positive significant relationship between teachers' social capital and QoL in the city of Baft. This finding is consistent with those found by Majedi and Lahesaeezadeh [13], Ghaffari and Ownagh [14]. Rajabi Gillan et al. [15], Noghani et al. [16], and Moradian Sorkhkalai et al. [17], Lowndes [18], O'Neil [19] and confirmed them. The main hypothesis of the research by Ghaffari and Ownagh was that the social capital relationship with QoL according to the Pearson correlation coefficient between the two variables was 0.532 that was significant at a 99% confidence level; thus, it can be said that whatever social capital is added to or not, QoL increases.

The results obtained [17] showed that there was a positive significant relationship between the dimensions of physical functioning, general health, social functioning, and vitality and freshness and social capital [17]. In this regard, a study by Sharifian et al. regarding the impact of social capital on the students' QoL at Islamic Azad University in the city of Shiraz also confirmed that there was a positive significant relationship between the variable of social capital and QoL. Moreover, the study [16] aimed to investigate the relationship between QoL and social capital among Mashhad civilians and showed that social capital could improve the individuals' QoL. In a study by Zahedi et al. [20], the relationship between social capital and QoL of families' caregivers was evaluated in the city of Tehran. In this study, the relationship between social capital and four dimensions of QoL (social, environmental, physical, and emotional health) was approved, as well; the impact on physical health was at the lowest and on social well-being was at the highest.

The finding of the study is consistent with Jakuis's view that social capital besides facilitating accessing benefits leads to social networks and supports reinforcement through developing communication with others due to trust [20]. The findings also correspond Coleman's views who believed that social capital is facilitated in a framework resulted from social interaction and along with other human factors and physical capital is the improvement factor of QoL [21] According to Leen's view, the components of social capital, through increasing the communication level and level of access to resources, finally lead to desired results such as property, power, fame, physical health, mental health, and life satisfaction. These factors, in addition to being counted as one part of the QoL, have direct and positive impacts on the increase of other levels associated with the concept of QoL [22]. Putnam believes that the general QoL and social institutions functions were strongly under the influence of norms, trust, and civil and social participation networks [23]. The results by Rajabi Gillan et al. confirm our result to indicate that in training programs, the greatest impact of teachers' social capital improvement has been on mental health.

There were limitations in the design and implementation of this study, such as regarding accurate responses to questionnaires.

In the field of implementation, we faced some problems due to the target group in achieving

the right time and place for education. Nevertheless, the help of education managers solved many problems.

Conclusion

The results of this research indicated that psychological factors are more important so that people with higher education and income do not necessarily have a higher quality of life than others. There are many psychological and individual factors affecting the level of life satisfaction. Table 2 compares the post-test results in the control and experimental groups regarding the component of quality of life indicating that the greatest change in the component of quality of life has been created as a result of implementing the training program on the component of mental health.

The results of the research showed that the generation and maintenance of social capital is one of the most important ways to improve the quality of life. Social capital is shaped and strengthened on the basis of the expansion of social networks, collective action and cooperation that bring people together and social cohesion that increase the value of teachers' collaboration and improve their quality of life.

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Contribution

Study design: RD, MHB, SSM
Data Collection and analysis: RD
Manuscript preparation: RD

Conflict of Interest

"The authors declare that they have no competing interests."

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