

Effects of Gender on Test Anxiety and academic achievement of Students from Single Parents: Implications on the future of higher education in Africa.

ADETAYO TIMOTY

OFFICE OF INSTITUTIONAL EFFECTIVENESS

BABCOCK UNIVERSITY

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The purpose of this paper is to examine the effect of Gender on the level of test anxiety and academic achievement of students in private secondary school from single parents. This information will benefit teachers, students, administrators, and parents. The outcome will enable the interested parties to have information on who needs the most attention on test taking strategies or relaxation techniques before the tests.

Review of Literature

According to David, John and Shere(2011) educational statistics have indicated that female are higher achievers than males at all levels of the school system, attaining more school and post-school qualifications, and attending university in higher numbers. Although males have traditionally outperformed females in mathematics and science, this advantage appears to be reducing gradually with intensive public awareness and education of the parents. They also observed that males were more prone to inattentive, restless and distractible behaviours and aggressive, antisocial and oppositional behaviours than females. It is clear from literature that that there are gender differences in level of test-anxiety and academic achievement but to what extent has this being with students from single parents in private secondary school.

Farzaneh Zaheri, Roonak Shahoei*, Hayeda Zaheri (2012) in their research on midwifery students showed that test anxiety occurs in female more than male students and this difference was significant.

Test anxiety is a serious problem for many students. It has been described as the most powerful obstacle to learning in an educational setting (Matthew, & Scott, 2000). Hambree (1988 as cited in Everson and Millsap 1991) stated that it has been linked to fear of negative evaluation, dislike of testing and less effective study skills and has been identified as one of the factors that impair

academic performance. The effect of test anxiety on academic performance has been thoroughly investigated by many researchers (Cassady & Johnson, 2002; Rezazadeh & Tavakoli, 2009; Wine, 1971). Generally, the study of the relationship between test anxiety and academic achievement began in the early 1900's (McDonald, 2001). The comprehensive reviews by Hambree (1988) studies showed that test anxiety caused poor performance. It implied that test anxiety had a negative relation with student's performance. Therefore, the high-test anxious students tended to score lower than low-test anxious students. This result was supported by the findings of various studies (Eman & Farooqi, 2005; McDonald, 2001). Spielberger and Vagg (1995) viewed that test anxiety as a situation-specific rather than a trait anxiety. Trait anxiety is a constant personality characteristic; whereas state anxiety is a temporary emotional state (Spielberger et al., 1978). According to Spielberger and Vagg (1995) test-anxious individual is more prone to react with excessive anxiety (such as, worry, negative thoughts, nervousness and physiological arousal) across evaluative situations. It may be argued that the test-anxious individual experience more intense levels of state anxiety in each evaluative situation. State anxiety is viewed as the emotionality component (such as, the physiological symptoms) of test anxiety these worry conditions interfere with the test-anxious individual's performance on a test (Zeidner, 1998).

Research Design

This study adopted the pre-test, post-test, control group, quasi experimental design with a 3X2X2 factorial matrix. This design involves treatment i.e. cognitive restructuring, self-monitoring and control (3 levels); gender i.e. male and female (2 levels) and Self- efficacy i.e. high and low. This design was used to determine the main effects of independent variables on the dependent variables but revealed the interaction of the moderator variables on the effect of the independent variables.

Population

The population for this study consisted of all the SS1 students in private secondary schools in Ogun State that had over 300 students and large number of single-parent children to serve as treatment and control group. Schools with 300 students population was chosen in view of the fact there are many schools with less population that may affect the outcome of this research because the focus is to select students from single parents. In Ogun state, there are 523 private secondary schools in the 20 local government areas of the state (Ministry of Education, Science and Technology Appendix1). These Local Governments are divided into four administrative Zones. Three zones were selected out of the four through balloting. The number of schools with population above three hundred is;

Egba	32
Remo	04
Ijebu	08
Yewa/Awori	13

Sample and Sampling Techniques.

A stratified random sampling technique was used to select the schools, one from each of the Administrative zones in Ogun State. The sample consisted of 120 SS1 students from three (3) private secondary school in three (3) zones in Ogun State. First the researcher randomly selected 1 out of 32 secondary schools with population of above 300 in Egba, 1 from 4 and 1 from 08 in Remo and Ijebu respectively from the 3 zones selected for the research. From preliminary survey, only schools with large population on average above 300 could be easy to select the number of students from single parents. One school was picked from each zone through balloting. In each of the schools the researcher administered the Sarason test anxiety scale to all the students in SS1 that were randomly selected for the research.

The following instruments were used to assess the hypothesis.

1. Demographic data form
2. Sarason test anxiety
3. Self-efficacy scale

This research is guided by two hypotheses.

Hypothesis One

There is no significant main effect of gender on the test anxiety of secondary school student with single parents.

Table 1

Estimates of Gender on the Test Anxiety of Secondary Schools Students with Single Parents

Gender	Mean	95% Confidence Interval
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		Std. Error	Lower Bound	Upper Bound
Male	18.316 ^a	.749	16.828	19.804
Female	18.758 ^a	.733	17.303	20.214

a. Covariates appearing in the model are evaluated at the following values: Pretest Anxiety = 22.9528.

The results in table 1 indicated that male participants had a mean test anxiety score of 18.316 and a standard error of .749 while female participants had a mean score of 18.758 and a standard error of .733. To determine if these mean scores are significantly different, an Analysis of Covariance was conducted. Results are as presented in Table 2.

Table 2:

Univariate Test of Gender on the Test Anxiety of Secondary Schools Students with Single Parents

	Sum of Squares	Df	Mean Square	F	Sig.
Contrast	5.063	1	5.063	.178	.674
Error	2644.223	93	28.433		

The F tests the effect of Gender. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The results in table 2 revealed that there was no significant difference in the effect of gender on secondary school students' test anxiety ($F_{(1,93)} = .178; p > 0.05$). The null hypothesis of no significant gender difference in the test anxiety of secondary school student with single parents was accepted by this finding. The implication of this result is that gender will not influence the test anxiety of secondary school students with single parents. This result is graphically illustrated in figure 2.

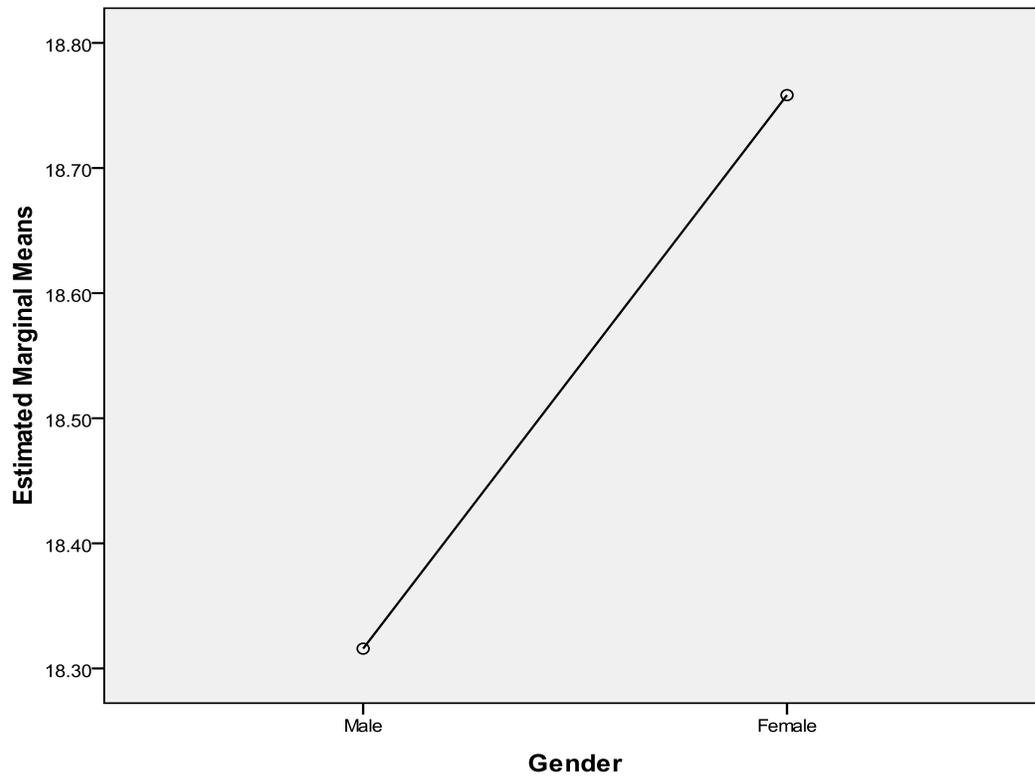


Figure 1: Effects of Gender on the Test Anxiety of Secondary School Students with Single Parents

Figure 1 shows that female participants had higher but insignificant mean score (18.758) than male participants (18.316).

Result

Gender did not influence the test anxiety of secondary school students with single parents.

Hypothesis 2

There is no significant main effect of gender on the academic achievement of secondary school student with single parents *Table 3*:

Estimates of Gender on the Academic Achievement of Secondary Schools Students with Single Parents

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	25.340 ^a	.531	24.286	26.394
Female	27.040 ^a	.524	25.998	28.081

a. Covariates appearing in the model are evaluated at the following values: Pretest Academic Achievement = 19.7264.

The results in table 3 indicated that male participants had a mean academic achievement score of 25.340 and a standard error of .531 while female participants had a mean score of 27.040 and a standard error of .524. To determine if these mean scores are significantly different, an Analysis of Covariance was conducted. Results are as presented in Table 4 below.

Table 4:

Univariate Test of Gender on the Academic Achievement of Secondary Schools Students with Single Parents

	Sum of Squares	Df	Mean Square	F	Sig.
Contrast	71.639	1	71.639	5.085	.026
Error	1310.115	93	14.087		

The F tests the effect of Gender. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The results in table 4 revealed that there was a significant difference in the effect of gender on secondary school students' academic achievement ($F_{(1,93)} = 5.085$; $p < 0.05$). The null hypothesis of no significant main effect of gender on the academic achievement of secondary school student with single parents was rejected by this finding. The implication of this result is that gender will influence the academic achievement of secondary school students with single parents. However, to determine the direction of the difference, a pairwise comparison was carried out using the Least Squared Difference. The results are presented in table 5.

Table 5:

Pairwise Comparison of Gender on the Academic Achievement of Secondary Schools Students with Single Parents

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
Male	Female	-1.700*	.754	.026	-3.197	-.203
Female	Male	1.700*	.754	.026	.203	3.197

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The results in table 5 showed that there are significant differences in the academic achievement of secondary school male students and female students (MD = -1.700; Std error = .754; $p < 0.05$) in support of female students. In effect, gender of participants is significantly different from each other in their academic achievement. This result is graphically presented in figure 2 below.

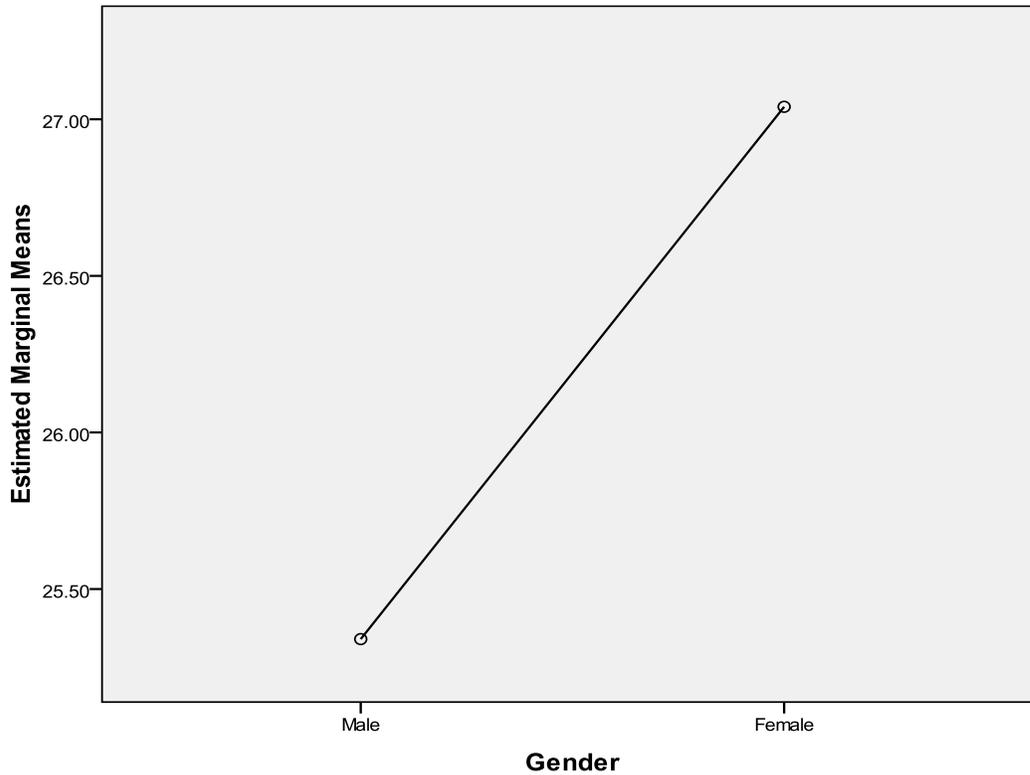


Figure 2: Effects of Gender on the Academic Achievement of Secondary School Students with Single Parents

Figure 2 shows that female participants had higher and significant mean score (27.040) than male participants (25.340). This implies that female participants had highest gains in students' academic achievement and are therefore better than their male counterparts.

Result

Gender will influence the academic achievement of secondary school students with single parents. Female participants had highest gains in students' academic achievement and are therefore better than their male counterparts.

Discussion and Recommendation

Hypothesis 1 states that there is no significant main effect of gender on the test anxiety of secondary school students with single parents. This hypothesis was upheld because results show that the female participants had higher but insignificant test anxiety score than male participants. This means that the hypothesis that says there is no significant main effect of gender in the test anxiety of secondary school student with single parents is accepted since the differences observed is not significant. Gender may not necessarily be a factor when issue of test anxiety is being considered for students of single parents. However the slight increment might be due to different sex roles which affect preparation for school activities. This is supported by Michele (2006). Overall, females reported more test anxiety than males; and females experienced higher worry than emotionality, while males reported little difference between the two dimensions (Everson, Millsap, & Rodriguez, 1996). Sowa and LaFleur (1986) also reported that woman show greater symptom intensity than men in public self-consciousness, social anxiety, and test anxiety. Research has shown that test anxiety is an important factor in all levels of academic achievement (primary, secondary and tertiary levels of education), (Bagger, Nyroos, Silfer and Sjoberg, 2012) in Akanbi (2013).

Hypothesis 2 states that there is no significant difference in the effect of gender on the academic achievement of secondary school students with single parents. Female participants had higher and significant mean academic achievement score than male participants. It means that

female students from single parents had higher academic achievement than their male counterparts. This result is supported by Oyedeji (2000), who found a significant difference in the academic achievement of male and female students in some school subjects. Mark (2012) reported that a number of studies have documented differences between boys and girls raised in single parents' homes. In their review, Hetherington & Cox (1985) concluded that "the intellectual and social development of males may be seen as more adversely affected by living in one-parent homes than that of females from similar family circumstances". Studies published since Hetherington et al. have reported similar results. Fry and Scher (1984) discovered that the achievement motivation scores of boys declined significantly over a five year period of living in a single parent home while the scores of girls in similar home environments remained stable.

Alika (2012) also discovered that female students from broken homes perform better in their studies than the male students, moreover the result showed that low socio-economic status, also had an adverse effect on the academic achievement of children from broken homes. Girls from single-parent families outperform boys in class because they are less affected by parental input, study shows that girls tend to perform better than boys in the later years of school (Peter2011). Girls appear to be more resilient than boys in preventing problems at home from affecting their behaviour in school, a study into the gender educational achievement gap has found.

This study recommends that personal social counselling should be rendered to students from broken homes; with a view to counselling students who are experiencing some challenges. The implication of this study is that the female students are able to absorb the absence of either of their parents than their male counterparts. Hence single parents and their teachers should pay greater attention to male children if they are to succeed academically. Family psychologists and school guidance counsellors should play a great role to see that the effects of absence of one of the

parents do not have negative effect on the adjustment and learning of the male students. Female students should be helped to sustain and improve on the current achievement.

All teachers should be retrained on management of students from single parents since they may manifest test anxiety and academic challenges which may not be prominent in students from intact homes. Students with high level of test-anxiety could be identified early enough before damage is done to their health which could have implications on the economy of the nation and future academic achievement.

There should be no discrimination to students by their teachers and parents as regard their gender when the issue of test anxiety is being considered because they all have predisposition to test anxiety especially when they are from single parents.

In addition, regular seminar and workshop should be organized for them to update them about latest findings in the area of students of single parents.

In Africa, for success of higher education, education providers and teachers should be aware that individual differences in test anxiety play a major role not only in students' achievement but also in their school-related motivation, academic self-concept and advancement as well as their personality development and health (Stober and Pekrum, 2004). But differences based on gender is not significant when the issue of test-anxiety is being considered. Selection into our institution of higher learning when candidates are from single parents should not discriminate against the female gender because it has been affirmed by this study and many others that female achieve well in academic. Every child should be given opportunity to advance academically. The counselling unit should be equipped with qualified personnel and material to manage challenges of students.

References

- Akanbi, S. T. (2013). Comparisons of Test Anxiety Level of Senior Secondary School Students across Gender, Year of Study, School Type and Parental Educational Background
Academic journal article *Ife Psychologia*, Vol. 21, and No.1
- Alika, Henrietta Leoma, Eloma, Edosa, Ogboso and Samson (2012). Relationship between broken Homes and Academic Achievement of secondary school student in Oredo Local Government area of Edo state, Nigeria. *College students Journal* June 2012, 46(2) p256.
- David M. Fergusson, John Horwood & Sheree J. Gibb (2011). Gender differences in educational achievement to age 25. Christchurch Health and Development Study, Department of Psychological Medicine, University of Otago, Christchurch, New Zealand <http://www.education.com/reference/article/gender-academic-achievement>.
- Farzaneh Zaheri, Roonak Shahoei*, Hayeda Zaheri (2012) Gender differences in test anxiety among students of guidance schools in Sanandaj, Iran. Department of Midwifery, Faculty of Nursing and Midwifery, Kurdistan University of Medical Sciences Iran.
- Fry, P.S., & Scher, A. (1984). The effects of father absence on children's achievement motivation, ego-strength, and locus-of-control orientation: A five-year longitudinal assessment. *British Journal of Developmental Psychology*, 2, 167-178.
- Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research*, 58, 7-77.
- Hodge, G.M., McCormick, J., Elliott, R. (1997). Examination-induced distress in a public examination at the completion of secondary schooling. *British Journal of Educational Psychology*. Vol. 67, 185- 197

- Keith, N., Hodapp, V., Schermelleh -Engel, K., Moosbrugger, H. (2003). Cross Sectional and Longitudinal Confirmatory Factor Models for the German Test Anxiety Inventory: A Construct Validation. *Anxiety, Stress, and Coping*. Vol. 16(3) 251-270
- Minnaert, A.E. (2003). The Moderator Effect of Test Anxiety in the Relationship between Test Expectancy and the Retention of Prose. *Psychological Reports*. Vol. 93, 961- 971 Ohio Graduation Tests: Frequently Asked Questions. Retrieved on July 16, 2004 from <http://www.ode.state.oh.us>
- Oostdam, R., Meijer, J. (2003). Influence of Test Anxiety on Measurement of Intelligence. *Psychological Reports*. Vol. 92, 3- 20
- Oyedemi, N. B. (2000). Gender and students' Academic Achievement in selected Business Subjects in Ilorin Metropolis. *Journal of Educational Focus* 2(2), 123-126.
- Reidy, J. (2002). Trait Anxiety, Trait Depression, Worry, and Memory. *Behaviour Research and Therapy*. Vol. 42(8) 937-948
- Sadker, D., Zittleman, K. (2004). Test Anxiety: Are Students Failing Tests -Or Are Tests Failing Students? *Phi Delta Kappan*. June 2004, 740-744
- Schonwetter, D.J., Clifton, R.A., Perry, R.P. (2002). Content Familiarity: Differential Impact of Effective Teaching on Student Achievement Outcomes. *Research in Higher Education*. Vol. 43(6), 625-651.
- Smith, L.F., Smith, J.K. (2002). Relation of Test-Specific Motivation and Anxiety to Test Performance. *Psychological Reports*. Vol. 91, 1011-1021
- Stecher, B.M., Barron, S. (2001). Unintended Consequences of Test –Based Accountability When Testing in “Milepost” Grades. *Educational Assessment*. Vol. 7(4) 259 -281
- Stöber, J., & Pekrun, R. (2004). Advances in test anxiety research (Editorial). *Anxiety, Stress, & Coping*, 17(3), 205-211. Retrieved on March, 21, 2014.
- Williams, J.E. (1996). Gender-Related Worry and Emotionality Test Anxiety. For High Achieving Students. *Psychology in the Schools*. Vol. 33(2), 159-162