

An Assessment on the Test Anxiety and Academic Performance of Information Technology Students

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Abstract— In humans' daily life, people experience different levels of anxiety. Some experiences a low level of anxiety, others experience incredibly high. Anxiety significantly affects people in different forms. Higher education students experience anxiety attributed to different factors and one of which includes test anxiety. This study sought to describe the test anxiety among the Information Technology (IT) students and assess if test anxiety has a significant relationship to students' academic performance. The researchers applied a descriptive-correlational design to describe the IT students' test anxiety and test the relationship of the variables under investigation. The researchers adopted an instrument for this study. This study was conducted in a State University in Nueva Ecija, Philippines. A total of 394 students enrolled in an IT Major Course during the second semester of the academic year 2019-2020 voluntarily participated as respondents for this study. Results revealed that IT students have "somewhat typically" experienced test anxiety ($WM = 2.734$). Moreover, results showed that test anxiety among IT students has a significant positive relationship to their academic performance ($p\text{-value} = 0.000$, $r = 0.347$). Researchers suggest utilizing the positive effect of test anxiety in learning IT courses in order for students to improve their academic performance continuously.

I. INTRODUCTION

Every day, human experiences different levels of anxiety. Anxiety may be caused by foreseen or unforeseen events, contributing to how humans behave and perform. Anxiety is a subjective feeling wherein one feels tension, uneasiness, disquiet, and worry caused by the stimulation in the nervous system (Spielberger, 1983). Students with an anxiety disorder may exhibit a lack of interest in learning, poor academic performance, and low academic motivation levels (Vitasari et al., 2010). However, an average level of anxiety helps sustain hard work (Dawood, 201), which may positively affect student attitude towards learning. Thus, students tend to exert more effort and work hard towards achieving a better outcome.

Students in higher education experience anxiety caused by different factors, and it has been acknowledged by students and educators (Vitasari et al. 2010). Most of the time, undergraduate students' anxiety has negative effects on their personal, social, and academic performance (Zahrakar, 2008). Anxiety constitutes poor performance among students, which has been one of the major predictors of academic performance (McCraty, 2007 and McCraty, et al., 2000). Anxiety has facilitating and debilitating effects on academic achievement (Ibrahim, 1996). It causes students to exhibit mixed attitudes about learning, particularly in taking tests.

Over the years, several studies have been conducted to explain the relationship between academic performance

and anxiety from different contexts (Dawood et al., 2016, Vitasari et al., 2010). The researchers conducted this study involving computing students only. Only a few studies focused on assessing the test anxiety of Information Technology (IT) and academic performance in a computing course.

This study aims to assess the level of test anxiety among undergraduate students enrolled in the Information Technology program and its relationship to their academic performance. Specifically, it seeks to answer the following:

1. How may the demographic profile of the respondents be described in terms of Sex and Age;
2. How may the test anxiety among IT students be described; and
3. Is there a significant relationship between test anxiety and the academic performance of the IT students?

II. METHODOLOGY

This study utilized the descriptive-correlational design of research to describe the test anxiety among the IT students and know whether it significantly relates to their academic performance. The researchers intended to employ the total sampling technique. Of the 411 students enrolled in an IT Major Course, 394 voluntarily served as the respondents for this study during the second semester of the academic year 2019-2020, where the pandemic had started. The number of respondents constitutes a 1.01 confidence interval. Thus, the result can be representative of the entire population.

The instrument used to assess the test anxiety of the students was consist of two parts. The first part covers the demographic profile of the respondents, including their sex and age. The second part of the instrument consisted of 10 items based on Ubaka et al. (2015). However, the researchers revised the second part of the instrument's contents to suit the context and needs of this study. To ensure that the instrument was valid and reliable, the researchers performed content and face validity. Reliability analysis was also conducted to check the items included in the instrument. Table 1 shows the result of the reliability analysis.

Table 1: Reliability Analysis

Instrument	Cronbach's Alpha	No. of Items
Test Anxiety Questionnaire	0.861	10

After ensuring that the instrument was valid and reliable, the researchers performed data gathering. Due to

the pandemic, the researchers were not able to personally handed-out the survey questionnaire. However, they made sure that the instructions in the instrument were clear and easy to understand. Using Google Forms as a medium, the researchers sent them out to the respondents. The respondents were assured that the researchers only used the data collected for this study.

Table 2 presents the scoring rubric for test anxiety.

Table 2: Scoring Rubric for Test Anxiety

Range	Verbal Interpretation	Verbal Description
4.60 – 5.00	Very typical of me	The IT students experience a very high possibility of test anxiety.
3.60 – 4.59	Fairly typical of me	The IT students experience a high possibility of test anxiety.
2.60 – 3.59	Somewhat typical of me	The IT students experience a possibility of test anxiety
1.60 – 2.59	Not very typical of me	The IT students experience a rare possibility of test anxiety.
1.00 – 1.59	Not at all typical of me	The IT students experience no possibility of test anxiety.

After successfully collecting the data, the researchers coded, entered, cleaned, and analyzed them using SPSS version 23. Frequency distribution, percentage, and weighted mean score were used for the descriptive statistics, while a correlation test was used to understand the relationship between the variables.

III. RESULTS AND DISCUSSION

1.1. The Demographic Profile of the Respondents

Of the 394 respondents, Fig. 1 shows that 280 males and 114 females enrolled in the course. Two hundred eighty students constitute 71.1%, while 114 represents 28.9% of the respondents. There is a 42.2% difference in terms of sex, implying a gap exists in the program.

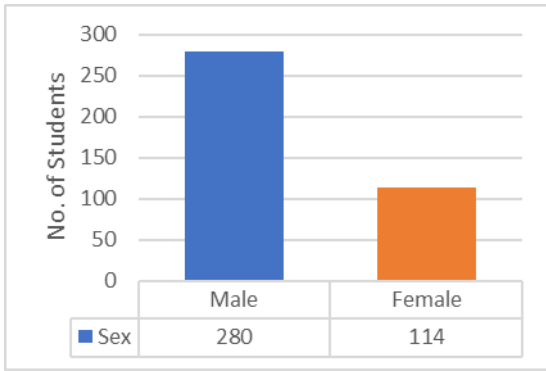


Fig.1: Frequency Distribution of IT students in terms of Sex

On the other hand, Fig. 2 presents the frequency and percentage distribution based on age. Results revealed that respondents were composed of students age 18 (7, 1.8%), 19 (114, 28.9%), 20 (234, 59.4%) and 21 (39, 9.9%).

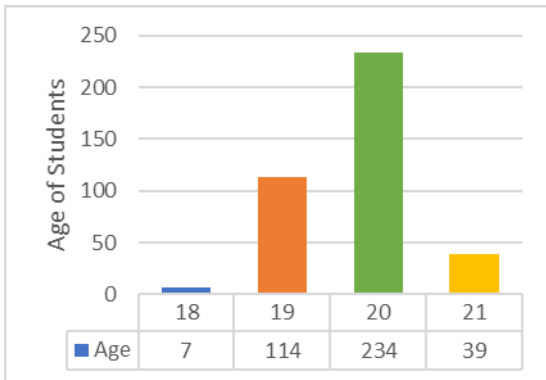


Fig.2: Frequency Distribution of IT students in terms of Age

1.2. Test Anxiety among IT Students

Test anxiety is a psychological condition where students experience extreme distress and anxiety. This occurs before and during testing activities. Symptoms of test anxiety can manifest physically, behaviorally, cognitively, and emotionally among students.

Table 3 presents the Weighted Mean Score Distribution for assessing the level of IT students’ test anxiety. Results revealed that before taking tests, students perceived the thought of doing poorly interfere their performance during examination somewhat typical of them (WM=3.023). Meanwhile, it was somewhat typical of them to wish that tests or examinations will not bother them so much (WM =3.211) and that even if they are well prepared to take examinations or tests, they still feel anxious about it (WM =3.282). However, it was not very typical of them (WM =2.360) to feel panic when they have to take an examination.

During examinations, results revealed that IT students somewhat typically get so nervous that they tend to forget information that they already know (WM =2.853), resulting to increase in heart beat which may affect their actual performance in taking the exam (WM =2.934) but not sweating (WM=2.112). Because of this, students tend to think of things which are unrelated to the actual study materials (WM =2.827).

Table 3: Test Anxiety among IT Students

Items	Weighted Mean (WM)	Verbal Interpretation
1 The thought of doing poorly interferes with my performance on examination.	3.023	Somewhat Typical
2 During an examination, I frequently get so nervous that I forget information I know.	2.853	Somewhat Typical
3 While taking examination, I sweat a great deal.	2.112	Not Very Typical
4 During examination, I find myself thinking of things unrelated to the actual study materials.	2.827	Somewhat Typical
5 I panic when I have to take an examination.	2.360	Not Very Typical
6 After important examination, I am frequently so tense that my stomach gets upset.	2.376	Not Very Typical
7 I usually feel my heart beating very fast during an examination	2.934	Somewhat Typical
8 I usually get very depressed after taking an examination	2.358	Not Very Typical
9 I wish examination did not bother me so much. Even when I am well prepared for an examination, I feel very anxious about it.	3.211	Somewhat Typical
10	3.282	Somewhat Typical
Test Anxiety Overall Grand Mean	2.734	
Verbal Interpretation		Somewhat Typical

Results revealed that IT students do not get depressed about their performance after taking exams while taking the exam (WM =2.358). Students do not also experience that their stomach gets upset as a result of anxiety caused by the exam (WM = 2.376).

Students somewhat typically experienced test anxiety based on the test anxiety overall grand mean of 2.734. However, most of the anxiety felt by the students may be

attributed before taking the examinations. Based on the results, items 1, 9, and 10, which pertain to the circumstances before an actual exam, got mostly “somewhat typical” results. Oxford Learning (2018) affirms that a bit of pre-exam nervousness may negatively impact performance. This nervousness may be attributed to a lack of preparation, motivation, and the drive to achieve better results. Sawchuk (2017) asserts that though little nervousness before taking tests is normal and can further help students sharpen their mind and focus, test anxiety feelings of worry and doubt may lead to lower performance and negative results. In an article, Sawchuk (2017) provided some strategies that may help reduce test anxiety, including learning how to study efficiently and regularly at the same place or area while practicing to take a frequent pre-test to establish consistency and better study habit. It is also suggested that students take time to communicate with their teachers about their lesson to establish better communication channels, clarify lessons, and grasp new concepts through follow-ups. Lastly, students must relax, eat nutritious food, exercise, proper sleep, and acknowledge that some personal learning disabilities exist and can be improved.

1.3. Relationship between Test Anxiety and Academic Performance of IT Students

Table 4: Relationship between Academic Performance and Test Anxiety

Variables		Test Anxiety	Verbal Interpretation
Academic Performance	r	0.347	Significant Relationship
	P-value	0.000	

*Correlation is significant at the 0.05 level (2-tailed)

In Table 4, the test of the relationship between the students' academic performance and test anxiety has been presented, indicating a significant relationship between the variables ($p = 0.000$). As reflected, the correlation coefficient ($r = 0.347$) indicates a low positive correlation between the variables. Meaning, there is an observed correlation but minimal. The results imply that anxiety positively affects the IT students' academic performance enrolled in an IT Major Course. According to Dawood (2016), a small anxiety level allows people to work hard further and become more responsible for what they do. In the students enrolled in an IT Major Course, respondents tend to exert more effort and become more responsible for their learning when they feel a minimal or small level of

anxiety. In turn, it positively affects their academic performance.

IV. CONCLUSION

This study aimed to describe the IT students' test anxiety and its relationship to their academic performance. The descriptive-correlational design was used with 394 respondents who voluntarily participated in this study. Results revealed that the IT students' test anxiety is “somewhat typical” of them to experience. Testing the test anxiety related to their academic performance in an IT Major Course, results showed a significant relationship among the variables under investigation. Results implied that the test anxiety experienced helped the students positively achieve better academic performance.

RECOMMENDATIONS

Based from the results of this study, the following are the drawn recommendations:

1. Replicate the current study and consider involving other students enrolled in different IT course;
2. Inform students of the positive and negative effects of test anxiety and other forms for them to be more aware of how to handle and cope up with them;

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