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Original Research

The correlation between grade 10 female and male students' English language Test Anxiety and Achievement

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Abstract

The study aimed to examine the correlation between students' English test anxiety and achievement by gender using a descriptive research design. Data was collected from 550 students, with 110 being males and 55 females. The questionnaire assessed students' anxiety levels and English mid-exam achievement. The data was tallied, coded, and analyzed using SPSS version 20. A descriptive data analysis was conducted to compute means and standard deviations for each item. The correlation between male and female students' test anxiety and achievement was measured. The results indicated that female students were more anxious than male students. The study highlights the importance of understanding gender differences in test anxiety and achievement. Male students' performance was higher than females due to lower anxiety levels, as their mean achievements were lower. For a simple correlation study, the English language test achievement measure and test anxiety exhibited a significant negative connection ($p < 0.01$). According to a straightforward correlation study, there was a substantial inverse link between test anxiety and total achievement ($p < 0.01$). Thus, it was recommended that students be ready to reduce the challenges by keeping their anxiety at a manageable level.

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INTRODUCTION

Affective and cognitive learning in humans are the two main areas of study. The emotional domain includes feelings, emotions, and values that influence how a person views a learning endeavor. It affects learning outcomes in a major yet indirect way (Boyle et al., 2007). Anxiety has always been on the agenda of educational research as one of the significant components in the emotional domain, which means that researchers have been working to comprehend its construct and how it influences human conduct (Spielberger & Anton, 2015). It merited the academy's attention as a result.

Exams are essential components of academic life. Students must pass a number of

exams starting in kindergarten and progressing to higher levels of education in order to continue their study (Goonan, 2003). It has grown in popularity as a research topic since the turn of the 20th century in both psychology and education (Putwain, 2008; Stöber & Pekrun, 2004). This growing interest is a result of the expansion of standardised exams, which have been utilised in the American and British educational systems to assess student and school performance and show accountability.

Test anxiety, according to Zeidner (2007), is a group of behavioural, physiological, and cognitive responses that go along with concern about prospective results or failure on exams or in other evaluative situations. Extreme degrees of anxiety, fear, and worry about getting a poor assessment are produced during or before a performance or evaluation (Goonan, 2003). People avoid evaluative situations out of concern that their poor performance will make them look bad, as they perceive it as a threat to their ego or sense of self-worth (Putwain, 2008). They will become extremely stressed if they can't avoid being evaluated.

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Numerous studies have looked into the relationship between foreign language anxiety and competency or performance in a foreign language (e.g., Septi, 2018; Mills, Pajares, & Herron, 2006). There are, however, a few research works that looked into the link between test anxiety and achievement on foreign language exams. Some of them looked at the relation between test anxiety and overall foreign language test performance (Horwitz, 1986), while others (In'nami, 2006; MacIntyre & Gardner, 1989) looked at the connection between test anxiety and a test of a language ability or language component. A study comparing the effects these anxiety disorders on performance on foreign language tests is still lacking, with the exception of MacIntyre and Gardner (1989).

The reasoning behind concentrating on the connection between students' foreign language test anxiety and test performance is because if test anxiety is separated from foreign language anxiety, their impacts on foreign language test performance can be researched separately. Therefore, determining whether there is a connection between these two types of anxiety and how students perform on foreign language tests while experiencing test anxiety is vital.

1. How anxious are kids at the targeted school about taking English language tests?
2. What connection exists between test performance and students' test anxiety?
3. What relationship exists between male and female students' test anxiety and achievement?

REVIEW LITERATURE

Communication anxiety, test anxiety, and dread of receiving a poor grade are the three

aspects of foreign language test anxiety. A form of shyness called "communication apprehension" is characterised by apprehension or fear when speaking to others. It describes the degree of nervousness a person experiences when speaking with others. Those who foresee finding it difficult to communicate with others anticipate it. Similar to this, test anxiety describes the feelings of dread that students typically have before taking exams in foreign languages (Zeidner, 2007). Where students are expected to achieve or fail, it is a delicate scenario.

Test anxiety vs. academic achievement

Researchers, teachers, and counselors have long been deeply concerned about how test anxiety affects students because it can negatively affect students' test performance, academic progress, and general well-being (Bonaccio & Reeve, 2010). There is little doubt that test anxiety affects students' achievement significantly. Test anxiety, according to Ghorban, Hakimi, Ashouri, Zhaleh, Zeinali, Sadegh, Daghighi, and Bahrami (2011), is a type of self-preoccupation linked to low self-esteem that results in negative cognitive evaluation, a lack of attention, unpleasant physiological reactions, and poor test performance. The cognitive aspect of test anxiety, in particular, is thought to weaken performance by using up working memory resources (Derakshan & Eysenck, 2009; Owens et al., 2014).

The problem that is most frequently linked to performance reductions is the cognitive component of test anxiety (Hembree, 1988). Path analyses, in addition to conventional correlation studies and meta-analyses, have demonstrated that the relationship between performance and cognitive test anxiety is the strongest. According to research (Sena et al., 2007; Luigi et al., 2007), students who exhibit higher levels of anxiety tend to score worse on exams. Others claim (Luigi et al., 2007) that a high degree of anxiety would be linked to poor academic performance.

Test anxiety is a prevalent and possibly significant issue among high school and college students. Ten to thirty percent of all students experience severe exam anxiety, with minority students and students with learning disabilities being disproportionately more likely to experience it (Karatas, Alci, & Aydin, 2013). Due to recurrent academic failure, 20% of test-anxious students drop out before graduation (Onyekuru & Ibegbunam, 2014). Bryan et al. (1983) contend that high test anxiety is also linked to low self-esteem, substandard reading and arithmetic performance, failing grades, disruptive classroom conduct, unfavorable attitudes towards education, and unpleasant sensations of anxiousness and dread that result from a great fear of failing. Therefore, test anxiety is a crucial area for research since it has numerous negative impacts on students' lives and the proper evaluation of their academic success

Anxiety vs. Gender and Age Differences

It is frequently asserted that gender has an influence on the development and appearance of anxiety in a number of contexts as a correlate of numerous developmental patterns. As a result, it is believed that women are more anxious when faced with a variety of dangerous stimuli than males are. These

stimuli include ones that are evaluative, ambiguous, and physically damaging.

Research has repeatedly shown that there are gender differences in evaluative anxiety, with female students showing higher levels of evaluative anxiety than male students (Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, & McCann, 2005). Gender differences in test anxiety start to show in the middle grades of elementary school. From elementary school to higher institutions, females consistently report greater test anxiety scores than males (Hembree, 1988).

Other researchers have discovered that the reported gender group variations in anxiety are more likely due to differences in how each gender presents themselves than genuine differences in anxiety levels (Berhane, 2016). Although it's possible that anxiety affects both sexes to a comparable extent, women may be more anxious than men since men tend to be more protective about acknowledging fear. Males may be more defensive since anxiety expressions reveal more ego alienation in men. Furthermore, admitting to being worried would be socially condemned as "unmasculine," especially throughout the school years. Females are viewed as more "socially acceptable" for expressing worry.

According to developmental theory and certain empirical data, anxiety may rise with age as a result of environmental stresses and life experiences. For instance, elderly people have traumatic life situations that might cause anxiety. Age may also bring knowledge, experience in handling dangers, and a general wisdom that encourages accepting life's ups and downs. Additionally, elderly adults might not experience some of the difficulties that come with having a job and raising kids. In actuality, the results of the studies are inconsistent, and not all of them suggest that growing older in adulthood is associated with increased anxiety. While some individuals disregard the distinction, others think that anxiety in older people is qualitatively different from anxiety in younger people. As a result, there is still debate concerning the frequency and character of anxiety in adults (Bryant, Jackson, & Ames, 2008).

The rise and exposure of anxiety in evaluative interactions is allegedly influenced by gender, which is linked to various developmental trends (Basso, Gallagher, Mikusa, & Rueter, 2011). Gender disparities in test anxiety begin to emerge in the middle grades of elementary school, and female students generally report greater test anxiety levels than male students from elementary school through high school and college (Zeidner, 2007). Women are now twice as likely as men to suffer anxiety disorders, which is a notable rise from previous studies (Basso et al., 2011). There is still no clear explanation for why girls experience more test anxiety than males. Women are said to be more likely than males to worry about their own shortcomings, which makes them feel more anxious and uncomfortable during evaluations since they are more self-conscious in public. Men and women may also perceive and respond to the evaluation in various ways, according to the theory (Zeidner, 2007). However, Basso et al. (2011) have suggested several other causes, such as neurodevelopment, physiological and hormonal aspects, as well as social and

personal stress, which tend to enhance females' propensity to experiencing more anxiety than males.

THE METHODOLOGY

A descriptive research strategy was used in this study because it allows for the simultaneous quantitative description of respondents' ideas, perceptions, and beliefs at any given moment (White, 2000). A quantitative research strategy enhances the generalizability of results. Correlating student anxiety with their performance on the English test is also a valid design strategy.

The Target Population

There were 550 (312 male and 238 female) grade 10 students selected from a school in the West Wollega zone. The study focused on the relationship between female and male students' test anxiety and their English test achievement.

Sample Size and Sampling Techniques

In order to determine the sample size from the total population of 550 students, the researchers took only 20% of the total 10th grade students, following Kothari (2004) who claims that for any valid and reliable study to be carried out; its sample shouldn't be less than 20% of its population. Thus, to select the participants, the researchers used stratified sampling techniques and chose 110 (55 male and 55 female) students.

Data Collection Instruments

Two instruments data collection instruments (questionnaire and student test) were used in this study:

Questionnaire

To assess the level of anxiety between the male and female students, a questionnaire and an achievement test were given. The demographic background of the subjects, such as age and gender, was covered in two portions of the questionnaire. A Test Anxiety Inventory (Spielberger, 1980) was used to assess the students' test anxiety, which was the main outcome variable. The TAI comprised of 20 items, and the participants reported how frequently they felt each statement's description on a four-point Likert scale.

Student Test

The mid-exam, which was administered in the middle of the second semester of the academic year, was used to assess the students' competency in English. The five sections of the test—multiple choice, cloze, reading comprehension, mistake correction, and writing—were designed to assess students' proficiency in language usage as a whole. The use of a test bank from which all of the items were taken ensured the reliability of the test.

Method of Data Analysis

On the basis of their shared traits, the data sources were first edited, categorised, and grouped into homogeneous groups. Then the data was analysed using SPSS version 20.0. In order to understand the overall condition of students' test anxiety in English classes, descriptive analyses were first carried out to compute the mean and standard deviation for each item.

RESULTS

The demographic information about the respondents, the students' test anxiety levels, the correlation between students' test anxiety

and their performance on the English test, and the correlation between male and female students' test stress and their performance are all included in this section.

Demographics of the Student Respondents

The first section of the questionnaire included the demographics of the student respondents in terms of their age group. Table 1 provides a summary of the frequency and percentage of the students' replies.

Table 1

The Demographic Characteristics of Students by Age

No	Age	F	%
	17-20	39	35.45%
	21-23	48	43.63%
	24-26	23	20.90%
	Total	110	100%

Table 1 shows the age range of the student respondents. Accordingly, 39 (35.45%) of the respondents were between 17 and 20 years old, 48 (43.63%) were between 21 and 23 years old, and 23 (20.90%) were between 24 and 28 years old. Most of them were between 21 and 23 years old.

Test Anxiety vs. Students Achievements in English Tests

Two subsections made up this section. The definition of test anxiety by gender is covered in the first sub-section, while test performance among students is covered in the second.

Table 2

Test Anxiety Score of Male and Female Students

Sex	Descriptive Statistics		
	Mean	Std. Deviation	N
Female students TAI score	67.05	9.979	55
Male students TAI score	61.60	14.904	55

In Table 2, test anxiety scores for male and female students were contrasted. The results indicate that although the mean TAI score for men was 61.60 M (14.904 SD), the mean TAI score for women was 67.05 M (9.979 SD). Examining the test anxiety levels of male and female students, it was discovered that female students displayed more test anxiety than male students.

English Test Achievements by Gender

Responses to the questionnaire also indicated that there was an achievement difference by gender due to test anxiety. The results are summarised in the table below.

Table 4.3

Students' Achievement Mean Score by Gender

One-Sample Statistics				
Achievement by sex	N	Mean	Std. Deviation	Std Error Mean
Female students' achievement	55	59.38	6.508	.878
Male students' achievement	55	73.22	12.572	1.695

Female students scored 59.38 M (6.508 SD) on the English language test, while male students scored 73.22 M (6.508 SD), according to Table 3's comparison of the means of their scores. This shows that female students' average academic performance lagged below that of male students. The average performance for female students was 13.83, which was below average.

Students' anxiety levels by gender

The anxiety levels of the student respondents are broken down into three categories in this section: high, moderate, and low. The next table summarises the frequency and proportion of replies from each gender.

Table 4

Anxiety Level by Gender

No	Anxiety level	Anxiety level(Male)		Anxiety level (Female)		Mean Test achievement	
		Frequency	Percent	Frequency	Percent	Male	Female
1	High Anxiety level	37	67.3	40	72.7	67.42857	57.025
2	Moderate Anxiety level	8	14.5	15	27.3	79.3636364	65.66667
3	Low Anxiety level	10	18.2	----	----	94.7142857	----
	Total	55	100.0	55	100.0	----	----

The anxiety levels in Table 4 were classified into three categories of test anxiety inventory scores by Spielberger (1980). The findings indicated that, in the first category, 37 (67.3%) of the male students and 40 (72.7%) of the female students were classified as having a high anxiety score. It also showed that in the second category, 15 (27.3%) of the female students and 8 (14.5%) of the male students were classified as having moderate anxiety levels. In the third category of test anxiety level, 10 (18.2%) of the male students had a low anxiety level, and none of the female students experienced low anxiety. Thus, the

findings indicate that a higher percentage of female students had moderate anxiety in the English language test in relation to male students. This result shows that female students were experiencing higher test anxiety than male students. It also implies that test anxiety levels are gender-based.

Table 4 also refers to the academic achievement of students in accordance with the categories of high, moderate, and low levels of anxiety. Accordingly, among male students with high anxiety levels, moderate anxiety levels, and low anxiety levels, respectively, the mean performance on the English language exam was 67.42, 79.36, and 94.71. While the average scores for female students taking the English language test was 57.025 for high anxiety levels and 65.66 for moderate anxiety levels, respectively. As a result, the average academic performance of both male and female students rose from a high to a moderate level of anxiety. Additionally, the mean accomplishments of male students with low anxiety were substantially greater than those of students with moderate anxiety.

Correlation of students' Test Anxiety and Achievement

The correlation between the respondents' test anxiety and achievement is summarised in Table 5.

Table 5

Correlations of Female students' Achievement and TAI score

Correlations			
		Female students' achievement	Female students' TAI score
Female students' achievement	Pearson Correlation	1	-.751**
	Sig. (2-tailed)		.000
	N	55	55
Female students' TAI score	Pearson Correlation	-.751**	1
	Sig. (2-tailed)	.000	
	N	55	55

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

According to the findings of a simple correlati on study, test anxiety was significantly negatively correlated (p 0.01) with English language test achievement indicators. However, a negative correlation weight for test anxiety demonstrates that elevated test anxiety lowers performance on the English language exam.

The Relationship between Female Students' Age and Their TAI Score

The respondents reported the relationship between female students' age and their TAI score. The result of the finding is summarised in Table 6.

Table 6

Correlations between Female Students' Age and TAI Score

Correlations			
		Female students TAI score	Age of female students
Female students TAI score	Pearson Correlation	1	-.595**
	Sig. (2-tailed)		.000
	N	55	55
Age of female students	Pearson Correlation	-.595**	1
	Sig. (2-tailed)	.000	
	N	55	55

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

According to the findings in Table 6, a simple correlation analysis revealed a significant negative link between female students' anxiety test results and their age measure ($p < 0.01$). The TAI score for female students has a negative correlation weight, which means that as students become older, their TAI score for English language declines.

The Relationship between Male Students' Achievement and TAI Score

The responses revealed the connection between male students' TAI scores and academic success. Table 7 provides a summary of the findings.

Table 7

Correlations between Male Students' Achievement and TAI Score

Correlations			
		Male students' achievement	Male students' TAI score
Male students' achievement	Pearson Correlation	1	-.876**
	Sig. (2-tailed)		.000
	N	55	55
Male students' TAI score	Pearson Correlation	-.876**	1
	Sig. (2-tailed)	.000	
	N	55	55

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

The total of the English language test results served as the indicator of overall accomplishment. According to the results in Table 7, a simple correlation analysis revealed a significant inverse association between test anxiety and the overall achievement measure (p 0.01). The correlations between the overall achievement measure and the Test Anxiety Scale were negative, as seen by the signs of standard weights. From the explanation above, we have concluded that test anxiety has a negative association, which means that as test anxiety increases, total achievement scores decrease.

Correlations between Male students' TAI score and their Age

The respondents reported the relationship between male students' TAI scores and age. The result of the finding is summarised in Table 8.

Table 8

Correlations between Male students' TAI score by Age

Correlations			
		Male students' TAI score	Age of male students
Male students TAI score	Pearson Correlation	1	-.218
	Sig. (2-tailed)		.110
	N	55	55
Age of male students	Pearson Correlation	-.218	1
	Sig. (2-tailed)	.110	
	N	55	55

The male students' TAI score was the sum of scores in the test anxiety inventory (TAI) for each student. The data in Table 7 represents that male students' TAI score had a significant negative relationship ($p < 0.01$) with the age of the male student's measure for simple correlation analysis. The signs of standard weights show that the relationship between male students' TAI score and their age was negative. These negative correlations for test anxiety show that increasing test anxiety causes lower total achievement scores.

Discussion

Male and female students' test anxiety levels were examined, and it was found that female students had greater test anxiety levels than male students. This result is completely consistent with Basso et al.'s (2011) contention that anxiety in women is more prevalent than in males and that women are also two times more prone to acquire anxiety disorders. The findings of the current study also support those of Basso et al. (2011), who suggested other contributing variables, such as personal and social load, that could make women more likely than males to experience greater levels of anxiety.

In terms of the correlation between students' test anxiety and their English test performanc e, female students' mean test performance sho wed that it was lower than that of male student s, i.e., the female students' mean test performa nce was less than 13.83 mean average achieve ments, as a higher percentage of female studen ts than male students experienced higher test a nxiety scores. Additionally, it revealed that, compared to male students, a larger proportion of female students had mild anxiety about performing well on their English test. In contrast, men students with low anxiety levels performed better on the test than female students. These results substantially support the claims made by Sena et al. (2007) and Luigi et al. (2007) that students who exhibit

higher levels of anxiety perform less academically and receive lower test scores.

Regarding the relationship between test anxiety and test performance, the results of a simple correlation analysis showed that test anxiety had a significant negative relationship (p 0.01) with the English language test achievement measure. This finding implies that the negative correlation weight for test anxiety demonstrates that rising test anxiety results in lower English language test achievement scores. This result supports Liu and Zhang's (2013) claim that test anxiety lowers academic performance.

For a simple correlation analysis, the female students' test anxiety likewise exhibited a significant inverse connection ($p< 0.01$) with the measure of their age. According to the negative correlation weight for female students' TAI scores, these students' TAI scores decline as they become older. The existing literature (Chapell et al., 2005) also supports that, with regard to evaluative anxiety, research has consistently pointed to gender group differences, with female students demonstrating higher evaluative anxiety levels than males. This supports the idea that the correlations between total achievement measures and the test anxiety scale were more averse with females.

Conclusions

The study's findings led the researchers to the following conclusions: When test anxiety levels between male and female students were analysed, it became clear that female students had higher test anxiety levels than male students. Female students' average academic performance lagged below that of male students. The performances of the male students were better than those of the female students. From a sample of equal numbers of fifty-five male and female students, more females than males reported higher test anxiety scores. Compared to male students, a larger percentage of female students reported having mild nervousness when speaking English. The anxiety levels of the male students were low, but none of the female students exhibited low anxiety.

Exam anxiety was more prevalent among female students than male pupils. Based on the students' gender, there were differences in test anxiety levels. For a simple correlation study, the Test Anxiety Inventory score (TAI) exhibited a significant inverse connection ($p< 0.01$) with the English language test achievement measure. Increasing test anxiety results in worse test accomplishment scores for the English language, according to a negative correlation weight for test anxiety. For basic correlation analysis, the anxiety test for female students exhibited a significant inverse connection ($p< 0.01$) with the student's age. The female students' TAI score has a negative correlation weight, which indicates that older female students have a lower English-language TAI score.

Recommendations

From the conclusions of the major findings, the researchers forwarded the following recommendations:

1. Students were recommended to meet the challenges to keep test anxiety at a manageable level.

2. It was advisable for students to watch out for any negative messages they might be sending about the test and replace them with positive ones.
3. Many students find that their test anxiety is reduced when they start to study better or more regularly. Therefore, they are advised to strive to know the material to become more confident and feel less anxious.
4. Students were recommended to ask their teachers to get a guidance counsellor or a tutor, who can be useful resources to talk to if they always get extreme test anxiety.

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DECLARATION

No potential conflict of interest was reported by the authors.

DATA AVAILABILITY

All the necessary data are available from the corresponding author on a reasonable request.

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