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Social Capital and Educational Performance of Students: The Mediating Role of Entrepreneurial Behavior

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ABSTRACT

Background: Nowadays, most organizations, including universities, are subject to significant changes. Thus, in order to adapt themselves successfully with such variations, they need skillful, innovative, self-confident, and entrepreneurial individuals. Accordingly, this study was conducted to predict medical university students' educational performance based on the existing social capital and their entrepreneurial behavior.

Methods: A cross-sectional study was done in 2019 based on Structural Equation Modeling (SEM) among 260 students of Qazvin Medical University. To collect information, three standard questionnaires, including Nahapiet and Ghoshal (1998) social capital questionnaire, the entrepreneurial behavior questionnaire of Leon Dice, and the entrepreneurial performance questionnaire of Zamptakis and Vasilis Mustakis (2007), were used. After entering data in AMOS software, the associations between variables were analyzed by structural equation modeling.

Results: Findings revealed that social capital and entrepreneurial behavior were influencing factors on the educational performance of students. The direct and indirect effects of social capital on educational performance (path coefficients: 0.798 and 0.44 respectively) were affirmed (P-value < 0.05).

Conclusion: Promoting social capital, innovation, and entrepreneurial behavior among university students can improve the educational performance of students. Thus, applying effective strategies to create trust in the education system and designing new approaches to use motivational methods in strengthening students' sense of creativity and innovative capabilities can effectively contribute to the improvement of their educational performance.

Key words: Social capital, Entrepreneurial behavior, Performance, Students

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Introduction

Educational performance is an important criterion in measuring the students' achievement across a range of academic subjects (1). In fact, education provided in training institutions and educational centers should bring beneficial knowledge and skill for students to enrich their lives effectively. Furthermore, in today's competitive environment, better performance in training a knowledgeable workforce is essential for universities to gain profits through applying business concepts and sustainable development (2).

Higher education is a key determinant of a society's growth, which contributes to entrepreneurial behavior, social mobility, and sustainable progress (3). Entrepreneurship-oriented programs teach students essential skills that help them in problem-solving, teamwork, and promoting self-confidence as important criteria for improvement in living and working standards (3). As Johansen (4)defined, entrepreneurship education aims to improve students' educational performance and develop their capabilities to gain knowledge of a new subject in the field of practical market skills. Entrepreneurial competence, as a key component of success, mostly refers to determining opportunities and developing necessary resources to take the most advantage of existing capacities (5, 6). On the other hand, literature has affirmed that students' entrepreneurial intentions can be affected by several factors, including social capital in the teaching environment (7). Thus, paying attention to entrepreneurship within the framework of social structures paves the way for developing a broad perspective to cumulate efforts on the path of business advancement, productivity, and economic development (8). Thus, one of the most important goals of entrepreneurship education is to determine and strengthen existing capacities, develop entrepreneurial skills, and support positive attitudes toward change (9). Three key criteria mainly introduce entrepreneurial universities. First, they reinforce creativity and innovation to develop new approaches in handling the issues of a highly competitive environment; second, they consist of faculty members, students, and employees who are adequately trained to promote their entrepreneurial capacities; and finally, they have effective and constructive interaction with their surrounding environment (labor market /or the industry) (10).

In this regard, medical universities have an important opportunity to strengthen entrepreneurship according to the diversity and multiplicity of their educational-specialized areas, which provide them adequate resources to guarantee the effectiveness of educational activities (11, 12). In this regard, social capital is mentioned as one of the key organizational resources which has a key impact on other resources, including physical, financial, and human capital.

Social capital refers to the existence of relations and interactions among members of a network that, lack of such capital, the effectiveness of other resources and organizational assets reduces dramatically and consequently results in cultural and economic difficulties (13). This important factor is also an essential element in developing entrepreneurial activities. Therefore, identifying effective strategies to promote social capital in educational institutions can play an important role in creating and developing entrepreneurial activities (14, 15). The existence of an acceptable level of social capital in such organizations facilitates constructive interactions between members leading to innovative approaches and provides an opportunity to solve traditional obstacles in the way of educational development (16). Literature has also confirmed this relationship and acknowledged that social capital affects the educational performance of students. It is possible to improve the academic performance of students through reinforcing social capital in training institutions. Universities are the most significant areas for society's development and the main source for educating a skillful and knowledgeable health workforce (9). Determining the impact of social capital on promoting innovative aspects can assist health policymakers to make accurate decisions about effective ways of improving

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students' academic performance, this is especially important to investigate such relationships in the field of medical sciences. Considering the importance of the issue, the study aim was to identify the role of social capital in students' academic performance by considering the mediating role of entrepreneurial behavior.

Materials and Methods

Study design and population

We used structural equation modeling to conduct a cross-sectional study among 260 medical university students studying in all schools of Qazvin Medical University in 2019. Using the consensus sampling method, 325 higher education students were included in the study, among which 260 individuals completed the questionnaires (response rate was 80 %).

Data collection

The data collection tool in this study consisted of three standard questionnaires, including Nahapiet and Ghoshal (1998) social capital questionnaire, the entrepreneurial behavior questionnaire of Leon Dice, and the Educational Performance of Students questionnaire of Zamptakis and Vasilis Mustakis (2007). The first questionnaire included 25 questions in three dimensions of cognitive, relational, and structural. The second questionnaire consisted of 12 questions in the field of entrepreneurial behavior, including the components of bureaucratic barriers, changes in students' behavior, strategic insight, creating a dynamic training environment, and supportive environment. Finally, the students' academic performance questionnaire incorporated 48 questions in self-efficacy, emotional effects, planning, lack of outcome control, and motivation. Answers to all questions were given based on a five-point Likert scale. The validity and reliability of the questionnaire were previously checked and confirmed in similar studies. The reliability and validity of the Entrepreneurial Behavior Questionnaire using Cronbach's alpha test was 0.72, the Educational Performance of Students Questionnaire was 0.95 and the Social Capital Questionnaire was 0.93. (17-21). All questions were answered on a 5-point Likert scale, with scores ranging from 1 very low to 5 very high. Inclusion criteria for this study were students of Qazvin University of Medical Sciences. Students who did not wish to continue working together to complete the questionnaire were excluded from the study. Prior to completing the questionnaire, information about the study objectives were given to participants and they were asked to sign a written consent form.

Statistical analysis

The study hypothesis was to test whether entrepreneurship behavior had a significant statistical effect on the association between social capital and academic performance among students. The Structural Equation Modeling (SEM) and path analysis were applied through AMOS software version 22 to test the hypothesis and examine the model's fitness. SEM consists of different sets of mathematical models and computer algorithms, often used to assess 'latent' constructs. The use of this model has been widely accepted in the social sciences because of its ability to assign relationships between latent variables and observable variables (22-24). Also, to measure t-value of mediator variables, the Sobel test and VAF were used. The ethical code of the research project is IR.QUMS.REC.1399.155.

Results

Of 325 students, 260 (80 %) participated in the current study; most of them were female (61.50 %), married (88.50 %), and their mean age was (21.65 $\pm$ 2.49) years old. Regarding their field of study, most of the participants (36.70 %) were medical students (21.50 %) and those studying healthcare management (18.50 %) (Table 1).

Path hypothesis concerning the study dimensions was tested as follows.

1) Social capital has a significant statistical relationship with entrepreneurial behavior.

2) Social capital has a significant statistical relationship with academic performance of students. 3) The entrepreneurial behavior of

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students has a significant statistical relationship with their educational performance. 4) Social capital has a positive and significant effect on students' educational performance through entrepreneurial behavior. The student's t-statistic was done to examine the significance of these coefficients. The corresponding values are shown in Figure 1.

As shown in Table 2, all the t-statistic values were more than 1.96, signifying that all of the path coefficients were significant. The load factor for the association between social capital and entrepreneurial behavior was 8.80 %. In contrast, for the relationship between the academic performance of students and entrepreneurship was 15 % and the load factor concerning to the association between social capital and academic performance was 13.50 % representing that a unit of change in each of the mentioned variables would change the standard deviation of educational performance by 8.80, 15 %, and 13.50 % respectively.

The calculated VAF was equal to 44 %, depicting that entrepreneurial behavior intermediates the relationship between students' social capital and academic performance to some extent. As the SOBEL test results affirmed, the hypothesis of mediating role of entrepreneurial behavior on the relationship between social capital and academic performance was confirmed (Test statistic = 4.30, Std. Error = 0. 44, P-value < 0.05). The suitability of the structural model was checked in Table 3. As it is shown in the table, the model fitness was approved.

Table 1. Demographic characteristics of students

Variables		Frequency	Percentage
Gender	Male	100	38.5
	Female	160	61.5
Field of study	Medicine	56	21.5
	Dentistry	26	10.0
	Public health	27	10.4
	Environmental health	28	10.8
	Healthcare management	48	18.5
	Laboratory sciences	14	5.4
	Operating room	10	3.8
	Anesthesiology	13	5.0
	Nursing	38	14.6
Marital status	Married	224	88.5
	Single	29	11.5

Table 2. The path coefficients of the model

Hypothesis	Standardized load factors	T	P*	Result
Social capital---> entrepreneurial behavior	0.088	3.325	0.01	confirmed
Entrepreneurial behavior---> academic performance	0.151	5.715	0.02	confirmed
Social capital---> academic performance	0.135	5.911	0.01	confirmed

*P-value < 0.05 is significant

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Table 3. Fitness indicators of the model

Indicator name	Accepted value	Index
$(KI-CHI)\frac{\chi^2}{df}$	Less than3.00	2.83
PCFI (destination adaptive indicator index)	More than 0.60	0.65
RMSEA (Root Mean Square Error of Approximation(	Less than 0.08	0.07
CFI(Comparative Fit Index)	More than 0.90	0.93
NFI (Normalized Fitness Index)	More than 0.90	0.95
GFI (Goodness of Fit Index)	More than 0.90	0.90

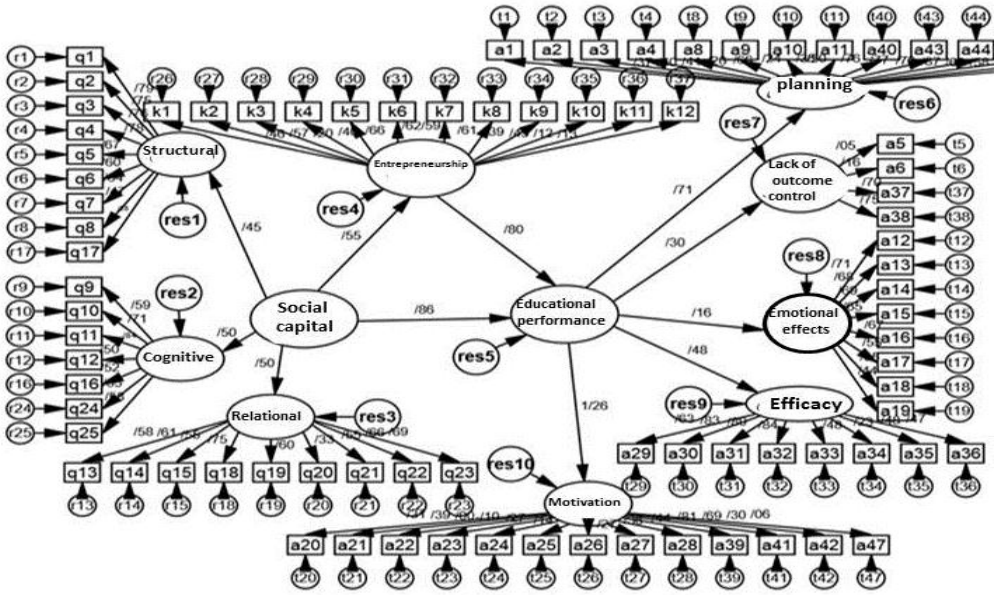

Figure 1. The standard factor analysis of the model

Discussion

This study aimed to determine the relationship between students' social capital and educational performance in Qazvin University of Medical Sciences with the mediating role of entrepreneurial behavior. Based on the study results, social capital stimulates new ideas and forms innovative ways of thinking, leading to productivity and high performance. There is a growing body of literature on social capital and its association with academic achievement (25-27). Dike and Singh (28) concluded that social capital and academic achievement are positively correlated. Furthermore, Aslandogan and Cetin (29) declared that promoting social capital in an educational context leads to the establishment of multilateral constructive interaction between educator, parent, and training system. Social capital is a key factor in educational systems so that effective interactions among students and faculty members could enhance the quality of training leading to their educational achievements (30). In fact, different levels of success in academic performance can be attributed to different levels of existing social capital. Thus, paying attention to this capital as a supporting factor in an education system's academic climate would motivate students to achieve higher goals.

Regarding the relationship between social capital and entrepreneurship, Aslandogan and Cetin (29) affirmed social capital's value in promoting students' innovative behavior .Klyver &

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Schott (7) added that students' entrepreneurial intentions could be influenced by social capital as one of the key organizational assets. Furthermore, based on the literature, social capital has a crucial impact in clarifying entrepreneurial behavior and the formation of entrepreneurial intentions (7, 31-33). Social capital is a key component of creativity, brainstorming, risk-taking, and organizational learning (34, 35). Therefore, strengthening this capital in academic institutions can result in students' motivation to develop entrepreneurial behaviors and even their interest in improving their educational performance. Previous studies have revealed that effective communication between individuals' results in constructive collaborations in working groups.

Furthermore, they stated that social capital could raise creativity, knowledge transfer, innovation, and entrepreneurship (36). In addition, Wu et al. showed that educational institutions should develop flexible approaches by focusing on different groups of students according to different educational backgrounds. They declared that in order to foster entrepreneurial goals, educational institutions should consider skill promotion and students' empowerment as important organizational goals to strengthen entrepreneurship.

Also, the mediating role of entrepreneurship in the association between social capital and educational performance was confirmed (37). In this regard, Sadeghzadeh confirmed the positive relationship between social capital and its dimensions with entrepreneurship, meaning that by increasing or decreasing social capital in the organization, entrepreneurship will change dramatically (38). Nan Chen et al. (39) also confirmed this relationship and added that social capital has a significant impact on organizational entrepreneurship. Also, Yong-Hui Li et al. (40) affirmed a positive and significant effect of entrepreneurship on organizational performance, all of which were in line with current study results. Despite numerous studies concerning the necessity of strengthening social capital in organizations and their potential in enhancing organizational performance, this issue is necessary to be studied in academic environments with particular emphasis on the role of entrepreneurial behavior.

Using a self-report tool for analyzing the participants' entrepreneurial behavior was one of the major limitations of the current study. Thus, it is recommended to evaluate entrepreneurship behavior and academic performance using objective criteria in the following researches.

Conclusion

Policymakers should take social capital and entrepreneurial behavior into deep consideration to identify the needs to maximize students' educational success. As study findings demonstrated, social capital plays a key role in academic achievement and produces several advantages for students and society.

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Conflict of interests

Authors declared no conflict of interests.

Authors' contributions

Rafiei S designed research; Nejatifar Z conducted research; Kalhor R and Shahsavari S analyzed data; and Rafiei S wrote the manuscript. Rafiei S had primary responsibility for final content. All authors read and approved the final manuscript.

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