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The effects of Iranian EFL learners' locus of control (external vs. internal) on their test anxiety and test scores

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Abstract

The present study aimed at investigating the effect of Iranian EFL learners' locus of control (external vs. internal) on their test anxiety and test scores. To this end, 130 freshman students of English translation from Sobhe Sadegh Institute of Higher Education were selected. Three samples of TOFEL reading comprehension texts, selected randomly from TOEFL iBT, were run to homogenize participants in terms of their English reading comprehension proficiency. Then the selected participants (those in intermediate level who are 100 in number) were provided with Trice Academic Locus of Control Scale (1985) for determining their internal or external orientation of locus of control. Also, Cognitive Test Anxiety Scale (CTAS) (Cassady & Jonson, 2002) was administered for measuring their level of text anxiety. In the last phase of data collection, three other samples of TOEFL reading comprehension texts were run for collecting the participants test scores. This test was considered as their final achievement test in order to be a real test. The results revealed that external locus of control could negatively influence participants' test anxiety and test scores. On the other hand, the participants with internal orientation of locus of control outperformed the participants with external orientation of locus of control.

Keywords: locus of control; internal locus of control; external locus of control; test anxiety

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1. Introduction

Students' sense of control over their academic performance is one of the most important factors to take into consideration when working towards improving academic achievement (Stipek & Weisz, 1981). Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld et al. (1966) and Lynch, Hurford, and Cole (2002) reported that locus of control was a significantly better predictor of grades in contrast to standardized achievement test scores. Rotter (1966) believed that individuals with external locus of control believe that "reinforcements are not under their personal control but rather are under the control of powerful others, luck, chance, fate, etc.," while individuals with internal locus of control believe that "reinforcements are contingent upon their own behavior, capacities, or attributes" (p. 618).

There has been sufficient conducted research on the relationship between locus of control and school performance. Nunn, Montgomery, and Nunn (1986) found a negative relationship between external locus of control and scores on the *Iowa Tests of Basic Skills* in middle school students. Tesiny, Lefkowitz, and Gordon (1980) reported an external locus of control orientation to have negative correlation with reading achievement and teacher ratings of study habits. Studies have shown repeatedly that students with high level of internal locus of control show higher levels of achievement (Auer, 1992; Tanksley, 1993). In fact, it has been showed that having high levels of internal locus of control is an even more significant variable than intelligence or socioeconomic status (Haborg, 1996).

Test anxiety is another construct that must be taken into account when studying about academic performance. Spielberger, Gonzalez, Taylor, and Anton (1978) noted that test anxiety is a "situation-specific personality trait" that test takers face with it before, during and after a testing session. It is reported that test anxiety may occur when an afflicted individual interpret any type of evaluative situation as a personal threat. Researchers have found that test anxiety negatively can affect academic performance and achievement. Hembree (1988) indicated that test anxiety normally caused poor performance in a meta-analysis of 562 studies that looked at the relationship between test anxiety and academic achievement. Researchers also discovered that the impact of test anxiety on students' performance is frequently affected by the evaluation practices of the teacher (Maehr & Midgely, 1991). It is reported by Spielberger (1972) that students with high degree of test anxiety also tend to have poor study habits and test taking skills. Birenbaum and Nasser (1994) believed that test anxiety is a well-known problem in school, and Shaked (1996) estimated that 30% of all students suffer from different levels of test anxiety.

Previous research has shown that males typically score lower on measurements of test anxiety than females (Berger, 2004; Chang, 1997). Nowicki and Strickland (1973) discovered a negative relationship between the locus of control and achievement of children in grades 3 – 12. As achievement scores increase, external scores decrease, and this was mostly found in males. Shute, Howard, and Steyaert (1984) found out that there is a relationship between cognitive abilities and locus of control in males, but not in females. Unfortunately no universally accepted definition of underachievement is found. Many times gifted underachievers are grouped with the other "troubled" children in the school or teachers, therefore counselors will call gifted underachievers as physical, mental, or emotional handicaps (Delisle, 1994). In schools, knowledge and behavior are emphasized. If students have poor behavior by acting out, by excessive absences, or by choosing not to do the work, they are seen as rejecting knowledge and defying authority (Plucker & McIntire, 1996). Because of ignoring talent, this can lead to self-esteem problems (Seeley, 1993).

Underachieving gifted students which are a heterogeneous group, each student has his or her own needs and

concerns. The influences of home, school, and/or peer can cause gifted students to produce work being below their ability level (Reis & McCoach, 2000). According to Renzulli, Baum, Hèbert, and McCluskey (1999), once the causes for a particular student's low academic performance is found, the learning situations for the student can be improved by the use of enrichment and other curricular modifications.

2. Literature Review

Locus of Control is a theory developed by Julian Rotter as a part of his Social Learning Theory (1954). Social Learning Theory is a reaction to Freud's psychoanalysis and Skinner's behaviorism. Social learning theory declares that an individual's learning process is influenced by his or her background of reinforcement which is the reward given by others' reactions to behavior (Baron & Byrne, 2002). According to social learning theory, one's personality is an outcome of the individual's interaction with his or her environment.

Locus of control (LOC) is defined as a belief about the connection between individuals' action and the actual outcome or reinforcement which is caused by social learning mechanisms (Rotter, 1966). Locus of control in an individual may be either internal or external. Rotter (1990) defined the internal and external LOC as: "The degree to which persons expect that a reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others" (p. 489). Internals believe that their received rewards are as a consequence of their own behavior and confident. Externals differ from internals. They believed that rewards are not the results of their actions, but these events are the consequence of external factors such as luck or other influences (Gan, Shang, & Zhang, 2007).

2.1 Studies on Locus of Control

An ample research has been conducted about the use of locus of control as a predictor of academic success and achievement. For instance, Ghasemzade and Saadat (2011) in a study on 370 students obtained no significant difference in internal-external locus of control among male and female students' achievement, however female students with the locus of chance control achieved higher scores than their male counterparts. Park and Kim (1998) examined the relationship between the locus of control and academic achievement among Korean, Korean-Chinese, and Chinese university students, indicating that the Korean students obtain the highest scores on internal LOC, while the Korean-Chinese students showed the highest scores on external locus of control. For the Korean and Chinese sample, students with higher academic grades had higher scores on internal LOC and lower on external LOC than the others.

There are also varied results on gender differences in locus of control. Nowicki and Strickland (1973) found out that there is a negative relationship between the locus of control and children's achievement in grades 3 – 12. As achievement scores increased, external scores decreased, and this was mostly happened in males. Moreover, the results of a longitudinal study, named as Youth in Transition project, showed that in adolescent boys, locus of control became more internal from tenth grade to one-year post-high school. Males face with greatest change in their locus of control orientation between the tenth and eleventh grades (Bachman, O'Malley, & Johnston, 1978).

There is scant attention paid to the investigation of LOC in the EFL context of Iran (Ghabanchi & Golparvar, 2011). For instance, Salmaninodoushan (2012) in his study of the impact of locus of control on language achievement found that the construct of locus of control was not identified as a predictor of achievement. Results also demonstrated that factors like LOC interact with proficiency only at the advanced level. Rahimi and Askari (2014) conducted a research studying about locus of control and vocabulary learning strategies of Iranian English learners to explore their relationship. The results of this study indicated that EFL learners' locus of control and their use of vocabulary learning strategies had an insignificant relationship with each other. It was also showed no significant difference between male and female participants in relation to their locus of control and their use of vocabulary learning strategies.

2.2 Studies on Test Anxiety

In related literature, many factors of test anxiety have been found such as, low language proficiency (Horwitz, 2001), environmental and situational variables (Bushnell, 1978), time limit (Immerman, 1980; Madsen, 1982; Walen, 1996), test techniques, format and validity (Oh, 1992; Lynne, 1984; Madsen et al., 1984; Shohamy, 1982; Alderson, 1981), and gender (Elbanna, 1989; Madsen, 1982; Putwain, 2007; Mousavi, 2008; Aiden, 2009; Baily, 1983; Young, 1991).

Many studies (Aida, 1994; Elbanna, 1989; Petridou, 2007) demonstrated that test anxiety had a negative effect on the learning process and in turn on achievement. Rezazadeh and Tavakoli (2009) investigated the relationship between gender, academic achievement, years of study and levels of test anxiety. The participants of this study were 110 undergraduate students from University of Isfahan. They observed a significant negative correlation between test anxiety and academic achievement.

Berger and Schecter (1996) and Chang (1997) found that males typically score lower on measurements of test anxiety than females. The differences in test anxiety constructs affect males and females differently. Results indicated that: (a) worry was related to task-orientation and preparation and low avoidance coping in females; (b) emotionality was related to seeking social support in male students and to task-orientation and preparation in female students; and (c) interference was related to avoidance coping in females (Stober, 2004).

Barlow's (2002) model of anxious apprehension shows that individuals feeling no control over external events that cause them anxiety or no control over their emotional or physical reaction to the stressor are likely to have anxiety problems. A number of studies demonstrated that low control over external threats and emotional and physiological reactions are related to increased levels of anxiety (e.g., Weems, Silverman, & Rapee, 2003; Zeidner & Schleyer, 1999). Nunn (1988) found major and positive correlations between externality on the locus of control scale and trait anxiety as measured by the State-Trait Anxiety Inventory for Children (Spielberger, 1972).

2.3 Research Questions

This study aims at investigating the effects of locus of control on Iranian Intermediate EFL learners' test anxiety and achievement. To this end, the following two research questions were focused on:

- Do internal and external orientations of locus of control influence Iranian EFL learners' test anxiety?
- Do internal and external orientations of locus of control influence Iranian EFL learners' reading comprehension test scores?

3. Methods

3.1 Participants

A randomly selected sample of 130 (90 females and 40 males) freshman students of English translation at Sobhe Sadegh Institute of Higher Education in Isfahan took part in the study. The age of the students ranged from 20 to 30 years.

In order to homogenize the participants regarding their reading skill proficiency, 130 EFL freshman students of English translation major were provided with a TOFEL reading test (containing three reading comprehension texts and thirty multiple-choice questions). Having obtained the test results, the researcher decided to choose those participants whose score range fell one standard deviation above and below the mean (i.e. mean ± 1). This being so, 100 students who met this homogeneity criterion were selected as the participants of this study.

3.2 Materials and Instruments

The following instruments were used in conducting this study:

Trice Academic Locus of Control Scale (1985): This questionnaire includes 28 items. Participants were supposed to answer them with "true" or "false". This being so, learners' internal or external ordination of LOC were determined. (Appendix A)

Cognitive Test Anxiety Scale (CTAS) (Cassady & Jonson, 2002): This test anxiety questionnaire was given to the participants just at the start of a testing program where they sat in the situation of a real test. This questionnaire includes 27 items and has a Likert scale as: A) Not at all typical of me, B) Only somewhat typical of me, C) Quite typical of me, and D) Very typical of me. (Appendix B)

***Reading Comprehension Test*:** Six samples of TOFEL reading comprehension passages were selected randomly from TOEFL iBT. Three of these reading passages served as the first reading test for homogenizing the participants, finding the real scores of participants in a non-testing situation; and the other three passages served as the final achievement test.

3.3 Procedures

The following steps were taken in conducting the present study:

In the first phase of this study, all 130 participants were provided with a TOFEL reading test (containing three reading comprehension texts and thirty multiple-choice questions). Having obtained the proficiency test results, the researcher decided to choose those participants whose score range fell one standard deviation above and below the mean (i.e.mean±1). In the second phase, 100 students, who met this homogeneity criterion, were provided with Trice Academic Locus of Control Scale questionnaire (1985). It consists of 28 items. Responses were elicited on two- point scale true or false (see the appendix).

In the next phase, at the start of a testing program where the participants sat in the situation of a real test, the test anxiety questionnaire was given to them. This questionnaire includes 27 items and has a Likert scale as: A) Not at all typical of me, B) Only somewhat typical of me, C) Quite typical of me, and D) Very typical of me. Having completed the test anxiety questionnaire, participants were provided with a reading test as their final achievement test which encompassed three reading comprehension tests with thirty questions.

Finally, in the last phase of the study, the two questionnaires were scored. The range of scores in Trice Academic Locus of Control is 0-28. Scores from 0-14 obtained on the scale indicate internal locus of control and scores above this range indicate external locus of control and; the score range obtained by any respondent to the CTAS falls between 27 and 108. In addition, the participants, final achievement tests were corrected and their scores were determined and collected.

4. Results

4.1 The First Research Question

To find an answer to the first research question, the test anxiety scores of ELOC and ILOC learners were compared by means of an independent-samples *t* test. The results are in view in Tables 1 and 2. Furthermore, it could be seen in this table that there was a difference in the anxiety mean scores of the ILOC (M = 65.92) and ELOC (M = 75.70) learners. To find out whether this difference between the test anxiety scores of ILOC and ELOC learners was statistically significant or not, independent sample t-test was used.

Table 1

Descriptive Statistics Results Comparing ELOC and ILOC Learners' Anxiety

	Groups	*N*	Mean	*SD*	Std. Error Mean
Test Anxiety	ILOC	50	65.92	12.94	1.83
	ELOC	50	75.70	17.45	2.46

T-test results show that the difference between the anxiety scores of the ILOC learners (M = 65.92) and their ELOC counterparts (M = 75.70) was found to be significantly different since the p value under the *Sig.* (2-tailed) column was lower than the significance level (.002 < .05). It could be thus concluded that the internal and external locus of control influenced the EFL learners' test anxiety.

4.2 The Second Research Question

An independent-samples t test was used to compare the ILOC and ELOC learners' reading comprehension test scores, and thus to reach the answer to the second research question of the study. Table 2 presents the results of descriptive statistics for this analysis.

Table 2

Descriptive Statistics Results Comparing ELOC and ILOC Learners' Reading Comprehension

	Groups	*N*	Mean	*SD*	Std. Error Mean
Test Scores	ILOC	50	15.60	2.09	.29
	ELOC	50	14.10	2.67	.33

It can be seen in Table 2 that there was a difference in the reading comprehension mean scores of the ILOC (M = 15.60) and ELOC (M = 14.10) learners. In order to find out whether this difference between the reading comprehension scores of ILOC and ELOC learners was of statistical significance or not, independent sample t-test was used. Results show that with respect to reading comprehension test scores, ILOC learners (M = 15.60) outperformed the ELOC learners (M = 14.10), and the difference between these two groups of learners was found to be statistically significant as the p value was smaller than the significance level (p = .002). Thus, the conclusion to be made from this analysis would be that the internal/external locus of control influenced the reading comprehension test scores of the EFL learners.

5. Discussion and Conclusion

This study investigated the effects of internal/external orientations of locus of control on the Iranian EFL learners' test anxiety and test scores. As far as the first research question was concerned, "1- Do internal and external orientations of locus of control influence Iranian EFL learners' test anxiety?" the present study found that concerning the variable of test anxiety, the group ELOC had higher mean score than ILOC group. On the other hand, external locus of control orientation showed a significant effect on the participants' level of test anxiety. Therefore, the results uniformly rejected the first hypothesis. A possible explanation for this might be accounted for Abouserie (1994) who found out that students with external control of beliefs are more stressed in contrast with their counterpart (internal). In another words, students who believe in themselves, their abilities and in their control of their situations and life are less stressed than those who believe in luck or outside agents. These findings agree with those of Harari and Sek (1988), Padilla et al. (1986) and Mooney, Sherman, and Lopresto (1991), Reda Abouserie (1994). Additionally, Moore (2006) discussed in her dissertation about variations of test anxiety and locus of control in students that "The interaction of gender and ability/performance level also yielded significant results for both test anxiety and locus of control." (p. 50)

As for the second research question, "2- Do internal and external orientations of locus of control influence Iranian EFL learners' reading comprehension test scores?", the analysis of the data showed that the ILOC learners obtained a slightly higher mean score than the ELOC learners, and that the difference between the two groups was statistically significant. Therefore it is concluded that locus of control does affect Iranian EFL

learners' reading comprehension test scores. This results lead to the rejection of the second null hypothesis. This result conveyed that EFL learners who believe in their own learning are more likely to succeed in L2 reading comprehension. Accordingly, relating success and failure to internal factors can affect the level of achievement. The desire to learning may be decreased by attributing failure or success to external causes and this lead to lower achievement. Regarding the motivation theory and, as Williams and Burden (1997) discussed, the sense of agency is a central factor which can raise motivation. Individuals who can control their own learning are highly motivated (Williams and Burden, 1997). Learners with internal orientation of locus of control attribute their achievement to their own learning and effort even they succeed or failed. Therefore, it can be concluded that this group of learners are expected to have higher sense of agency. This is not contrary to the expectation that the ILOC group of this study had a better reading comprehension test scores than the ELOC group due to their higher motivation and higher sense of agency.

Therefore, the following results were reached upon the completion of the experiment: (a) ELOC group displayed a significant effect on their level of test anxiety, (b) Internal locus of control showed a positive effect on reading comprehension test scores. In another word, unlike internal orientation of locus of control, external locus of control can negatively increase learners' level of test anxiety. Moreover, learners' reading comprehension test scores can be affected by their locus of control.

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