



RELATIONSHIP BETWEEN ANXIETY AND ACADEMIC PERFORMANCE AMONG SECONDARY SCHOOL STUDENTS IN THE FIRST ARRONDISSEMENT, ANTANANARIVO, MADAGASCAR

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ABSTRACT: Several elements influence students' academic performance in schools. However, the current study focused on how anxiety affects students. The study investigated the relationship between anxiety and academic performance among secondary school students in First Arrondissement, Antananarivo, Madagascar. Cognitive behavioural theory was adopted to examine in this research. BAI was used as an anxiety test for the students; Academic performance rating scales were used for students' academic performance assessment. Data was analysed by using both descriptive and inferential statistics through the SPSS 22 version. The results showed that there is a high level of anxiety at 56.33%, which is a severe level of anxiety, while 22.67% levels of anxiety indicate a relatively moderate level of anxiety. Female students reported higher levels of anxiety (47.67%) than male students (31.34%). This resulted in low academic performance with a percentage of 51.71% and a total of passing performance of 48.29%, indicating that female students performed worse academically than their male counterparts. On the quality of academic outcomes reported by students, there was a negative and moderate association between anxiety and academic accomplishment with $r = -.496$ and significance at $p = 0.01$. As a result, the relationship between anxiety and students' performance in school was considerable. The research counselled students to accept responsibility for seeking anxiety management assistance from school counsellors and teachers.

Index Terms: Anxiety, Academic Performance, Students

1. INTRODUCTION

There are several anxiety disorders, and these include obsessive-compulsive disorder, phobia disorder, generalized anxiety disorder, post-traumatic stress disorder and panic disorder (National Institute of Mental Health, (2019). Though, this study concerted on generalized anxiety disorders, which may be related to students' school experiences. Nevertheless, this study investigated the relationship between anxiety and academic performance in secondary school students in First Arrondissement, Antananarivo, Madagascar. Within the school context, the provision of mental health services ensures that students are adequately able to handle their educational and personal issues. However, anxiety is a mental health issue that is defined as excessive worry (apprehensive expectations) that may be related to one's own health (Arnold, 2022a). It might also relate to students' academic performance and drive them to failure and discouragement in their studies.

Anxiety generally begins when a person expects an upcoming event to make demands for which they are unprepared and hence lack the appropriate coping abilities (APA, 2023). In this situation, anxiety serves as a forceful warning to the individual that she or he is unprepared for the upcoming catastrophe. However, the impact of anxiety on an individual varies depending on how it interacts with the task performance process. Low to moderate anxiety is frequently regarded as good since it allows the body to release energy comparable to the activity at hand. High anxiety, on the other hand, can be disastrous since it stimulates the body system beyond its usual operating capability and has a detrimental impact on performance.

Being the most common psychiatric condition, anxiety is observed in the daily lives of school-aged teenagers (Yusuph, 2016). According to Yusuph, between 13% and 25% of teenage pupils globally experience anxiety in their school interactions. As a result, anxiety is viewed of as an impending risk emanating from the school setting, resulting in discomfort that lowers the capacity of the

students to think, listen, and reply effectively to academic issues (Culler & Holahan, 1980). As a result, anxiety among students is associated with both their attention and memory, both of which are critical for academic achievement.

According to Singh's (2015) study on the Impact of Anxiety on Academic success of U.G. Students, academic success in China was clearly connected with moderate and low anxiety, with values of 0.659 and 0.369. It also revealed that high degree of anxiety is inversely associated with academic success, with a -0.452 significant at the 0.05 level. This indicates that anxiety is linked to academic success as it affects an individual's mental state at school.

Likewise, Ghulam (2019) found that female students showed higher levels of academic anxiety and achievement in English than male students in Rajouri and Poonch districts of Jammu and Kashmir, India. The research revealed that female students may do worse academically than male pupils due to their high degree of worry. Similarly, Chauhan et al. (2014) and Prabu (2015) agreed that male students show less anxiety than female students. Equally, according to the American College Health Association (2013), the percentage of college students who were anxious climbed from 6.7% to 12.9% between 2000 and 2013. Anxiety and discomfort among students aged 11 to 16 years old have also been observed to be greater in the United Kingdom (UK).

In Nigeria, according to a research conducted by Frank-Briggs and Alikor (2010) on anxiety disorders among secondary school children in Nigerian urban settings, the prevalence of anxiety was 10.28% among secondary school students aged 11 to 19 years old. In South Africa, Ebrahimi and Khoshima (2014) identified various factors that contributed to underachievement, particularly time constraints during learning and examination preparation. Yusuph (2016) found that majority of students in Dodoma, Tanzania, had anxiety problems, which had a negative impact on their academic performance. According to Yusuph, anxiety influenced adherence to school regulations. As a result, it was shown that the incidence of anxiety among secondary school students aged 11 to 19 years old was between 6 and 10%.

In Kenya, Nyayiekael et al. (2020) indicated that 26.4% of teenagers in secondary schools aged 13 to 19 years had general anxiety disorders. Another research by Gichohi (2019) highlighted university students' concerns about indiscipline, drug misuse, and low test performance. Osborn et al. (2019) performed a research among Kenyan high school students on anxiety and depression among young people in Sub-Saharan Africa, which had previously been inadequately reported. The anxiety levels were 37.99%, and the high depression levels were 45.9%, both of which were found to be higher above the clinical threshold. This study, however, did not highlight academic achievement as a determinant in anxiety.

2. NEED OF THE STUDY

The study's findings might help policymakers in the Education Ministry better understand anxiety and academic performance in secondary school students in Antananarivo, Madagascar. This is attributable to innovative methods to anxiety management in secondary schools. It might also help all educational stakeholders devise interventions to improve students' academic performance. The findings might help teachers better comprehend their students' anxiousness, which can impair their academic performance. The results might assist educational policymakers implement professional counselling to help secondary school students deal with anxiety. On the other hand, this research may be useful to secondary school students, elementary school students, university students, and administrators in Madagascar as they pursue their academic goals. Finally, the findings of this study might be made available to the public by publishing them.

3. THEORETICAL FRAMEWORK

Theoretical framework specifies the ideas that would be utilized to explain an observation in an empirical investigation (Mvumbi, 2015). Cognitive behavioural theory (CBT) is employed in this study. This is because, it was used as the theoretical basis for this investigation. It assists in examining an individual's excessive concern about physical, emotional, and cognitive problems. The cognitive behavioural theory is a theory that works by defining how students' thoughts and behaviours combine to generate anxiety and impact the mind, which is related to academic achievement (McLeod, 2015a). Aaron T. Beck developed CBT in the 1960s as a psychological treatment whose efficiency has been demonstrated for a variety of difficulties including depression, anxiety disorders, and serious mental disorders (Asnaani et al., 2012). The core concept of CBT and development of anxiety was discussed and explained. In this study, CBT was used to treat generalized anxiety disorder. The cognitive behavioural theory also helped the researcher comprehend the relationship between anxiety and academic achievement.

4. RESEARCH METHODOLOGY

This section present the plan and method on how the study is conducted. This includes population and sample of the study, statistical tools, and data analysis.

4.1 Population and Sample

The study was led by a descriptive correlational survey research approach. This quantitative strategy was adopted to investigate the degree of existing associations between anxiety and academic achievement. The survey was done with students from four secondary schools in Antananarivo's First Arrondissement, Madagascar. The target audience was projected to be 1,207 students aged 13 to 20. Yamane's (1967) method was used to generate a sample of 300 students. Four public and private schools were chosen using stratified random selection. To choose 300 students, systematic random selection was used.

4.2 Statistical and Tools

The study used two questionnaires based on standardised scales: Beck Anxiety Inventory test developed by Becks et al. (1989) and Academic Performance Rating Scale for testing level of academic performance of students developed by George et al. (1991). BAI was tested one week before examination period, while academic performance rating was tested after receiving the results of the last examination. The scales were piloted before use and found to be reliable with respect of Cronbach's Alpha with symptoms of anxiety $\alpha = .973$ and $\alpha = .683$ for academic performance.

4.3 Analysis of the Data

The data was analysed using the IBM statistics 22 edition of SPSS. By establishing the frequency of demographic factors, the Mean, and Standard deviation from the research instruments, descriptive and inferential statistics assisted in the summation of the respondents' opinions. As BAI was used to examine the students anxiety, it was measured through the sum up of the symptom of anxiety, which gives the different levels of anxiety includes 0-21 % mild or normal anxiety, 22-35% moderate anxiety and 36 and above is considered as severe level of anxiety. Though, the cut-off of this are 22% consider as an anxiety.

The scores of the 9 major sentences were then ranked to gain the academic performance of 90-100 (20-16): Very good (Très bien); 80-89 (14-15,99): Good (Bien); 70-79 (12-13,99): Fairly good (Assez bien); 50-69 (10-11,99): Satisfactory; 0-49 (00-9,99): Fail (échec) considered as poor performance (Mesupres, 2022). The sum up of each scales of measurement defined the academic performance of the students. For inferential statistics, pearson's product moment 'r' helped to establish the relationship between anxiety and academic performance. The correlation survey were used to test hypothesis. Collection of data was followed by a series of steps to ensure strict and consistent remarks of ethical conduct. Permission was obtained from Tangaza University College ethics committee. In Madagascar, the permission was taken from circumscription scholar and direction diocesan of catholic schools for private secondary schools, and from the head-teachers of the schools for the sampled schools and the individual respondents.

5. RESULTS AND DISCUSSION

5. 1 Demographic Characteristics of the Participants:

The demographics of the participants are presented through the Table 1 and descriptively using the scheme of Age Bracket, Gender, Respondents Year of study, and Respondents' Academic Status.

Table 1: Demographic Characteristics of Participants

Variables	Frequency (f)	Percentage (%)
Respondents' Age Brackets		
[13-14]	45	15.0%
[15-16]	99	33.0%
[17-18]	131	43.7%
[19-20]	25	8.3%
Respondents' Gender		
Male	150	50.0%
Female	150	50.0%
Respondents' year of Study		
Form 2 (Class de Seconde)	59	19.7%
Form 3 (Classe de Premiers)	114	38.0%
Form 4 (Classe de Terminal)	127	42.3%
Respondents' Academic Status		
Passing Class	127	42.3%
Repeating Class	173	57.3%

Table 1 presents that many of the respondents were between 17 to 18 years old ($n = 131$, 43.7%) compared to other age bracket: between 15 to 16 years ($n = 99$, 33.0%), while between 13 to 14 years ($n = 45$, 15.0%) and between 19 to 20 years ($n = 25$, 8.3%). This tells that, these ages 13-20 are the age where the puberty and adolescent stage are taking place. In these ages, they are developing a stronger sense of identity and roles (Kendra C., 2022), even their focus on themselves increase. They have a strong affected, at this age, by worry or concerns. At these ages, their brain also physically large, but it does not finish developing and maturing until mid-to-late-20s. A part from that, they are easily experienced many mental disorders such as depression, anxiety, bipolar, eating, schizophrenia, which appear during the stage of adolescent (Julie, 2020). This is due to the all the big changes the brain has been experiencing. Commonly, their brain is resilient. This means that the adolescent is a vulnerable time for brain and for the teenagers, and most teens go on to become healthy adults. Some changes in the brain such as cognitive and psychological, during this important phase of development actually may help protect against long-term generalized anxiety.

Table 1 also shows that gender of the respondents was consistently dispersed where males ($n = 150$, 50.0%) and females ($n = 150$, 50.0%). This tells that there is gender balance among the male and female respondents. Gender balanced between male and female respondents would be significant to present the descriptive statistics about the full population. Table 1 revealed that majority of the year of study of the respondents were Form 4 (Classe terminal) ($n = 127$, 42.3%), followed by Form 3 (classe 1er) ($n = 114$, 38.0%), and Form 2 (classe de second) ($n = 59$, 19.7%). This communicates that many of the respondents are from Form 4 with 42.3%, which are classified to prepare for national examination. Then, Form 2 and Form 3 are still the passages class, which the students study ordinary to get good marks and pass the exams. Lastly, many of the respondents status of Table 1 from repeating

class was (n = 173, 57.7%) whereas from the passing class was (n = 127, 42.3%). This means that 57.7% were the students who did not pass the exams and repeating the class, while 42.3% students passed and experience the new academic year.

5. 2 Levels of Anxiety among Secondary School Students

The levels of anxiety of the students in secondary school were set according to the percentages in Table 2:

Table 2: Levels of Anxiety of Students

	Males	Females	f	%
0-21: Mild or Normal levels of anxiety	56 (18.67%)	7 (02.33%)	63	21.0%
22-35: Moderate levels of anxiety	26 (08.67%)	42 (14.00%)	68	22.67%
36 and above are severe levels of anxiety	68 (22.67%)	101 (33.67%)	169	56.33%
Cumulative of anxiety	94 (31.34%)	143 (47.67%)	237	79.00%

Table 2 demonstrates that anxiety levels were assessed using the following scales, with 0-21 considered slightly or normal levels of anxiety, 22-35 considered moderate levels of anxiety, and 36 and above considered severe levels of anxiety. As a consequence, Table 2 shows that some respondents had low levels of anxiety, with males 18.67% (56) and females 02.33% (7), for a total of 21.0% (63). Some of the respondents experienced moderate levels of anxiety, with men 08.67% (26) and females 14.00% (42), for a total of 22.67% (68). However, many of them had severe levels of anxiety, with males 22.67% (68) and females 33.67% (101), for a total of 56.33% (169). But, because the cut-off for anxiety levels in this study is 22 percent, the extra percent of anxiety levels was removed from the 22 percent, which is deemed anxiety. Therefore, the results show that there is a 79% high cumulative level of anxiety among secondary school pupils in Antananarivo's First Arrondissement. The female respondents were more anxious than the males, with 47.67% (143) against 31.34% (94).

Table 2 also showed that the students in First Arrondissement had been experiencing anxiety with levels of 56.33% as severe anxiety, 22.67% as moderate anxiety and 21% as mild anxiety called normal anxiety. Comparing to the previous study by Nag (2019), Masureik et al. (2014), Aloka et al., (2014), the current results show high level of anxiety among students. This is because Nag argued that severe anxiety was 7.3%, moderate anxiety was 43.3%, and for the mild was 49.4%. While Masureik et al. presented the severe anxiety as 36.5%, moderate was 22.5% and mild with 19%. Then, the result from Aloka et al. was with mild anxiety at 9.67%, while the moderate anxiety at 15.33% and severe anxiety at 30.0%. The tools for measuring anxiety of Nag and Aloka et al. were different from the current study and the one of Masureik et al., but all of them presented the levels of anxiety. No matter the differences in levels of anxiety among the four studies, the students in secondary school of First Arrondissement had high cumulative levels of anxiety at 79.0%. The results of the Table 2 also showed the levels of anxiety among female students in First Arrondissement at 47.67% than male students at 31.34%.

5. 3 Levels of Academic Performance among Secondary School Students

APRS was used to measure the level of academic performance. Levels of academic performance in secondary school students are presented in Table 3.

Table 3: Levels of Academic Performance of the Students

	Males	Females	f	%
0-49% (0-9.99): Poor Academic Performance	66 (22%)	89 (29.67%)	155	51.71%
50-69% (10-11.99): Satisfactory	75 (25%)	47 (15.67%)	122	40.85%
70-79% (12-13.99): Fairly Good	12 (04%)	8 (02.67%)	20	6.56%
80-89% (14-15.99): Good	2 (0.67%)	1 (0.33%)	3	0.88%
90-100% (16-100): Very Good	0 (0.0%)	0 (0.0%)	0	0.00%
Total			300	100%

Table 3 shows the levels of academic achievement of pupils as well as their equivalency. Academic performance levels were measured using five scales, with 0-49% (0-9.99) considered poor academic performance, 50-69% (10-11.99) considered satisfactory, 70-79% (12-13.99) considered fairly good, 80-89% (14-15.99) considered good, and 90-100% (16-100) considered very good. As a result, Table 3 shows that males had 22% (66), while females had 29.67% (89), for a total of 51.71% (155), which is deemed low academic performance. Similarly, males were 25% (75) better than girls (15.67% (47), for a total of 40.85% (122), which was rated excellent. Similarly, female respondents had 02.67% (8), followed by men with 04% (12), for a total of 6.56% (20), which was judged to be a reasonably excellent performance. Female respondents had 0.33% (1) more than men, who had 0.67% (2), for a total of 0.88% (3), which was regarded good performance. Finally, none of the respondents performed exceptionally well. This might be attributed to high levels of anxiety. In short, this table shows that 51.71% of respondents did badly in academic performance, with a total pass performance of 48.29%. This might be because of the elevated levels of anxiety.

The Table 3 also revealed the level of academic performance of students, which showed that students' poor performance was 51.71% and students who were passing exams were at 48.29%. Looking at the difference brought from the current study's results, Davison and Dustava (2015) found the result of students' academic from their study that academic performance of students who have pass performance were 75%, while those who have poor performance was 25%. The Ajagi and Yusuf (2022) showed that students with high academic performance was 48.7%, while the moderate percentage were 39.3% and low percentage of academic performance was 12%. Then, Nguji (2020) presented the poor performance of students at 61.23%, while the pass performance was at 38.33%. Nguji's results of poor performance was higher than the current study results of poor performance. Then, the pass performance of students also was higher at 75% than the others. And whatever happened to students' performance from those three schools, the secondary schools students experience low level of academic performance. In this study, male students had high academic performance than females. The Table 4 also presented that female students performance was low compare to male students.

5. 4 Relationship between Anxiety and Academic Performance among Secondary School Students

As a test for hypothesis three, this section illustrates the association between anxiety and student academic achievement. This is seen in Table 4.

Table 4: Pearson Products Moment Correlation Coefficient “r”

		Levels of Anxiety	Levels of Academic Performance
Levels of Anxiety	Pearson Correlation	1	-.496**
	Sig. (2-tailed)		.000
	N	300	300
Levels of Academic Performance	Pearson Correlation	-.496**	1
	Sig. (2-tailed)	.000	
	N	300	300

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

The Pearson product moment correlation r is $-.496$ with a significance of 0.01 , indicating a somewhat negative association ($r = -.496$, and $p = .000$ at 0.01 levels of significance). This suggests that there is a link between anxiety and student academic performance, although it is a negative and a moderate Correlation. This could be interpreted that when anxiety increases, then academic performance decreases.

The study attempted to evaluate the relationship between anxiety and academic achievement. The study's findings in Table 4 revealed that there is a relationship between anxiety and students' academic performance. However, it is a negative and moderate correlation, as indicated by $r = -.496$, and $p = .000$, at 0.01 levels of significance. Besides, Pearson product moment correlation r is $-.496$ with a significance of 0.01 , indicating a moderate and negative link ($r = -.496$, and $p = .000$ at 0.01 levels of significance). This suggests that the association between anxiety and students' academic performance is moderately unfavourable. This can also be construed to suggest that when students' anxiety levels rise, their academic performance drops. The reverse is also true: as students' anxiety diminishes, so does their academic achievement. This conclusion is corroborated by Yusuph, (2016) and Gichohi, (2019), who discovered that anxiety affects students' academic performance. Moreover, the relationship between student anxiety and aggregate student marks when reconstructed, $r = .829(249)$, $p.01$, is the result of a gradual relationship between anxiety and academic performance reaction. Then, students who did not have high levels of anxiety performed better academically than those who had significant levels of anxiety. As a result, there is a statistically significant relationship between anxiety and academic performance among secondary school students in Antananarivo's First Arrondissement, Madagascar.

6- CONCLUSION

According to the study, secondary school students in Antananarivo's First Arrondissement had been suffered from acute anxiety, which leads to low academic performance. Female students had higher levels of anxiety at 47.67% than male students at 31.34% , which is associated to female students' inferior academic performance when compared to male students.

7. RECOMMENDATIONS

This study makes the following recommendations. The administration of diocesan catholic schools and circumscription scholars should provide group counselling sessions that could be organized in schools by professional counsellors, to raise awareness about how students can develop effective, enjoyable study schedules that lead to good academic performance. This would help students develop good study habits. They might also send instructors for further studies to get counselling skills in order to help pupils suffering from anxiety. In addition, school education department might provide in-service training for instructors to assist students in identifying and guiding their preferred study habits. The school's educational department might potentially recruit counselling psychologists to help students who are experiencing anxiety symptoms.

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