Effect of Relaxation Technique on Exam Anxiety among Nursing Students

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Abstract

Introduction: Evaluation of education is done by keeping examination for the students. so the examination is important part in the education . When the students undergo examination , they face lot of challenges ,this makes the students to suffer from anxiety . If the students sit in the exam with anxiety , its make them to put in the difficult situation to recollect the information . Anxiety play a role in changing the performance of the students. This study was aim to reduce the test anxiety by relaxation technique before undergoing test.

Methods: A quasi experimental study design was adopted in this study. A total of 54 students undergoing a Baccalaureate nursing program at the College of Applied Medical Sciences, King Khalid University (KKU), Saudi Arabia was selected using convenience sampling. This study was carried out during the academic year of 2023-2024. The data were collected using a questionnaire such as Westside Test Anxiety Scale the five-point Likert scale. The responses obtained were subjected to statistical analysis using SPSS

Results: Paired t-test results, showed there was a significant change in the study group's test anxiety mean scores before and after the intervention (p=0.000). The mean score of the post-test observed less than the pre-test. This suggests that the test anxiety before to the exam was effectively reduced by the relaxation strategy

Conclusion: Based on the study findings, the results revealed that the relaxation technique was effective in reducing test anxiety. Thus, this technique can be adopted by the students to reduce anxiety before undergoing exam.

Keywords: Relaxation technique; Test anxiety; Nursing; Students

INTRODUCTION

Students are under pressure to perform well on all academic examinations because their grades are the primary indicator of their achievement. A student's learning environment is typically test-oriented, meaning that many of the psychological states they experience are determined by the test's outcome. In the field of education, students frequently suffer from severe anxiety associated to exams. There has been evidence that anxiety and sadness are more common among students; in particular, surface learners are more susceptible, which could result in their failure or reduced achievement (Cipra & Müller-Hilke, 2019, Mirza, Milaat, Ramadan, et al., 2021, Moreira de Sousa, Moreira, Telles-Correia, 2018). According to (Bashir, Albadawy & Cumber, 2019), the two most stressful things in the life of young adults are homework and exams. During their exams, many students experience physical and emotional exhaustion and resort to studying late at night (Vitasari, Othman, Herawan & Sinnadurai, 2010). Students' anxiety is fuelled by their overpowering feelings, troubling thoughts, and growing workload of

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coursework. Extreme anxiety can impair a student's ability to think and, ultimately, their academic performance, even if some amounts of anxiety are important for academic achievement (Shakir, 2014).

In order to characterize uneasiness in assessment scenarios (Mandler & Sarason, 1952) coined the phrase "test anxiety." Anxiety scales, questionnaires, and assessments have been published more often since their introduction (Sarason, 1980). According to (Shraga, 1991) test anxiety is a particular, targeted stress pattern that arises in reaction to circumstances involving the assessment of a student's performance. This phenomena shows itself as behavioral and physiological reactions to anxiety about potentially failing a test or other kind of assessment (Ergene, 2003). Test anxiety has been linked to subpar academic performance, a decline in degree completion rates, and a reduction in the range of careers that can be followed (Enright et al., 2000). The student body is largely affected by test anxiety. Estimates of prevalence range from three extremely nervous kids in a classroom to up to 10 million elementary and secondary students who perform below grade level due to severe test anxiety (Mealey & Host, 1992 & Sogunro, 1998).

Anxiety about tests has the power to hinder a student's academic growth and achievement. Exam anxiety is associated with worse grade point averages at both the undergraduate and graduate levels, according to (Chapell et al., 2005) who examined over 5000 undergraduate and graduate students. At the graduate level, the association was not as strong, though. This might occur from the possibility that graduate-level exams are less common. Test anxiety was found to be higher in female undergraduate and graduate students than in male students in the same groups.

As the previous study examined three test anxiety therapies in two distinct student groups. Supportive counselling, relaxation therapy, and cognitive behavioural hypnosis were the therapies that were investigated. The efficacy of the various interventions was assessed for graduate and undergraduate students alike. For graduate students, relaxation therapy proved to be more successful, while supportive counselling yielded the best results for undergraduate students. Because graduate and undergraduate students responded to treatment differently, Researcher has suggested that test anxiety may have a developmental component that has not yet been discovered (Sapp, 1996).

Nursing students are predisposed to high levels of anxiety due to a variety of academic-related risk factors as well as the extremely demanding nature of the nursing program. The rigorous timetable of the nursing school includes attending lectures, turning in assessments, completing both theory and clinical assignments, writing exams, and making oral presentations. The program's time-consuming structure and rigorous study requirements can be quite taxing on students, increasing their risk of burnout, weariness, and exhaustion—all of which can have a detrimental impact on their mental health and result in worry (Hwang & Kim, 2022). Researcher suggested from the result of the study a major cause of stress for nursing students could be the skills demonstration and nursing learning lab. While the intervention group had access to a friendly, qualified instructor and was allowed to use the equipment, the control group of students watched films and read literature that explained procedures and were then required to perform them safely. Students that used the equipment firsthand reported much lower levels of stress and showed improved skill performance (Bell, 1991). With the number of non-traditional nursing students rising (Waltman, 1997) questioned if test anxiety differed between the two groups. Every student completed the Test Anxiety Inventory (TAI), and the scores were assessed both overall and according to its subscales. The pupils classified as conventional and non-traditional had quite diverse demographics, but they scored almost the same on the TAI and its subscales.

According to (Waltman, 1997) an individual's development of an anxiety response is contingent upon the likelihood of negative events occurring in their surroundings and their capacity to manage them. While moderate anxiety might boost motivation for tasks requiring endurance or tenacity, high anxiety can be detrimental (Vitasari et al., 2010). High levels of test anxiety make it difficult for students to study and do well on the test. Even with advanced schooling and strong metacognitive abilities, some students occasionally mysteriously struggle to demonstrate the knowledge they have learned in class. These students show up for class, complete their assignments, yet score poorly on tests, particularly when the stakes are high. Adolescents with exam

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anxiety also frequently experience overwhelming feelings of fear, worthlessness, and dread regarding their academic performance.

Exams play a significant role in a student's academic journey. Anxious students find it harder to convey their abilities on tests, which can cause dissatisfaction and hinder their learning. In addition to concern, dread, fear of failing, and catastrophizing, test anxiety is characterized by physiological over-arousal, tension, and physical symptoms that can arise before or during an exam (Shakir, 2014). Test anxiety levels may be impacted by environmental variables such as a general decline in a person's quality of life and technological advancements (Zeindner, 1998).

Measures of Test Anxiety

There are tools that have been specifically designed to measure test anxiety. Partial lists of these tools are, State Test Anxiety Report (STAR) by Gross, 1990; Test Anxiety Scale (TAS) by Smith et al., 1990; Friedben Test Anxiety Scale (FTA) by Friedben & Bendas Jacob, 1997; Test Anxiety Inventory (TAI) by Jones & Johnston, 2000; Reaction to Tests Inventory (RTT) by Schönwetter, et al., 2002; Achievement Anxiety Test (AAT) by Brewer, 2002.

Students' anxiety is fueled by their overpowering feelings, troubling ideas, and growing workload of coursework. Extreme anxiety can impair a student's ability to think and, ultimately, their academic performance, even if some amounts of anxiety are important for academic achievement (Shakir, 2014). Numerous studies indicate that text anxiety among students worldwide is influenced by a wide range of circumstances. According to (Khoshhal, Khairy, et al., 2017) these factors include the following: poor time management skills, lack of social support, psychological distress, low self-esteem, low previous grade point average (GPA), maternal educational level, extensive course loads, poor study skills, lack of physical exercise, fear of failing the course, and female gender. A relaxation technique is an approach that uses the body to teach specific behaviors that lower the organism's physiological activation. Several interventions for managing test anxiety are discussed in the literature, with a distinction made between those used to help students prepare for exams outside of the classroom (pre-test) and those used during exams (intra-test) (Broderson, 2017).

As another author stated that spontaneous breathing is a potentially helpful method of lowering tension and anxiety. Those who are learning deep breathing meditation techniques should make time to practice on their own outside of group sessions or therapy. Because of this, a lot of therapists send their clients handouts or scripts that contain instructions that they can refer to and follow on their own. The authors point out that slowing down breathing is among the simplest methods for potentially reducing stress. Calming, reduced stress, and mental clarity can be achieved by reducing breathing to ten to twelve breaths per minute. Inhaling deeply through the nose and exhaling through the mouth is the emphasis of another relaxation technique. The idea is to concentrate on physical experiences linked to worry and stress. It will also "inhibit the development of anxiety and tension and reduce the level that is currently being experienced" if one concentrates on the relaxing effects of breathing (Wilkinson et al., 2002).

The nursing field is growing in Saudi Arabia, where there are more options for students to enroll in training programmers leading to PhDs and entry-level diplomas. As a result of these developments, jobs are changing and becoming more responsibilities; yet, maintaining the sustainability of the nursing workforce and defining the scope of practice present challenges (Al Dossary, 2018). According to (Aziz & Serafi, 2017) data analysis, over 50% of female medical students in Makkah, Saudi Arabia had text anxiety. Additionally, data from Saudi Arabian pharmacy students' objective structured clinical assessments shows a connection between test anxiety and poor performance (Hadi et al., 2018).

Although many different types of relaxation training have been employed to lessen the negative effects of anxiety, many students still face significant challenges and risks as a result. This explains why investigating additional psychological strategies, such relaxation techniques, is necessary to help kids deal with their exam anxiety. This study sought to determine the relationship between exam anxiety and the various study strategies employed by students, as well as the degrees of anxiety influenced by age, gender, grades, study year, amount of

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time spent studying, and learning methods, utilizing a variety of scales. by evaluating nursing students' anxiety levels and related anxiety-causing variables. The purpose of this quasi-experimental study was to find out how relaxation techniques affected test anxiety among nursing students enrolled in College of Nursing, King Khalid University's, Muhayil branch, Saudi Arabia, during their seventh semester of the 2023–2024 academic year.

METHODS

Study design

One group pre-test and post-test designs were used for the research. The study population consisted of all level 7 nursing students enrolled at College of Nursing (N = 54). Following permission of the research project by King Khalid University's Ethics Committee, the researchers began data collection during the pre-intervention period. Before the quiz , midterm tests the individuals were given the Westside Test Anxiety Scale questionnaire, which they were instructed to complete together with a questionnaire collecting demographic data. 54 subjects completed the demographic information and Westside Test Anxiety Scale questionnaires. The degree of test anxiety was assessed using the Westside Test Anxiety Scale. The majority of the items on the anxiety scale ask explicitly about concerns that interfere with focus or concerning performance impairment. This scale works well for evaluating students' anxiousness. Institutional Review Board Statement were approved by the Research Ethics Committee of the King Khalid University and conformed with the approval number HAPO-06-B-001 dated: 15-11-2023.

Assessment Questionnaire

There were two sections to a self-created questionnaire. In order to gauge how well participants were using the study materials at their disposal, how much time they were spending studying, and whether or not they were studying in a group, the first section of the questionnaire asked questions on demographics variable and specific study techniques such as Age, GPA, Number of days studying per week, study method, learning resource. The Westside Test Anxiety Scale was used in the second section to gauge exam anxiety. The Westside Test Anxiety Scale, which consisted of ten straightforward questions, was designed to identify kids whose academic progress was hindered by test anxiety. Each question was assigned a score that gradually varied from 1 (not at all) to 5 (always true). The questions' total points were split by ten. Exam anxiety levels were categorized as low (1.0-1.9), normal (2.0-2.5), high normal (2.6-2.9), moderately high (3.1-3.4), high (3.5-3.9), and extremely high (4.0-5.0) based on the results obtained. We separated the participants into three primary groups according to their test anxiety ratings, which were determined using the Westside scale, in order to make the results more representative. There are three levels of exam anxiety: low (1.0–2.5), moderate (2.6–3.4), and high (3.5–5.0).

Statistical Analysis

Students received the questionnaire the day before the test. They had thirty minutes to complete it and then practice relaxation techniques. To complete the post-test, they were given the identical Westside Test Anxiety Scale. The researchers instructed the students to practice the relaxation technique at home, and the following day, the students did just that, right before the exam. The subjects' information was kept private while taking ethical considerations into account, and they requested to receive the results. IBM SPSS for Windows software version 27.0 (SPSS Inc., Chicago, IL, USA) was used to code, confirm, and analyze the data after it had been collected and verified. To verify if the data were normal, the Shapiro-Wilk test was applied. Statistics were created to provide data like mean ± standard deviation and frequencies for the data, making it easier to grasp. Students' qualitative data was compared using the Chi-square test. To determine the mean difference, paired t-tests were employed. At a p-value of 0.05, statistical significance was taken into account.

RESULT AND DISCUSION

According to Table 1, the age group with the fewest participants (9.2%) was 20 years old, followed by 22 years old and 21 years (38.9% and 51.9%). A GPA of 4.5-5.0 (46.3%) was the most common among the participants, followed by 4-4.49 (33.3%) and <4 (20.4%) GPAs. The majority of participants (61.1%) studied for three to four days per week, with the next highest percentages (18.5%) spending more than 5 days and one to two days. The

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smallest percentage (1.9%) study before exam. Just 14.8% of the individuals studied in a group, whereas the majority of participants (85.2%) studied alone.

Table 1. Characteristics of study subjects

Variables	N (%)
Age	
20	5 (9.2)
21	28 (51.9)
22 and Above	21 (38.9)
GPA	
Below 4	11 (20.4)
4 to 4.49	18 (33.3)
4.5 to 5	25 (46.3)
Number of days studying per week	
1-2 days	10 (18.5)
3-4 days	33 (61.1)
5 days or more	10 (18.5)
Only before exam	1 (1.9)
Study method	
Alone	46 (85.2)
Group	8 (14.8)

The majority of students (64.8%) utilised lectures and lecture recordings, with the remainder using textbooks (18.5%), video platforms (1.9%), online resources (3.7%), and other resource (11.1%), Figure 1.
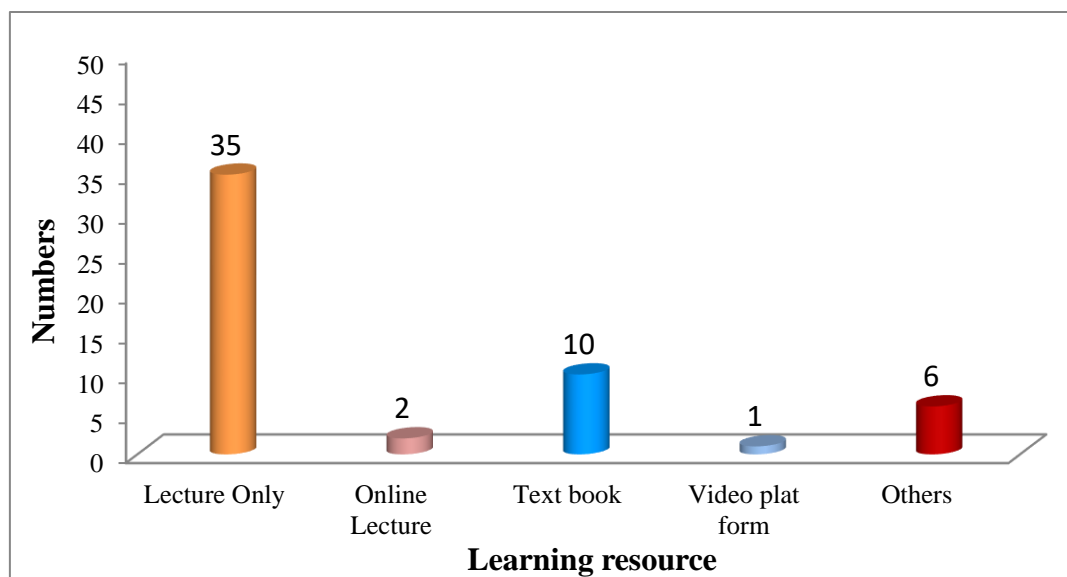
Figure 1: Learning resource used by students

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Table 2. Participants' Anxiety Level and Comparison among students

Anxiety score	Pre-test N (%)	Post-test N (%)	Pre-test Mean±SD	Post-test Mean±SD	t	sig
Low	18 (33.3)	25 (46.3)	16.25±3.019	15.88±2.997		
Moderate	22 (40.7)	21 (38.9)	29.13±4.900	26.74±4.210	8.900	0.000
High	14 (25.9)	8 (14.8)	46.71±3.251	44.00±3.606		

There were no notable differences in the pupils' exam anxiety levels. The majority of students (40.7%) felt moderate test anxiety, followed by low test anxiety (33.3%) and high test anxiety (24.9%) in the pre-test. The majority of students (46.3%) reported low test anxiety, followed by moderate test anxiety (38.9%) and severe test anxiety (14.8%) on the post-test. Paired t-test results, showed there was a significant change in the study group's test anxiety mean scores before and after the intervention (p=0.000). The mean score of the post-test observed less than the pre-test. This suggests that the test anxiety before to the exam was effectively reduced by the relaxation strategy.

Table 3. Association of Anxiety with different factors

	Low	Moderate	Severe	Chi-square (Sig)
Age				
20	-	3 (60%)	2 (40%)	5.099 (0.277)
21	4 (14.3%)	20 (71.4%)	4 (14.3%)	
22 and above	4 (19%)	16 (76.2%)	1 (4.8%)	
GPA				
Below 4	-	7 (63.6)	4 (36.4)	8.530 (0.034)*
4.4- 4.49	3 (16.7)	13 (72.2)	2 (11.1)	
4.5-5	5 (20)	19 (76)	1 (4)	
Number of days studying per week				
1-2 days	1 (10)	8 (80)	1 (10)	6.520 (0.368)
3-4 days	5 (15.2)	23 (69.7)	5 (15.2)	
5 days or more	1 (10)	8 (80)	1 (10)	
Only before exam	1 (100)	-	-	
Method study				
Alone	8 (17.4)	31 (67.4)	7 (15.2)	3.612 (0.164)
Group	-	8 (100)	-	
Learning resources used				
Lecture Only	6 (17.1)	22 (62.9)	7 (20)	6.913 (0.546)
Online Lecture	-	2 (100)	-	
Text book	2 (20)	8 (80)	-	
Video plat form	-	1 (100)	-	
Others	-	6 (100)	-	

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While no statistically significant (p=0.277), a greater proportion of respondents (71.4%) with considerable test anxiety were aged 21 years. A good measure of a student's aptitude and academic achievement is their GPA. Students with varying GPAs showed a statistically significant variation in anxiety levels (p=0.034). Exam anxiety that was moderate was more common in the group of students with GPAs between 4.5 and 5. Anxiety levels and the amount of study days did not significantly associate (p=0.368). There are more students (23) in the moderate group who study for three to four days a week. There was not a significant difference in the proportion of test-anxious individuals (p=0.164) depending on the research design. 67.4% of those who studied alone reported having moderate anxiety. The majority of participants (62.9%) utilised lectures as a learning method; no significant differences were found across the group (0.546).

University students often struggle with test anxiety, which negatively impacts them during exam periods. When test anxiety is reduced, students do better academically and have greater self-confidence. Thus, it is crucial that university students use anxiety-reduction techniques, particularly non-meditational techniques. A prominent public institution in New Jersey hosted 4,000 undergraduate and 1,414 graduate students for a research on test anxiety and academic achievement (Mark et al., 2005). An anxiety test was given out. The grade point average in both groups and test anxiety were significantly correlated, according to the results (p<0.05). At both educational levels, a lower grade point average (GPA) is linked to test anxiety. Another study conducted by (Mousavi et al., 2008) from the psychiatry department studied how gender, academic standing, and kind of school affected test anxiety in teenagers. A sample of 536 high school pupils in the second grade was chosen. Two questionnaires and the Spielberger's Test Anxiety Inventory were used to gather data. The students' grade point average and test anxiety scores had a strong negative link, according to the results (r=-0.17, p<0.001). This study looked at nursing students' exam anxiety levels and how they related to age, grades, group study, how many days they spent studying for the exam, and the learning resources they used. 51.9% of the participants were 21 years old, most of them studied three or more days a week, most of them preferred studying alone, and most of them used lectures. Students with a GPA of 4.5–5 were more likely to experience high levels of exam anxiety. There were notable correlations found between anxiety levels and GPA.

Anxiety among students has also been connected to poorer academic performance and substance abuse, which increases the likelihood of addiction and dropout. Emotional stability and academic success were related in students. Nursing students' academic performance may be impacted by their negative emotional reactions, as seen by a lower Grade Point Average (GPA) and active attendance in classes. Anxiety and despair are two unfavourable emotional reactions that have been linked to lower GPAs among nursing students. High levels of stress exacerbated anxiety, rage, and sadness among nursing students. Their inability to adequately prepare for the test and receive passing grades could potentially result in a low GPA due to the anxiety they experienced. Conversely, a low GPA can result in increased levels of anxiety, fury, and despair as well as discouragement, absenteeism, and even withdrawal from the profession or institution. It can also cause role transition issues, burnout, and subpar work performance. Newly implemented clinical protocols, particularly those for newly discovered infectious diseases, may be particularly prone to anxiety-related mistakes. It becomes imperative that nursing educators and nursing supervisors develop protocols and regulations that would lessen the acute anxiety experienced by nursing students and rookie nurses during health crises, given the worldwide threat posed by new infectious illnesses. A different study (Cheung & Yip, 2015) discovered that nearly half of the 850 nursing students who reported having sleep issues also reported having depression symptoms. Their multivariate study revealed a substantial correlation between anxiety and depression and sleep issues. In a similar vein, Gorynska et al. (2015) discovered in another study that college students' tense arousal mood dimension—which contrasts tension and nervousness with relaxation and calmness—was noticeably higher right before tests than it was throughout the regular lecture schedule.

The results of this study demonstrated that nursing students' test anxiety might be effectively decreased by using the relaxation technique. The results of another study that looked at the impact of relaxation training supported this one. The person learns how to release specific muscle groups in their body. In addition to making the person feel more at ease, this can aid in the physical stress that accumulates in the body. The therapist may start teaching the patient to relax their muscles simply by thinking about the relaxation technique after the patient has

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practised and grown accustomed to it. This makes it easier for the person to apply this strategy in regular circumstances (Antony et al., 2003).

This result is in line with the research done by (Zondi, 2013), who looked into how relaxing methods affected students' test anxiety. The effectiveness of relaxation techniques in treating exam anxiety in Nigerian secondary school pupils was also backed by (Adeoti & Durosaro, 2007). The nerve relaxation process used in relaxation techniques may be one factor contributing to the experimental group II students' lower levels of test anxiety compared to the control group. Nursing students' latent and overt anxiety can be effectively reduced by teaching relaxation exercises, as demonstrated by (Heravi karimavi et al., 2004).

CONCLUSION

The current study's findings demonstrated how relaxation techniques can help nursing students feel less anxious during exams. The majority of individuals who experienced mild exam anxiety referred to textbooks and lectures. However, students experience stress when they study frequently and begin exam preparation prior to the exam. By identifying the primary causes of anxiety, universities may be able to improve the performance of their healthcare professional students by modifying their curricula, instructional methods, and learning materials. Exam anxiety research in students pursuing healthcare professions has significant ramifications for learning environments that impact students' motivation, psychological well-being, academic achievement, and learning. Students pursuing careers in the healthcare industry should have their academic performance and learning enhanced by the early identification and treatment of test anxiety. Therefore, students, faculty, and counselors should adopt measures to prevent negative consequences of test anxiety on educational experiences, learning processes, and academic performance. Therefore, in order to lessen test anxiety, it is recommended that training programmes can be provided prior to the exam.

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