

EXPLORING RELATIONSHIP BETWEEN SELF-EFFICACY AND TEST ANXIETY AMONG PROSPECTIVE TEACHERS

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ABSTRACT

The purpose of this study is to “Exploring the Relationship between Self-Efficacy and Test Anxiety among Prospective Teachers”. All the prospective teachers of Punjab University were population of the study. The sample for this study was 1000 prospective teachers Random sampling technique was used. The study was quantitative in nature and a questionnaire was used. The researchers collected data personally from all departments of Institute of Education and Research Punjab University Lahore. Statistical techniques, i.e. Mean of the scales were calculated to measure self-efficacy and test anxiety level of prospective teachers, Pearson r test was used to explore relationship between self-efficacy and test anxiety among prospective teachers, Independent sample t-test was used to measure test anxiety and self-efficacy with respect to demographic variables (gender, shift). One- Way ANOVA test and LSD Post hoc were used to measure self-efficacy and test anxiety with respect to demographic variables (departments, programs and semesters).

Keywords: *Self Efficacy, Anxiety, Cognitive*

INTRODUCTION

Higher education is one of the most important things that enable individuals to succeed in acquiring a profession in order to tackle various life obstacles. For a new student, university life can be demanding and difficult, necessitating a greater level of student initiative, commitment, and self-monitoring. A large quantity of research has been conducted in order to uncover crucial elements influencing student achievement by examining the relationships between various psychological and academic aspects. Few research have proposed and tested models to describe the relationships between factors that impact student academic success (Milstein, & Nakazawa, 2011).

Many things influence students' careers. Self-efficacy is one of the most crucial variables. Social cognitive psychologists highlighted the concept of belief in one's ability to do a task. . It is operationally defined as “one's believe to perform a given task and is able to achieve the goal (Bandura, 1982). Persons with high self-efficacy are able to plan effectively and successfully in completion of a task (Bandura, 1982). Such persons believe about their capacities and confidently apply them in such a way that they achieve goals even highly completed tasks. In contrast a person who avoids complicated tasks, unable to plan to achieve goals, and believe in his/her capacities to attain the goals are persons with low self-efficacy. High self-efficacy are those who understands their capacities and successfully plan their activities while persons with low self-efficacy unable to perform their assignment (Bandura, 1982).

A person will generate high self-efficacy and take part in it when convincing that he has the ability to carry out an activity. For example, students will listen to the lesson carefully when they not only know that the attention can bring ideal results, but also feel that they have the ability to understand the teaching contents. After acquiring relevant knowledge and skills, self-efficacy has become the determinant of act (Bandura, 1977).

Pajares and Schunk (2001) stated that a strong sense of efficacy enhances human well-being; for instance, self-efficacy beliefs influence the amount of stress and anxiety that people experience as they engage in an activity (Pajares & Miller, 1994), and probably when students engage in a course.

One of the main and the natural concerns for an educational scientist is to establish a

good learning environment, hence, to make students attain academic success. Test anxiety is one of the main barriers to reach this goal. Feelings of anxiety toward examination have existed ever since examinations have been used in the educational settings and are frequently expressed in today's competitive academic environment. The test anxiety, as a specific form of anxiety, has attracted the attention of many researchers. Research was carried out investigating the relationship of test anxiety with different variables such as attributional styles, learning strategies, study skills, evaluative threat, test and academic performance (Culler & Hollahan, 1980).

Over the years, the phrase "test anxiety" has accumulated a variety of definitions. According to early research, it was typically measured using a one-dimensional scale because it had a singular attribute (Cassady & Johnson, 2002, p. 271). However, Sarason (1961) observed that test anxiety could have multiple factors, involving both an increase in adverse physiological activity and deliberation on self-criticizing thoughts; over the years it has become more accepted that test anxiety is composed of two very distinct factors: emotionality and worry. According to Cassady and Johnson (2002), emotionality involves the awareness of the physiological symptoms associated with test anxiety, whereas the worrying, or "cognitive test anxiety" (pp. 271– 272), involves the cognitive reactions before, during, and after tests.

Paul, Elam, and Verhulst (2007) explained test anxiety as a "type of distress" that involves both a "physiological" and "psychological" component (p. 287). Used to illustrate the components of test anxiety, their words "physiological" and "psychological" are essentially more concrete terms for "emotionality" and "worry" described by (Cassady & Johnson 2002). Once an individual is aware of the physiological symptoms, the psychological results can further impair performance, reflecting the interdependent nature of the two dimensions (Paul et al., 2007). In addition to these two components, other factors may influence the level of manifestation of test anxiety. Embse, Barterian, and Segool (2013) noted that "biopsychosocial factors may contribute to the extent and expression of distress" (p. 57).

Test anxiety is a complex negative emotion and act phenomenon. A lot of views have been put forward on it. It is a kind of emotion in the state of helplessness and disorder. It is a habitual and conditioned emotional response (Salason, 1972).

Test anxiety has become even more of an important issue as the amount of testing and its Consequences have increased for students (Cizek & Burg, 2006).

Test anxiety has negative effects on learning and academic performance. Students who become anxious in testing situations do not achieve well on standardized achievement tests, leading to poor grades (Lowe, et al., 2007). These negative effects can also lead to potentially higher amounts of test anxiety and impact the student's current and future level of academic standing, degree achievement, and selection of occupation (Cizek & Burg, 2006).

It is necessary to find out relationship between test anxiety and self-efficacy among prospective teachers, make an attempt to provide a better academic environment to students and teacher educators.

Importance of self-efficacy and test anxiety

The effects of test anxiety and self-efficacy on academic performance were emphasized in many studies (Hembree, 1988, Hill & Wigfield, 1984; Pajares & Schunk, 2001). Although their importance for secondary school students was emphasized, the majority of studies were made on the traditional students. In the national and international literature, there was no enough specific study on self-efficacy and test-anxiety in the context of biology learning for secondary school students by considering them as the dominant positive and negative motivation factors. Insufficient studies on the problem drive the

attention to study on self-efficacy and test anxiety across some basic variables such as grade level.

Self-efficacy

Bandura (1977) initiated the conception of perceived self-efficacy which influences and modifies human behavior. Self-efficacy refers to the personal beliefs or to an individual's confidence in his own ability to perform effectively specified tasks. Self-efficacy theory stressed that human action and success depend on how deep the interactions between one's personal thoughts and a given task (Bandura 1986, 1997).

Self-efficacy is defined as a feature influential in the formation of behaviors and "individual's judgment about his/her capacity to organize the necessary activities to perform a certain task and achieve it successfully" (Bandura, 1997, p.78).

Self-efficacy refers to student's beliefs in their ability to master new skills and tasks, often in a specific academic domain (Miller & Pujari's, 1994). In other words, perceived self-efficacy is concerned with people beliefs in their capabilities to produce given attainments (Bandura, 1997).

Self-efficacy is said to have a measure of control over individual's thoughts, feelings and actions. In other words, the beliefs that individuals hold about their abilities and outcome of their efforts influence in great ways how they will behave. Anxiety (Pajares, 1996; Schunk, 1995).

"People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391).

"Self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (Bandura, 1970, p.71).

"An individual's belief in his or her own ability to organize and implement action to produce the desired achievements and results" (Bandura, 1997, p. 3).

Self-efficacy is a multidimensional construct that varies according to the domain of demands (Zimmerman, 2000), and therefore it must be evaluated at a level that is specific to the outcome domain (Bandura, 1986; Pajares, 1996). Thus in academic settings, self-efficacy refers to personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances.

Research question

Following were research questions of current study.

1. To what extent prospective teachers have self –efficacy?
2. To what extent prospective teachers are test anxious?
3. Is there is any relationship between self –efficacy and test anxiety among prospective teachers?

RESEARCH METHODOLOGY

The purpose of this quantitative correlational study was to investigate the association between self-efficacy and test anxiety among aspiring instructors. Quantitative study is an investigation method that measures and describes events objectively. Quantitative research can be experimental, in which variables are manipulated, or non-experimental, in which conditions are not manipulated. "Quantitative research seeks to clarify an event by gathering numerical data that are analysed using scientific bases methodology (in particular statics)" (Aliaga, 2000). The current study is quantitative in character because the data was collected in the form of numbers and analyzed using statistical procedures.

Correlational research is a sort of nonexperimental study in which the investigator measures two variables and evaluates their statistical relationship (Kraut & Johnston, 1979). A correlational research study not only explains the links that exist between variables, but also explores them systematically (Porter & Carter, 2000). The current study finds a

correlation between self-efficacy and test anxiety, indicating that it is a correlational study.

The study's population included all 1957 students from the Punjab University, as determined by the admission book for 2022. This study includes 12 departments from the Institute of Education and Research in order to conduct research on the association between self-efficacy and test anxiety among aspiring teachers.

The sample method used was stratified random sampling. Gay (1996) states that if the population size is greater than 1000, the sample size must be 30%, which in this case was 587. However, 1000 samples were drawn just to be safe. Table 3.3 contains information about the study's participants.

A closed-ended questionnaire was employed in this investigation. The self-efficacy questionnaire (GSE) created by Schwarzer and Jerusalem (1995) was used; the instrument has ten items. For self-efficacy items, a four-point Likert scale was utilized, with 1 meaning Not at all true, 2 meaning Hardly true, 3 meaning Moderately true, and 4 meaning Exactly true. The test anxiety questionnaire (TAQ) established by Nist and Diehl (1990) was used. The instrument is made up of ten parts. For test anxiety items, a five-point Likert scale was utilized, with 1 indicating never, 2 indicating rarely, 3 indicating occasionally, 4 indicating frequently, and 5 indicating always.

The researchers gathered data to investigate the association between prospective teachers' self-efficacy and test anxiety. Students from all departments at the Institute of Education and Research were asked to fill it out carefully and patiently.

Results and Discussion

Table 1

One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to department.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2824.029	8	353.004	16.403	.000
Within Groups	21327.290	992	21.521		
Total	24151.319	1000			

Table 1 shows F value (16.403) is fix at $p \leq 0.05$ level of significance. Hence it is concluded that there is major difference in self-efficacy level of prospective teachers on the bases of their departments. To find out where the difference lies, post hoc test was applied.

Table 2

One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to their programs.

	Sum of Squares	Df	Mean Square	F	Sig.
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Between Groups	4115.936	11	374.176	18.452	.000
Within Groups	20035.383	989	20.279		
Total	24151.319	1000			

Table 2 shows F value (18.452) is fix at $p \leq 0.05$ level of significance. Hence it is concluded that there is major difference in self-efficacy level of prospective teachers on the bases of their programs. To find out where the difference lies post hoc test was applied.

Table 3
Semester wise Mean and standard deviation of self-efficacy level of prospective teachers.

	N	Mean	Std. Deviation
Prospective teachers of 2 nd semester	467	27.57	4.801
Prospective teachers of 3 rd semester	60	25.93	3.156
Prospective teachers of 4 th semester	351	28.67	4.975
Prospective teachers of 6 th semester	64	28.69	5.427
Prospective teachers of 8 th semester	58	28.05	5.586
Total	1000	27.96	4.917

Table 3 shows semester wise mean and stranded deviation of self-efficacy level of prospective teachers. The mean and standard deviation of Prospective teachers of 2nd semester were 27.57, 4.801; of 3rd semester were 25.93, 3.156; of 4th semester were 28.67, 4.975; of 6th semester were 28.69, 5.427; and of 8th semester were 28.05; 5.586.

Table 4
One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to demographic variable (semester).

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	527.126	5	131.781	5.550	.000
Within Groups	23624.193	995	23.743		

Total	24151.319	1000
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Table 4 shows F value (5.550) is fix at $p \leq 0.05$ level of significance. Hence it is concluded that there is major difference in self-efficacy level of prospective teachers on the basis of their semesters. To find out where the difference lies post hoc test was applied.

Table 5

Prospective teachers	N	Mean	Df	t-value	Sig
Female	699	28.29	465.968	-2.313	.011
Male	301	29.48			

t-test to find out difference in test anxiety level of prospective teachers with regard to gender.

Table 5 indicates that t- value (-2.313) is fix $p \leq 0.05$ level of significance. Hence it is concluded that there is no major difference in test anxiety level of prospective teachers on the basis of demographic variable (gender).

Table 6

Variables	N	r-value	Sig.
Self-efficacy and test anxiety	1000	.147	.000

Pearson r for relationship between self-efficacy and test anxiety among prospective teachers

Table 6 shows that Pearson r-value (.147) is fix at ≤ 0.05 level of significance. From the table it was concluded that there exist positive weak relationship between self –efficacy and test anxiety among prospective teachers.

Findings

Following were the findings obtained as a result of data analysis.

1. Self –efficacy mean and stranded deviation of prospective teachers is 27.96 which means the self –efficacy level of prospective teachers is slightly above the average score (25).Based on the descriptive analysis was concluded that self-efficacy level of prospective teachers is slightly high.
2. Test anxiety mean and stranded deviation of prospective teachers is 28.65 which means the test anxiety level of prospective teachers is slightly below the average score (30).Based on the descriptive analysis was concluded that test anxiety level of prospective teachers is slightly low.
3. t-test to find out difference in self –efficacy level of prospective teachers with regard to their gender shows t- value (-2.017) is significant $p \leq 0.05$ level of significance. Hence it is concluded that there is significant difference between self – efficacy level of male and female prospective teachers.
4. t-test to find out difference in self –efficacy level of prospective teachers with regard to shift shows t- value (-1.915) is not significant $p \leq 0.05$ level of significance. Hence it is concluded that there is no significant difference in self – efficacy level of prospective teachers on the basis of shift.

5. One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to departments shows F value (16.403) is significant at $p \leq 0.05$ level of significance. Hence it is concluded that there is significant difference in self-efficacy level of prospective teachers on the bases of their departments.
6. LSD post hoc for multiple comparison between different departments to find out difference in self-efficacy level of prospective teachers shows that the maximum mean difference exist between self-efficacy level of prospective teachers of department of business education and prospective teachers of department of Educational Research and Assessment and the minimum difference exist between self-efficacy level of prospective teachers of department of Early childhood education and prospective teachers of department of Secondary education.
7. One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to programs shows F value (18.452) is significant at $p \leq 0.05$ level of significance. It is concluded that there is significant difference in self-efficacy level of prospective teachers on the bases of their programs.
8. The mean and standard deviation of Prospective teachers of 2nd semester were 27.57, 4.801; of 3rd semester were 25.93, 3.156; of 4th semester were 28.67, 4.975; of 6th semester were 28.69, 5.427; and of 8th semester were 28.05; 5.586.
9. One –Way ANOVA test to find out difference in self –efficacy level of prospective teachers with regard to semester shows F value (5.550) is significant at $p \leq 0.05$ level of significance. Hence it is concluded that there is significant difference in self-efficacy level of prospective teachers on the basis of their semesters.
10. t-test to find out difference in test anxiety level of prospective teachers with regard to gender shows value (-2.313) is significant $p \leq 0.05$ level of significance. Hence it is concluded that there is no significant difference in test anxiety level of prospective teachers on the basis of gender.
11. Department wise Mean and standard deviation of test anxiety level of prospective teachers shows F value (3.457) is significant at $p \leq 0.05$ level of significance. Hence it is concluded that there is significant difference in test anxiety level of prospective teachers on the bases of their departments.
12. Pearson r for relationship between self-efficacy and test anxiety among prospective teachers shows that Pearson r-value (.147) is significant at ≤ 0.05 level of significance. From the table it was concluded that there exist positive weak relationship between self –efficacy and test anxiety among prospective teachers.

Conclusion

Each public university student approaches the test differently, resulting in a varying degree of test anxiety. Severe test anxiety has an impact on university students' physical and mental health, regular life, and their ability to successfully complete socialization during their studies. People with varied levels of self-efficacy have different feelings, ideas, and behaviors, according to Bandura's theory (Bandura, 1997). Low self-efficacy is frequently related with melancholy, anxiety, and helplessness on an emotional level. Self-efficacy, in terms of thinking, can boost cognitive processes and achievements on a variety of occasions, including decision quality and academic achievement. People who have a high sense of self-efficacy will choose more difficult projects, set higher objectives, and stick to them. Once the act begins, they will exert more effort, stay longer, and recover quickly from setbacks.

Self-efficacy is critical in influencing students' lives. According to the findings of this study, prospective teachers have a high level of self-efficacy and a low level of test anxiety. There is a considerable gender difference in self-efficacy and test anxiety level among prospective teachers, according to the findings. Female prospective teachers had lower self-efficacy and exam anxiety than male prospective teachers. Prospective teachers' levels of

self-efficacy and exam anxiety vary according to department, degree program, semester, and shift. Prospective elementary teachers had the highest degree of self-efficacy and the lowest level of test anxiety, while prospective business instructors have the lowest level of self-efficacy and the highest level of test anxiety.

Recommendations

1. Encourage students to prepare for exams ahead of time so that they will acquire confidence, which will help to prevent or lessen test anxiety, especially before exams, which will help to reduce test anxiety and thus improve students' academic performance.
2. It is important to provide financial and social assistance to family members as well as encourage involvement in social events to reduce exam anxiety and promote self-efficacy.
3. Teach students how to manage and cope with test anxiety during exams, and make them understand that some level of anxiety is necessary as a motivator before the exam.
4. It is advised to university administration that necessary academic resources and services for students given by the institution be adequately described to students so that students can easily take use of them. By enhancing the excellence of students' services such as relaxation techniques, aerobic exercise, and counseling facilities at a reasonable price, the institution atmosphere may be made more beneficial for students, and they will be able to find relief from study anxiety.
5. It is recommended to curriculum planners that they organize the curriculum of courses in such a way that students have enough time for each topic and other curricular activities. This increases self-efficacy and reduces test anxiety.

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