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Locus of control, Religious Orientation, and L2 Achievement

Abstract. Locus of control is believed to affect learners' academic achievement. This effect has scarcely been researched in a General English context. This study is concerned with examining the differences in General English (GE) achievement in the university entrance exam among students of humanities, sciences, and engineering and the effect of locus of control (LOC) on GE achievement in the entrance exam among these three groups of students. In addition, this study investigates the association between students' LOC and their religious orientation. One hundred and forty four students at Ferdowsi University of Mashhad participated in this study. The results of the study indicate that: 1) There is a significantly positive relationship between student's LOC and their GE achievement in the entrance exam, 2) There are significant differences in GE achievement in the university entrance exam across the three groups of students, and 3) There is a significant positive association between LOC and religious orientation. The findings of this study indicate that encouraging students, especially nonreligious students, to improve their self-efficacy can be quite helpful for them to achieve higher scores in the GE section of the entrance exam.

Keywords: locus of control, religious orientation, L2 achievement, internalizers, externalizers.

Introduction

The study of individual differences has been a featured research area in second/foreign language learning studies. Individuals differ in both the way they learn a second language and the outcome they achieve through this process (Williams, & Burden, 1997). Language teachers should identify and pay special attention to these individual differences among their students in order to maximize the efficiency of their instruction (Oxford, & Ehrman, 1993). Williams and Burden (1997) held that individual differences exist in both first and second language acquisition. In the case of first language acquisition, it is important to note that children differ in their rate of acquisition, but all children, except in the case of extreme environmental deprivation, master their mother tongue. However, in the case of learning a second language, individuals differ not only in the speed of acquisition, but also in their ultimate level of mastery of the second language. These differences fall into three areas: cognitive, social, and affective (Ellis, 1994). Age, gender, personality, aptitude, motivation, intelligence, cognitive styles and learning strategies are examples of these individual differences (Williams & Burden, 1997).

One of these individual differences, which is cognitive by nature, is LOC (LOC). During the past two decades the construct of LOC has been given considerable attention. According to Jarvis (2005) LOC refers to a person's beliefs about control over what happens to him or her. This concept has been extensively researched in the areas of psychology (Basgall & Snyder, 1988, Phares, 1979, Anderman & Mindgly, 1997, and Carden, Bryant, & Moss, 2004). There is also a large body of literature regarding the relationship between LOC and academic achievement (Galjes & D'Silva, 1981, Gifford, Mianzo, & Briceno-Perriott, 2006, Wood, Saylor, Cohen, 2009, and Hadsell, 2009). Nevertheless, LOC has not been widely explored in the EFL context of Iran. Ghonsooly and Elahi (2010) have examined its association with General English achievement. Hosseini and Elahi (2010) have investigated

the relationship between LOC and L2 reading achievement and use of language learning strategies. Another factor, whose relationship with LOC is rather unexplored, is religious orientation. The alleged relation between religious orientation and LOC can help us have a deeper understanding of LOC. It is of special importance among Iranian language learners who have some amount of religiosity.

What is new in this study is exploring the relationship between students' LOC and their General English score in the university entrance exam. Another important contribution of this study is investigating the possible association between LOC and religious orientation which can provide us with fresh understanding of the concept of LOC. It has also examined the difference in GE scores in the entrance exam among students of humanities, sciences, and engineering.

Literature Review

Locus of Control

Psychologists have long been interested in various psychological detriments of human behavior. A concept that has attracted great attention is locus of control (LOC). It stems from Rotter's (1954) Social Learning Theory stating that a person's expectancy of an outcome will predict behavior in a particular situation. According to Rotter (1966, internal versus external LOC refers to the degree individuals expect a reinforcement or an outcome of their behavior is dependent on their own behavior or personal characteristics versus the degree to which people expect that the reinforcement or outcome is a function of fate, chance, or luck, influenced by powerful others or simply unpredictable. Similarly, Bothma and Schepers (1997) mentioned that LOC refers to the beliefs regarding the sources of control over reinforcement. Individuals with internal LOC believe that their behavior can affect the outcome, while individuals with external LOC think that external factors, such as other people or factors beyond their control, determine the outcome of their behavior (Rotter, 1966).

Levenson (1981) questioned unidirectional conceptualization of LOC. Levenson asserted that external beliefs can be divided into beliefs about powerful others and beliefs about factors like luck, chance, or fate. As a result, Levenson expanded the concept of LOC into a multidimensional one by proposing three independent dimensions: a) internal influences, b) influence of powerful others, and c) effects of factors like chance, fate, or luck.

Most people fall somewhere between the internal and external extremes; however, it is patent that considerable variation exists and that many people tend towards one end of this continuum or the other in significant events of their life. The condition is rather more obscure in that people are different in how far they feel they have control over negative versus positive events. LOC is believed to be rather stable; nevertheless, it seems to be most clearly established during adolescence, and it may change by dint of organized interventions (Williams & Burden, 1997).

LOC is only one of a number of psychological constructs associated with perceived control. Seligman's "learned helplessness" (1975), Langer's "perception of control" (1983) and Bandura's "self-efficacy" (1977) are other examples. These constructs are in many ways related. Lefcourt (1982) however, held that a major difference between these constructs is that some are based on motivational terminology, whereas others, such as locus of control, are based on expectancy terminology. Another aspect that separates LOC from other control theories is that its application is mainly as an attribute of personality that includes strong elements of stability and generalization. Nevertheless, all of these concepts have common interest in seeking to explain the degree to which people believe they can bring about positive changes and eschew negative ones.

Most theories of human motivation and behavior attach huge importance to self-beliefs. Attribution theory and Bandura's (1986) social cognitive theory are closely related to LOC. There are four principles underlying Bandura's theory: a) mastery experiences

referring to authentic successful experiences in the past, b) vicarious experience involving observing other people's failures and successes who are seen as similar in ability, c) the effect of verbal persuasions a person receives, and d) physical and emotional states about one's abilities. Research has showed that two of the most salient internal motivational factors that correlates to engagement and academic success are self-esteem and locus of control (Sisney, Strickler, Tyler, Wilhoit, Duke and Nowicki, 2000). Both self-esteem and LOC are self system beliefs individuals develop about themselves and their interactions with the social environment that can cause suffering or act as an interpersonal resource (Haine, Ayers, Sandler, Wolchick, and Weyer, 2003).

There is a large body of research in the area of psychology investigating the association between LOC and different personality traits. Taylor, Schepers, and Crous (2006) found that a strong internal LOC is correlated with frequent flow experiences as well as high level of autonomous behavior. Dilmac, Hamarta, and Arsalan (2009) found association between external LOC and trait anxiety. Lauer, de Man, Maquez, and Ades (2008) concluded that external control orientation is associated with suicide attempts and suicide ideation. Selander, Marnetoft, Asell, and Selander (2008) found a strong and negative relationship between internal LOC and bodily pain. Moore (2006) concluded that test anxiety is correlated with external LOC. Similarly Li and Chung (2009) asserted that LOC is a good predictor of children's states of anxiety in stressful circumstances. Phares (1979) held that individuals with internal LOC accept their inadequacies, while individuals with external LOC escape their inadequacies. Internalizers are likely to consider a bright future for them, whereas externalizers are not likely to do this (AAnderson & Mindgly, 1997). People who are internally controlled believe that their poor performance is a blow to their self-esteem; however, people who are externally controlled do not think so (Basgall & Snyder, 1988).

Finally, Bender (1995) reported that internalizers enjoy trying hard, while externalizers do not consider working hard as important.

There is a huge body of literature on the relationship between LOC and academic success in general and L2 achievement in particular. Gifford, Priceno-Perriott, and Miamzo (2006) found that students' GPA is correlated with internal LOC. Galajs and D'Silva (1981) reported that students who obtained higher grades consider themselves as internally oriented. Similarly Wood, Saylor, and Cohen (2009) concluded that external control orientation can have a negative effect on academic achievement in nursing students. The concept of LOC has not been fully explored in the EFL situation in Iran. Ghonsooly and Elahi (2010) found that there is a high correlation between university students' LOC and their scores in their General English scores in their ESP courses. Hosseini and Elahi also found that LOC is a predictor of L2 reading achievement.

Religious Orientation

Allport and Ross (1967) indicated that people are different in their religious orientation. Maltby (1999) suggested that these differences can be related to variations in personality. According to Allport and Ross, religiosity has two dimensions: Extrinsic dimension and intrinsic dimension. Individuals with extrinsic orientation are inclined to use religion for their ends. They consider religion helpful in a variety of ways. They think religion can provide "security and solace, sociability and distraction, status and self-justification" (as cited in Rodriguez and Henderson, 2010, p. 85). In contrast, individuals with intrinsic religious orientation "find their master motive in religion. Other needs, strong as they may be, are regarded as of less ultimate significance, and they are, so far as possible, brought into harmony with religious beliefs and prescriptions" (as cited in Rodriguez and Henderson, 2010, p. 85).

Maltby and Day (2003) concluded religious orientation is associated with psychological well-being. Religious orientation had also a significant contribution in ethnic identification (Abu Rayya & Abu Rayya, 2009). Liu (2010) found a positive correlation between intrinsic religious orientation and emotional intelligence, but a negative correlation between extrinsic orientation and emotional intelligence. Maltby and Day (2000) found a significant positive relationship between extrinsic orientation to religion and depression symptoms. Navara and James (2005) studied the acculturation process of missionaries in foreign countries. They found out that perceived acculturation stress is significantly associated with extrinsic orientation to religion. Finally Levis, Maltby, and Day (2005) found a positive association between happiness and intrinsic religiosity and positive religious coping.

Purpose of the Study

The present study aims at answering the following questions:

1. Is there a significant relationship between university students' LOC and their GE score in the entrance exam?
2. Is there a significant difference in GE score in the entrance exam across students of humanities, sciences, and engineering?
3. Is there a significant association between LOC and religious orientation?

Method

1. Participants

On the whole, the sample of the study comprises 144 students, all of whom are studying at Ferdowsi University of Mashhad. The participants of this study were three groups of undergraduate students. The first group includes 52 students of humanities who were studying history (seventeen students) and sociology (thirty-five students). The second group consisted of 50 students of engineering who are studying civil engineering. The third group

consists of 44 students of sciences who were studying chemistry. Most of the participants were first-year students. The participants are both males and females. All the students are native speakers of Persian. The sample may be considered representative of Iranian EFL students with almost the same age.

2. Instruments

The Persian version of the *Internal Control Index* (Ghonsooly & Elahi, 2010) was used to measure the participants' locus of control. The *Religious Orientation Scale* was used to assess intrinsically and extrinsically religious orientation. The students' General English score in the university entrance exam served to assess their L2 achievement.

2. 1. *Internal Control Index*

The Persian version of the *Internal Control Index* (Ghonsooly & Elahi, 2010) was used in this study to measure the participants' locus of control. The English version of the *Internal Control Index* (Duttweiler, 1984) was developed to measure where a person expects to gain reinforcement. This scale has twenty eight five-point Likert-type items that produce a possible range of scores from twenty eight to 140. Higher scores represent internal LOC and lower scores represent external LOC. Ghonsooly and Elahi (2010) calculated Cronbach's alpha to check the reliability of the translated questionnaire. The result was a coefficient of 0.83. In order to ensure the construct validity of the instrument, they used a principle component analysis which yielded eight factors with eight values greater than one. The factors include the need to be encouraged, reliance on one's attitude, interest in administrative jobs, effort to reach desirable goals, undecidedness, the need to consult for making decisions, being responsible for desirable events, and self-expression (Hosseini & Elahi, 2010).

2.2. *Religious Orientation Scale*

The *Religious Orientation Scale* was used to assess intrinsically and extrinsically religious orientation. This questionnaire includes 11 items comprising the Intrinsic Scale and nine

questions making up the extrinsic scale. The participants were supposed to choose from a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). A greater score shows a greater endorsement of religion. Kr-20 reliabilities were found 0.91 for Intrinsic Scale and 0.85 for Extrinsic Scale. In terms of validity, the Intrinsic Scale has been found to correlate with other measures of religious commitment at .76; however, the Extrinsic Scale correlated at .03 (Rodriguez & Henderson, 2010). This questionnaire was translated to Farsi by the researchers. It was shown to two translation experts of the English Department at Ferdowsi University of Mashhad. They validated that the translated questionnaire is clear and understandable for the intended participants.

3. Data Collection and Analysis

After seeking permission from the instructors, the researcher visited the classes in order to administer the questionnaires. The students were made certain that the results remain confidential and their instructors would not see the results of the questionnaires. The questionnaires were administered in one session under standard conditions. The directions of the questionnaires were in Persian; however, the researcher explained them once more so that participants would have a clear understanding of what they were supposed to do. The guideline for scoring the *Internal Control Index* is available in Hosseini and Elahi (2010). The students were also asked to write down their General English score in the entrance exam on top of the LOC questionnaire. The data collected were put into Statistical Package for Social Sciences (SPSS) to be analyzed. The Pearson correlation formula was used to answer the two research questions.

Results

The results of this study are presented in quantitative form. In order to investigate the relationship between LOC and students General English score in the entrance exam Pearson correlation coefficient was calculated. To explore the difference in the three groups of

students' English score in the entrance exam, one-way ANOVA was measured. Finally to examine the association between students' LOC and their religious orientation, Pearson correlation coefficient was calculated.

The first question pertains to the relationship between language learners' locus of control and their GE score in the entrance exam. Pearson correlation coefficient was calculated to measure the relationship between the two variables. Table 1 illustrates the association between the two variables.

Table 1: The relationship between LOC and General English score in the entrance exam

General English score in the entrance exam (GE score)	LOC	
.744(**) .000 144	1	Pearson Correlation Sig. (two-tailed) LOC N
1	.744(**) .000 144	Pearson Correlation Sig. (two-tailed) GE score N

** Correlation is significant at the 0.01 level (2-tailed).

Table 1 demonstrates that the correlation coefficient is significant ($r = .74$ $p < .05$). Therefore, there is a significant positive relationship between students' locus of control and their GE score in the entrance exam. The higher the LOC orientation of L2 learners is, the higher their General English score in the entrance exam is. By squaring r , we can get the variance overlap between the two measures ($r^2 = .54$). This means that 54% of variance in General English score in the entrance exam is accounted for by variance in LOC (or vice versa).

In order to answer the second research question concerning the difference between GE score in the university entrance exam among students of humanities, sciences, and engineering, one-way ANOVA was calculated. Table 2 shows that the difference between the three groups of students is statistically meaningful.

Table 2: The analysis of variance of GE score of the three groups of students

ANOVA

score	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1785.310	2	892.655	15.471	.000
Within Groups	8135.245	141	57.697		
Total	9920.556	143			

The analysis of variance demonstrated only the difference between groups. In order to find out which pairs were significantly better the Scheffe test was run.

Table 3: A comparison of GE means scores of the three groups of students

Fields	N	Subset for alpha= 0.05		
		1	2	3
Humanities	52	64.84		
Sciences	42		68.47	
Engineering	50			73.20
Sig.		1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed.				

Table 3 exhibits that the mean score of engineering students is 73.20, that of students of sciences is 68.47, and that of humanities students is 64.84. Table 4 shows that the difference in mean scores among the three groups is significant at $p < 0.05$. Thus, students of engineering obtained higher scores in the English part of the entrance exam than students of sciences and humanities, and students of sciences also got better scores in the English section of the entrance exam.

Table 4: Scheffe test of differences in GE mean scores across three groups of students

Multiple Comparisons

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
humanities	engineering	-8.35385*	1.50449	.000	-12.0759	-4.6318
	sciences	-3.63004	1.57584	.074	-7.5286	.2686
engineering	humanities	8.35385*	1.50449	.000	4.6318	12.0759
	sciences	4.72381*	1.58986	.014	.7905	8.6571
sciences	humanities	3.63004	1.57584	.074	-.2686	7.5286
	engineering	-4.72381*	1.58986	.014	-8.6571	-.7905

* The mean difference is significant at the 0.05 level.

The third question addresses the relationship between students' LOC and their religious orientation (RO). Pearson correlation formula was used to examine the correlation between the two variables. Table 5 shows the correlation coefficient between the two variables.

Table 5: The relationship between LOC and religious orientation (RO)

Religious Orientation (RO)	LOC	
.648(**) .000 144	1	Pearson Correlation Sig. (two-tailed) LOC N
1	.648(**) .000 144	Pearson Correlation Sig. (two-tailed) RO N

** Correlation is significant at the 0.01 level (2-tailed).

The amount of correlation between the two variables is .64 ($r=.64$). The correlation coefficient between the two variables is significant. Thus, the more religious orientation learners have, the more internally controlled they are. By squaring r , we can get the variance overlap between the two measures ($r^2=.40$). This means that 40% of variance in LOC is accounted for by RO (or vice versa).

Discussion

The first finding of this study is the strong link between students' LOC and their academic achievement in general, and L2 achievement in particular. This is in agreement with Galjas and D'Silva (1981), Gifford, Mianzo, and Briceno-Perriott (2006), Wood, Saylor, Cohen (2009), Hadsell (2009), and Ghonsooly and Elahi (2010). Ducette and Wolk (1972) concluded that those with internal LOC show more persistence. Morris and Messer (1978) also found that internalizers have more academic task persistence. Kernis (1989) similarly found that individuals, who are internally controlled, are more task oriented. This may explain the fact that students with internal LOC devote more effort to and spend more time on their academic tasks that leads to more academic success.

Learners with internal LOC hold the belief that they have control over what happens to them. In the area of education, students who are externalizers, attribute their success or failure to external causes such as task difficulty or luck. Basgall and Snyder (1988) held that these students believe that there is no use in trying because their efforts are fruitless and they are doomed to failure. Hence, they are not motivated to work hard to achieve academic success. Similarly, frequent use of external attributions makes them lose their motivation to progress (Basgall & Snyder, 1988). On the other hand, students with internal LOC hold that they can control their learning, so they have more motivation to cope with the problems they face in the process of their learning (Dornyei, 2005). Since internalizers believe they can control their learning, they accept the responsibility of their learning, and this makes them more motivated to work hard which leads to success.

The fact that students with internal LOC are more successful in academic settings can also be explained by attribution theory. According to Jarvis (2005) the most effective kind of attribution is when people ascribe their past success and failure to internal factors such as

effort. Thus, in light of attribution theory students, who are internally controlled, have more motivation to be successful in their academic tasks.

The results of this study also showed that there is a significant difference in GE scores in the entrance exam among the three groups of students. Students of engineering performed better in the English section of the entrance exam than students of humanities and students of sciences, and students of sciences performed better than students of humanities. One reason for this can be the fact that students of engineering are more internally controlled than students of sciences and humanities. Similarly, students of sciences have higher internal control orientation than students of humanities (Ghonsooly & Elahi, 2010). Another reason for the superiority of students of engineering and sciences in the English section of the university entrance exam may be the fact that these students who have higher LOC are better in using language learning strategies. In addition, the most frequent strategies applied by these students are metacognitive strategies, while the most frequent strategies used by students with external LOC are memory strategies. This shows that students of engineering who have relatively internal LOC are more inclined to take over the responsibility of their language learning (Hosseini & Elahi, 2010). This finding is in line with Ghonsooly and Elahi's (2010) study in which students of engineering scored higher in their ESP courses than students of sciences and humanities, and students of sciences obtained higher scores than students of humanities.

The other finding of this study was the association between university students' LOC and their religious orientation. The more internal LOC students have, the more inclined towards religion they are. Individuals with an internal LOC feel lower anxiety (Carden, Bryant, & Moss, 2004), perceive a bright future for themselves (they are more optimistic) (Anderman & Mindgely, 1997), accept their inadequacies rather than escaping them (Phares, 1979), and attribute their failures to their insufficient effort, that is they accept the

responsibility for their behavior (Basgall & Snyder, 1988). Dilmac, Hamarta, and Arsalan (2009) concluded that there is a positive relationship between external LOC and trait anxiety. Individuals with an external LOC are more likely to experience trait anxiety. These findings indicate that there is an association between LOC and psychological well-being. Those who are more internally controlled are more likely to enjoy psychological well-being. Moltby and Day (2003) suggested that there is a positive correlation between religious orientation and psychological well-being. The more inclined towards religion individuals are, the more psychological well-being they have.

Showalter and Wagener (2000) held that LOC is related to the concept of personal meaning (cited in Daum, & Weibe (2003). Wong (1997) defined personal meaning as "an individually constructed and culturally based cognitive system, which influences the pursuit of activities and life goals" (p. 87, as cited in Daum, & Weibe, 2003, p.16). Wong and Weiner (1981) proposed the concept of existential attribution suggesting while individuals try to find out the causes of undesirable events, they also search for the reason and aim of their own behavior (as cited in Daum, & Weibe, 2003). Wong (1998) believed that personal meaning is "a deeper level of processing than causal attribution" (as cited in Daum, & Weibe, 2003, p.17). Religious people, like internalizers, are more likely to construct and maintain personal meaning for themselves.

In order to carry out any research, one may confront problems and limitations. Perhaps different findings might have been obtained in this study if it did not have the following limitations. First, this study was carried out with a relatively small sample. Studies with larger samples can be done to ensure the external validity of the findings. The second limitation of the research was that only university students participated in it. Other research projects can be conducted with students studying at guidance schools and high schools. Researchers interested in LOC can investigate the relationship between LOC and emotion

control strategies, environment control strategies, and commitment control strategies. Also teacher's LOC and its relationship with their motivation and the performance of students can be explored.

Conclusion

The results of this study showed that there is a positive relationship between students' LOC and their General English score in the entrance exam. Students with an internal LOC are better achievers in the English section of the university entrance exam. There was also a significant difference in GE scores in the entrance exam across students of humanities, sciences, and engineering. Finally, there was a positive relationship between students' LOC and their religious orientation. Thus, these findings can draw the attention of EFL teachers, especially pre-university English teachers, to the important role of LOC in their students' performance.

LOC is a dynamic construct rather than a fixed one. Noer et al. (1987) held that externalizers can be taught to develop internal LOC. English teachers, particularly pre-university English teachers, can instill a sense of responsibility in their students to take control of their own learning and become independent and self-directed learners (Hosseini, & Elahi, 2010). This is particularly important about students of humanities who have relatively external LOC. The most effective way to apply attribution theory is reattribution training (Hastings, 1994, cited in Hosseini & Elahi, 2010). Therefore, L2 teachers should help their students change their attributions. Students should learn to ascribe their failures in English exams to factors such as their effort and ability that are controllable. They ought to be taught not to attribute their failures to factors like chance or test difficulty which is not controllable. This is especially important in students who are not so much inclined towards religion. Reattribution training should pay special attention to these students. According to Neurolinguistic programming, the behavior and strategies used by successful people can be

duplicated (Richards, & Rogers, 2001). Hence, suggestions and strategies employed by internalizers can be introduced to externalizers. They can be encouraged to model the suggestions and strategies employed by internalizers. Furthermore, increased awareness of LOC orientations can help students recognize what is within their ability to change and how to deal with factors they consider as beyond their control (Wood, Saylor, & Cohen, 2009). Knowledge of the influence of internal and external orientations on students' attitudes, perceptions, and performance can be a great help for curriculum planning and the selection of teaching methods and materials.

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