Abstract

This study set out to explore the relationship between test anxiety and self-actualization as well as test score. The role of gender in the participants’ level of test anxiety was also taken into consideration. To this end, two classes of BA students studying non-English majors in the University of Tehran were selected. They all had taken a course in English as a foreign language (N=55); they all knew at least one language aside from their mother tongues. The questionnaire of test anxiety developed by Carver and Scheier (1991), and the Self-Actualization Index (SAI) by Jones and Crandall (1986) were administered to the participants. Participants were also asked to write their feelings regarding the anxiety they had gone through in that particular exam. The results of Pearson product-moment correlation coefficient revealed a significant negative relationship between test anxiety and self-actualization (R= -0.67). The findings of independent-samples t-test also indicated that neither males nor females tend to experience a higher level of anxiety in exam settings. The relationship between test anxiety and test score is examined with regard to the whole sample in general and the extreme scores in particular. Participants’ psychological experience before taking the test is also descriptively discussed. The results of this study suggest that test anxiety could be one of many variables which have a potential influence on the exam score. Therefore, rather than solely relying on a final exam, using ongoing assessments like portfolio or dynamic assessment seem more appropriate.
1. Introduction

Anxiety is a salient and complex phenomenon in the field of language teaching. Test anxiety as an aspect of anxiety happens when an individual experiences a feeling of apprehension and uneasiness during, before, and after a certain exam (Nemati, 2012). This basic human emotion can have both facilitating and debilitating effects on the process of learning. As Brown (2007) mentions, while learners can benefit from an average level of anxiety, the performance of students will deteriorate if they are overwhelmed by this feeling. People can benefit from a moderate level of anxiety to keep themselves hardworking and responsible of what they have to do, and consequently have a more sustainable and prosperous life (Kahan, 2008; Donnelly, 2009). This article is going to focus solely on negative anxiety, thus test anxiety and negative test anxiety are used interchangeably. Psychologists believe that too much anxiety may hurt the way people perform, as when test anxiety interferes with some students’ ability to remember what they have studied. Students whose overarousal impairs their ability to perform well in a certain testing situation are said to suffer from test anxiety (e.g. Smith et al., 2000; Wright et al., 1995). It seems that there is a relationship between the extent of test anxiety the learners experience and the scores they receive in a specific test. On the other hand, some scholars believe that there is little, if any, relationship between test anxiety and the learners’ performance (Cheraghian, 2007).

Since test scores are so important for academic and career development, students are naturally under tremendous pressure to achieve high test scores; thus, test anxiety has become a universal experience in contemporary society. Test anxiety could be referred to as a link which relates cognitive abilities to the subfield of motivation and emotion. Self-actualization is at the peak of what Maslow has named "hierarchy of needs". According to this model people cannot be motivated by higher-level goals (e.g. self-actualization) until needs at the lowest level (physiological needs and safety) of the hierarchy are at least partially satisfied. Figure 1 shows Maslow's hierarchy of needs.

![Maslow's hierarchy of needs](Bernstein, Penner, Clarke-Stewart & Roy, 2008)

Figure 1. Maslow's hierarchy of needs (Bernstein, Penner, Clarke-Stewart & Roy, 2008)

The assumption is that the traditional tests trigger a negative test anxiety due to their characteristics. Therefore, by the use of ongoing assessment we may reduce the amount of this overwhelming anxiety. If there happens to be a negative relationship between self-actualization and test anxiety, it seems apt for the teachers to apply techniques
and procedures in order to help students boost their level of self-actualization in order to enable them to control their test anxiety. For years, learners were assessed by ways now called traditional assessment. Recently, there is a growing tendency towards what is known as alternative assessment. Alternative assessment diverges from traditional assessment in that it includes some specific characteristics. Aschbacher (1991) lists the following characteristics for alternative assessment:

a) Alternative assessment requires problem solving and higher level thinking, b) it involves tasks that are worthwhile as instructional activities, c) it uses real-world contexts or simulations, d) it focuses on processes as well as products, and e) encourages public disclosure of standards and criteria.

2. Literature review

Research on test anxiety generally has been concentrated abundantly on appropriate methods of measuring the construct, the effect of test anxiety on academic and standardized test performance, and the underlying locus of the impact of test anxiety. However, there exist some inconsistencies regarding the relationship between anxiety and test scores in the results of research literature. While some researchers state that there is almost no relationship between test anxiety and the learners' performance, (e.g. Ma, 1999), others have found a significant relationship between these two constructs (e.g. DordiNejad et al. 2011). Zaharakar (2008) associated high levels of anxiety with individuals' mental and physical malfunctions which negatively affect their personal, social, familial, occupational, and educational performance. Not only the results vary between test anxiety and test score there are some conflicting evidence on how male and female participants would report their level of test anxiety. Females have repeatedly been found to express higher levels of overall test anxiety than males (Bandalos, Yates, & Thorndike-Christ, 1995; Hembree, 1988; Volkmer & Feather, 1991; Zeidner, 1990). Those research findings which indicate that females express higher levels of test anxiety, however, have different explanations as to why this result is achieved. Some believe that the levels of test worry between genders are the same, however, due to higher levels of emotion in females they generally report higher levels of anxiety (Deffenbacher, 1980; Mueller, 1980). Arch (1987) suggested that gender dissimilarities in self-reported efficacy, esteem, discomfort, and task avoidance were due to the level of performance evaluation. When performance evaluation was noticeable, females were more likely to rate themselves as less capable and self-assured in their abilities, more uncomfortable with the experimental setting, and less eager to do the task again. However, when the experimental condition did not have a salient evaluative component, females had more positive feelings on all perceptions of the event and their abilities. Goodman and Kantor (1983) found that sex role is associated with social anxiety for women but not for men. Some believe that anxiety does not automatically impair academic and social competence, but may have in some instances positive, ‘self-actualizing’ effects (Dodez, Zelmart & Markley, 1982). Dabrowski’s (1972) theory of positive disintegration argues that anxiety appears to be the dynamic of self-actualization. A study to assess this hypothesis (Wilkins, Hjelle, & Thompson, 1977) reported that self-actualization was incompatible with chronic, debilitating or neurotic anxiety. Shostrom (1964) describes a self-actualized person as free of the inhibitions and emotional turmoil. The study, therefore seeks to answer the following research questions:

3. Research questions

1) What do students think about the causes of their test anxiety?
2) Is there any significant relationship between test anxiety and self-actualization?
3) Is there any significant difference between males and females regarding test anxiety?
4) Is there any significant relationship between test score and test anxiety?
4. Method

4.1. Participants

The current research involved two classes of BA students who were studying in various non-English majors in the University of Tehran. Nineteen participants were male and 36 of them were female students (N=55). They all participated in a course of English as a foreign language. They all were bilingual students who knew at least one language aside from their mother tongue (Russian, Italian, French, Turkish, Japanese, Spanish, German, etc.). The mean age of the participants was 22.94 ranging from 18 to 30 years old. The participants had passed at least one semester at the university. The class in which the instruction took place was held for 16 weeks, twice a week. Each session lasted for one and a half hour. It was compulsory for every student to at least attend 28 sessions out of the whole 32 sessions.

4.2. Instruments

In order to collect data, the questionnaire of test anxiety developed by Carver and Scheier (1991), and the Self-Actualization Index (SAI) by Jones and Crandall (1986) were distributed among the participants before the final exam's testing session. They were asked to answer the questions on these two questionnaires based on the feeling they were going through at that very time. A section of demographic questions was included at the beginning of the questionnaires including five items identifying participants’ age, gender, field of study and also their E-mail addresses in case of any need for further information. The questionnaire of test anxiety developed by Carver and Scheier(1991) consisted of ten question items investigating students' test anxiety by likert scale including five scales ranging from 1 (strongly disagree) to 5 (strongly disagree). At the end of this questionnaire students were asked to describe their level of anxiety and if possible write the probable causes of this feeling in a few sentences. The Self-Actualization Index (SAI) by Jones and Crandall (1986) was also distributed among the participants to measure the level of their self-actualization. This likert scaled questionnaire included fifteen items ranging from 1 (strongly disagree) to 5 (strongly disagree). Both the questionnaires had clear written instruction on how to be filled and an instructor was also present there in order to answer the participants' questions if any. All the information included in the questionnaires was translated into the students’ mother tongue (i.e. Persian) in order to prevent any misunderstanding. The number of items included in the two questionnaires was intentionally held limited because the participants were in test setting and had difficulty filling out an extended questionnaire.

4.3. Procedures

The questionnaire of test anxiety and the Self-Actualization Index were distributed among the 55 EFL learners. Both of the questionnaires were administered to the participants in one testing session. First, the questionnaire of test anxiety and then, the Self-Actualization Index (SAI) was administered to them. The purpose of this survey was to discover the relationship between test anxiety and self-actualization, as well as the relationship between the participants' level of anxiety and the obtained test scores. In doing so, the participants were asked to select the answers which were the most appropriate to the questions. The administration of the questionnaires took respectively 10 and 15 minutes for the questionnaire of test anxiety and the Self-Actualization Index. A blank space was also provided at the end of the questionnaire of test anxiety and the participants were asked to describe whatever feeling of anxiety and stress they were enduring at that specific context. The questionnaires were collected and the researchers scored the questionnaires and analysed the results. Each participant received a score in test anxiety out of 50 and a score in self-actualization out of 75. Their test score out of 20 was also obtained. The raw data was typed in SPSS version 19 for further analysis. A Pearson product-moment correlation was calculated between the test anxiety and the self-actualization scores, the correlation between test anxiety and exam score was also calculated. An independent-samples t-test was also used to see whether males or females tend to experience a
higher level of anxiety in exam settings. The goal here is to see whether there is a significant correlation between test anxiety and the self-actualization. Furthermore, the relationship between test score and test anxiety is investigated.

5. Results

Research question 1

What do students think about the causes of their test anxiety?
The results can be classified into two categories of qualitative and quantitative. When the participants were asked to describe their degree of anxiety at the exam setting some said that they were not under any stress for a variety of reasons such as being well prepared for the exams because they had a good instructor or they were familiar with the subject matter before they had even enrolled in that class. One student mentioned that he did not feel anxious due to his acknowledgement of the situation and his certainty about his utter failure in the exam. Among others who went through some degree of stress they mostly associated their feeling with not being well aware of what was going to be covered in the exam. The effect of the exam results on their future and also not being prepared enough for the exam were the other two highly frequent responses. There were some other reasons of stress reported such as having more than one exam in a day, the density of exam schedule in general, not having enough sleep the night before the exam, and having the tendency towards test anxiety regardless of the kind of exam. Figure 2 shows the percentages of participants' different reasons for test anxiety.

![Figure 2-the distribution of test anxiety](image-url)
Research question 2

Is there any significant relationship between test anxiety and self-actualization?

To investigate the relationship between test anxiety and self-actualization the participants’ obtained scores on the two questionnaires were used to run a Pearson product-moment correlation coefficient. The results of this correlation revealed that there was a negative significant relationship between the two constructs.

Table 1. The relationship between test score and self-actualization

|                        | Test anxiety | self-actualization |
|------------------------|--------------|--------------------|
| Test anxiety           | Pearson Correlation | 1 | -0.67 |
|                        | Sig. (2-tailed)   | 0.000 |
|                        | N               | 55 | 55 |
| Self-actualization     | Pearson Correlation | -0.67 | 1 |
|                        | Sig. (2-tailed)   | 0.000 |
|                        | N               | 55 | 55 |

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

Research question 3

Is there any significant difference between males and females regarding test anxiety?

The degree of test anxiety was investigated in males and females to see whether the result would differ between the two groups. The results of the independent-samples t-test which was run revealed that the anxiety level does not differ significantly between males and females. This means that males and females generally experience the same level of anxiety in exam settings.

Table 2. Group Statistics

|                | testanxiety |          |          |          |
|----------------|-------------|----------|----------|----------|
|                | male        | N        | Mean     | Std. Deviation | Std. Error Mean |
| testanxiety    | male        | 19       | 15.1053  | 1.85277  | 0.42505  |
|                | female      | 36       | 16.7778  | 2.83963  | 0.47327  |
Table 3. Independent Samples Test

| Test anxiety variances assumed | Levene's Test          | F    | Sig. | t    | df  | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|-------------------------------|------------------------|------|------|------|-----|-----------------|------------------|-----------------------|------------------------------------------|
| Equal variances assumed       | t-test for Equality of Means |      |      |      |     |                 |                  |                       |                                          |
| Equal                         | 2.222                  | 142  |      | -4.309 | 53 | .000            | -3.61353         | .83853                | -5.29541 -1.93165                                     |
| Equal variances not assumed   | -4.260                 | 11.243 | .001 | -3.61353 | .84818 | -5.47546 | -1.75160 |

Research question 4

Is there any significant relationship between test score and test anxiety?

With regard to the relationship between test score and test anxiety, it was found that there is a significant negatively directed relationship between these two variables, that is, participants with lower test scores tend to experience higher levels of test anxiety, and participants with higher test scores usually experience lower levels of test anxiety. This was the general finding but some participants were not similar to the majority of the sample. We observed a few participants with both high test anxiety and high test score and a few participants were observed with both low test anxiety and low test score. The results of this study suggest that test anxiety could be one of many variables which have a probable impact on the exam score.
6. Conclusion

Most participants said that they are experiencing some degree of stress because they are not well aware of what was going to be covered in the exam. This suggests that teachers should be conscious of this fact, that is, the teachers should prepare a situation in the classroom especially at the end of the semester that students are made aware of what is going to be covered in the exam so that they can be and get prepared for it. Other reasons also indicated the importance of the exam for the students. It was so important and high stake for them that they could not sleep the night before the exam to cram for it. It is because of the fact that most evaluation that is taking place is summative in which students have to show their achievement in just one exam setting and this exerts a great amount of stress. Using formative assessment seems appropriate because students participate in a couple of exams and this causes students to experience lower levels of stress. The significant positive relationship between test score and self-actualization suggests that teachers help the students through some activities and tasks to improve their self-actualization.

References

Arch, E. (1987). Differential Responses of Females and Males to Evaluative Stress: Anxiety, Self-esteem, Efficacy and Willingness to Participate. Advances in test anxiety research, 97-106.

Aschbacher, P. A. (1991). Performance assessment: State activity, interest, and concerns. Applied Measurement in Education, 4, 275–288.

Bandolos, D. L., Yates, K., & Thorndike-Christ, T. (1995). Effects of math self-concept, perceived self-efficacy, and attributions for failure and success on test anxiety. Journal of Educational Psychology, 87, 611–623.

Bernstein D. A. & Penner L. A. & Clarke-Stewart. A. & Roy E. J. (2008). The Correlation of Test Anxiety and Academic Performance of Community College Students. ProQuest.

Cheraghian, B., Fereidooni Moghadam, M., Baraz-Pardjani, SH., & Bavarsad, N., (2008). Test Anxiety and its Relationship with Academic Performance among Nursing Students. Journal of Knowledge, and Health, 3 (3-4), 25-29.

Dąbrowski K. (1972). Psychoneurosis is not an illness: neuroses and psychoneuroses from the perspective of positive disintegration. Warszawa: Gryf Publications.

Deffenbacher, J. L. (1980). Worry and emotionality in test anxiety. In I. G. Sarason, (Ed.), Test anxiety: Theory, research, and applications (pp. 111–124). Hillsdale, NJ: Erlbaum.

Dodez, O., Zelmart, P. F. & Markley, R. P. (1982). Compatibility of self-actualization and anxiety. Journal of Clinical Psychology, 38, 696-702.

Dordinejad F, Hakimi H, Ashouri M, Dehghani M, Zeinali Z, Daghighi M, Bahrami N. (2011). On the Relationship Between Test Anxiety and Academic Performance. Procedia Social and Behavioral Sciences, 3774–3778.

Goodman, S. H. & Kantor, D. (1983). Influence of sex-role identity on two indices of social anxiety. Journal of Research in Personality, 17, 443-450.

Kahan, L. M., L, K. (2008). The Correlation of Test Anxiety and Academic Performance of Community College Students. Cambridge: ProQuest.

Ma, X. (1999). A meta-analysis of the relationship between anxiety toward mathematics and achievement in mathematics. Journal for research in mathematics education, 520-540
Mueller, J. H. (1980). Test anxiety and the encoding and retrieval of information. In I. G. Sarason (Ed.), Test anxiety: Theory, research, and applications (pp. 63–86). Hillsdale, NJ: Erlbaum.

Ploeg, H. M., & Spielberger, C. D. (1982). Advances in test anxiety research. R. Schwarzer (Ed.). Lisse, The Netherlands: Swets & Zeitlinger.

Shostrom, E. L. (1964). An inventory for the measurement of self-actualization. Educational and Psychological Measurement, 24, 207-21

Wilkins, W. E., Hjelle, L. A., & Thompson, M. (1977). Anxiety and actualization: A reconceptualization. Journal of clinical Psychology.

Zahrakar, K., (2008). Stress Consultant. (1st ed). Tehran: Bal University Publication