



EFFECT OF COGNITIVE RESTRUCTURING TECHNIQUE ON TEST ANXIETY AMONG SECONDARY SCHOOL STUDENTS IN EDO STATE, NIGERIA

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ABSTRACT

This study investigated the effect of Cognitive Restructuring Technique (CRT) on test anxiety among secondary school students in Edo State, Nigeria. Two research questions and two null hypotheses guided the study. A non-randomized pre-test, post-test control group quasi-experimental research design was adopted. The population comprised 1,860 Senior Secondary School Two (SS2) students identified with significant symptoms of test anxiety in public secondary schools in Edo State. A sample of 112 students was purposively selected from three public secondary schools with the highest prevalence of test anxiety and assigned to two experimental groups and one control group. The instrument for data collection was the Test Anxiety Inventory (TAI) developed by Spielberger (1980), which has established validity and reliability for use in Nigeria. The intervention lasted eight weeks, during which participants in the experimental group received Cognitive Restructuring Technique, while the control group received conventional counselling. Data were analysed using mean and Analysis of Covariance (ANCOVA) at the 0.05 level of significance. The findings revealed that Cognitive Restructuring Technique significantly reduced test anxiety among secondary school students and was significantly more effective than conventional counselling. The study further found no significant difference in the effectiveness of Cognitive Restructuring Technique between male and female students, indicating that the intervention was equally effective across gender. It was concluded that Cognitive Restructuring Technique is an effective counselling intervention for reducing test anxiety among secondary school students. The study recommended that school counsellors should integrate Cognitive Restructuring Technique into school counselling programmes to improve students' emotional well-being and academic performance.

Keywords: Cognitive restructuring technique, test anxiety, secondary school students, counselling intervention, gender, Edo State, Nigeria.

Introduction

Education remains one of the most important instruments for individual and national development because it equips learners with the knowledge, skills, values and competencies required for productive living. Within the educational system, assessment constitutes an indispensable component of the teaching-learning process as it provides information about students' learning progress, achievement, strengths and areas requiring improvement. Among the various forms of assessment employed in schools, tests are the most frequently used means of determining the extent to which students have achieved the intended learning outcomes. Performance in tests and examinations often determines students' promotion to higher classes, admission into tertiary institutions, scholarship opportunities and future career prospects. Consequently, students generally attach considerable importance to tests and examinations,



making them situations capable of generating varying emotional reactions, including anxiety (von der Embse & Witmer, 2014; Torrano et al., 2020).

A test may be regarded as a systematic procedure designed to measure an individual's knowledge, skills, abilities, aptitude or achievement in a particular domain under standardized conditions. In educational settings, tests serve as objective tools for evaluating students' mastery of instructional objectives and providing feedback for educational decision-making. Ideally, tests should motivate students to study and demonstrate their academic competence. However, when students perceive tests as threatening or beyond their ability to manage successfully, they may develop excessive fear and apprehension that interfere with their performance. Rather than serving solely as measures of learning, tests may become significant sources of psychological distress, particularly among adolescents who are already coping with developmental, social and academic pressures (Gerwing et al., 2015; Phan, 2017).

The emotional reaction commonly associated with perceived threats is anxiety. Anxiety is a natural emotional state characterised by feelings of apprehension, nervousness, worry and physiological arousal in anticipation of a perceived danger or uncertain event. Although anxiety is a normal human experience and may motivate individuals to prepare adequately for challenging situations, excessive or persistent anxiety can become maladaptive and interfere with effective functioning. According to Beck (1964), anxiety is largely influenced by individuals' cognitive interpretations of situations, such that distorted or irrational thoughts heighten emotional distress. Similarly, Beck and Weishaar (2014) explained that anxiety develops when individuals consistently interpret situations as dangerous or beyond their coping abilities, resulting in cognitive distortions that generate negative emotional and behavioural responses. Thus, anxiety is not merely determined by external events but by the meanings individuals attach to those events.

Within educational environments, anxiety may manifest in different forms, including social anxiety, academic anxiety and test anxiety. Academic activities often expose students to demanding situations such as continuous assessments, classroom presentations, assignments and high-stakes examinations, all of which may trigger anxious reactions. While moderate anxiety may encourage adequate preparation and enhance concentration, excessive anxiety frequently disrupts cognitive functioning, impairs memory retrieval, reduces concentration and lowers academic performance (Sarkar et al., 2021; Nakao et al., 2021). Consequently, anxiety has become one of the most widely investigated psychological challenges affecting students across different educational levels.

Among the different forms of anxiety experienced by students, test anxiety has attracted considerable scholarly attention because of its direct influence on academic achievement. Test anxiety has been defined as the collection of physiological, emotional, behavioural and cognitive responses that occur before or during evaluative situations in which an individual fears possible failure or negative evaluation. Gerwing et al. (2015) described test anxiety as an unpleasant emotional condition characterised by excessive worry, tension and physiological arousal that occurs in situations involving academic evaluation. Similarly, Torrano et al. (2020) viewed test anxiety as a multidimensional psychological construct comprising cognitive worry, emotionality and physiological activation that negatively affects students' academic functioning before, during and after examinations. In the context of the present study, test



anxiety refers to the excessive cognitive, emotional, physiological and behavioural reactions experienced by secondary school students before, during or after tests and examinations to the extent that such reactions interfere with concentration, confidence, memory recall and academic performance. This operational definition emphasises both the emotional and cognitive dimensions of anxiety that are amenable to psychological intervention.

Test anxiety has increasingly become a major psychological and educational concern among secondary school students because adolescence represents a developmental period characterised by rapid biological, emotional and social changes. During this period, students encounter increasing academic demands alongside heightened expectations from parents, teachers and society. Consequently, many adolescents develop persistent worries about failure, poor grades and negative evaluation by significant others. According to Phan (2017), students experiencing test anxiety often report racing thoughts, fear of failure, confusion, excessive nervousness, sweating, trembling and inability to concentrate during examinations. Such reactions reduce their ability to retrieve previously learned information despite adequate preparation. Research evidence suggests that test anxiety adversely affects students' academic achievement, psychological well-being, self-confidence and motivation to learn. Von der Embse and Witmer (2014) reported that high-stakes testing environments substantially increase students' anxiety levels and may negatively influence both academic outcomes and psychological adjustment. Similarly, Weems et al. (2015) observed that anxiety-related emotional responses interfere with effective learning and classroom participation, thereby necessitating school-based psychological interventions. Werner-Seidler et al. (2017), in a systematic review of school-based mental health programmes, further concluded that psychological interventions significantly reduce anxiety symptoms among young people while improving emotional functioning and resilience.

The prevalence of test anxiety among secondary school students has also been documented in Nigeria. Azuji et al. (2015) observed that many Nigerian secondary school students experience debilitating levels of test anxiety capable of impairing examination performance. Likewise, Nwankwo et al. (2014), Anyamene et al. (2016), Nwokolo et al. (2017) and Anyamene et al. (2019) consistently reported that test anxiety remains a persistent challenge among Nigerian adolescents and significantly influences their academic success. These findings indicate that test anxiety is not merely an emotional problem but an educational issue requiring professional counselling intervention. The situation appears particularly relevant in Edo State, where increasing emphasis on external examinations such as the West African Senior School Certificate Examination (WASSCE), National Examinations Council (NECO) examinations and Unified Tertiary Matriculation Examination (UTME) has intensified academic pressure among secondary school students. Students are expected to obtain excellent examination results to secure admission into tertiary institutions, satisfy parental expectations and remain competitive academically. Such pressures frequently expose learners to heightened anxiety, emotional instability and fear of academic failure. Supporting this position, Adeyemingosi and Osenweugwor (2024) reported a significant relationship between emotional factors and test anxiety among secondary school students in Egor Local Government Area of Edo State, suggesting that emotional variables substantially influence students' experiences during examinations.



Apart from academic consequences, persistent test anxiety may produce several psychological, emotional and behavioural problems. Students with high test anxiety often experience reduced self-esteem, poor self-efficacy, avoidance of challenging academic tasks, low classroom participation and declining academic motivation. They may also develop negative attitudes towards schooling, increased absenteeism and emotional exhaustion. According to Okoye (2024), unrealistic parental expectations may intensify students' academic anxiety, particularly where academic success becomes the primary criterion for parental approval. Omoyemiju (2023) similarly found that demographic characteristics influence the manifestation of test anxiety among secondary school students, indicating that individual differences should be considered when designing intervention programmes. Given the psychological nature of test anxiety, counselling psychologists have increasingly advocated the use of evidence-based psychological interventions to modify maladaptive thoughts, emotions and behaviours associated with academic evaluation. Behaviour modification techniques have gained considerable recognition because they focus on changing dysfunctional cognitive processes and maladaptive behavioural responses through structured therapeutic procedures. Cognitive-behavioural approaches are particularly effective because they recognise the reciprocal interaction between thoughts, emotions and behaviour. Hofmann et al. (2012), in a comprehensive review of meta-analyses, concluded that cognitive-behavioural interventions remain among the most effective evidence-based treatments for anxiety disorders. Similarly, Nakao et al. (2021) and Bergvall et al. (2024) reported substantial improvements in anxiety symptoms following appropriately implemented cognitive-behavioural interventions.

One important behaviour modification technique receiving increasing empirical attention is Cognitive Restructuring Technique (CRT). Cognitive restructuring originated from Aaron Beck's cognitive theory, which proposes that emotional disturbances arise primarily from irrational beliefs, cognitive distortions and negative automatic thoughts rather than from situations themselves (Beck, 1964; Beck & Weishaar, 2014). The technique therefore assists individuals in identifying irrational thought patterns, evaluating their accuracy and replacing them with more realistic, rational and adaptive beliefs. Beck and Weishaar (2014) defined cognitive restructuring as a systematic therapeutic process through which clients identify, challenge and replace maladaptive cognitions with more balanced and realistic patterns of thinking. Similarly, Dobson (2009) described cognitive restructuring as a core cognitive-behavioural strategy that enables individuals to recognise distorted thinking, examine supporting evidence and develop healthier cognitive interpretations capable of reducing emotional distress.

In the context of this study, cognitive restructuring technique refers to a structured counselling intervention that assists secondary school students in identifying irrational beliefs, catastrophic thoughts and negative self-statements associated with examinations and replacing them with realistic, positive and adaptive thinking capable of reducing test anxiety. The emphasis is on modifying students' cognitive appraisal of examination situations so that emotional and behavioural responses become more functional.

Empirical evidence increasingly supports the effectiveness of cognitive restructuring in reducing anxiety-related problems. Muhammad et al. (2021) found that cognitive restructuring significantly reduced social anxiety among senior secondary school students in Niger State. Likewise, Muhammed (2018) demonstrated the effectiveness of cognitive restructuring in



reducing occupational stress among female workers, while Agubosi and Ladi (2019) reported positive outcomes in managing pre-retirement phobia. More specifically, Eze and Okonkwo (2023) established that cognitive restructuring significantly reduced test anxiety among secondary school students in Enugu State, whereas the recent study by Anyamene and Udeagha (2025) demonstrated its effectiveness among secondary school students in Anambra State. These findings suggest that modifying dysfunctional thinking patterns may substantially alleviate anxiety across diverse populations and settings. Despite these encouraging findings, there remains limited empirical evidence regarding the effectiveness of cognitive restructuring technique among secondary school students in Edo State. Although Adeyemingosi and Osenweugwor (2024) examined emotional intelligence and test anxiety among students in Edo State, their study did not investigate cognitive restructuring as an intervention strategy. Similarly, Egbochuku and Igbineweka (2014) focused on solution-focused brief therapy rather than cognitive restructuring. Consequently, there is inadequate evidence regarding whether cognitive restructuring would produce comparable outcomes among adolescents within the socio-cultural and educational context of Edo State.

Another important issue requiring investigation concerns gender differences in the effectiveness of cognitive restructuring. Gender has consistently been identified as a demographic variable capable of influencing students' emotional experiences, coping styles and responses to psychological interventions. While some studies suggest that female students generally report higher levels of academic and test anxiety because of greater emotional sensitivity and societal expectations, other investigations have produced inconsistent findings (Omoyemiju, 2023; Torrano et al., 2020). Olanrewaju and Okorie (2022) further observed that gender may influence students' responses to cognitive restructuring interventions designed to manage academic stress. Similarly, Eze and Okonkwo (2023) examined cognitive restructuring from a gender perspective and recommended further studies across different educational and cultural environments. These inconsistencies indicate that the moderating role of gender in the effectiveness of cognitive restructuring remains inconclusive and deserves further investigation among secondary school students in Edo State.

The foregoing review reveals an important gap in the literature. Although numerous studies have investigated test anxiety and several counselling interventions, most Nigerian studies have concentrated on systematic desensitisation (Azuji et al., 2015), self-management (Anyamene et al., 2016), meditation (Nwokolo et al., 2017), self-instruction (Anyamene et al., 2019) and solution-focused brief therapy (Egbochuku & Igbineweka, 2014; Aihie & Igbineweka, 2018). Comparatively fewer studies have focused specifically on cognitive restructuring for test anxiety among secondary school students, and those available have largely been conducted outside Edo State (Eze & Okonkwo, 2023; Anyamene & Udeagha, 2025). Furthermore, limited attention has been given to whether the effectiveness of cognitive restructuring differs between male and female students within the Edo State educational situation. The present study therefore becomes necessary because persistent test anxiety continues to undermine students' academic performance, psychological well-being and educational aspirations despite advances in counselling practice. Establishing the effectiveness of cognitive restructuring technique would provide empirical evidence for counsellors, educational psychologists, teachers, school administrators and policymakers regarding an evidence-based intervention capable of reducing maladaptive examination anxiety among secondary school students. In addition, examining possible gender differences would contribute to the development of more responsive and



inclusive school counselling programmes. It is against this background that the present study seeks to examine the effect of cognitive restructuring technique on test anxiety among secondary school students in Edo State, Nigeria.

Purpose of the Study

The purpose of the study is to examine the effect of cognitive restructuring technique on test anxiety among secondary school students in Edo State, Nigeria. Specifically, the study aims to achieve the following:

1. determine the effect of cognitive restructuring on test anxiety among secondary school students in Edo State, Nigeria, when compared with the control group using the pre-test and post-test mean scores.
2. determine the effectiveness of cognitive restructuring on test anxiety among male and female secondary school students in Edo State, Nigeria, using the pre-test and post-test mean scores.

Research Questions

The following research questions will guide the study:

1. What is the effect of Cognitive Restructuring technique on test anxiety among secondary school students in Edo State, Nigeria, when compared with the control group using the pre-test and post-test mean scores?
2. What are the differences in the effects of Cognitive Restructuring technique on test anxiety among male and female secondary school students in Edo State, Nigeria, using the pre-test and post-test mean scores?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the effect of Cognitive Restructuring technique on test anxiety among secondary school students in Edo State, Nigeria, when compared with the control group using the post-test mean scores.
2. There is no significant difference in the effects of Cognitive Restructuring technique on test anxiety among male and female secondary school students in Edo State, Nigeria, using their post-test mean scores.

Theoretical Framework

Cognitive Behavioural Therapy (CBT) by Beck (1964)

Cognitive Behavioural Therapy (CBT), developed by Beck (1964), is a structured, goal-oriented psychotherapy that explains psychological distress as resulting from maladaptive thoughts that influence emotions and behaviours. It posits that identifying and modifying distorted cognitions leads to healthier emotional responses and adaptive behaviours. CBT integrates cognitive restructuring with behavioural techniques such as exposure, problem-solving and behavioural activation to address dysfunctional thinking and avoidance patterns. The theory supports this study by providing a framework for understanding how cognitive restructuring can reduce test anxiety among secondary school students through the replacement of irrational examination-related thoughts with realistic and positive beliefs.



Materials and Methods

Research Design

This study adopted a non-randomized pre-test, post-test control group quasi-experimental design to examine the effectiveness of Cognitive Restructuring Technique (CRT) in reducing test anxiety among secondary school students in Edo State, Nigeria. The design enabled the evaluation of treatment effect while controlling for baseline differences in test anxiety.

Study Setting and Participants

The study was conducted in public secondary schools in Edo State. The target population comprised 1,860 Senior Secondary School Two (SS2) students identified with significant test anxiety using the Test Anxiety Inventory (TAI). A purposive sample of 112 students was selected from three schools with the highest prevalence of test anxiety and subsequently assigned to an experimental group (CRT) and control group receiving conventional school counselling.

Instrument for Data Collection

Data were collected using the Test Anxiety Inventory (Spielberger, 1980), a standardized 20-item instrument measuring the cognitive (worry) and affective (emotionality) dimensions of test anxiety. The TAI has demonstrated satisfactory psychometric properties and has been validated for use in Nigeria. Participants completed the instrument before and after the intervention to assess changes in anxiety levels.

Intervention Procedure

The intervention lasted eight weeks, with two one-hour sessions per week. Participants in the CRT group received structured cognitive restructuring aimed at identifying and modifying maladaptive examination-related thoughts. The control group received routine school counselling services. Intervention fidelity was ensured through the use of trained research assistants, standardized treatment manuals and uniform implementation procedures.

Control of Extraneous Variables

To enhance internal validity, measures were implemented to control extraneous variables, including ensuring baseline group homogeneity, minimizing the Hawthorne effect, preventing interaction between treatment groups and standardizing intervention delivery to reduce researcher bias.

Statistical Analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 23. Descriptive statistics (means and standard deviations) addressed the research questions, while Analysis of Covariance (ANCOVA) tested the hypotheses at the 0.05 significance level, with pre-test scores entered as covariates to control for initial group differences.

Presentation of Results

Research Question 1: What is the effect of cognitive restructuring technique on test anxiety among secondary school students in Edo State, Nigeria, compared with those treated with conventional counselling, using the pre-test and post-test mean scores?



Table 1: Pre-test and Post-test Mean Test Anxiety Scores of Secondary School Students Treated with Cognitive Restructuring Technique and Conventional Counselling (Norm = 34.77)

Source of Variation	N	Pre-test Mean	Post-test Mean	Mean Reduction	Remark
Cognitive Restructuring Technique	38	68.84	30.03	38.81	Effective
Conventional Counselling	39	66.87	50.49	16.38	

In table 1, it was observed that the secondary students treated with cognitive restructuring technique had pretest mean score of 68.84 and posttest mean score of 30.03 with lost mean 38.81 in their test anxiety, while those treated with conventional counselling had pretest mean score of 66.87 and posttest mean score of 50.49 with lost mean 16.38. With posttest mean scores of 30.03 which is less than the norm of 34.77, cognitive restructuring technique is effective in reducing test anxiety among secondary school students in Edo State, Nigeria.

Null hypothesis 1: There is no significant difference in the effect of Cognitive Restructuring technique on test anxiety among secondary school students in Edo State, Nigeria, when compared with those treated with conventional counselling using their post-test mean scores.

Table 2: Analysis of Covariance (ANCOVA) on the Effect of Cognitive Restructuring Technique on Test Anxiety among Secondary School Students Compared with Conventional Counselling

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F	p-value	$P \leq 0.05$
Corrected Model	8097.127	2	4048.563	118.64	0.000	
Intercept	863.176	1	863.176	25.29	0.000	
Pre-test (Test_Anxiety1)	39.532	1	39.532	1.16	0.285	
Treatment Models	7444.424	1	7444.424	218.157	0.000	Significant
Error	2525.185	74	34.124			
Total	136234.000	77				
Corrected Total	10622.312	76				

Significant at $p \leq 0.05$.

Table 2 indicates that at 0.05 level of significance, 1df numerator and 76df denominator, the calculated F is 218.157 with Pvalue of 0.000 which is less than 0.05. Therefore, the first null hypothesis is not accepted. So, the effect of cognitive restructuring technique on test anxiety of secondary school students is significant.

Research Question 2: What are the differences in the effectiveness of Cognitive Restructuring technique on test anxiety among male and female secondary school students in Edo State, Nigeria, using the pre-test and post-test mean scores?

Table 3: Pre-test and Post-test Mean Test Anxiety Scores of Male and Female Secondary School Students Treated with Cognitive Restructuring Technique (Norm = 34.77)

Gender	N	Pre-test Mean	Post-test Mean	Mean Reduction	Remark
Male	20	68.55	29.85	38.70	Effective
Female	18	69.17	30.22	38.95	More Effective

Table 3 indicates that the male students treated with cognitive restructuring technique had pretest mean score of 68.55 and posttest mean score of 29.85 with lost mean 38.70 in their test anxiety, while the female students treated with cognitive restructuring had pretest mean score



of 69.17 and posttest mean score of 30.22 with lost mean 38.95. With lost mean score of 38.95 for females which is greater than lost mean score of 38.70 for males, cognitive restructuring is more effective in reducing female secondary school students' test anxiety.

Null hypothesis 2: The effectiveness of Cognitive Restructuring technique on test anxiety among male and female secondary school students in Edo State, Nigeria is not significant using the post-test mean scores.

Table 4: Analysis of Covariance (ANCOVA) on the Effectiveness of Cognitive Restructuring Technique on the Test Anxiety of Male and Female Secondary School Students

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F	p-value	$P \leq 0.05$
Corrected Model	1.340	2	0.670	0.048	0.953	
Intercept	165.236	1	165.236	11.811	0.001	
Pre-test (Test_Anxiety1)	0.028	1	0.028	0.002	0.964	
Gender	1.283	1	1.283	0.092	0.764	Not Significant
Error	489.633	35	13.990			
Total	34,751.000	38				
Corrected Total	490.974	37				

Significant at $p \leq 0.05$

Table 4 reveals that at 0.05 level of significance, 1df numerator and 37df denominator, the calculated F 0.092 with P-value of 0.764 which is greater than 0.05. Therefore, the fourth null hypothesis is accepted. So, the effectiveness of cognitive restructuring technique on test anxiety of male and female secondary school students do not differ significantly.

Discussion

The findings of this study revealed that Cognitive Restructuring Technique (CRT) was effective in reducing test anxiety among secondary school students in Edo State, Nigeria. Students who received CRT recorded a substantial reduction in test anxiety, with their post-test mean score falling below the established norm, while those who received conventional counselling continued to record anxiety levels above the norm. The ANCOVA result further showed that the difference between the Cognitive Restructuring Technique group and the conventional counselling group was statistically significant. This finding suggests that CRT was more effective than conventional counselling in helping students overcome examination-related anxiety. The effectiveness of Cognitive Restructuring Technique may be attributed to its emphasis on identifying and replacing irrational thoughts, negative self-statements and catastrophic beliefs with realistic and positive thinking patterns. Many students experience test anxiety because they perceive examinations as threatening situations and often doubt their academic abilities. Through cognitive restructuring, these maladaptive thoughts are challenged and replaced with more adaptive beliefs, thereby reducing fear, worry and emotional tension associated with examinations. This explanation is consistent with Beck's (1964) cognitive theory, which posits that emotional problems are largely maintained by distorted thinking, and that modifying these thoughts leads to healthier emotional responses. Beck and Weishaar (2014) also maintained that cognitive restructuring enables individuals to develop balanced thinking, thereby improving emotional adjustment and behaviour.



The present finding agrees with the study of Anyamene and Udeagha (2025), who reported that Cognitive Restructuring Technique significantly reduced test anxiety among secondary school students in Anambra State. Similarly, Eze and Okonkwo (2023) found that cognitive restructuring was effective in reducing test anxiety among public secondary school students in Enugu State. The finding also supports the studies of Muhammad et al. (2021) and Muhammad et al. (2021), who found that cognitive restructuring significantly reduced social anxiety among senior secondary school students in Niger State. Likewise, Agubosi and Ladi (2019) and Muhammed (2018) reported that cognitive restructuring effectively reduced pre-retirement phobia and occupational stress respectively, demonstrating that the technique is useful across different forms of anxiety and psychological distress. The result is further consistent with broader evidence supporting cognitive-behavioural interventions. Hofmann et al. (2012) concluded through a review of meta-analyses that cognitive-behavioural therapy is one of the most effective treatments for anxiety disorders. Similarly, Nakao et al. (2021) reported that cognitive-behavioural interventions remain effective in managing anxiety and stress-related disorders, while Bergvall et al. (2024) found that high-quality cognitive-behavioural therapy produced significant improvements in anxiety outcomes. The finding also aligns with De Silva et al. (2024), who demonstrated that CBT-based interventions significantly reduced anxiety among adolescents. Therefore, the present study provides additional evidence that Cognitive Restructuring Technique is an effective intervention for reducing test anxiety among secondary school students.

The findings further revealed that Cognitive Restructuring Technique was effective in reducing test anxiety among both male and female secondary school students. Although female students recorded a slightly greater reduction in test anxiety than their male counterparts, the ANCOVA result indicated that the difference was not statistically significant. This implies that both male and female students benefited equally from the intervention. The absence of a significant gender difference may be because cognitive restructuring targets dysfunctional thinking patterns that are common to both males and females. Regardless of gender, students experiencing test anxiety often exhibit similar irrational beliefs, fear of failure and negative expectations about examinations. By helping both groups identify and replace these maladaptive thoughts with realistic alternatives, the intervention produces comparable therapeutic outcomes. This suggests that the effectiveness of Cognitive Restructuring Technique depends more on the cognitive processes being modified than on gender differences. This finding agrees with Olanrewaju and Okorie (2022), who found that cognitive restructuring was effective in managing academic stress among both male and female senior secondary school students without substantial gender differences in treatment outcomes. The finding is also consistent with Anyamene and Udeagha (2025), whose study demonstrated the effectiveness of cognitive restructuring in reducing test anxiety among secondary school students irrespective of gender. Likewise, the findings of Hofmann et al. (2012) and De Silva et al. (2024) indicate that cognitive-behavioural interventions are generally effective across diverse populations, including both male and female participants. However, the finding differs from Eze and Okonkwo (2023), who suggested that gender may influence students' responses to cognitive restructuring, although both genders benefited from the intervention. It also contrasts with Omoyemiju (2023) and Torrano et al. (2020), who reported that demographic characteristics, including gender, may influence the level and manifestation of test anxiety. The disparity may be attributed to differences in study location, participants' characteristics, sample size and research design. While gender may influence the initial experience of test anxiety, the



present study suggests that it does not significantly influence the effectiveness of Cognitive Restructuring Technique once the intervention is administered.

Conclusion

Based on the findings of this study, it was concluded that Cognitive Restructuring Technique is an effective psychological intervention for reducing test anxiety among secondary school students in Edo State, Nigeria. Students who received the intervention demonstrated a substantial reduction in test anxiety compared with those who received conventional counselling, indicating that Cognitive Restructuring Technique is more effective in helping students manage examination-related anxiety. The study further established that the effectiveness of the technique did not differ significantly between male and female students, suggesting that both genders benefited equally from the intervention. Therefore, Cognitive Restructuring Technique is a suitable and evidence-based counselling strategy for addressing test anxiety among secondary school students. Its adoption in school counselling programmes could contribute to improved emotional well-being, greater academic confidence, and enhanced academic performance among students.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. School counsellors should adopt Cognitive Restructuring Technique as a regular counselling intervention for identifying and assisting students experiencing test anxiety, as it has been shown to be effective in reducing examination-related anxiety.
2. School administrators should strengthen counselling units in secondary schools by providing adequate support, counselling facilities, and opportunities for guidance counsellors to implement structured cognitive-based intervention programmes for students with test anxiety.
3. The Ministry of Education and educational policymakers should organise regular workshops, seminars, and in-service training programmes to equip school counsellors with practical skills in Cognitive Restructuring Technique and other evidence-based psychological interventions for managing students' emotional and academic challenges.
4. Teachers should collaborate closely with school counsellors to identify students who exhibit symptoms of test anxiety at an early stage and refer them promptly for appropriate counselling interventions before the anxiety adversely affects their academic performance.

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