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Locus of Control or Self-Esteem; Which One is the Best Predictor of Academic Achievement in Iranian College Students

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Abstract

Background: Self-esteem and behavioral consequences, which are due to external or internal locus of control, are effective on academic achievement of students.
Objectives: The aim of this study was to determine the prediction of locus of control and self-esteem in academic achievement among the students.
Materials and Methods: This cross-sectional study was conducted on 300 college students in Kermanshah University of Medical Sciences in 2014. Data collection tools were in three sections: demographic, Rotter internal-external locus of control scale and Coopersmith self-esteem inventory. Data were analyzed using the SPSS software version 21.
Results: Results showed that 29.8% and 76.2% of the participants had internal locus of control, and high self-esteem, respectively. There was a significant correlation between self-esteem, locus of control and academic achievement of the students. Self-esteem accounted for 39.5% of the variation in academic achievement.
Conclusions: It seems that interventions to increase self-esteem among student can help improve academic achievement among them.

Keywords: Academic Achievement, Locus of Control, Self-Esteem, Student

1. Background

Academic achievement and preservation of students' educational failure are two of the most important concerns of university academic staff and parents of the students (1, 2). The opposite of educational progress is educational failure which considering the results from various studies, could highly affect people destinies and impose much expenses to families. In this regard, studies have shown that self-esteem is an important factor for education progress (3). Students with higher self-esteem appeared to be more successful in education (4, 5). Self-esteem is considered as a vital capital and the most effective factor to progress and development of talents and creativity (6-8). Low self-esteem is introduced as a risk factor leading to aggression, depression, felony and weak educational outcomes (9, 10). On the other hand, locus of control among people is another important possible personality side to be studied and a meaningful concept in the Rotter social learning theory (11, 12). Rotter defined locus of control as the extent to which someone believes they can affect their lives; it has two control dimensions: internal and external. Considering Rotter hypothesis, people having external control has positive and negative perception about happenings and events which are not related to people behavior and is beyond personal control; Rotter considered this people to believe in chance or have external control source (11). In other dimensions, internal control source results from positive or negative perception of events which is under personal control (13). Although in the Ross and Broh study had reported that academic achievement could increase self-esteem, self-esteem does not affect subsequent achievement. In addition, locus of control does not affect subsequent academic achievement (14). Gerardi reported a significant relationship between the high level of self-concept and academic achievement (15). Furthermore, several studies had shown the role of self-esteem in predicting of academic achievement (16-18). In other hand, it should be noted that the intervention program need to emphasize on psychological factors that mediate and predict behaviors (19, 20).

2. Objectives

Considering all the mentioned perceptions and the importance of knowing effective variables on academic achievement, and due to differences in the findings of the conducted studies, the aim of the present study was to determine the prediction of locus of control and self-esteem in academic achievement among college students.

3. Materials and Methods

3.1. Participants and Procedure

This cross-sectional study was conducted on 300 college students at Kermanshah University of Medical Sciences, the west of Iran, in 2014. The sample size was calculated at the 95% significant level according to the results of a pilot study and a sample of 300 was estimated. From a total of 300 students, 252 cases (84%) signed the consent form and voluntarily agreed to participate in the study. This study was conducted with approval from Kermanshah University of Medical Sciences' institutional review board.

3.2. Measure

Participants responded to the standard self-report questionnaire. The questionnaire included four sections that comprised of 95 questions: Seven questions for demographic, one question about academic achievement, 29 questions for Rotter locus of control scale, and 58 questions about the Coopersmith self-esteem inventory.

3.2.1. Background

The background data included age (years), sex (boy, girl), live in dormitory (yes, no), filed of education (medical, dentist, pharmacology, nursing, paramedical, and health), level of education (BSc, MD), mother and father education level (Illiterate, under diploma, diploma, BSc, MSc).

3.2.2. Academic Achievement Status

This status evaluated through asking a single question which questioned about the average score of previous semester of students [0 - 20].

3.2.3. Rotter Locus of Control Scale

This scale includes 29 items where each item contains two sentences as A and B on important social events. 23 items evaluate locus control and six items were chosen neutrally to support the scale and cover the given scale. Among 23 items used in scoring each A choice equals one score and B choice gets a zero; therefore, maximum and minimum scores in this scale would be 23 and 0, respectively. A total score of each person represents type and degree of each person's locus control, only participants gained 9 scores or more meet internal locus control. This questionnaire has been used in several studies to recalculate and confirmed the reliability of the questionnaire (3, 21).

3.2.4. Coopersmith Self-Esteem Inventory

Self-esteem was evaluated by the Coopersmith 58-item standard scale. Each item was measured on an ordinal 5-point Likert-type scaling (like me" or "not like me). Examples of the items are: "I find it very hard to talk in front of a group." This questionnaire was used in several studies in Iran and its reliability and validity was proven. Generally, 50 items are divided into four scales of self-esteem (general), social self-esteem (peers), family self-esteem and educational self-esteem (school). In addition to these four subscales, it offers a total score. Furthermore, 8 items are pathometers and are responded choosing yes or no. The higher the score from this test, the more the self-esteem. Therefore, scores higher than 25 show high self-esteem and scores lower than 25 represents low self-esteem among participants (3, 5).

3.3. Data Analysis

Data were analyzed by SPSS version 21 using appropriate statistical tests including correlation, and linear regression at the significant level of 95%.

4. Results

The mean age of the respondents was 21.44 years (95% CI: 21.15, 21.73), ranged from 18 to 27 years. More details of demographic characteristics of the participants are shown in Table 1.

Among the demographic characteristics, sex, father education, and mother education had a significant effect on self-esteem and locus of control among the students (Tables 2 and 3).

The bivariate analysis showed the correlations between the locus of control and self-esteem ($r = -0.439$, $P < 0.001$), self-esteem and academic achievement ($r = -0.525$, $P < 0.05$), and the locus of control and academic achievement ($r = 0.395$, $P < 0.05$).

Finally, a hierarchical multiple regression analysis was performed to explain the variation in academic achievement using the self-esteem and locus of control. Table 4 shows statistically significant predictors of the outcome measure. Generally, they were accounted for 39.5% of the variation in academic achievement.

Table 1. Demographic Characteristics of the Participants

Variables	N (%)
Age, y	
18 - 20	104 (41.3)
21 - 23	95 (37.7)
24 - 27	53 (21)
Gender	
Male	98 (38.9)
Female	154 (61.1)
Live in Dormitory	
Yes	190 (75.4)
No	62 (24.6)
Faculty	
Health	57 (22.6)
Paramedical	53 (21)
Nursing	43 (17.1)
Pharmacy	32 (12.7)
Dentist	22 (8.7)
Medical	45 (17.9)
Father's Education	
Primary School (5 Grades)	9 (3.6)
Under Diploma (> 12 Grades)	76 (30.2)
High School (12 Grades)	78 (31)
Academic Education	89 (35.3)
Mother's Education	
Primary School (5 Grades)	13 (5.2)
Under Diploma (> 12 Grades)	102 (40.5)
High School (12 Grades)	88 (34.9)
Academic Education	49 (19.4)

From a total of 252 respondents, 29.8% (n = 75) had internal locus of control, and 70.2% (n = 177) had external locus of control. In addition, our results showed that 23.8% (n = 60) had low self-esteem and 76.2% (n = 192) had high self-esteem.

Results of the current study showed that 76.2% of the students had high self-esteem and 29.8% had internal locus control. There was a significant correlation between self-esteem, locus of control and academic achievement. Furthermore, self-esteem and locus of control totally predicted 39.5% of the variation in academic achievement, which self-esteem was a stronger factor to predict the academic achievement.

5. Discussion

Self-esteem is affected by communication with others and people with higher self-esteem believe themselves to be more attractive, lovely and valuable, and welcome the communication with others and create close relationships with them; as the result, self-esteem is believed as an essential component of social relationships (22). Most of the students (76.2%) participated in the present study showed high self-esteem, which is in accordance with the results by Mirzaei Alavijeh et al. (3). Considering medical science students as future employees at health and treatment centers in Iran, they will play an essential role in social health and high self-esteem levels among them could be a positive point in this regard.

Results of the present study showed that the majority of the students (70.2%) had external locus of control. In this regard, Mirzaei Alavijeh et al. (3) and Medanlu et al. reported similar results (23).

Another finding from the present study was the meaningful correlation between self-esteem, locus of control and students' academic achievement, which means the higher the self-esteem among students, the lower their belief in effect of chance on life and education as a part of life. They were more dependent to their internal abilities and their educational progress increased as the result. Mirzaei Alavijeh et al. reported a meaningful correlation among locus of control, self-esteem and students average scores (3). In addition, other studies showed the relationship between students' self-esteem and academic achievement (5, 16-18). Though, Tamanaifar et al. and other studies suggested no relationship between students' self-esteem and their educational progress, which does not correspond with results from the present study (1, 14). In contrast to results of this study, Ross and Broh mentioned "locus of control does not affect subsequent academic success" (14). Considering the reported correlation among self-esteem, locus of control and educational progress, it seems essential to consider these factors in planning interventions to develop students' educational progress.

Another finding of the present study was a higher level of self-esteem among female student; this result is similar to the results reported by other studies (1, 3). Therefore, it is suggested to conduct more studies on self-esteem, especially among male students.

The findings reported in this study have certain limitations. First, data collection was based on self-reporting, which is usually prone to recall bias. Second, data were collected from Iranian medical college students in the west of Iran, and the results cannot be generalized to other population of college students. However, even considering all these limitations, our study has a guideline for education

Table 2. Demographic Characteristics Affected Self-Esteem Among the Students[a]

Variable	Self-Esteem		χ^2	P Value
	Low (n = 60)	High (n = 192)		
Age, y			0.74	0.688
18 - 20	22 (21.2)	82 (78.8)		
21 - 23	25 (26.3)	70 (73.7)		
24 - 27	13 (24.5)	40 (75.5)		
Gender			10.473	0.001
Female	26 (16.9)	128 (83.1)		
Male	34 (34.7)	64 (65.3)		
Education			2.703	0.101
BSc	31 (20.3)	122 (79.7)		
MD	29 (29.3)	70 (70.7)		
Father's Education			21.601	0.001
Primary School	7 (77.8)	2 (22.2)		
Under Diploma	24 (31.6)	52 (68.4)		
High School	16 (20.5)	62 (79.5)		
Academic	13 (14.6)	76 (85.4)		
Mother's Education			7.915	0.048
Primary School	7 (53.8)	6 (46.2)		
Under Diploma	26 (25.5)	76 (74.5)		
High School	17 (19.3)	71 (80.7)		
Academic	10 (20.4)	39 (79.6)		

[a]Values are expressed as No. (%).

planners in universities to design intervention programs for the promotion of academic achievement among college students.

5.1. Conclusions

Our findings show that designing and implementing intervention programs for promoting self-esteem can help improve academic achievement among college students.

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Footnotes

Authors' Contribution: Seyyed Nasrollah Hosseini, Mehdi Mirzaei Alavijeh, and Farzad Jalilian developed the original idea, study design, data analysis and writing the manuscript. Behzad Karami Matin, Behrooz Hamzeh, and Hossein Ashtarian participated in designing the data collection and writing the manuscript. All authors provided comments and approved the final manuscript.

Conflict of Interest: The authors declare that they have no conflict of interest.

Table 3. Demographic Characteristics Affected the Locus of Control Among the Students[a]

Variable	Locus of Control		χ^2	P Value
	External (n = 177)	Internal (n = 75)		
Age, y			1.435	0.488
18 - 20	74 (71.2)	30 (28.8)		
21 - 23	63 (66.3)	32 (33.7)		
24 - 27	40 (75.5)	13 (24.5)		
Gender			4.103	0.043
Female	101 (65.6)	53 (34.4)		
Male	76 (77.6)	22 (22.4)		
Education			0.171	0.680
BSc	106 (69.3)	47 (30.7)		
MD	71 (71.7)	28 (28.3)		
Father's Education			10.159	0.017
Primary School	7 (77.8)	2 (22.2)		
High School	53 (67.9)	25 (32.1)		
Under Diploma	63 (82.9)	13 (17.1)		
Academic	54 (60.7)	35 (39.3)		
Mother's Education			8.002	0.046
Primary School	10 (76.9)	3 (23.1)		
High School	59 (67)	29 (33)		
Under Diploma	80 (78.4)	22 (21.6)		
Academic	28 (57.1)	21 (42.9)		

[a]Values are expressed as No. (%).

Table 4. Predictors of the Academic Achievement[a,b]

Variable	B	SE B	B	t	P Value
Step 1					
Self-Esteem	0.068	0.016	0.362	4.256	0.001
Locus of Control	-0.027	0.037	-0.063	-0.738	0.462
Step 2					
Self-Esteem	0.074	0.014	0.395	5.451	0.001

[a]Adjusted R squared = 0.15.
[b]P < 0.001.

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