

**EFFECTS OF STUDY-TIME MANAGEMENT TRAINING ON ACADEMIC
TEST ANXIETY OF LOW-ACHIEVING IN-SCHOOL ADOLESCENTS IN
KOGI STATE, NIGERIA**

Dr. Menyaga Christopher Alaji

Department of General Education, College of Education (Technical),
P.M.B. 242, Mopa, Kogi State, Nigeria.

Email: *megachrisdelight@gmail.com*; Phone: 08037797388

Abstract

The study was designed to investigate the effects of study-time management training on the academic test anxiety of low-achieving in-school adolescents in Kogi State, Nigeria. three objectives were generated. Three research questions were answered, and three null hypotheses were tested at the 0.05 significance level. The non-equivalent control group pretest and posttest quasi-experimental design involving treatment and control groups was used for the study. The target population for this study was all the low-achieving in-school adolescents in all the senior secondary schools in Kogi State. The researcher sampled two hundred and twelve (212) identified low-achieving senior secondary two (SSII) in-school adolescents from four intact classes drawn from co-educational Senior Secondary Schools in Kogi State. The sampled in-school adolescents were identified as low achievers based on their previous records in academic achievement. Instruments used for data collection were the Academic Test Anxiety Rating Scale (ATARS) and the Study-Time Management Training Programme. The data obtained from the administration of the instrument were organised and analysed using mean, standard deviation to answer research questions, and analysis of covariance (ANCOVA) to test hypotheses. The study revealed that low-achieving in-school adolescents exposed to study time management training experienced a significant reduction in academic test anxiety compared to those in the waitlisted control group. the study found that time management training significantly reduced academic test anxiety in both male and female low-achieving adolescents, with no significant gender differences in its effectiveness.

Keywords: *Study-Time Management training, Academic Test Anxiety, Low-Achieving, In-School Adolescents, Kogi State, Nigeria*

Introduction

Every low-achieving adolescent in school is prone to feelings of anxiety and fear before or during examinations, often rooted in negative emotional responses and stress. These feelings are typically exacerbated by a fear of failure, pressure to excel, or a belief

that they lack the necessary test-taking skills (Zeidner, 2018). Such emotional responses can create a psychological barrier that hinders their performance, particularly affecting their ability to recall and apply the information they have learned. Low-achieving in-school adolescents tend to experience more negative emotions due to their academic struggles, which makes them vulnerable to stress during high-stakes academic tasks, such as tests (Putwain & Daly, 2021). These psychological problems are common among low-achieving in-school adolescents in Kogi State.

Moreover, many low-achieving adolescents in Kogi State, Nigeria, suffer from an inability to concentrate, compounded by feelings of anxiety, helplessness, and irrational thoughts related to academic failure. This is particularly noticeable during exams, where these in-school adolescents often feel overwhelmed by the prospect of performing poorly (Abikoye & Ojo, 2019). Their lack of preparation might further exacerbate these feelings of test anxiety. When in-school adolescents feel they are not equipped to handle academic tasks, anxiety can intensify, especially in situations that demand performance, such as examinations (Carter, Putwain, & Daly, 2022). This cycle of underperformance and anxiety perpetuates their academic struggles, further limiting their ability to succeed.

Test anxiety typically presents as a physiological and emotional reaction triggered by the anticipation or the experience of taking a test. Contemporary research identifies test anxiety as a multidimensional construct comprising cognitive, somatic, emotional, and behavioural components. Cognitive manifestations often involve persistent worry, self-doubt, and negative thoughts about failure, while somatic symptoms include physical responses such as sweating, dizziness, increased heart rate, and nausea (Al-Ghareeb & Cooper, 2020). On the emotional front, in-school adolescents might experience intense fear and apprehension, which exacerbates the anxiety, while behavioural signs might include restlessness, such as fidgeting or tapping during examinations (Zeidner &

Matthews, 2020). These intertwined symptoms often disrupt attention and hinder optimal academic performance.

The cognitive and emotional burdens of test anxiety could be particularly impairing. Affected in-school adolescents frequently battle intrusive thoughts of inadequacy and failure, which erode their self-confidence and diminish their ability to retrieve learned information or apply problem-solving strategies effectively (Ringeisen, Buchwald & Schwarzer, 2019). This pattern of negative thinking often perpetuates a harmful cycle: the anticipation of failure leads to underperformance, which then reinforces future anxiety and fear of similar outcomes. Consequently, test anxiety becomes a self-perpetuating issue, consistently undermining in-school adolescents' academic potential. Empirical studies confirm that in-school adolescents experiencing elevated levels of test anxiety often perform below expectations in academic assessments, despite having comparable levels of preparation and knowledge as their less anxious peers (Salam & Usher, 2021). Understandably, such high levels of academic test anxiety are frequently observed among low-achieving in-school adolescents.

Moreover, test anxiety disproportionately affects in-school adolescents who are already low-achieving, exacerbating the challenges they face in academic settings. Adolescents with high test anxiety are more likely to avoid studying, procrastinate, and engage in self-sabotaging behaviors, further impacting their academic results (Herman & Owens, 2020). This avoidance behaviour, combined with the physiological and emotional strain caused by test anxiety, makes it difficult for these in-school adolescents to meet their academic potential. Consequently, adolescents with test anxiety tend to score lower on assessments, which further fuels their anxiety about future academic endeavors. Addressing test anxiety through interventions such as cognitive-behavioral strategies or

relaxation techniques could therefore help reduce its negative impact on academic achievement, particularly for low-achieving in-school adolescents.

Test anxiety, as defined in academic research, involves a spectrum of emotional, physiological, and behavioral responses that individuals experience when faced with the potential of failing in evaluative settings, such as exams. Tan and Pang (2023) describe these reactions as extending far beyond emotional responses, incorporating cognitive and physiological dimensions. For instance, during an exam, in-school adolescents might experience cognitive distortions such as worry, which are characterised by repetitive negative thoughts about their performance. Simultaneously, they might also experience physical symptoms such as increased heart rate and sweating, which contribute to the overall anxiety experience. These multifaceted reactions demonstrate that test anxiety is a complex psychological construct that impacts not only in-school adolescents' emotional states but also their physical well-being during assessment.

Moreover, test anxiety's detrimental effects on academic performance are well-documented. Amalu (2017) underscores the significant toll test anxiety takes on both physical and mental health. He emphasises that intense stress and worry experienced by individuals before and during exams impair their cognitive functioning, particularly working memory. This impairment could severely limit in-school adolescents' ability to accurately process, retrieve, and apply information during examinations, leading to lower academic outcomes. These cognitive and emotional disruptions are especially prevalent among adolescents who struggle with academic performance, compounding their existing challenges (Zeidner, 2018). Cognitive processes, such as attention and concentration, are also disrupted by the emotional burden of anxiety, further diminishing the effectiveness of problem-solving during exams.

In essence, the adverse impact of test anxiety is driven by two core components: worry and emotionality (Putwain & Daly, 2021). Worry involves persistent negative thoughts about one's competence and the consequences of failure, which could become uncontrollable in evaluative contexts, and emotionality refers to the subjective experience of the physiological symptoms associated with anxiety, such as muscle tension, increased heart rate, and sweating (Carter, Putwain, & Daly, 2022). These symptoms divert cognitive resources from the task at hand, thus hindering performance. When combined, worry and emotionality impair cognitive capacities during exams, leaving in-school adolescents unable to fully interpret exam questions or formulate coherent responses. Therefore, test anxiety acts as a formidable barrier to academic success, particularly for those already vulnerable to academic challenges.

Operationally, academic test anxiety refers to the stress and apprehension experienced by low-achieving in-school adolescents, specifically in test situations, which might be due to poor study-time management. Academic test anxiety of low-achieving in-school adolescent might be characterised by excessive worry and fear before, during, or after examinations, negatively impacting their academic achievement. Academic test anxiety might often worsen due to poor study-time management, leading to low academic achievement. A significant behavioural factor contributing to high academic test anxiety might be procrastination, lack of organisation, ineffective study habits, insufficient examination preparation, and last-minute cramming. However, those in-school adolescents who deviate from these behavioural problems might have low academic test anxiety. However, these academic challenges among low-achieving in-school adolescents in Kogi State might be due to poor study-time management.

One of the peculiarities of modern civilisation is the importance it attaches to the idea of time. Study-time management training refers to structured programmes designed

to help in-school adolescents develop skills for effectively allocating their time to academic tasks, enhancing their ability to prioritise activities, set goals, and create study schedules (Owolabi & Olanipekun, 2023). Efficiently managing study time is crucial for academically struggling adolescents, involving planning, organising, and controlling capabilities. Shafii (2018) defines it as a systematic process of identifying needs, setting goals, prioritising tasks, and allocating time and resources. Study-time management might vary among in-school adolescents, utilising methods like to-do lists, planners, and goal-setting. It is vital for balancing academic and extracurricular commitments, serving as the linchpin for a well-rounded educational experience, enabling in-school adolescents to navigate their academic journey effectively.

Study time management training involves organised planning of time allocation for academic tasks, ensuring systematic execution to enhance academic achievement (Adams & Blair, 2019). It aims to strategically allocate time, establish priorities, and create structured schedules for efficient task completion (Alyami, Yu & Alwafi, 2021). When low-achieving in-school adolescents actively engage in study-time training, they might seek to optimise productivity, meet deadlines, and reduce academic test anxiety.

Statement of the Problem

The experiences of low-achieving in-school adolescents within the educational system of Kogi State present significant challenges, characterised by a prevalent fear of failure, intense pressure to succeed, or a lack of confidence in their test-taking abilities. Prior research referenced in the background of this study suggests that study-time management training has proven effective in alleviating academic test anxiety among in-school adolescents. However, there has been a notable absence of targeted interventions utilising time management training specifically tailored to address the needs of low-achieving in-school adolescents grappling with academic test anxiety in Kogi State.

Recognising this knowledge gap, the research problem is articulated as follows: what are the effects of study-time management training on the academic test anxiety of low-achieving in-school adolescents in Kogi State?

Purpose of the Study

The general purpose of this study was to investigate the effects of study-time management training on the academic test anxiety of low-achieving in-school adolescents in Kogi State. Specifically, the researcher determined the:

1. Effects of study-time management training on academic test anxiety of low-achieving in-school adolescents.
2. Influence of gender on the academic test anxiety of low-achieving in-school adolescents.
3. Interaction effects of treatment and gender on the academic test anxiety of low-achieving in-school adolescents.

Research Questions

The following research questions will be posed for the study:

1. What are the mean academic test anxiety scores of low-achieving in-school adolescents exposed to time management training and those not exposed?
2. What is the influence of gender on the post-test mean academic test anxiety scores of low-achieving in-school adolescents?
3. What is the interaction effect of treatment and gender on the mean academic test anxiety scores of low-achieving in-school adolescents?

Hypotheses

The following hypotheses will be formulated to guide this study and will be tested at a 0.05 level of significance:

H₀₁: There is no significant difference in the posttest mean academic test anxiety scores of low-achieving in-school adolescents exposed to time management training and those not exposed.

H₀₂: There is no significant influence of gender on the mean academic test anxiety rating scores of low-achieving in-school adolescents as measured by ATARS.

H₀₃: There is no significant interaction effect of treatment and gender on the mean academic test anxiety rating scores of low-achieving in-school adolescents.

Method

This study adopted a quasi-experimental research design, specifically a pretest-posttest non-equivalent control group design. It was conducted in Kogi State, Nigeria, targeting low-achieving in-school adolescents in coeducational public senior secondary schools. The researcher purposively sampled 212 low-achieving adolescents, comprising 116 males and 96 females, from four coeducational senior secondary schools with the highest record of low-achieving in-school adolescents. Students scoring below 50% in the three terms' cumulative average were identified as low achievers. These schools were randomly assigned to treatment and control groups, with the experimental group receiving the intervention while the control group remained on a waitlist.

The primary instrument for the study was the Academic Test Anxiety Rating Scale (ATARS), a 20-item questionnaire rated on a 4-point scale, designed to assess academic test anxiety. Items were positively and negatively cued, with corresponding scoring patterns adjusted accordingly. The same instrument was used for the pretest and posttest, with items reshuffled for the posttest. The Study-Time Management Training Programme (STMTTP), divided into twelve sessions over six weeks, served as the intervention. The key topics included goal-setting strategies, prioritisation techniques, and approaches to managing procrastination. To maximise the programme's effectiveness, participants were

also trained in distraction control strategies, positive affirmations for maintaining motivation, and the application of the two-minute rule for promptly addressing smaller tasks. The instruments and the intervention programme underwent face validity assessment by experts in educational psychology, educational technology, and measurement and evaluation at the University of Nigeria, Nsukka. This process resulted in refining the ATARS and STMTTP to align with study objectives. Trial testing with 20 low-achieving adolescents in Ekiti State confirmed the reliability of the ATARS with a Cronbach's alpha coefficient of 0.86.

Data were analysed using SPSS version 25.0. Mean and standard deviation were used to answer research questions, while analysis of covariance (ANCOVA) tested hypotheses at a 0.05 significance level. Pretest scores served as covariates to post-test scores, enabling the evaluation of covariate and group effects on the dependent variables.

Results

Research Question One: What are the mean school adjustment scores of low-achieving in-school adolescents exposed to study-time management training and those on the waitlist?

Table 1: *Mean analysis of the academic test anxiety scores of low-achieving in-school adolescents exposed to study time management training and those on the waitlist*

Treatment	N	Pretest		Posttest		Adjusted
		Mean	Std. Deviation	Mean	Std. Deviation	Mean
Experimental Group	107	68.22	7.49	31.05	3.94	31.05
Waitlisted Control Group	105	69.26	7.54	56.61	6.89	56.62

Table 1 shows that low-achieving adolescents exposed to time management training had lower mean academic test anxiety scores at posttest ($M = 31.05$, $SD = 3.94$) compared to the waitlisted control group ($M = 56.61$, $SD = 6.89$), indicating the effectiveness of the intervention. The smaller posttest standard deviation among the

trained group suggests that their scores were more consistent and closer to the group mean than those of the control group.

H₀₁: There is no significant difference in the mean academic test anxiety scores of low-achieving in-school adolescents exposed to study time management training and those on the waitlist.

Table 2: *Analysis of covariance of the effect of study time management training on academic test anxiety of low-achieving in-school adolescents*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	34633.608 ^a	4	8658.402	272.622	.000	.840	
Intercept	5051.092	1	5051.092	159.041	.000	.434	
Pre-Test Anxiety	2.736	1	2.736	.086	.769	.000	
Treatment	34192.624	1	34192.624	1076.604	.000	.839	
Gender	.161	1	.161	.005	.943	.000	
Treatment * Gender	.719	1	.719	.023	.881	.000	
Error	6574.260	207	31.760				
Total	446202.000	212					
Corrected Total	41207.868	211					

a. R Squared = .840 (Adjusted R Squared = .837)

Table 2 indicated a significant reduction in academic test anxiety among low-achieving adolescents exposed to study time management training compared to those on the waitlist, $F(1,207) = 1076.604$, $p = .000$, leading to the rejection of the null hypothesis. With an effect size of .839, the study inferred that 83.9% of the decrease in academic test anxiety was attributable to the training.

Research Question Two: What is the influence of gender on mean academic test anxiety scores of low-achieving in-school adolescents?

Table 3: Mean analysis of the academic test anxiety scores of low-achieving male and female in-school adolescents

Gender	N	Pretest		Posttest		Adjusted
		Mean	Std. Deviation	Mean	Std. Deviation	Mean
Male	116	68.23	7.52	44.47	13.96	43.81
Female	96	68.25	7.50	42.79	14.01	42.86

Table 3 showed that both male and female low-achieving in-school adolescents had similar academic test anxiety scores at the pretest: males ($M = 68.23$, $SD = 7.52$) and females ($M = 68.25$, $SD = 7.50$). At the posttest, both groups experienced significant reductions in anxiety levels, with males scoring ($M = 44.47$, $SD = 13.96$) and females ($M = 42.79$, $SD = 14.01$), indicating slightly lower mean anxiety levels among females. The adjusted posttest mean scores 43.81 for males and 42.86 for females—further confirmed that male adolescents had marginally higher academic test anxiety than their female counterparts, though the higher standard deviation for females (14.01 vs. 13.96) suggested higher variability in their scores.

Ho₂: There is no significant influence of gender on mean academic test anxiety scores of low-achieving in-school adolescents.

Table 2 revealed that gender has no significant influence on mean academic test anxiety scores of low-achieving in-school adolescents, $F(1, 207) = .005$, $p = .943$. Hence, the null hypothesis was not rejected since the associated probability value of .943 was greater than the .05 significance level. This implies that gender did not influence the academic test anxiety of low-achieving in-school adolescents.

Research Question Three: What is the interaction effect of treatment and gender on the mean academic test anxiety scores of low-achieving in-school adolescents?

Table 4: Mean analysis of the academic test anxiety scores of low-achieving male and female in-school adolescents exposed to time management training and those on the waitlist

Treatment	Gender	N	Pretest		Posttest	
			Mean	Std. Deviation	Mean	Std. Deviation
Experimental Group	Male	55	68.49	7.44	31.07	3.93
	Female	52	67.94	7.60	31.02	3.98
Waitlisted Control Group	Male	61	68.00	7.64	56.54	6.86
	Female	44	68.61	7.46	56.70	7.00

Table 4 shows that male low-achieving adolescents exposed to time management training had slightly higher posttest mean academic test anxiety scores ($M = 31.07$) than their female counterparts ($M = 31.02$). Conversely, among the waitlisted control group, males had lower posttest mean academic test anxiety scores ($M = 56.54$) compared to females ($M = 56.70$).

H₀₃: There is no significant interaction effect of treatment and gender on the mean academic test anxiety scores of low-achieving in-school adolescents.

Table 2 revealed that there was no significant interaction effect of treatment and gender on the mean academic test anxiety scores of low-achieving in-school adolescents, $F(1, 207) = .023, p = .881$. Hence, the null hypothesis was not rejected since the associated probability value of .881 is greater than the .05 significance level. This implies that the low-achieving in-school adolescents' academic test anxiety due to their exposure to treatment conditions was not dependent on their gender.

Discussion

The study revealed that low-achieving in-school adolescents exposed to study time management training experienced a significant reduction in academic test anxiety compared to those in the waitlisted control group. While both groups started with similarly high levels of anxiety, the experimental group showed a marked decrease by

the posttest, with more consistent and uniform anxiety levels among participants, unlike the control group, which exhibited only slight reductions and greater variability. Statistical analysis confirmed a significant difference between the groups, with a large effect size indicating that the training was directly responsible for the majority of the observed anxiety reduction. These findings underscore the effectiveness of study time management training in alleviating test anxiety and align with previous studies (e.g., Martinez & Wong, 2023; Nguyen & Harris, 2021; Jenaabadi, Nastiezaie & Jalalzaei, 2016), which highlight the value of such interventions in fostering a more positive academic experience for in-school adolescents.

Furthermore, the study found that time management training significantly reduced academic test anxiety in both male and female low-achieving adolescents, with no significant gender differences in its effectiveness. While the control group showed minimal improvement, the findings highlight the training's broad applicability in alleviating test anxiety regardless of gender, aligning with previous studies by (Martinez and Wong, 2023; Jenaabadi, Nastiezaie & Jalalzaei, 2016).

Conclusions

Based on the findings of this study, it was concluded that study time management training significantly reduced test anxiety among low-achieving in-school adolescents. The training helped alleviate test anxiety, thus improving performance readiness. Although males exhibited higher test anxiety initially, the gender influence was not significant, indicating that the training reduced anxiety levels for both genders. Finally, the study concluded that the training was equally beneficial for male and female adolescents, with no significant interaction effects between gender and treatment on the training outcomes.

Recommendations

1. Ministries of Education and school authorities should integrate study-time management training into school curricula and life skills programmes to help low-achieving in-school adolescents reduce test anxiety.
2. Teacher training institutes and educational administrators should provide teachers and counsellors professional development to deliver gender-sensitive and tailored support that addresses in-school adolescents' diverse academic needs.
3. Schools and parents should collaborate through peer mentoring and home-based support to ensure that in-school adolescents consistently apply effective time management strategies.

References

- Aldao, A., & Dixon-Gordon, K. L. (2020). Coping and emotion regulation in psychopathology: A meta-analysis. *Clinical Psychology Review, 82*, 101905, <https://doi.org/10.1016/j.cpr.2020.101905>
- Al-Ghareeb, A., & Cooper, S. (2020). Test anxiety among nursing students: Examination-related stress and its impact on performance. *Nurse Education Today, 92*, 104522, <https://doi.org/10.1016/j.nedt.2020.104522>
- Allen, A. R., Wang, Y., & Quirk, S. (2021). Coping strategies and their impact on psychological outcomes: The moderating role of social support. *Journal of Behavioural Science, 14*(2), 45-56.
- Alyami, M., Yu, T. C., & Alwafi, H. (2021). The relationship between academic assessment and psychological distress among medical students: A systematic review. *Journal of Medical Education and Curricular Development, 8*, 1–12. <https://doi.org/10.1177/23821205211000345>

- Amalu, M. (2017). Test anxiety and academic performance: A critical review. *Journal of Educational Psychology, 39*(2), 155-173.
- Carter, B. M., Putwain, D. W., & Daly, A. L. (2022). Predicting exam-related test anxiety in secondary school students. *1*(4), 415-431.
- Herman, M., & Owens, R. E. (2020). The effects of test anxiety on academic performance among high school students. *Journal of Adolescence, 82*, 123-132, <https://doi.org/10.1016/j.adolescence.2020.06.003>
- Jenaabadi, H., Nastiezaie, N., & Jalalzaei, S. (2016). The effect of time management training on students' test anxiety. *Journal of Nursing Education, 5*(1), 12–22.
- Lazarus, R. S., & Folkman, S. (2020). Stress, appraisal, and coping. Springer.
- Numan, A. (2017). Test-anxiety-provoking stimuli among undergraduate students. *Journal of Behavioural Sciences, 27*(1).
- Park, C. L., & Iacoviello, B. M. (2022). The role of positive coping in mental health: A systematic review. *Journal of Affective Disorders, 304*, 12-22.
- Putwain, D. W., & Daly, A. L. (2021). Test anxiety and academic performance: Exploring the relationship in secondary education. *Psychology in the Schools, 58*(6), 813-826.
- Ringeisen, T., Buchwald, P., & Schwarzer, R. (2019). Test anxiety in adolescents: Relationships with academic achievement, coping strategies, and school environment. *Anxiety, Stress, & Coping, 32*(5), 542-555.
- Salam, M., & Usher, E. L. (2021). The role of self-efficacy in coping with test anxiety: Insights from high school students. *Educational Psychology, 41*(2), 229-246.
- Tan, R., & Pang, Y. (2023). Cognitive and physiological aspects of test anxiety. *Journal of Applied Educational Research, 61*(1), 212-225.

- Unachukwu, C.G., Ebenebe, C.R. & Nwosu, C.K. (2019). *Developmental Psychology and Education*. Enugu: Agatha Series Publisher Ltd.
- UNESCO (2013). *Priority gender equality at UNESCO: Brief History and Basic Definition*. <https://www.unesco.org/en/gender-equality>
- Uwadiae, I. (2017, August 25). Kogi tops the list of states with high exam malpractice rates in WASSCE. *Kogi Reports*. <https://kogireports.com/kogi-tops-list-of-states-with-high-exam-malpractice-rates-in-wassce/>
- Zeidner, M. (2018). *Test anxiety in educational contexts: Theoretical and empirical foundations*. Springer.
- Zeidner, M., & Matthews, G. (2020). *Test anxiety: Theory, assessment, and treatment*. Cambridge University Press.
- Zheng, Z. & Mustapha, M.S. (2022). A Literature Review on the Academic Achievement of College Students. *Journal of Education and Social Sciences*, 20 (1), 11-18.
- Zhu Shengying. (2016). A review of college students' academic achievement research. *Teaching and Education Journal*, (27), 36-38.