Socio-Demographic And Situational Factors Predicting Severity Of Test Anxiety Among Teen-Aged Students: A Multi-Site Nigeria Study

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Abstract: This study examined socio-demographic and situational factors predicting severity of test anxiety among teen-aged students in Nigeria. The study adopted an expo-facto research design to collect self-report data among a random selected sample of 600 teenagers. Three hypotheses were tested in the study using regression analysis. The results revealed that family structure significantly predicts mild test anxiety, such that, being a student from non-intact family (separated or divorced), significantly increased the likelihood of reporting mild test anxiety by 28% than being a student from intact family (odds ratio [OR] = 0.28; 95% CI = 0.42-2.95). The results further revealed that parental involvement significantly predicts mild test anxiety, such that, being a student from extraction of minor parent involvement, significantly increased the likelihood of reporting mild test anxiety by 20% than being a student from extraction of major parent involvement (odds ratio [OR] = 0.20; 95% CI = 0.03-1.16). However, it was reflected that perceived classroom climate is not a predictor of mild test anxiety. Result also showed that being a female student significantly increased the chances of reporting severe anxiety by 35% than their male counterparts (odds ratio [OR] = 0.35; 95% CI = 0.23-0.53). From the findings of the study it was established that gender, family structure, parental involvement significantly predicts mild test anxiety, while gender and parental involvement significantly predicts severe test anxiety. It is therefore recommended that scholars, concern government agencies or international bodies with keen interest in conducting interventions (clinical or policy intervention) in alienating test anxiety should strongly note female sex, students from non-intact family structure, poor parental involvement in child's work at home as predisposing factors to unhelpful mild and severe test anxiety. Parents also should be more involved in the child's work at home so as to encourage moderate anxiety needed to perform optimally in academic tasks.

I. INTRODUCTION

BACKGROUND TO THE STUDY

Anxiety may be caused by taking tests that are usually used to rate individual's performances (Putwain, 2009a). In many studies or researches, anxiety has been classified into three types- they are (i) mild (ii) moderate and (iii) severe. Moderate anxiety is regarded as purposeful anxiety because of its necessity to achieve a goal or expected result. Low and Severe test anxiety is considered abnormal and hazardous to schools students. According to Costello, Mustillo, Erkanli, Keeler and Angold, (2003), severe anxiety is the type of anxiety and the most common psychological disorders in school-aged children and adolescents in the whole world. Test anxiety can be said to be a common disorder across cultures. Although, no prevalence rate was reported among Africa school children, however, the prevalence rates among school children in western countries range from 4.0% to 25.05% (Boyd, Kostanski, Gullone, Ollendick & Shek, 2000).

McDonald (2001) gave a kind of simplest definition of test anxiety as the stress faced especially with evaluative situations. In these situations, test anxiety may include fear due to low or poor performance, fear of judgment and threat to self-esteem. The causes of test anxiety include classroombased/high-stakes tests, discussions in the classroom, class/school presentations, sports' events etc. Test anxiety entails emotional, physiological and cognitive effects that can influence students' psychological well-being adversely. (Putwain & Daniels, 2010; Putwain, Connors, & Symes, 2010; Weems, Weems, Scott, Taylor, Cannon, Romano, Perry, & Triplett, 2010). However, numerous studies have confirmed that test anxiety could leads to unpleasant consequences, like poor performance most especially in students with severe form of test anxiety (Putwain, 2008).

II. RESULTANT

According to Essau, Conradt & Petermann, (2000), there are negative effects of test anxiety (like poor social, emotional and academic successes) on children. Cowden (2009) buttressed the point by saying that some students with test anxiety are afraid to speak and interact within an educational setting. They also have the characteristics like day dreaming, discomfort anxiousness and concern (Spencer, DuPont & DuPont, 2003). Test anxiety has persistently been associated with specific side effects, which includes poor academic performance (Putwain, 2010), poor self-esteem, poor interpersonal relationships, etc. (Bokhorst, Goossens & De Ruyter, 2001; Weeks, Coplan, & Kingsbury, 2009). The consequences of test anxiety among students include lack of problem solving ability, poor academic achievement, school avoidance (Donovan & Spence, 2000; McLoone, Hudson & Rapee, 2006). However, several scholars in the past have demonstrated that test anxiety is treatable and can be reduced significantly through working recommendations or psychotherapy such as problem solving therapy and psychoeducation (e.g. Agberotimi, Olaseni, & Oladele, 2015). Sociodemographic factors in recent time plays salient role in determining text anxiety (e.g. Agberotimi, et., al., 2015).

The role gender plays in determining test anxiety cannot be overestimated (Asikhia, 2014). Text anxiety has been reported more prevalent among the female gender than the male counterpart. Several studies among school and college students found that women rate themselves as more anxious than female students. In Nigeria, a relatively recent study revealed that sex affects anxiety level (Asikhia, 2014). Despite many reports on gender differences on test anxiety, some scholars maintained strongly that no significant difference exists between male and female students (Agberotimi, et., al., 2015; Mohamed & Tarmizi, 2010). Family studies have found a large overlap between anxiety disorders in family structures.

Family structures may have a strong link with test anxiety, such that students of separated or divorced parents persistently exhibit test anxiety than students of parents from intact homes (Demo & Alan, 1988). In similar, the study of Peleg-Popko, & Dar, (2001) confirmed that marital quality and family pattern significantly correlates anxiety among adolescents. Based on research outcome documented by Riggio (2004), it was revealed that family structure significantly predicts anxiety. This was established among a total sample of 566 young adults from divorced and intact families. It was further revealed that adults from separated/divorced parents exhibited much relationship anxiety unlike adults from intact parents

Globally, it has been discovered that parental anticipation of their wards likes high educational expectation and pressure for academic achievement (Deb, 2001). Meanwhile, every parent is expected to form cognitive expectations from child they invest heavily on. Situational factors are variables in an individual's current circumstances or situations that are assumed to affect the way of thinking, feeling and behaving towards self, others and future. They include the following in the present study: perceived classroom climate and parental involvement, which have implications on anxiety associated with test.

III. PERCEIVED CLASSROOM CLIMATE

The fact that school teachers are the students' educators and mentors made them to be exposed and understand both psychological and physiological feelings of students especially when the students are given test. Much of the existing researches on test anxiety generally centered on using clinical interventions as effective way of reducing test anxiety; many of these studies have failed to look into elements like classroom environment which had been implicated to play major role in test anxiety (Gregor, 2005 & Weems, 2010). Also, interventions which are based on reducing test anxiety are frequently use older children and adults as their participants (Weems, 2010). Finally, there are limited information on methods of examining used by school teachers for their students in the classroom. Perceived classroom climate (PCC) is sometimes referred to as the learning environment. The concept of perceived classroom climate implies the intent to establish and maintain a positive context that facilitates classroom learning. The concepts includes: sensitivity of teachers to the needs of students, regards for students perspectives, respectful, reinforcing participation that are active, friendly, respectful, fostering teacher-student relationships, warm and the absence of abrasive disciplinary practices (Hamre & Pianta, 2007). The above features are not available in classrooms with poor climate because of the presence of unresponsive teachers, lack of emotional bonds between teachers and students, disrespect and mistrust. A study conducted by Olaitan, (2012) in Nigeria, it was indicated that some of the students' anxiety level which were high was as a result of their low self-esteem level while other students whose self esteem level were high tend to respond low to test anxiety. In other words, internal traits (self esteem) which may be influenced by climates upon which assessment takes place, strongly influence test anxiety. Similarly, the study conducted by Ekpo, Akpan, Essien, & Imo-Obot, (2009), revealed that significant relationship exists between perceived classroom climate and test anxiety.

In another study carried out by Raed and Jarmas, (2014), among 900 students of high schools in Israel. It was reported that strong positive correlation between the dimensions of class climate: satisfaction and enjoyment, the teacher's support, rules and instructions, competitiveness and between Mathematical self efficacy and achievements. On contrary, Muhammad, (2010), carried out a research using 720 secondary school students. The findings from this study showed significant negative correlation exists between classroom learning environment and foreign language classroom anxiety.

Assiye, Turgay and Ali, (2011), also carried out a study among 149 Turkish undergraduate students. The findings pointed out that Turkish students' appear to exhibit high levels of distress about taking a test in general exams. Furthermore, the findings showed relationship between perceived classroom climate and test anxiety among Turkish students. Imasa, (2012), explored an examination of the role of school climate in adolescent test anxiety. The participants used were 297 students in seventh and eighth grade who attend a public school. The results of study showed that perceived classroom climate influences test anxiety, test anxiety interfered with students' academic performance.

IV. PARENT INVOLVEMENT (HOME ENVIRONMENT)

One of the major predictor of test anxiety is parental involvement in child's school work at home. In recent studies, test anxiety has been linked to parenting practices and features of parent-child relationships (Platt, Williams & Ginsburg, 2016). Both measures of parental physical and emotional availability could be measured with the communication between parents and adolesents emotional attributes of time spent with parents In this regard, Bronfenbrenner (2007) emphasized that the developing person is not passive to the environment; rather is active, dynamic and progressively helping to restructure the environment in which school aged children lives.

In the study of Joseph (2011), he examined how the family, schools and community contribute to success in academics. It was revealed through qualitative analysis that family and school climate plays significant roles in determining anxiety level associated with test anxiety and invariably, test performance. Similarly, Monica, Charles, Laura & Gary, (2004), conducted among two hundred and fifty (250) parents of children attending fifth grade classes. It was revealed that the parent of the students who did poorly on the exams did feel less pressure to help their children do well. It was suggested in the study that moderate levels of parental involvement coupled with parental interest and knowledge may assist in alienating the anxiety level associated with test. Juan (2013), also investigated the relationship that exists between perceived social support, test anxiety and test performance, involving 450 Chinese high school students. The study revealed that stronger positive relationships exist between perceived social support and test anxiety, test anxiety and test performance.

Sibnath, Pooja, & Kerryann, (2010), explored a study conducted among 460 school adolescents. The findings revealed that Adolescents with mothers who were engaged in a time consuming jobs were found to have severe test anxiety, when compared with adolescent with mothers who were unemployed or with light scheduled jobs. In the study, most of the adolescents perceived poor quality time from their parents and many of them find no comfort in sharing personal issues with their parents and as well showed dysfunctional exam anxiety, unlike those who did receive quality time from parents.

In a cross-cultural based study carried out by Jaee, (2006) among Indian children, it was revealed that test anxiety is related to one type of parenting styles (authoritarian) plus poverty. Also, there was a correlation between only consequences of failure in examination and perceived parental expectations. Similarly, Thergaonkar & Wadkar, (2007), on the relationship that exists between test anxiety and parenting style. Finding revealed that negative correlation exists between test anxiety and democratic attitude of parents.

While some of these aforementioned studies were able to identify some variables, which are of core importance, there is little knowledge regarding the role of perceived classroom climate and parental involvement on test anxiety among elementary-aged students in Nigeria. Therefore, the purpose of this study was to examine the predictive influence of perceived classroom climate and parental involvement on test anxiety among elementary-aged students in Nigeria. However, the specific objectives are to;

- ✓ reveal the prevalence rate of test anxiety among elementary-aged students in selected schools in Nigeria
- ✓ examine the independent and joint predictions of test anxiety by perceived classroom climate and parental involvement among elementary-aged students.

V. METHODS

STUDY DESIGN

The study adopted an expo-facto research design. The design enables researcher to examine anxiety level of elementary-aged students at the verge of exposure to test. The examination of the role of the study independent variables on the variance of the dependent measure was done using multivariate logistic regression.

STUDY PARTICIPANTS/ SAMPLING TECHNIQUES

Six hundred (600) pupils were engaged using cluster random sampling from thirty-one primary schools considered highly competitive in two geopolitical zones of Nigeria (Southern and Northern Nigeria). The participants comprised of 16 (35.6%) male and 29 (64.4%) female, their ages ranged between 14 and 18 years with mean 15.91 and standard deviation 1.07.

INSTRUMENTS

A four-section questionnaire was used in this study. Section A contains information regarding the study, informing consent request, confidentiality of identity, and demographic information. Section B is a 29-item Likert format of Home Environment Scale (HES) developed by Muthee, (2009). A Cronbach's alpha of 0.91 was reported for HES. Section C is a 19-item Likert format of Perceived classroom climate Scale (CCS) developed by Muthee, (2009). A Cronbach's alpha of 0.86 was reported for CCS. Section D is a 10-item Likert format of Examination Anxiety Scale (EAS) developed by Nist and Diehl (1990). A Cronbach's alpha of 0.86 was reported for EAS.

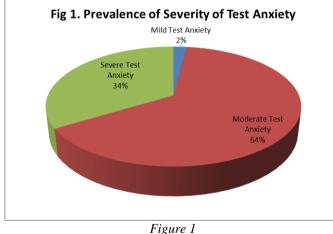
PROCEDURES

Approval for the conduct of the study was given by the ethics committee of the Department of Pure and Applied Psychology, Adekunle Ajasin University, while permission for the administration of questionnaires was obtained from the selected secondary schools in Ondo State, Nigeria. This study was conducted in two stages; the pilot study and the main study. The pilot study involved the pre-field administration of the scales for cultural revalidation, followed by item analysis to determine the reliability of the instruments statistically. The instruments were therefore administered to respondents. The survey was completed and subjected to data analysis.

VI. RESULTS

RESEARCH OBJECTIVE 1: ANALYSIS OF TEST ANXIETY PREVALENCE ESTIMATE

The prevalent rate of test anxiety in the selected schools in Nigeria revealed that 02% of the students expressed mild test anxiety, 64.3% of the respondents expressed moderate test anxiety, while 33.7% of the students expressed severe anxiety.



Mild test anxiety was indicated absence of test anxiety. Extremely low anxiety (close to 10) is regarded probably unhealthy for students to perform optimally well for a little

unhealthy for students to perform optimally well, for a little more anxiety is needed to keep focused and get blood flowing during exams (Nist and Diehl, 1990). The prevalence of mild test anxiety was pegged at 2%.

Moderate test anxiety was regarded as the only probably helpful anxiety type for students to perform optimally in academic pursuit. The prevalence of moderate test anxiety was pegged at 64%. The identified 64% of the respondents had 20-35 points on TAS as at the time of data collection to indicate moderate test anxiety.

Severe anxiety was anxiety type regarded unhealthy and somewhat a clinical problem. The prevalence of severe test anxiety was pegged at 34%. The identified 34% of the respondents had 35 points and above as at the time of data collection to indicate severe test anxiety.

RESEARCH OBJECTIVE 2

It was hypothesized that demographic (gender & parent) and situational factors (parental involvement & perceived classroom climate) will jointly and independently predicts severity of test anxiety significantly among elementary-aged students. The hypothesis was tested using Multinomial logistic regression analysis.

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DV	Factors	В	S.E	Wal d	df	Signif icant	Exp (B)	95% C.I.
Mild Test Anxiet y	Intercept	18.61 0	00. 84	488. 88	1	.000		
	Female	02.77 0	00. 93	08.8 8	1	.000	0.63	0.41- 0.69
	Male	00			0			
	Non-intact Parents	19.47 0	00. 07	00.2 1	1	.001	0.28	0.42- 2.95
	Intact Parents	0^0			0			
	Minor Parental Involvement	03.89 0	01. 06	13.4 7	1	.000	0.20	0.03- 1.16
	Major Parental Involvement	0^0			0			
	Perceived Poor Climate	19.34	34. 13	00.5 0	1	.990	0.09	0.01- 0.05
_	Perceived Quality Climate	0^0			0			
	Intercept	- 02.49	00. 58	18.1 7	1	.000		
	Female	01.05	00. 21	25.6 3	1	.000	0.35	0.23- 0.53
	Male	0^0			0			
Severe	Non-intact Parents	0.39	00. 29	01.8 8	1	.170	0.68	0.39- 1.18
Test	Intact Parents	0^0			0			
Anxiet y	Minor Parental Involvement	03.25	00. 52	38.6 3	1	.000	0.76	9.25- 71.75
	Major Parental Involvement	0^0			0			
	Perceived Poor Climate	0.05	00. 21	00.4 8	1	.826	0.05	0.69- 1.57
	Perceived Quality Climate	0^0			0			

Reference category is Moderate Test Anxiety. SE=Standard error; CI=Confidence interval. All independent variables were dummy coded.

Table 1. Summary of multinomial logistic regression analysis showing severity of test anxiety as predicted by demographic and situational factors

Multinomial logistic regression analysis to examine predictors of reported mild and severe test anxiety was done. Results (in table 1) indicated that gender significantly predicts mild test anxiety, such that, being a female student significantly decreased the chances of reporting mild anxiety by 63% than their male counterparts (odds ratio [OR] = -0.63; 95% CI = 0.41-0.69). The results revealed that family structure significantly predicts mild test anxiety, such that, being a student from non-intact family (separated or divorced), significantly increased the likelihood of reporting mild test anxiety by 28% than being a student from intact family (odds ratio [OR] = 0.28; 95% CI = 0.42-2.95). The results further revealed that parental involvement significantly predicts mild test anxiety, such that, being a student from extraction of minor parent involvement, significantly increased the likelihood of reporting mild test anxiety by 20% than being a student from extraction of major parent involvement (odds ratio [OR] = 0.20; 95% CI = 0.03-1.16). However, it was reflected that perceived classroom climate is not a predictor of mild test anxiety.

For the tendency of manifesting severe test anxiety, being a female student significantly increased the chances of reporting

severe anxiety by 35% than their male counterparts (odds ratio [OR] = 0.35; 95% CI = 0.23-0.53). The results further revealed that parental involvement significantly predicts mild test anxiety, such that, being a student from extraction of minor parent involvement, significantly increased the likelihood of reporting severe test anxiety by 76% than being a student from extraction of major parent involvement (odds ratio [OR] = 0.76; 95% CI = 9.25-71.75). However, it was reflected that family structure and perceived classroom climate do not significantly predicts severe test anxiety. These results demonstrated that gender, family structure, and parental involvement were significant predictors of severity of test anxiety.

VII. DISCUSSIONS

The present study examined the association of sociodemographic, situational factors and reporting severity of test anxiety among elementary-aged students in thirty-one competitive schools in Nigeria. The prevalence findings revealed that 34% prevalence of severe test anxiety exists among elementary-aged students in the selected schools; 64% prevalence of moderate test anxiety exists among elementaryaged students in selected schools; while 02% prevalence of mild test anxiety exists among elementary-aged students in selected schools in Nigeria.

It was established that gender plays key role in determining test anxiety among students, such that, being a female students significantly increase the risk of displaying mild and severe test anxiety than moderate test anxiety. There is no agreement in the growing body of evidences on gender differences in test anxiety. This finding is in consistent with previous studies which assert that male and female students exhibit test anxiety as different level. For instance, the study of Asikhia (2014) concluded that women/females were more anxious in test mood than the male counterpart. On contrary, not in consistent with the finding of Agberotimi, et. al, (2015) and Mohamed, et.al. (2010) that maintain no difference exist in test anxiousness between male and female students.

Another major finding was the significant relationship that exists between family structure and severity of test anxiety, i.e. being a student from non-intact family (separated or divorced), significantly increased the likelihood of reporting mild test anxiety than being a student from intact family structure. Similarly, Peleg-Popko, & Dar, (2001) opined marital quality and family pattern significantly correlates anxiety among adolescents. Studies among adults also revealed that adults from separated/divorced parents exhibited much relationship anxiety unlike adults from intact parents (Riggio, 2004).

Parental involvement significantly predicts mild test anxiety, such that, being a student from extraction of minor parent involvement, significantly increased the likelihood of reporting mild and severe test anxiety than being a student from extraction of major parent involvement. The possible explanation for the outcome of the result could be that minor efforts from parents produced the mild anxiety experienced by the students, such that if major involvement was reported on the parents' side, moderate anxiety may be reported. Severe anxiety predicted could be as a result of some negative psychological process (such as; guilt, low self-worth, poor self concept, self-defeating thoughts among others) going on cognitively within the students. This finding is in consistent with the findings of some authors (e.g. Juan, 2013; Joseph, 2011) who reported that test anxiety was significantly correlated by parental involvement.

However, it was reflected that perceived classroom climate does not predicts mild and severe test anxiety. On contrary, the study by Olaitan, (2012) discussed that internal trait (self esteem) which may be influenced by classroom climates upon which test development takes place, strongly influence test anxiety. Similarly, Raed and Jarmas (2014) reported that strong positive correlation exist between the dimensions of class climate and test achievements. On contrary, Muhammad, (2011), findings revealed significant negative correlation exists between classroom learning environment and foreign language classroom anxiety. The reasons for the different outcome may not be farfetched from cultural differences which exist across the differ settings upon which the reviewed studies were conducted.

It is therefore recommended that scholars, concern government agencies or international bodies with keen interest in conducting interventions (clinical or policy intervention) in alienating test anxiety should strongly note female sex, students from non-intact family structure, poor parental involvement in child's work at home as predisposing factors to unhelpful mild and severe test anxiety. Parents also should be more involved in the child's work at home so as to encourage moderate anxiety needed to perform optimally in academic tasks.

VIII. CONCLUSION

This study investigated the socio-demographic and situational factors that predict severity of test anxiety among elementary-aged students in Nigeria. From the findings of the study it was established that gender, family structure, parental involvement significantly predicts mild test anxiety, while gender and parental involvement significantly predicts severe test anxiety.

IX. LIMITATION

Limitations of the study include its highly selective and non representativeness of students in Nigeria, in spite of larger sample. Caution should also be exercised in interpreting these results as they were cross-sectional and the responses of the students were self-reported, and there were no other measures to validate them. Further, though there was a prior notice on research objectives and consent was given, but anxiety generated for the purpose of the study was done unannounced; such that students were cajoled to prepare for school test.

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