The Effect of Reading Anxiety and Motivation on EFL
Learners' Choice of Reading Strategies

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Abstract

The purpose of this study was to investigate the relationship between reading anxiety and motivation, and the effect of reading anxiety and motivation level on the choice of global, supportive and problem solving reading strategies. To this end, 120 EFL female pre-university students were given three questionnaires: FLRAS, SORS, and AMQ. The findings showed a significant low positive relationship between reading anxiety and motivation. It was also found that motivation level influences EFL learners' choice of reading strategies. However, no statistically significant differences were found among the effects of reading anxiety levels on the choice of reading strategies.

Keywords: anxiety, foreign language reading anxiety, motivation, reading strategies

INTRODUCTION

There is little doubt that reading is one of the most useful skills, especially in foreign language contexts where access to foreign language is primarily limited to written language. Studies on L2 reading over the past few decades have shown that reading is an important source of input; however, it is also an anxiety provoking activity (Saito, Horwitz, & Garza, 1999). Previous research also indicates that successful and less successful readers make use of different reading strategies, and that factors such as age, learning style, motivation, anxiety, and so on can influence students' use of learning strategies in reading comprehension (Yang, 2006). The investigation of language learning strategies has expanded our understanding of the processes learners use to develop their skills in a second or foreign language.

Several studies (Carreira, 2006; Miyanaga, 2007) have investigated motivation and language anxiety. However, little attention has been paid to the direct relationship between motivation and anxiety. Moreover, there are few studies on foreign language reading anxiety. In addition, there seems to be a paucity of research (specifically in the EFL contexts) on the relationships between reading anxiety, motivation, and the choice of reading strategies. In an attempt to fill part of the existing gap, this study aims at investigating the relationship between reading anxiety, motivation, and reading strategies.

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REVIEW OF LITERATURE

Anxiety

Language learning is an inherently anxiety provoking process. Horwitz, *et al.* (1986) define foreign language anxiety as a "distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (p.128).

Different types of foreign language anxiety have been identified including situation-specific anxiety, state anxiety, and trait anxiety, all of which can be either facilitative or debilitative. MacIntyre and Gardner (1989) note that situation-specific anxiety develops from negative experiences, particularly early in language learning. Giving a speech, taking a test, doing math, and using a second language are examples of situation-specific anxiety. Foreign language anxiety is a form of situation-specific anxiety (Horwitz, *et al.,* 1986). State anxiety refers to an apprehension that is experienced at a particular moment in time as a response to a definite situation" (Amir Jahansouz Shahi, 2009, p. 22), whereas trait anxiety is related to a "generally stable predisposition to be nervous in a wide range of situations" (Zheng, 2008, p.2).

Language learning anxiety was – until quite recently – normally associated with productive skills. Today, there is an increasing recognition of anxiety in receptive skills; that is, listening and reading. One of the relatively less-explored types of anxiety is reading anxiety – a specific phobia, a situational type and an unpleasant emotional reaction toward reading which has physical and cognitive reactions (Jalongo & Hirsh, 2010).

In one of the few studies on anxiety in reading classes, Seller (1998) explored the relationship between language anxiety and reading anxiety among university students. 89 American university students learning Spanish as a foreign language took part in her study. Different types of instruments were used to collect data. Two scales were used to measure anxiety: the Reading Anxiety Scale (RAS), and the FLCAS (Howritz, *et al.,* 1986). Free written language recall protocol scores and multiple choice test scores were used to measure comprehension. Also, a think-aloud interview was used to reveal strategies used by students during the reading process. To measure cognitive processes during reading, the Cognitive Interference Questionnaire was utilized. The findings showed a consistent inverse effect of language anxiety on the reading comprehension and recall. In other words, more highly anxious students recalled less passage content than their less anxious classmates. The analysis of think-aloud on the relationship between anxiety and strategy use in reading comprehension showed that anxious students tended to use more local strategies (i.e., focusing on vocabulary, attention to syntax and translation) than global strategies. In contrast, the students with low anxiety tended to equally use both local and global strategies. Moreover, the less anxious students utilized various types of metacognitive strategies than their highly anxious classmates.

Another study introducing the construct of 'foreign language reading anxiety' was done by Saito *et al.* (1999). In their study, two aspects of foreign language reading were investigated which had great effect on eliciting anxiety: unfamiliar scripts of writing systems and unfamiliar cultural materials. They developed the Foreign Language Reading Anxiety Scale (FLRAS) to measure the anxiety level of 383 students. Foreign Language Class anxiety Scale (FLCAS) (Horwitz *et al.*, 1986) and Foreign Language Reading Anxiety Scale (FLRAS) were used to measure the students' classroom anxiety and reading anxiety, respectively. They found that despite the intuition of teachers, reading in a foreign language is anxiety provoking to some students. Moreover, the study showed that reading anxiety is distinct from general types of foreign language anxiety. It was also found that increasing students' reading anxiety levels leads to the decrease of students' final grades. However, they could not ensure "whether anxiety is the cause or effect of the difficulties observed" (p. 215), though they speculated that "the participants experienced anxiety as a result of actual difficulties in text processing rather than the reading difficulties stemming from anxiety reactions" (p. 215).

In another study, Zhang (2000) also explored the anxiety of 155 Chinese intermediate students in ESL reading classes. Zhang used FLRAS (Saito *et al.*, 1999) and informal interviews as instruments. He added three items to the original FLRAS questionnaire to elicit participants' demographic traits. The findings with respect to the interview suggested that several factors affect both male and female ESL readers' apprehension; factors such as students' lack of L_2 proficiency, cultural knowledge, the changed learning context and their teacher's diversity effect. It seemed study-abroad context was the major challenge for ESL learners. Results, with respect to the FLRAS questionnaire and the three added items also showed that "female and male students experience different degrees of anxiety in study-abroad context" (p. 31); moreover, reading ESL turned out to be anxiety-provocative in a study-abroad context.

Brantmeier (2005) examined the effect of students' anxiety level on reading comprehension tasks among 92 students enrolled in an advanced level Spanish grammar and composition course. In his study, the anxiety questionnaire was modified according to FLCAS (Howritz *et al.*, 1986) into three categories representing different dimensions of L_2 reading and anxiety: general L_2 reading; L_2 reading and oral tasks, and L_2 reading and written tasks. Besides the reading selection, the written recall, and 10 multiple-choice questions, along with a background questionnaire were used to collect data. It turned out that students at advanced levels of language instruction did not show reading anxiety but expressed anxious feelings about the readings in the upcoming literature courses.

Chen (2007) investigated the relationship between cognitive test anxiety and reading anxiety on Taiwanese college students' performance in reading. 81 Taiwanese advanced EFL students participated in this study. FLRAS (Saito *et al.*, 1999), Cognitive Test Anxiety Scale and Reading Performance in multiple choice form, fill-in-the-black and

reading comprehension tests were used as instruments. Findings indicated a high correlation between test anxiety and reading anxiety.

To sum up, most of the above studies have shown that foreign language reading anxiety is a construct that is related to, but distinct from general foreign language anxiety (Saito *et al.,* 1999; Sellers, 1998). Additionally, foreign language reading is an anxiety provoking skill, but it varies depending on students' level of proficiency, target language, gender, the context of study (Saito, *et al.,* 1999; Sellers, 1998; Zhang, 2000; Brantmeier, 2005), and so on.

Motivation

Motivation is one of the most appealing, multi-faceted, influential and complex factors in the learning process used to explain individual differences in language learning (Lim, 2007; Jahansouzshahi, 2009). Motivation is of "particular interest to L_2 or FL teachers, administrators and researchers, because it can be presumably enhanced in one specific learning context but weakened in another learning context" (Yuanfang, 2009, p. 87). There is little doubt that motivation can greatly facilitate language learning process (Arnold & Brown, 1999).

Motivation is influenced by a "combination of many factors including effort, desire, and satisfaction with the learning situation. Different types of motivation have been discussed in related literature including integrative, instrumental, intrinsic, and extrinsic motivation. Several studies have investigated motivation and foreign language anxiety, but there are few studies on the direct relationship between the two. In one such study, Carreira (2006) examined motivation and foreign language anxiety of 91 EFL sophomore Japanese university students to determine which types of motivation best predict the students' foreign language anxiety. Two questionnaires on motivation for learning EFL and foreign language anxiety were used to collect data. Carreira found that students with practical reasons to study English and intellectual satisfaction tended to have lower levels of foreign language anxiety.

Another research on the direct relationship between motivation and foreign language anxiety was done by Cheng (2006) to examine the effects of differentiated curriculum and instruction on the teaching of English as a foreign language to university students in Taiwan. The results revealed that differentiated curriculum and instruction improved EFL learners' motivation and interest levels in comparison to the students who were taught in the teacher-directed lecture model. In addition, she found that using differentiated curriculum and instruction did not lead to a substantial decrease in anxiety level in comparison with the teacher-directed lecture model.

As to the relationship between motivation and reading, Yang (2006) studied 120 sophomore ESL students on two types of motivation, integrative and instrumental, and found a significant relationship between motivation and reading strategy use. She found

that integrative motivation relates to social/affective strategies positively while instrumental motivation correlates with cognitive strategies negatively.

Another study in relation to reading strategies and motivation was conducted by Kolić-Vehovec, Rončević, and Bajšanski (2008). They conducted this study to identify motivational components of self-regulated learning and reading strategy use in university students on the basis of goal orientation patterns. 352 undergraduate Croatian students participated in this study. The Components of Self-Regulated Learning (CSRL) and the Strategic Reading Questionnaire (SRQ) were used to collect data. The results showed that different goal orientation groups had different reading habits. It also turned out that groups with high mastery orientation had more adaptive motivational profile and more adequate reading strategy use than groups with low mastery or/and high work-avoidance orientation.

Reading strategies

The importance of learning strategies in language learning is undeniable. By strategies, Rubin (1975) means the techniques, actions, behaviors, devices, or steps which a learner may use to acquire knowledge. Several taxonomies of learner strategies have been proposed, often with a degree of overlap. Oxford's (1990) and O'Malley, Chamot, Stewner-Manzanares, Russo, and Kupper' (1985) taxonomies are two of the more well-known examples. Oxford's (1990) divides strategies into two main classes, direct and indirect, which are further subdivided into six connected and supported groups. They include cognitive, mnemonic, metacognitive, compensatory, affective and social strategies. O'Malley *et al.* (1985) divide learning strategies into three main subcategories: metacognitive, cognitive strategies, and socio-affective strategies.

In recent years, considerable attention has been paid to different types of strategies and their effects on language learning. Reading strategies are one example of such strategies. Mokhtari and Sheorey (2002) suggest that learners' awareness of reading strategies will help them improve reading comprehension. They developed Survey Reading Strategies (SORS) as a simple and effective instrument for assisting students to have better developmental awareness of their reading strategies, for helping teachers assess such awareness, and for serving students to be "constructively responsive readers" (p. 2). The SORS measures three broad categories of reading strategies: global reading strategies, cognitive strategies, and support strategies.

Several experiments have also been conducted in this regard. Sheorey and Mokhtari (2001) examined the differences in the reported use of reading strategies when reading academic materials by 302 college students (150 native-English-speaking. and 152 ESL students). Results revealed that: First, both native speaking and ESL students were aware of almost all of the strategies included in the survey. Secondly, both groups, regardless of their reading ability, reported using cognitive, metacognitive, and supportive strategies. Thirdly, both native speaking and ESL high-reading-ability

students reported using a higher degree of usage for cognitive and metacognitive strategies than lower-reading-ability students in receptive groups. Lastly, it was reported that the native speaking females use a significantly higher frequency of strategies.

Zhang and Wu (2009) measured the degree of metacognitive awareness and reading-strategy use of 249 Chinese senior high school EFL students in a quantitative study. They used the survey of reading strategies (SORS) developed by Mokhtari and Sheorey (2002) to measure learners' metacognitive awareness. Based on students' average scores in English exams; they divided students into three proficiency groups (high, intermediate, and low). It was found that the students with higher English achievement benefited from global strategies. In addition, despite some teachers' assumption that senior high school students know little about reading strategies, this study showed students at all levels "have knowledge of strategies at a moderate to high level" (p. 49).

Anderson (2003) investigated the online reading strategy use of 247 L_2 readers (131 EFL and 116 ESL learners) from Casta Rica and the United States. Results showed that the majority of strategies used by readers are often problem solving strategies. Also, it was revealed that EFL readers use problem solving strategies such as "reading rate, rereading difficult text, and pausing to think about what one is" more than ESL readers (p. 20). However, there were no differences in the use of global reading strategies or the supportive reading strategies between learners in EFL and ESL contexts.

In one of the rare studies integrating reading strategies, anxiety, and motivation, Miyanaga (2007) investigated the relationships among reading proficiency level, reading anxiety level, perception of reading strategies, and reasons for learning English among 480 Japanese EFL learners in different majors. To collect data, four types of instruments were used: 1) a practice TOEFL, 2) FLRAS, 3) the Reading Metacognitive Questionnaire, and 4) the Reason for Learning English Questionnaire. Results showed that more proficient learners tended to exhibit lower degrees of reading anxiety in comparison with their less proficient classmates. Results also revealed a variation on reading proficiency scores and the degree of lack of confidence in reading on the basis of the reading anxiety levels. Miyanaga showed that even after eliminating the influence of reading anxiety, the high and low reading anxiety groups showed meaningful differences on four factors: lack of confidence in reading, difficulty with English sounds, difficulty understanding text organization and gist, and dictionary use as an effective strategy. That is, "independent of reading proficiency level, a linguistic variable, the degrees of confidence in reading and perceptions of the three reading strategies differed according to reading anxiety level" (p. 98).

THIS STUDY

The present study aims at investigating the relationship between reading anxiety, motivation, and reading strategies. To be more specific, it intends to answer the following research questions:

1. Is there any relationship between EFL learners' reading anxiety and motivation?
2. Does motivation level influence EFL learners' choice of reading strategies?
3. Does reading anxiety level influence EFL learners' choice of reading strategies?

METHOD

Participants

The participants of this study were 120 Iranian female pre-university students at Kosar Pre-university Center in Zanjan. The participantd age ranged from 17 to 18, had been studying English for at least 6 years in their guidance and high schools; so they had a similar educational background. This was to eliminate the possible effects of proficiency level on the use of reading strategies.

Instruments

Three instruments were utilized in this study to collect data: FLRAS, SORS, and AMQ.

a) The Foreign Language Reading Anxiety Scale (FLRAS) was developed by Saito *et al.* (1999) to "elicit students' self-reports of anxiety over various aspects of reading, their perceptions of reading in their target language, and their perceptions of the relative difficulty of reading as compared to other language skills" (p. 204). It originally contains 20 items, but items 10 and 11 were eliminated on grounds of irrelevance. They referred to new symbols and writing system of the second language, but all the participants in the present study were familiar with English writing system. Items were based on a 5-point scale which ranged from "strongly agree" to "strongly disagree".

b) The Survey of Reading Strategies (SORS) with 30 items in rating scale (5-point Likert type) was made by Mokhtari and Sheorey (2002). This questionnaire was designed to measure students' metacognitive awareness and perceived use of reading strategies when reading academic or school-related materials. The SORS measures 3 broad categories of reading strategies: Global Reading strategies, Problem Solving Strategies, and Support strategies.

c) Achievement Motivation Questionnaire (AMQ) was constructed by Hayamizu, Ito, and Yoshizaki (1989), but was modified by Nam Jung (1996). He modified it to measure high school students' achievement goal tendencies, specifically in English classes. It contains 27 items which are scored on a five point Likert scale.

The validity and reliability of the above questionnaires were already established by previous research. It should be mentioned that the present study used Abbasi' (2008) translation of FLRAS as well as Zarati' (2004) translation of SORS translation.

Procedure

Having selected the participants with the afore-mentioned characteristics, the questionnaires were distributed in three stages. In the first stage, the FLRAS was distributed among the participants. In the second stage, the participants were given AMQ. In the third stage, SORS was administered in the classrooms. The students were given 20 minutes to respond to each questionnaire. Having collected the required data, a correlational procedure was used to measure the correlation between anxiety and motivation. To answer the second and third questions, two separate Kruskal-Wallis statistical procedures were used.

RESULTS

The relationship between anxiety and motivation

The first research question sought to investigate the relationship between EFL learners' reading anxiety and their motivation. To this end, a correlation procedure was used. Table 4.1 contains descriptive statistics for reading anxiety and motivation, including the mean, median, standard deviation, range, etc. Additionally, Table 1 summarizes the result of the correlation procedure. As shown in Table 1, there is a significant but low positive relationship between reading anxiety and motivation (r =.20, p = .028).

Table 1. Correlation between Reading Anxiety and Motivation

			Reading anxiety & motivation
Reading anxiety & motivation	Pearson Correlation	1	.200[*]
	Sig. (2-tailed)		.028
	N	120	120

The effect of motivation on choice of reading strategies

 The second research question sought to investigate whether motivation level influences EFL learners' choice of reading strategies. To answer this question, students were divided into three equal groups of high, medium, and low level of motivation based on their scores on the AMQ questionnaire. Then, the Kruskal-Wallis procedure was used to see if motivation level influenced the participants' use of reading strategies. To do this, the Kruskal-Wallis procedure was run three times to investigate the effect of motivation level on global, supportive, and problem solving strategies, respectively. The first Kruskal-Wallis procedure was used to see the effect of students' motivation level on

their use of global strategies. Table 2 contains the result of the descriptive and test statistics.

Table 2. Descriptive and test statistics for Motivation and Global Strategies

Motivation	Group	N	Mean Rank
Score	High	40	82.86
	Mid	40	55.86
	Low	40	42.78
Chi-Square = 27.699			Asymp. Sig = .001

Based on Table 2, the high motivation group has the highest mean rank (mean rank = 82.86), followed by the medium motivation group (mean rank = 55.86), and then the low motivation group (mean rank = 42.78). Additionally, Chi-Square value of 27.699 is statistically significant (p = .001). So, it can be concluded that there are significant differences among the three motivation groups in the choice of global strategies. To locate the differences among the groups, three post-hoc Mann-Whitney U test procedures were used. The following table summarizes the results.

Table 3. Post Hoc comparisons of Motivation and the use of Global Strategies

Motivation	group	N	Mean Rank	Sum of Ranks
score	high	40	53.34	2133.50
Global	low	40	27.66	1106.50
Mann-Whitney U = 286.500 Sig. = .001				
Motivation	group	N	Mean Rank	Sum of Ranks
score Global	high	40	50.02	2001.00
	mid	40	30.98	1239.00
Mann-Whitney U = 419.00 Sig. = .001				
Motivation	group	N	Mean Rank	Sum of Ranks
score Global	mid	40	45.39	1815.50
	low	40	35.61	1424.50
Mann-Whitney U = 604.500 Sig. = .059				

Table 3 shows that the mean of the high motivation group (mean rank = 53.34) is higher than that of the low motivation group (mean rank = 27.66). Also, the Mann-Whitney U result of 286.500 is significant (p = .001). So, there is a significant difference between these two motivation groups in the choice of global strategies. In other words, the students in the high motivation group use global strategies significantly more than their counterparts in the low motivation group. Also, the Mann-Whitney U value of 419.00 is statistically significant. This means that the students in the high motivation group use more global strategies than their classmates in the medium motivation group. However, the third Mann-Whitney U result of 604.500 is not significant (p = .059). So, although the students in the medium motivation group use global strategies more than the low motivation group, the difference is not statistically significant.

The second Kruskal-Wallis procedure was used to see the effect of students' motivation level on their use of supportive strategies. Table 4 presents the result of the descriptive and test statistics.

Table 4. Descriptive and test statistics for Motivation and Supportive Strategies

Motivation	group	N	Mean Rank
supportive	high	40	79.25
	mid	40	56.98
	low	40	45.28
χ^2 = 19.788Asymp. Sig = .001			

The result shows that the mean of the high motivation group in the choice of supportive strategies is the highest (mean rank = 79.25), followed by the medium group (mean rank = 56.98), and then the low group (mean rank = 45.28). Moreover, Chi-Square value of 19.788 is statistically significant (p = .001). This means that there are significant differences among these three motivation groups in the choice of supportive strategies. To locate the differences among the groups, three post-hoc Mann-Whitney U procedures were run. Table 5 summarizes the results.

Table 5. Post Hoc comparisons of Motivation and the use of Supportive Strategies

Motivation	group	N	Mean Rank	Sum of Ranks
supportive	High	40	51.81	2072.50
	low	40	29.19	1167.50
Mann-Whitney U = 347.500 Sig. (2-tailed) = .001				
Motivation	group	N	Mean Rank	Sum of Ranks
supportive	High	40	47.94	1917.50
	mid	40	33.06	1322.50
Mann-Whitney U = 502.00 Sig. (2-tailed) = .004				
Motivation	group	N	Mean Rank	Sum of Ranks
Supportive	Mid	40	44.41	1776.50
	low	40	36.59	1463.50
Mann-Whitney U =643.500 Sig. (2-tailed) = .131				

Table 5 shows that the mean rank of the high motivation group (mean rank = 51.81) is higher than that of the low motivation group (mean rank = 29.19). Additionally, the Mann-Whitney U result of 347.500 is significant. So, there is a significant difference between these two motivation groups in the choice of supportive strategies. This means that the students in the high motivation group use supportive strategies more than their counterparts in the low motivation group. In addition, the mean rank of the high motivation group (mean rank = 47.94) is higher than that of the medium motivation group (mean rank = 33.06). Also, the Mann-Whitney U result of 502.500 is statistically significant (p = .004). So, the students in the high motivation group use more supportive strategies than the students in the medium motivation group. When it comes to the

comparison of mid and low groups, however, the Mann-Whitney U result of 643.500 is not significant (p = .131, but the medium motivation group has the higher mean rank (mean rank = 44.41) than the low motivation group (mean rank = 36.59. Thus, the students in the medium group use supportive strategies more than their classmates in the low motivation group, though not in a statistically significant way.

Finally, the third Kruskal-Wallis procedure was used to see the effect of students' motivation level on their use of problem solving strategies. The result of the descriptive and test statistics is summarized in Table 6.

Table 6. Descriptive and test statistics for Motivation and Problem Solving

Motivation group		N	Mean Rank
Problem	high	40	79.16
Solving	mid	40	58.30
	low	40	44.04
χ^2 = 20.789 Asymp. Sig = .001			

A brief look at Table 6 makes it clear that much like the result of the two previous strategies, the mean of the high motivation group in the choice of problem solving strategies is the highest (mean rank = 79.16), followed by the medium group (mean rank = 58.30), and then the low group (mean rank = 44.04). In addition, Chi-Square value of 20.78 is statistically significant (p = .001). So there are significant differences among these three motivation groups in the choice of problem solving strategies. To locate the differences among the groups, three other post-hoc Mann-Whitney U' test procedures were run. Table 7 presents the results.

Table 7. Post Hoc comparisons of Motivation and the use of Problem Solving

Motivation	group	N	Mean Rank	Sum of Ranks
Problem Solving	high	40	52.02	2081.00
	low	40	28.98	1159.00
Mann-Whitney U = 339.00 Sig. = .001				
Motivation	group	N	Mean Rank	Sum of Ranks
Problem Solving	high	40	47.64	1905.50
	mid	40	33.36	1334.50
Mann-Whitney U = 514.500 Sig. = .006				
Motivation	group	N	Mean Rank	Sum of Ranks
Problem Solving	mid	40	45.44	1817.50
	low	40	35.56	1422.50
Mann-Whitney U = 602.500 Sig. = .056				

Table 7 makes it clear that the mean rank of the high motivation group (mean rank = 52.02) is higher than the low motivation group (mean rank = 28.98). Besides, the Mann-Whitney U result of 339.000 is statistically significant (p = .001). Thus, it can be concluded that the students in the high motivation group use problem solving strategies

more than their counterparts in the low motivation group. It can also be seen that the mean rank of the high motivation group (mean rank = 47.64) is higher than that of the medium group (mean rank = 33.36). Also, the Mann-Whitney U result of 514.500 is significant (p = .006). So, there is a significant difference between these two motivation groups in the choice of problem solving strategies. That is, the students in the high motivation group use problem solving strategies more than their counterparts in the medium motivation group. However, although the medium motivation group has the higher mean rank (mean rank = 45.44) compared to the low motivation group (mean rank = 35.66), the Mann-Whitney U value of 602.500 is not statistically significant (p = .056).

The effect of reading anxiety on choice of reading strategies

The third research question sought to investigate whether or not reading anxiety level influences EFL learners' choice of reading strategies. To answer this question, similar to the second question, students were divided into three equal groups of low, medium and high reading anxiety levels based on their scores on the FLRAS questionnaire. Then the Kruskal-Wallis procedure was used to see if reading anxiety level influences the participants' use of reading strategies.

The first Kruskal-Wallis procedure was used to see the effect of the students' reading anxiety levels on their choice of global strategies. The following table contains the result.

Table 8. Descriptive and test statistics for Reading Anxiety and reading Strategies

Anxiety		N	Mean Rank
Global	low	40	60.04
	mid	40	58.04
	high	40	63.42
Chi-Square = .492 Asymp. Sig = .782			
Anxiety		N	Mean Rank
Supportive	low	40	62.28
	mid	40	64.80
	high	40	54.42
Chi-Square = 1.945 Asymp. Sig = .378			
Anxiety		N	Mean Rank
Problem Solving	low	40	58.91
	mid	40	59.48
	high	40	63.11
Chi-Square = .346 Asymp. Sig = .841			

Table 8 shows that none of the Chi-Square values is statistically significant. In other words, the choice of reading strategies is almost similar in the three groups.

DISCUSSION

The findings of the present study show a significant, though low positive relationship between reading anxiety and motivation. This is contrary to the findings of Miyanaga (2007), who found no statistically significant relationship between reading anxiety and motivation. Neither did Carreira (2006) find any significant correlation between motivation and foreign language anxiety, which is a distinct, but related construct.

One reason for such findings may be the participants' gender in the present study, which included only female students. Previous studies show that females are more anxious (Elkhafaifi, 2005; Zhang, 2000), and more motivated (Wigfield & Guthrie, 1997) than males in language learning. So, it may naturally be inferred that since the participants were both anxious and motivated, there must be a positive relationship between the two constructs. Moreover, the participants in the present study were pre-university students who were getting ready for their university entrance exam, which is a really high-stake exam in the context of Iran. Competition may have pushed them to study hard strengthening their motivation. At the same time, the university entrance examination may have made them feel more anxious. Therefore, when both reading anxiety level and motivation level are high, the positive correlation between the two traits seems natural and conceivable.

As to motivation and reading strategies, as the results indicate, motivation levels have a pervasive influence on students' choice of reading strategies. The obtained results showed that all the motivation groups used all reading strategies, but the students in the high motivation group performed significantly better than the other two groups in overall strategy use. These findings are in line with a number of studies (Shokrpouris & Fotovatian, 2007; Zhang & Wu, 2009; Lau & Chan, 2003) showing that highly motivated students use various strategies more than their classmates. It seems that highly motivated students have intentionally and carefully planned techniques in their reading to aid comprehension. The findings of the present study lend support to those of Oxford and Nyikos' (1989) findings that learners who are highly motivated to learn a language are likely to use a variety of strategies. The results also support Lau and Chan's (2003) findings, which indicated significant differences between good and poor readers in their strategy use and reading motivation. They found that good readers scored higher than poor readers in using all reading strategies, especially in using sophisticated cognitive and metacognitive strategies.

The findings of the present study also corroborate those of Sheorey and Mokhtari (2001). They report that both U.S and ESL students are aware of almost all of the strategies in the survey. Additionally, students with high reading abilities tend to use a higher frequency of metacognitive and cognitive strategies than their low-reading ability counterparts. Furthermore, some of the present study's findings are in accordance with Zhang and Wu (2009), who reported that the high proficiency group performed better than their intermediate and low proficiency group classmates in the

use of global and problem solving strategies. However, they failed to find statistically significant differences among the three proficiency groups in using supportive strategies. The present study showed that the highly motivated students perform better than their counterparts in all strategies (global, problem solving, and supportive strategies).

On the other hand, the results of the present study are different from those of Shokrpour and Fotovatian' study (2007). They showed that skillful readers use various reading strategies while poor reads seldom use strategies during reading the text. Poor readers are not familiar with the correct use of metacognitive strategies. In contrast with these findings, the present study shows that all students use all strategies, though in different degrees.

The present study found no significant differences in the choice of reading strategies of students with various degrees of reading anxiety. Chen, L's (2007) findings are partly in line with those of the present study. Chen, L's findings showed that there were no significant differences between low-anxiety readers and high-anxiety readers in choice of the overall reading strategies they used. On the other hand, Chen, L observed that students with higher levels of reading anxiety were less likely to use global reading strategies than supportive reading strategies. The high anxiety readers also used two of the supportive reading strategies more frequently than their low anxiety group classmates did. These findings are in contrast with the present study's findings indicating that the high anxiety group tended to use global and problem solving strategies more frequently than supportive strategies. The observed discrepancy between the findings of the present study and Chen, L's study might be attributable to the fact that the present study found a positive relationship between reading anxiety and motivation while Chen, L's findings showed that students with a low level of anxiety were more motivated in English reading.

The results of the present study also contradict Miyanaga's (2007) finding that anxious students used global and local strategies less than low anxiety students. Miyanaga reported that students with high level of anxiety tended to use bottom-up strategies, to look up words in the dictionary, and to be in difficulty with grasping the organization and the gist of the text, while the present study indicated that there were no significant differences in the strategy use of learners with different anxiety levels.

The findings of the present study are also in contrast to those of Sellers (1998), who strongly believes that anxiety causes some differences in strategy use. Sellers's findings showed that more anxious students recall less passage content than their less anxious classmates. Additionally, her finding showed that more anxious students use more local strategies such as focusing on vocabulary, attention to syntax and translation. On the other hand, less anxious students experience the text more holistically and use strategies like integrating information, rereading and attention to text structure and

utilize both local and global strategies equally. Such results are in contrast with the present study.

One possible reason for such results may be partially attributable to the difference in the cultural and educational knowledge of the students in this study. It might be argued that different factors such as cultural and social distance, lack of local English channels, and no cooperation with native English teachers in Iranian high schools cause Iranian students to be less familiar with the English culture as an essential ingredient in English reading. So, it is not very surprising to find such students lacking cultural knowledge. Additionally, such results may be due to the proficiency level of the participants. The participants of the present study were EFL pre-university students who could be considered roughly pre-intermediate learners. Intuitively, proficiency influences reading anxiety levels and learners choice of reading strategies.

CONCLUSION

The present study showed a low positive relationship between motivation and reading anxiety. This probably implies that for those learners who are motivated to read, reading automatically assumes a greater level of significance than in normal circumstances. The increased level of importance, then, influences the anxiety. On the other hand, the low correlation index might actually be due to a curvilinear relationship between the two constructs. This would mean that one of the assumptions of the Pearson Product Moment correlation may have been violated. At the same time, it may be concluded from the findings of the present study that the higher the motivation level, the more strategic L2 readers will become. However, reading strategies do not seem to be influenced by the learners' anxiety.

The above points, coupled with the areas of controversy between the findings of the present study and those of other studies, further fan the flame of interest, and are probably indicative of the need for further research in this area.

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