The Relationship between Locus of Control Orientation and Academic Achievement of Iranian English Major Students

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Abstract: The present study was designed to investigate the relationship between locus of control orientation and academic achievement of Iranian English Major Students. The participants in this study were 387 English Major Students studying in different Iranian universities in the academic year 2014- 2015.The design of the study was non- experimental ex-post facto. The data were collected through online and offline administration of Rotter's (1966) Internal-External Locus of Control Scale. The results, obtained through the statistical techniques of correlation and multinomial logistic regression, revealed that there is a significant relationship between locus of control orientation and academic achievement. Moreover, the investigation of the findings indicated that increase in external locus of control increased the probability of having low academic achievement. The findings provide evidence for the existence of students' more frequent response to external locus of control in the Iranian academic context which calls for further attention as it is associated with low academic achievement.

Key Words: locus of control orientation, academic achievement, Grade point average, Iranian English Major Students

Introduction

It is generally accepted that learners bring many different individual characteristics and personality variables to the learning environment and learning process. These various attitudes and behaviors are believed to have different influences on students' learning, their motivation and their achievement (Majzub, Bataineh, Ishak, & Rahman, 2009; Rastegar & Heidari, 2013; Rotter, 1966; Stipek & Weisz, 1981; Yazdanpanah, Sahragard, &Rahimi, 2010). Locus of control is among the variables mentioned above. The concept of locus of control has received considerable attention since its original proposal in 1954.

Sometimes in educational contexts students perceive success as a result of internal factors such as skills, intelligence, hard work, etc. Other times, they attribute it to external factors, such as luck, ease of task, or other people's help. For example students in some cases do not consider themselves responsible for failure in an exam, and they blame other factors such as the teacher, bad luck, difficulty of the test and etc., so they do not perceive control over the outcome of their actions, which in this case is the test result.

As a consequence, sometimes individuals may feel that they are not responsible for the outcome of their wok. This concept is known as locus of control, a term derived from the social learning theory of Rotter (1954) which is the focus of the present study.

Since Rotter (1954) introduced the concept of locus of control, which refers to a person's belief about control over life events, extensive research has focused upon the perception of locus of control. Rotter (1966) proposed his theory of internal versus external control of reinforcement, commonly referred to as internal and external locus of control to state that the individuals' perception of who or what was responsible for their accomplishments is very important to their motivation and achievement. People who believe their actions can influence the outcomes of their life events are referred to as internals. They feel personally responsible for the things that happen to them and believe that their successes and failures in life are the results of their actions. However, externals feel that the outcomes in life are determined by forces beyond their control such as fate, luck, and powerful others and they do not consider the outcome as the consequence of their actions.

It has been found that locus of control orientations, internality or externality, are relate to a many different factors including academic achievement (Bar-Tal & Bar-Zohar, 1977; Crandall, Katkovsky, & Crandall, 1965). Moreover, according to Williams and Burden (1997) investigating locus of control is important, as it appears that learners who believe they can influence their own learning are more likely to succeed than those who believe their learning is controlled by other people and factors outside of their control.

Locus of control includes the set of student's behaviors and attitudes that are commonly observable in academic settings. Although despite its importance and occurrence in academic settings, aspects of individual differences including the above-mentioned variable has received little attention in Iranian academic context. Furthermore, Studies showed that despite students' ability to be successful in academic contexts and teachers' efforts to make use of methods for increasing academic success, some students do not gain the academic goals that they are expected to achieve (Buler-por, 1987; Whitemore, 1986; cited in Yazdanpanah, Sahragard, & Rahimi 2010). That is where the importance of considering other factors in relation to students' achievement shows itself. However, to the researchers' knowledge, students' locus of control orientation and its relation to academic achievement has not yet been completely investigated especially in certain educational systems, like different universities of Iran. To bridge the gap, this study examined locus of control orientation, among Iranian English majors in Iranian context, and its possible relation with their academic achievement to address the question of whether or not such attitude should at all be encouraged in this research context, and if yes what type is a better determinant of academic success. The study is significant as it provides more information on students' attitude and patterns of behavior in an overlooked educational context. Also, the study is important because it highlights the complexity of teaching/ learning and indicates that teaching is not just limited to external factors such as methods and materials but also to various other internal factors which can define students and their behaviors in the academic environment.

Literature Review

An individual's belief about control over life events has been frequently studied as an important aspect of social behaviors and psychological states. One of the common variables in these studies is

achievement (Crandall, Katovsky, & Crandall, 1965; Majzub, Bataineh, Ishak, & Rahman, 2009; Yazdanpanah, sahragard, & Rahimi, 2010). A positive relation between locus of control beliefs and achievement is logical. If success is considered as a positive value, people who feel more able to control outcomes try harder to achieve good results, and this is also true in relation to students' achievement. That is why Findley and Cooper in 1983 conducted a literature review of locus of control and academic achievement. The review demonstrated that internals and externals react differently to success and failure. It showed that internals feel proud of good outcomes and feel ashamed of bad outcomes; however externals do not get that influenced by the results.

According to Findley and Cooper (1983) a number of studies have associated internal locus of control beliefs with behaviors that affect the probability of attaining success. For example, Ducette and Wolk (1972) found that externals are inclined to show less determination at tasks. Others demonstrated a positive relation between internality and preference to delay rewards in order to maximize them and achieve more (Bialer, 1961). Two conclusions that resulted from the findings of Findley and Cooper's (1983) review were: First, more internal beliefs are associated with greater academic achievement, and second, the magnitude of this relation is small to medium.

In 1977, Bar-Tal and Bar-Zohar reviewed the literature in an attempt to explain the evidence indicating that internals perception of control is positively related to academic achievement, which included studies of both children and adults. Reviewing 36 studies they concluded that "there is a firm trend indicating that the perception of locus of control is related to academic achievement. This trend suggests that the more internal an individual's orientation, the higher the individual's achievement" (p. 132). In other words, suggesting that the perception of locus of control is related to academic performance in a way that individuals with the internal orientation tend to perform better on academic tasks than individuals with the external orientation. They further indicated that as the perception of locus of control is a changeable disposition, structuring an environment that maintains realistic internal perception is essential (Bar-Tal & Bar-Zohar, 1977).

In similar studies concerning locus of control Wilhite (1990) also stated that for students their locus of control may affect the extent to which they believe they can control the outcomes of their attempts in learning and that locus of control was a predictor of course achievement. Moreover, Lester (1992) stated that locus of control cognitive style has many important implications for education and academic achievement.

Twenge, Zhang and Im (2004) in an interesting longitudinal study looked at a new aspect of locus of control that is also related to achievement. Through two meta-analyses, they found that young Americans increasingly believe their lives are controlled by outside forces rather than their own efforts. In other words, they became less internal. They stated the negative implications of the study, as externality is associated with poor achievement, helplessness, problem with stress management, decreased self-control and depression (Twenge, Zhang, & Im, 2004). Stating that many factors are influenced by internality and externality, this study further illustrated the importance of investigating locus of control in relation to academic achievement.

Majzub, Bataineh, Ishak and Rahman (2009) also examined the relationship between locus of control and academic achievement. Their findings as well revealed existence of relationship between locus of control and academic achievement, and were in line with the finding of past studies.

Yazdanpanah, Sahragard and Rahimi (2010) in their study investigated the relationship between locus of control orientation and academic achievement. The sample of their study consisted of 120 students studying English literature. The findings revealed that, locus of control is a good predictor of the participants' academic achievement and the internals perform at higher levels of achievement than the externals.

The above-mentioned review illustrated the importance of investigating locus of control in relation to academic achievement. The relationship between locus of control and academic achievement needs further investigation in the context of Iranian universities as it received little attention and also according to Rotter (1966) it is a changeable concept that can be influenced by culture and environment so it needs investigation in different environments and through time.

Research Questions

The present study addressed the following questions:

1. Is there any relationship between locus of control orientation and academic achievement (GPA) in Iranian English Major Students?
2. Is locus of control orientation the significant predictor of academic achievement (GPA) in Iranian English Major Students?
3. Is there any significant difference among students with different academic achievement (GPA) in terms of their locus of control orientation?
4. Is there any significant difference between internal and external locus of control orientation groups and academic achievement (GPA)?

Method

Participants

The participants of this study comprised 387 students (70.8% female and 29.2% male; 29.5% freshman, 27.9% sophomore, 20.9% junior, and 21.7%; senior students; 68.5% undergraduate, and 31.5% graduate students) studying in English majors (30.5% English Teaching, 49.6% English Literature, 18.9% English Translation, 1.0% Linguistics) in Iranian universities in the academic year of 2014-2015. They were selected based on convenience sampling as the researchers were realistically unable to receive a random sampling of the population. Despite the fact that such sampling might inadvertently exclude a great deal of the population, it was not a problem, because by analyzing the data, trends were extrapolated and compensated for some of the lack in the data.

Design of the Study

The design of this study is non-experimental ex-post facto in which pre-existing groups are compared on one dependent variable, in this case academic achievement (GPA). The assignment of participants to the levels of the independent variable is based on the existing aspects of participants' perception of control.

Instrument

In order to examine students' locus of control orientation, the required data for the present study was obtained through a self-report questionnaire-- Rotter's (1966) 29-item Internal-External Locus of Control Scale. The first part of the questionnaire asked for students' demographic information and also students' academic achievement which constituted the university-reported Grade Point Average (GPA). The second part of the scale included forced choice items regarding students' perception of control. The students were required to choose the statement that they agreed with the most either (a) or (b) for each item. The questionnaire has already proved valid and reliable in different contexts (Rastegar & Heidari, 2013; Rotter, 1966; Twenge, Zhang, & Im, 2004; Yazdanpanah, Sahragard, &Rahimi, 2010). However, to determine the reliability of the instrument for this study, the Cronbach's alpha test of reliability was performed. The test yielded reliability coefficient of .72 for locus of control orientation. As the reliability value was above .70, according to Pallant (2010, p.90) it was ideal for the purpose of this study.

Data Collection procedure

The necessary data for the study were collected in the first semester of Iranian academic year of 2014-2015 from 387 Iranian English major students. The data were collected through both online and offline administrations in three weeks. While the offline data were collected from English major students studying in universities in Guilan, the northern province of Iran, where they were accessible by the researchers, the online data were obtained from the student population all over Iran. In either case, the questionnaire needed 10-15 minutes of the participants' time to complete. For ethical purposes, the respondents were asked to fill in the questionnaires anonymously.

Data Analysis

The data gathered for this study underwent descriptive statistics, correlation and multinomial logistic regression -- Descriptive statistics to analyze the demographic data, correlation to indicate the relationship between locus of control orientation and academic achievement-- measured by students' GPA--, and multinomial logistic regression to demonstrate prediction of social comparison for academic achievement. Dunnett C post hoc and Chi-square test were also employed to explore the third and fourth questions of the study. The findings are reported in the same order.

Results

In this section the results of descriptive statistics of sample's demographic characteristics and GPA are presented followed by the inferential statistics employed to explore the research questions such as, correlation and multinomial logistic regression. Finally the results of Dunnett C post hoc and Chi-square test are presented.

Descriptive Statistics

In order to give a general picture of the participants who took part in this study, the distribution of sample by age groups, gender and GPA is presented in Table 1.

Table 1

Distribution of sample by Age Groups, Gender and GPA

		Frequency	Percent
Age Groups	< 20	69	17.8
	21 – 30	279	72.1
	31 – 40	28	7.2
	> 40	11	2.8
	Total	387	100.0
Gender	Female	274	70.8
	Male	113	29.2
	Total	387	100.0
GPA	< 14	18	4.7
	14 – 15	59	15.2
	15 – 16	87	22.5
	16 – 17	117	30.2
	> 17	106	27.4
	Total	387	100.0

According to table 1, 69 people (17.8%) aged less than 20 years old, 279 people (72.1%) aged 21 to 31 years old 28 people (7.2%) aged 31 to 40 years old and 11 people (2.8%) aged more than 40 years old. Moreover, 274 people (70.8%) were female, while 113 people (29.2%) were male. The GPA of 18 people (4.7%) were less than 14, 59 people (15.2%) had the GPA between 14 to 15, 87 people (22.5%) had the GPA between 15 to 16, 117 people (30.2%) had the GPA between 16 to 17, and 106 people (27.4%) had the GPA more than 17.

Table 2

The mean and standard deviation of locus of control orientation in sample

Variable	*N*	mean	*SD*
Locus of Control Orientation	387	.588	.160

Table 2 shows the mean and standard deviation of locus of control orientation in sample group. According to this table, the mean of sample group in locus of control orientation (.588 out of 1) is slightly above average, which indicates slight tendency towards external locus of control in sample group.

Table3

The frequency, mean, standard deviation, of internal and external locus of control orientations in the sample

Variables	Frequency	mean	SD
Internal	120	.378	.092
External	266	.681	.067

Table 3 shows the means, standard deviations and the frequencies of internal and external locus of control orientations in the sample. According to this table there was more frequent response to external locus of control (266) than internal locus of control (120) in the sample.

Inferential statistics: Correlation and regression

In order to answer the first question of the study, the non-parametric Kendall's Tau-b rank correlation was employed to investigate the possible associations in the underlying dependent variable (GPA) and the independent variable (locus of control orientation). The only assumption of this test is the repetition of ranks in dependent and independent variables, which is present in our sample. Table 4 shows the results of Kendall's tau-b correlation coefficient test between locus of control orientation and academic achievement (GPA) in different groups.

Table 4

Results of Kendall's tau-b correlation coefficient between locus of control orientation and academic achievement

Group	Variable	Locus of control orientation
Total	GPA	-.09*
		.018

Total: 387

Table 4 shows the results of Kendall's tau-b correlation coefficient test between locus of control orientation and academic achievement (GPA) in different groups. Results in the sample indicated significant negative correlation between GPA and locus of control ($r = -.09$; $N = 387$; $p < .05$). In other words, as high and low score on locus of control orientation reflect external and internal locus of control, external locus of control is related to lower academic achievement and internal locus of control is related to higher academic achievement.

For the second research question, as our dependent variable was nominal (categorical, and there were more than two categories), we used Multinomial Logistic Regression (MLR), which is a classification method that generalizes binary logistic regression to multiclass problems. MLR does not assume normality, linearity, and homogeneity of variance for the independent variables (Starkweather & Moske, 2011). MLR has assumptions, such as independence of independent variable (lower than .8), and interval independent variables which are met in this study. In addition, MLR does necessitate careful consideration of the sample size and examination for outlier cases. However, sample size guidelines for MLR indicated that sample size should be at least 30 times the number of parameters being estimated (Pedhazur, 1997), which our sample size has met this requirement, and we used cook's distance to discriminate outliers, which indicated no outliers in our data. Table 5 describes the overall test of relationship between the dependent and independent variables.

Table 5

Model fitting information in total sample

Model	-2logLlikelihood	Chi-Square	*df*	*Sig*
Intercept only	206.146			
Final	192.670	13.476	4	.009

Table 5 describes the overall test of relationship between the dependent and independent variables. The distribution reveals that the probability of the model chi-square (13.476) was less than the level of significance (p < .01). So, the existence of a relationship between dependent and independent variables was supported, and the null hypothesis that there was no difference between the models without independent variables, was rejected by alternative hypothesis.

Table 6
Pseudo R-Square

Step	
Cox & Snell R^2	.034
NagelKerke R^2	.036

The values of Cox & Snell (.034) and NagelKerke (.036) are reported in table 6; suggesting that between 3.4% and 3.6% of the variability is explained by the set of variables used in the model.

Table 7
Likelihood ration tests

Effect	-2log Likelihood of Reduced Model	Chi-Square	*df*	*Sig*
Intercept	220.988	28.318	4	.000

Locus of control	206.146	13.476	4	.000

According to table7, there is a statistically significant relationship between independent and dependent variables (p < .001).

Table 8

Parameter estimates

GPA		B	S.E	Wald	*df*	*sig*	Exp(B)
< 14	Intercept	-5.170	1.628	10.088	1	.001	
	Locus of control	5.139	2.389	4.627	1	.031	170.588
14 - 15	Intercept	-.573	.619	.857	1	.355	
	Locus of control	-.189	1.015	.035	1	.852	.828
15 – 16	Intercept	-.596	.573	1.081	1	.299	
	Locus of control	.500	.926	.292	1	.589	1.649
> 17	Intercept	.765	.493	2.408	1	.121	
	Locus of control	-1.506	.827	3.321	1	.068	.222

The reference group is 16-17

The results of multinomial regression revealed that:

1. < 14 GPA group: the values of Exp(B) (.170.588) and B (-.5.139) locus of control implies that survey respondents who showed more external locus of control were more likely to be in the group of respondents whose GPA was less than 14. In other words, increase in external locus of control increased the probability of having GPA less than 14. In sum, locus of control was significant in distinguishing < 14 GPA group from 16 – 17 GPA group.

Table 9

Classification table

Observed	< 14	14 - 15	15 - 16	16 – 17	> 17	Percent correct
< 14	0	0	0	17	1	0.0%
14 – 15	0	0	0	44	15	0.0%
15 – 16	0	0	0	65	22	0.0%
16 – 17	0	0	0	81	36	69.2%
> 17	0	0	0	62	44	41.5%
Overall percent						32.3%

As shown in table 9, 81 people (69.2%) of 16 to 17 GPA group, and 44 people (41.5%) of the people of > 17 GPA group were predicted correctly by the model. According to our findings, this model can predict 32.3% of the GPA groups according to their locus of control orientation.

In order to answer the third question of the study the following tests were employed.

Table 10

Means and standard deviations of locus of control

variable	GPA	N	m	SD	Welch Statistics	df 1	df 2	sig
Locus of control	< 14	18	.679	.084	5.814	4	109.678	.000
	14 – 15	59	.588	.155				
	15 – 16	87	.604	.141				
	16 – 17	117	.593	.159				
	> 17	106	.552	.180				

The results of Levene's test rejected the assumption of equality of variances, so we conducted Welch test to compare different GPA groups according to their locus of control. As table 10 shows, according to Welch test different GPA groups showed significant difference according to their locus of control. We conducted Dunnett C post hoc to investigate each individual GPA group's differences in locus of control.

Table 11

Results of Dunnett C post hoc for multiple comparisons

Variables	GPA (I)	GPA (J)	Mean difference	S.E
Locus of control	< 14	14 -15	.091*	.028
		15 – 16	.074*	.025
		16 – 17	.088*	.025
		> 17	.126*	.026
	14 – 15	< 14	-.091*	.284
		15 – 16	-.016	.025
		16 – 17	-.005	.025
		> 17	.035	.027
	15 – 16	< 14	-.074*	.025
		14 – 15	.016	.025
		16 – 17	.0118	.021
		> 17	.052	.023
	16 -17	< 14	-.086*	.025
		14 – 15	.005	.025
		15 – 16	-.012	.021
		> 17	.040	.023

> 17	< 14	-.126*	.026
	14 – 15	-.035	.027
	15 – 16	-.052	.023
	16 – 17	-.040	.023

Table 11 shows the results of Dunnett C test for locus of control. As results shows, < 14 GPA group had significantly higher scores on locus of control comparing to 14 to 15, 15 to 16, 16 to 17, and > 17 GPA groups. In other words, this group showed significantly higher external locus of control. In line with this finding, 14 to 15, 15 to 16, 16 to 17, and > 17 GPA groups, had significantly lower scores on this scale. In other words, these groups showed more internal locus of control comparing to < 14 GPA group. According to our results, greatest difference respectively refers to > 17, 16 to 17, 15 to 16, and 14 to 15 GPA groups, which shows that higher GPA groups shows more internal locus of control.

The Chi-square test was employed to investigate the final question of the study.

Table 12

Frequency of GPA groups in internal and external locus of control groups

	< 14	14-15	15-16	16-17	> 17	Total
Internal	1	16	22	36	45	120
External	17	43	65	81	61	267
Total	18	59	87	117	106	387

We used Chi-square test to investigate the GPA difference between internal and external locus of control groups. Table 12 shows the frequency of GPA groups in two groups.

Table 13

Results of Chi-square tests foe investigating GPA difference between internal and external locus of control groups

Chi-square	*df*	*sig*
13.692	4	.008

Table 13 shows the results of Chi-square test in internal and external groups. As it shown in the table, the groups showed significant difference in terms of their GPAs (Chi-square= 13.692, *df* = 4, *p* <.01).

Finally based on the findings it can be concluded that internal locus of control group has higher GPA comparing to external locus of control group.

Discussion and Conclusion

The present study was designed to explore the relationship between locus of control orientation and academic achievement of Iranian English Major Students, and to discover whether locus of control is a significant predicator of academic achievement. Furthermore, this study intended to find out the existing differences between locus of control orientation groups and students' academic achievement (GPA).

The finding of the present study supported the existence of a relationship between locus of control orientation and academic achievement and that locus of control of control predicted academic achievement. According to the results there was a significant negative correlation between academic achievement (GPA) and locus of control, which indicated that higher locus of control orientation which is associated with externality is related to lower academic achievement and lower locus of control orientation which is associated with internality is related to higher academic achievement. Furthermore, the results suggested that survey respondents who showed more external locus of control were more likely to be in the group of respondents whose academic achievement was very low. In other words, increase in external locus of control increased the probability of having lower academic achievement. In addition the findings indicated existence of significant difference between students' locus of control orientation, internality or externality, in terms of their GPAs. The results further suggested that internal locus of control group has higher GPA compared to external locus of control group. The results were consistent with the works of Bar-Tal & Bar-Zohar, 1977; Majzub, Bataineh, Ishak, and Rahman (2009); Yazdanpanah, Sahragard, and Rahimi (2010).

Moreover the students in this study showed more frequent response to external locus of control than internal locus of control. The findings are in line the work of Twenge, Zhang and Im (2004) that found that college students increasingly believe their lives are controlled by outside forces rather than their own efforts. In other words, they became less internal. They stated the negative implications associated with such results, and mentioned that externality is associated with poor achievement, helplessness, debilitative stress, decreased self-control and depression (Twenge, Zhang, & Im, 2004). The present study proved that externality is dominant even in a sample of students in the Iranian universities. According to Bar-Tal and Bar-Zohar (1977) the perception of locus of control is a changeable disposition, they also stated that structuring an environment that maintains realistic internal perception is essential for students in academic contexts.

This study demonstrated the important role of students' perception of control over the outcomes in the Iranian academic context and its relation to academic achievement and students' success, and also demonstrated that in the context of the present study students are more inclined to externality. Such findings call for the attention of educators to provide an environment for the students that encourage internal perception of control between students as externality is associated with negative consequences. The implications of this study were for both students and educators as it has new contribution regarding students' perception of control and its relation to their achievement and success in academic context.

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