

TEST- ANXIETY AND ACHIEVEMENT OF B.ED STUDENT TEACHERS

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ABSTRACT

As a part of formative assessment B. Ed student teachers were supposed to have individual presentations of some elements/topics from their trimester course work. It was observed by the researcher that student-teachers feel anxiety before and during presentations. Once, when quite a good number of student-teachers were found absent in the class during the trimester, and when asked for, one of the student-teachers present in the class answered, "When it comes to presentations/ test / examinations and now our examination is approaching fast, they feel like dying or committing suicide." To author, that was an enough sufficient indication of anxiety among the student-teachers studying at tertiary level. Hence it was decided by the authors to find out through this mini research the anxiety in these student-teachers. One self-made test anxiety inventory was administered to them and the observations and results have been recorded. It was evident from this work that student-teachers at tertiary level also face anxiety and related problems. It was also compared with the exam scores of the subjects. If they are, "Test-wise", the anxiety and related problems would be minimal. So, they need to be, "Test-wise".

Key words: Higher education, tertiary education, examination, test, anxiety

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INTRODUCTION

As a part of higher education system at FNU students have to be assessed by formative as well as summative ways through varied sources. When the students are asked to present their ideas or views in front of their peers or lecturers/tutors, as a part of formative assessment, such social interactions create anxiety in them. Such an anxiety is commonly seen in youngsters and may continue in their adult life also. As quoted by <https://www.ncbi.nlm.nih.gov/books/NBK327674/> “social anxiety disorder is a persistent fear of one or more social situations where embarrassment may occur” ... (American Psychiatric Association, 2000). Viewed from psychological, social, biological, evolutionary perspectives, anxiety may give us different shades of meanings. Anxiety here, in this paper is viewed with reference to Test anxiety. It is a combination of physiological over-arousal, tension and somatic symptoms, along with worry, dread, and fear of failure, and upheaval that occurs before or during test situations. It is a physiological condition in which students in tertiary education experience extreme stress and discomfort during and/or before taking a test or writing examinations. This anxiety creates significant barriers to learning and performance.

In view of presentation of the findings of this piece of work, it would be proper to mention working definitions of the key words used in this text.

Definitions

Higher Education: As defined by www.dictionary.com/browse/higher-education, it is Education beyond high school, specifically that provided by colleges and graduate schools, and professional schools.

Tertiary Education: Wikipedia defines it as, “Tertiary Education, also referred to as third stage, third level, and post-secondary education, is the educational level following the completion of a school providing a secondary education. According to http://learn.org/articles/What_is_Tertiary_Education.html tertiary education, more commonly referred to as postsecondary education, refers to academic pursuit undertaken after high school.”

Examination: It is a formal and longer test of a person's knowledge or proficiency in a particular subject or skill.

Test: A less formal way of finding out how much someone knows about a topic or a subject. It is a set of written or spoken questions.

Anxiety: It is a feeling of worry, nervousness, or unease or restlessness.

Test-anxiety: the uneasiness, worry, or nervousness felt by students who have a fear of failing a test or an examination.

Students who have test anxiety may experience the fear in association with grades or with personal worth. The fear of getting embarrassed by a teacher, or that of separation from parents or friends, time pressures or feeling a loss of control also could be the reasons of anxiety. Sweating, dizziness, headaches, increased heartbeats, nausea, fiddling with fingers, uncontrollable crying or laughing and drumming on a desk are all common.

David Barlow defines anxiety as "A future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events." (2000: 11: p55)

Anxiety is differentiated from fear in the sense that it is a mental state resulting from difficult challenging situations for which the individuals have inadequate coping skills, whereas, fear is a cognitive and emotional response to an apparent threat. It is related to specific defense behaviors, There are different types of anxiety such as-test anxiety, mathematical anxiety, stage anxiety (in stage performers), fight anxiety or somatic anxiety along with stranger anxiety and social anxiety Test anxiety links with fear of negative evaluation, it could lead to anxiety disorders also. Whether the students in Higher Education exhibit anxiety or otherwise, was an area of concern, for which this mini research was carried out.

RATIONALE

Once, when quite a good number of student-teachers were found absent in the class during the trimester, and when asked for, one of the student-teachers present in the class answered, “When it comes to test / examinations and now our examination is approaching fast, they(students) feel like dying or committing suicide.” That was an enough sufficient indication of anxiety among the student-teachers studying at tertiary level. According to https://en.wikipedia.org/wiki/Yerkes–Dodson_law an optimal level of arousal is necessary to best complete a task such as an exam, performance, or competitive event. Looking at this fact, it was decided by the authors to study the nature of anxiety and its impact on achievement of B. Ed student teachers.

OBJECTIVES

The authors decided to focus on the following objectives for this mini research-

1. To identify level of anxiety in B. Ed student teachers
2. To identify achievement level in B. Ed student teachers on the grounds of anxiety
3. To compare the anxiety scores and achievement scores
4. To suggest ways to make these student-teachers test-wise

REVIEW OF LITERATURE

There are different types of anxiety such as-test anxiety, mathematical anxiety, and stage anxiety (in stage performers), fight anxiety or somatic anxiety along with stranger anxiety and social anxiety.

After browsing through some of the internet links, it was observed that Hae-Ra Han has conducted a survey on availability of researches on anxiety. According to the author, “Electronic database search using public media revealed that there were 224 researches available on anxiety up to 2008 December. All of them were published in English.

Those published in other languages were not taken note of for the survey. Out of these 75 were without full text on anxiety. Those with full text were 149 in number. Of these 80 were not concerned with measurement of anxiety, 18 considered different age range of respondents, 13

were conceptual works, 8 were simple translations, 7 were on genetic or hormonal influences, 2 were qualitative researches and 7 were miscellaneous in nature”. (June 2009: p51)

The researchers observed through their routine teaching-learning processes at FNU that students become more anxious when it is time for their individual presentations that are part of their course work having certain weightage. As aptly written by Jim Wright on, “Managing Test Anxiety: Ideas for Students’ in which he says, “...With so much depending on test results, it is no wonder that students often become anxious about taking tests”.
<https://www.google.com/search?q=Jim+Wright>

Students who have test anxiety may experience the fear in association with grades or with personal worth. The fear of getting embarrassed by a teacher, or that of separation from parents or friends, time pressures or feeling a loss of control also could be the reasons of anxiety. Sweating, dizziness, headaches, increased heartbeats, nausea, fiddling with fingers, uncontrollable crying or laughing and drumming on a desk are all common.

The researchers were of the opinion that students generally worry for their future. David Barlow defines anxiety as "A future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events." (2000: 11: p55)

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METHODOLOGY

A-Population and Sample

The population available for this mini research was in the form of B. Ed –year one student teachers from one of the reputed Universities from FIJI Islands; however, from the point of view of data management as well as accessibility, it was decided to have three representative groups enrolled for B. Ed program of this university, viz. B. Ed- Primary, B. Ed-Secondary and B. Ed Early Childhood Education, as the Educational Foundation Course unit done by these selected

students was the same and the lecturing and tutoring arrangements were also the same. The sample thus was a purposive sample and included one Hundred and Fifty (150) student teachers. According to Kothari (2004), “purposive or non-probability sampling involves purposive or deliberate selection of particular units of the universe for constituting the sample which represents the universe.” (p 15).

B- Data Collection

For this research the data was collected with the help of two self-made tools.

I) The tools used

The authors decided to use following tools for collecting data-

- i) The authors decided to use a self-made opinionnaire. It was developed on the Likert type opinionnaire having five options on a scale from always through-often, can't say, sometimes and never. It had twenty statements-half positive and half negative in nature.
- ii) The other tool was also in the form of opinionnaire but with three options suiting to the statements / questions. It was decided to be administered immediately after the End of Trimester exam paper was over. This second tool was also helpful in deciding their anxiety and achievement estimates.

II) The actual scores obtained by these student-teachers on the End-of-trimester exam paper.

After the students attended to end of trimester examination paper, it was marked by the researchers. These marks were available for the sake of comparison.

C- Reliability and validity of self-made tools:

Validity is the degree to which an instrument or a tool measures what it is supposed to measure. It is the accuracy, soundness and effectiveness with which an instrument measures what it is intended to measure. According to, Kothari (2010), as stated by AvitTheophil (2015) “The degree to which results obtained from the analysis of the data actually represent the phenomena under study.” (p24)

Reliability is a consistency with which the tool or instrument gives the same result every time. Measurements are said to be reliable when they are repeatable.

The reliability of the tools was decided to be measured in terms of internal consistency for the most important reason of single administration of tools. As supported by Popham, "...whereas stability and alternate form reliability require two administrations of a test, internal consistency reliability can be computed on the basis of only a single test administration". (2011: p68). Internal consistency reliability reflects the degree to which the items on a test are doing the measurement job in a consistent manner-that is the degree to which the test's items are functioning homogeneously.

Also, supported by Ellen Drost, "Internal consistency concerns the reliability of the test components. Internal consistency measures consistency within the instrument and questions how well a set of items measures a particular behavior or characteristic within the test. For a test to be internally consistent, estimates of reliability are based on the average intercorrelations among all the single items within a test".

However, the researchers having scope for test-retest of the tool used, have calculated the reliability coefficient using test-retest method. It was found to be ranging from 0.84 to 0.94 and averaging to 0.88 in case of all the statements of the anxiety tool and also post-test. Thus, it could be said that the tools used were having reliability and content validity. Linn et.al supported to this saying that, "...but the traditional categories do not take into account that the consequences of uses and interpretation of assessment results also influence validity. Hence, it is better to think of four interrelated considerations- content, assessment-criterion relationship, construct and consequences- in evaluating validity rather than a list of distinct validation methods". (1995: p50)

Construct Validity:

According to Cronbach, to the question "what is a good validity coefficient?" the only sensible answer is "the best you can get", and it is unusual for a validity coefficient to rise above 0.60, though that is far from perfect prediction. Following on these lines the researcher calculated the

coefficient correlation between anxiety scores and achievement scores that was found to be negligible.

The tool used thus indicated that it had construct validity apart from face validity and content validity. All in all, what we need to keep in mind always is the contextual questions: what is the test going to be used for? How expensive is it in terms of time, energy and money? What implications are we intending to draw from test scores?

D-Statistical Techniques

With the scores on anxiety and achievement, the authors decided to calculate mean, s. d. percentages and correlation.

OBSERVATIONS AND DISCUSSION

After administering the tools to the subjects in sample, the data was collected. Following Table indicates the nature of sample involved in this research-

Table 1: Table showing number of respondents

Student category	Gender		Total no.
	Male	Female	
B. Ed-Primary	15	25	40
B. Ed secondary	25	50	75
B. Ed-ECE	00	10	10
Total	40	85	125

It was evident from the sample that there were total 125 student-teachers out of which those enrolled in B. Ed secondary were more than those enrolled in Primary and ECE. The proportion of female student-teachers was almost double the male student-teachers.

Age-wise also, there was a variation in sample subjects. The age variation has been indicated in the following table-

Table 2: Age-wise variation

Student category	Age	No. of subjects
B. Ed-Primary	18-28 years	40
B. Ed secondary	18-43	75
B. Ed-ECE	20-36	10

After marking the subjects' responses on the opinionnaire, the marks on anxiety were categorized into three types based on three groups-lower group scoring less than 40%, middle group scoring between 41 to 60 % and higher group scoring between 61 % and above. This has been indicated by the following chart-

Table 3: Table showing categories of anxiety

Category of anxiety	Range of scores on anxiety	No. of subjects
Low anxiety	20 and below	26
Mediocre anxiety	21-30	45
High anxiety	31- 46	54
Total		125

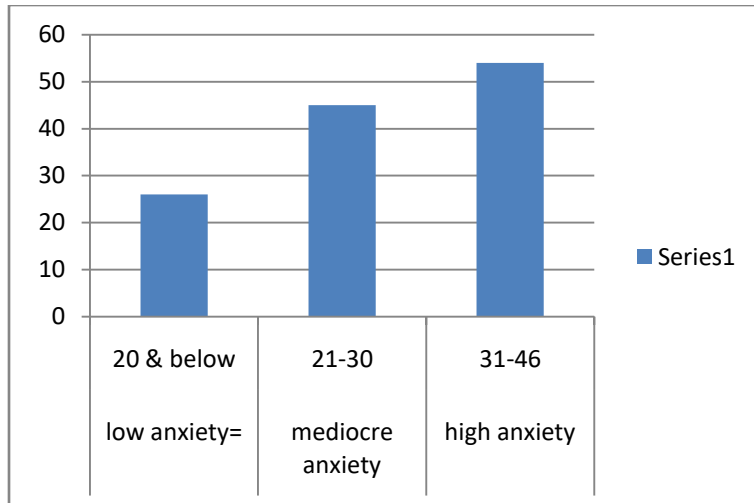


Chart 1: categories and no. of subjects as per anxiety scores

It was evident from the above Table and chart that the student teachers having higher anxiety level were more in the sample.

When checked gender-wise, the observations were recorded in the following table-

Table 4: table showing categories of anxiety in females-

Category of anxiety	Range of scores	No. of subjects
Low anxiety	20 and below	19 (22.3%)
Mediocre anxiety	21-30	33 (38.8%)
High anxiety	31- 46	33 (38.8%)
total		85

Table 5: table showing categories of anxiety in males

Category of anxiety	Range of scores	No. of subjects
Low anxiety	20 and below	7 (17.5%)
Mediocre anxiety	21-30	11(27.5%)

High anxiety	31- 46	22 (55%)
total		40

Gender-wise, percentage of males was more in high anxiety level. This has been indicated by the following self-explaining chart-

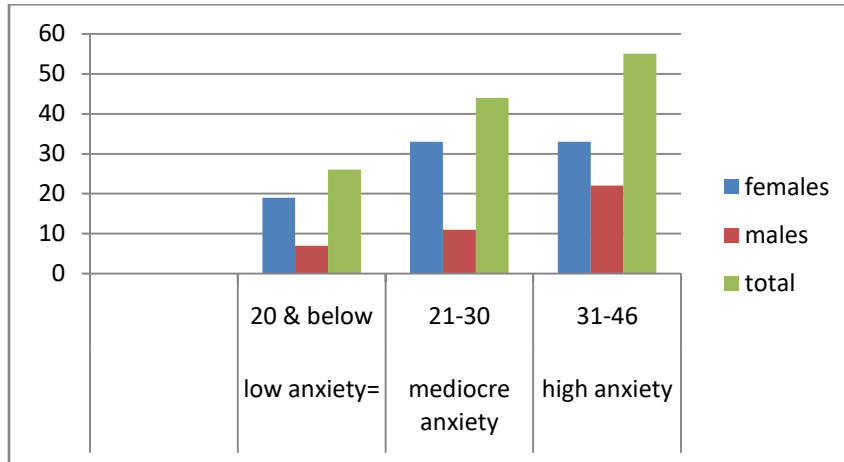


Chart 2: Chart showing males and females anxiety level compared

Overall high anxiety was found both in females and in males.

Research suggests that high levels of emotional distress or anxiety have a direct correlation to reduced academic performance. To verify this, the student-teachers' scores on the end of trimester examination were compared. It was observed that the value of mean scores, being higher on examination in subjects were contradicting the above statement as indicated by the following table-

Table 6: Table showing means and s. d. on exam scores and anxiety scores

Statistical technique	Exam scores	Anxiety scores
Mean	44.65	30.17
S.D	12.55	8.12
Correlation	0.021	

Whether this was influenced by gender was tried to be compared as shown in the following table-

Table 7: Table showing means and s. d. on exam scores and anxiety scores

Statistical technique	Exam scores		Anxiety scores	
	Males	Females	Males	Females
Mean	32.21053	47	28.42	47.63158
S.D	7.941305	13.21615	10.93705	13.47925
Correlation	-0.20		0.18	

The subjects were given a set of small questionnaire having 8 questions, immediately after the examination. Their responses have been recorded question-wise in the following table-

Table 9: Table showing gender-wise Responses on post-exam questions

	Response M F			Response M F			Response M F		
1. How did you do in the exam?	well	67	54	Not so well	23	38	Bad	10	8
2. How was your exam preparation?	satisfactory	63	53	Mediocre	26	38	Inadequate	11	9
3. How was the exam paper?	Easy	71	58	stressful	14	24	Difficult	15	18
4. How many questions did you answer?	all	80	82	Some	19	16	Few	1	2
5. Which questions were difficult?	Concept definitions	74	72	Short-answered	23	21	essay	3	7
6. What score do you expect?	Above 80%	32	30	Above 50%	65	61	Less than 50	3	9
7. What would be the reason for unexpected score?	Insufficient preparation	41	49	Inadequate time for preparation	38	39	Memory problems	21	12
8. What your plans for next exam?	Study from beginning	32	45	Study when exam is declared	41	37	Not yet decided	27	18

It would be evident from the above table that in all questions, the males' responses were towards high aspirations, whereas females' responses were more realistic although of mediocre type. One elaboration on question no.1 of these responses would suffice to support this. On question one, 67% Males answered that they did well in end of Trimester examination, and so on other questions as well, whereas their scores on the examination were less than those of females as seen from table 7 above.

SUMMARY

The findings of this work thus could be summarized objective-wise as follows-

- Student-teachers having high level of anxiety were found to be more in number in the sample.
- More females than males in the sample had high anxiety level.
- Achievement level of most of the student teachers was mediocre; although majority of them expected to score higher that is more than 80%.
- Examination scores of females were higher than those of males in the sample.
- Correlation between examination scores and anxiety scores was higher, although negligible, in females than that of males.

CONCLUSION

As the individuals grow they develop a mechanism to reduce the anxiety in various situations. When it comes to tests or examinations, the individuals do have anxiety. The students preparing for a test or an examination do face anxiety, although its level may be different in different individuals and in relation to different subjects. Probably this is one of the reasons, amongst others, for their low achievement in test/examination.

If students develop confidence in their test-taking skills, they will feel to be more comfortable. They will feel relaxed whenever the testing will occur. An intentional thinking strategy should help student improve their performance. As supported by Linn & Gronlund, "The most effective remedy, however, is a positive attitude towards test results. When the students are convinced that

valid test scores are beneficial to their own welfare, both their test anxiety and motivation tend to become minor problems”. (p427)

SUGGESTIONS FOR STUDENT TEACHERS

Anxiety is an unpleasant state of inner temporary disorder. It is a combination of physiological and psychological unrest. To reduce it, the authors suggested to the student-teachers that their anxiety level could be reduced if they become, “Test-wise.” Several tips were suggested to them to help reduce anxiety and prepare better for examinations such as knowing the subject matter well, remembering it by drawing mind maps, preparing themselves for test / examination emotionally as well as physically, using test-time wisely, reading questions and their directions/instructions carefully, making brief notes before beginning to write essay-type answers, organizing these notes in answer/essay, answering in outline form if they fall short of time etc. The authors also suggested the student-teachers to take tests to compete with their own older performances. By this their guilt of low scoring would be reduced and thinking as well as writing skills would be improved.

SUGGESTIONS FOR TEACHERS / EDUCATORS

The researchers would like to suggest that there could be a possibility of another research of the similar kind on the student teachers at FNU and considering anxiety in different subjects of their program.

Test anxiety is a negative psychological construct. High level of anxiety influences achievement negatively; however, if test takers learn to get motivation from test/examination, there may be an improvement in their test achievement. It can be inferred that one of the reasons for high levels of test anxiety is lack of motivation for examinations. If teachers and school counselors motivate students for examinations, supply necessary materials and teach them techniques of tackling examination questions, if teachers cover important topics that will come out in examinations, use past questions and be ready for students’ consultation even after the classroom, then these efforts will help build enough confidence in students to face examinations without fear or anxiety.

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