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Surveying the Relationship between Locus of Control and Academic Achievement among Students at Allameh Tabataba'i University

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SURVEYING THE RELATIONSHIP BETWEEN LOCUS
OF CONTROL AND ACADEMIC ACHIEVEMENT
AMONG STUDENTS AT ALLAMEH TABATABAI'
UNIVERSITY

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Abstract

Background: This study surveyed the relationship between locus of control and academic achievement in students at Allameh Tabataba'i University.

Method: This was a descriptive–correlative research study that included 132 undergraduate students enrolled in the university during the academic year 1391-92.

For data collection, we used a locus of control questionnaire designed by Julian Rutter and students' GPAs. T- test and Pearson correlation coefficient were used for data analyses.

Results: According to the results, there was no significant difference in GPAs in the internal and external locus of control between male and female students. A significant relationship existed between the internal locus of control and academic achievement in males, but not females.

Conclusion: The research results indicated that students with higher levels of internal locus of control had higher academic achievement.

Keywords: Locus of control, Academic achievement, Students

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Introduction

Worldwide, students are considered to be intelligent, efficient and proactive. Young people are considered as the axis of development in any society. At the time of enrolling in a university, they are recognized as efficient and creative people because the main intent of universities is the provision of academic achievement and success. Therefore, it is necessary for educational institutions to investigate and clarify the causes for academic achievement (Bigdeli & Malekzadeh, 2005). Academic achievement is a major concern of professors, educational officials and students' families (Tamannaifa, SedighiArfai, & Mohammadabadi, 2010). In contrast, according to numerous studies academic failure has been shown to significantly impact a person's future and impose a high financial burden to families and society (Bigdeli & Malekzadeh, 2005). One of the most important factors for academic failure is the presence of an abnormal attitude. In other words, the reasons attributed to successes and failures can determine expectations and behaviors which impacts an individual's future success or failure (Georgina, 2004). According to Krilinjer (1986), behavioral research that pertains to academic achievement has a multivariable nature because it is impacted by numerous variables. Although the value and importance of research which studies the impact of a single variable on academic achievement is undeniable, it should be noted that the effect of one variable on another is such that when compared simultaneously to other variables, completely different results may be observed. Abdollahi (1385) believes that researchers can better predict an individual's future performance when his internal or external beliefs have been taken into consideration; skills and knowledge, themselves, are insufficient predictors of future performance. These beliefs appear essential to research when discussing a complex phenomenon such as academic achievement. Therefore, considering the role of a set of factors is both essential and fundamental. One factor is "locus of control". The most important factor for internal motivation associated with academic achievement is self-esteem and locus of control (Gilford, 2007). In recent years, numerous investigators have expressed interest in the concept of locus of control and achievement motivation (Khoynjhad, Rajaei, Shakib, & Rahimei, 1998).

Rutter (1975), in his social learning theory, has stated that some people believe they are responsible for failure or performance, whereas others believe in the environment and opportunities. Those who hold themselves accountable for their own success or failure use an

internal locus of control, however those who believe in the environment and opportunities use an external locus of control. According to Rutter the locus of control indicates the extent to which a person believes that he has an impact on his life. Hence, this belief system is one of the most significant, important aspects of the personality (Kooranian, Khosravi & Esmaeeli, 2008).

Locus of control represents a generalized expectation of effective factors that pertain to reward and punishment in life. On one side of the locus control continuum are those who believe that locus of control can fix their ability to control life events, whereas on the other side there are individuals who believe that life events occur in conjunction with external factors such as accidents, by chance, or destiny (Borich & Tombaric, 1995). The latter can be explained by factors such as effort and ability which are derived from within an individual having a core of internal causality. Factors such as the difficulty level of a task and chance, both of which arise from outside of the person are considered to be a part of external locus of control. External factors beyond one's control and those with an internal causation core are under the control of an individual (Forsterling, 2001). On the other hand, motivational research believes that progress motivation is an interaction between the situational variables and an individual's motivation to achieve success. Both factors are directly involved with implicit and explicit motivations in expecting the behavior.

Implicit motives act spontaneously, are classified as task performance, and stimulated by inherent incentives to work. Explicit incentives, however, are stimulated by deliberate choice and often provoked by external reasons. Therefore a number of psychologists believe that achievement motivation, locus of control and academic achievement are interrelated. Increasing or decreasing any one of these variables will affect the remaining two variables (Sheikhi Fini, 2011). Numerous studies have shown that being extremely extrovert in the form of learned helplessness and neglecting efforts and responsibilities as well as one who is extremely introvert are abnormal because of challenges to reality (Klein & Keller, 1996). Research has also shown that the locus of control is related to psychotic symptoms such as self-esteem, anxiety, depression, learned helplessness, and stress, among others (Kalantarkousheh, Alinezhadi, UsefyNezhad, & Taherian, 2013). Extroverts, by having an external locus of control, presume they have less control over their future and destiny. These individuals are affected by emotional stress and prone to depression (Maltby, Day, & Macaskill, 2007). In terms of mental health, it

has been proven that introverts adjust more easily and worry less than extroverts. On the contrary, those with an external locus of control feel more frustration, anxiety and stress (Ghasemi, 1375). Results show that the locus of control is a strong, significant predictor of health and life satisfaction (Kelly, 2000).

This assumption is confirmed by Bong (1998) who has shown that people who have an internal locus of control tend to predict their performance more accurately compared with those who have an external locus of control.

An important consequence of causal attribution in relation to internal and external locus of control is self-concept. The positive consequences of behavior attributed to internal causes enable an individual to feel proud and confident, however luck or success attributed to external factors such as assistance from others and chance do not result in a positive self-concept. This material clearly indicates the relationship between internal and external locus of control and progress motivation. It is presumed that there is a relationship between external locus of control and progress (Maltby, et al., 2007). In another research, a relationship between locus of control and academic achievement has been observed; others have reported a negative relationship between external locus of control and academic achievement (Wood, Saylor, & Cohen, 2009). Academic problems, on the other hand, can lead to secondary problems such as psychological and relationship problems (Bigdeli & Malekzadeh, 2005). As with self-efficacy, self-esteem is also an aspect of self-concept acquired in a relationship with others (Mazaherei, Bagheban, & Fatehezadeh, 2006). The purpose of self-esteem pertains to how people think about themselves, how they feel about themselves educationally and academically, and the extent to which real-self and ideal-self are consistent (Hosseini, Dejkam, & Mirlashari, 2007). According to the results of one survey the possibility of a significant relationship between locus of control, self-esteem and academic achievement exists. These results have shown a relationship between personality characteristics and academic achievement (H Tuzandehjany , K, Nejat, & Kamalpour, 2008). Accordingly, Ilroy and Bunting (2002) in a research on Irish students have shown a significant relationship between final scores and personality characteristics, self-efficacy, and particularly former academic achievement. According to various studies, a strong and positive relationship exists between locus of control and high self-confidence, motivation, creativity and problem solving

In recent decades, psychologists have attempted to investigate and identify the factors that affect academic achievement. Their research findings have shown an association between academic achievement and personality variables, family, school and community (Assadi, Nakaei, Najafi, & Fazel, 2007). Research in this field, in addition to the above mentioned factors, has shown the importance of locus of control in decision making, its successes and failures as well as the affective role of the locus of control in academic achievement. Hence, by adjusting and improving locus of control, mental health can be improved. The recognition and survey of the locus of control has a tremendous role in describing peoples' functions. Therefore, the current research focuses on the relationship between locus of control and academic achievement in students of Allameh Tabataba'i University, Tehran, Iran.

Materials and Methods

This was a descriptive–correlative study. We chose a random cross-sectional population of students with a variable control for education and university grade. Participants comprised 132 undergraduate students enrolled in the academic year 1391-92 and chosen from the departments of Educational Science and Psychology, Law and Political Science, and Literature. Participants were between the ages of 19 to 29 years.

For data collection, we used the locus of control questionnaire that included students' GPA. The locus of control questionnaire was designed by Julian Rutter (1966) and contains an external and internal scale. This self-report questionnaire is comprised of 29 questions, each with two sentences. In this scale, scores greater than 9 or 9 pertain to external locus of control whereas those less than 9 are dictated to internal locus of control. For data analysis, we used the Pearson correlation test and logistic regression analysis, both processed by the statistical software, SPSS version 20. $P < 0.05$ was considered as the level of significance. The alpha coefficient was originally 0.68 and a repeat analysis in this study confirmed this coefficient to be 0.68.

Table 1: Mean and standard deviation values, Cronbach's alpha, locus of control and academic achievement.

Variable	All		Males			Females		
	lfa	M± SD	lfa	M± SD		lfa	M ±SD	

Internal locus of control					6.11 ±1.72	6		6.7 2±1.92	3
External locus of control	.68	12.4 6±3.53	32	.70	12.3 7±1.99	9	.67	12. 81±1.88	4
GPA		15.8 6±1.25	32		16.8 4±1.18	0		15. 87±1.30	2

Of the 132 participants, 33 females (6.72 ± 1.92) and 26 males (6.11 ± 1.72) relied on the internal locus of control. A total of 24 females (12.81 ± 1.88) and 49 males (12.37 ± 1.99) used the external locus of control. The mean \pm standard deviation for female academic achievement was 15.87 ± 1.30 and for males, it was 16.84 ± 1.18 . The calculated alpha value for females was 0.67, whereas for males, it was 0.70. The total calculated alpha value was 0.68, which was significant ($p < 0.01$).

Table 2: Coefficients of the independent t-test in a comparison of academic achievement, external and internal locus of control for both males and females.

Variable	Effect size	Sig(2-tailed)		M±S D		Group
Academic achievement	0.01	0.87	0.15	15.8 7±1.30	2	Female
				16.8 4±1.18	0	Male
Internal locus of control	0.13	0.20	1.28	6.72 ±1.92	3	Female
				6.11 ±1.72	6	Male
External locus of control	0.10	0.37	.90	12.8 1±1.88	9	Female
				12.3 7±1.99	4	Male

In Table 2 the results show the calculated independent t-test for locating the mean difference in academic achievement between males and females, which equaled -0.15 and was not statistically significant. Thus, the results of this test rejected the hypothesis which stated: "there is significant difference between males and females in academic achievement" (df=130, p=0.87, t= -0.15). The calculated t for the mean difference in locus of control indicated that males and females were equal, which was not statistically significant. Hence, the hypothesis that stated: "there are significant differences between males and females in the locus of control" was rejected (df=130, p=0.20, t= -1.28).

The independent t-test results for different external locus of control showed that males and females were equal. It means that the hypothesis "there are significant differences between males and females in the level of external locus of control" was rejected (df=130, p=0.37, t=0.90). The findings of this study showed no difference between males and females in terms of academic achievement and locus of control (internal or external).

Table 3: Matrix of correlation between academic achievement, internal and external locus of control.

Variable	All(n=132)			Females(n=82)			Males (n=50)		
	R	P	Effect size	R	P	Effect size	R	P	Effect size
External locus of control and Academic achievement	-0.04	0.71	0.0016	0.03	0.82	0.009	-0.08	0.73	0.064
Internal locus of control and Academic	0.26**	0.002	0.06	0.08	0.61	0.006	0.49**	0.004	0.24

achievement									
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The results in Table 3 show no significant relationship between external locus of control and academic achievement ($r = -0.04, p > 0.05$). However there was a positive statistical relationship between internal locus of control and academic achievement. The higher locus of control indicated higher academic achievement ($r = 0.26, p < 0.01$). Thus the hypothesis that stated "there is a significant relationship between academic achievement and external locus of control" was rejected according to Pearson's correlation coefficient ($r = -0.04, p < 0.05$). The hypothesis, "there is a significant relationship between internal locus of control and academic achievement" was confirmed according to Pearson's correlation coefficient ($r = 0.26, p < 0.01$). There was no significant relationship between external locus of control and academic achievement in females ($r = -0.03, p > 0.05$), nor there was a significant relationship between internal locus of control and academic achievement in females ($r = 0.08, p > 0.05$). The hypothesis that stated, "there is a significant relationship between external locus of control and academic achievement in females" was rejected according to Pearson's correlation coefficient ($r = -0.03, p > 0.05$). The hypothesis that stated "there is no significant relationship between internal locus of control and academic achievement in females" was also rejected according to Pearson's correlation coefficient ($r = 0.08, p = 0.05$). There was no statistically significant relationship between external locus of control and academic achievement in males ($r = -0.08, p > 0.05$), but the results showed a significant relationship between internal locus of control and academic achievement in males, which confirmed the assumption that "there is a significant relationship between locus of control and academic achievement in males" by Pearson's correlation coefficient ($r = 0.26, p < 0.05$).

Discussion

The aim of this study was to survey the relationship between academic achievement and the psychological components of locus of control (internal and external) amongst male and female university students. Considering that the scores were similar, hence the results showed no significant difference in academic achievement between male and female students. Although those with internal locus of control had higher GPAs, there was no significant difference

observed in students' GPAs in locus of control, both internal and external. The results of the current research result were similar to those reported by Sadoughi (1999) who reported no significant relationship between locus of control and the average of course units passed. However Valizadeh (2007-2008), in a study on nursing and midwifery students, observed a significant relationship between the locus of control, motivational strategies for learning and academic achievement. Considering these different results, other factors such as intelligence, motivation, and parents' level of education could be considered to have an impact on academic achievement. We noted a significant relationship between male students in terms of internal locus of control and academic achievement, however these results were not seen in female students. The current results differed from the results of Ghazvini and Khajehpour (2011) who reported a significant relationship between locus of control and academic achievement in female students, but not male students. Considering that there was a positive relationship in female students, perhaps other factors such as self-esteem and self-efficacy impacted academic achievement. According to Tamannaifa, SedighiArfai and Mohammadabad (2010), self-esteem in female students was higher than males. We reported no significant relationship between academic achievement and external locus of control, whereas there was a significant relationship between internal locus of control and academic achievement which was similar to the findings noted by Ghasemzadeh and Saadat (2011) who confirmed the relationship between internal locus of control and academic achievement.

By taking the results into consideration, the GPA as the only indicator of academic achievement needs to be analyzed more carefully. In addition, factors other than locus of control such as intelligence and parents' educational levels may impact GPA and academic achievement. The limitations of this study are the equal statistical population and the difficulty in accessing the previous semester's scores for a number of students.

We recommend that future studies should consider effective factors such as intelligence and parents' educational levels. In addition, the statistical population should be developed to include science and mathematics students.

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