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Finance-Based Cognitive Behavioral Therapy and The Attenuation of Financial Stress Among Accounting Students in South-East Nigerian Universities

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Abstract
Financial stress constitutes a pervasive threat to the academic performance and psychological well-being of university students, yet evidence-based therapeutic responses within African higher education remain conspicuously sparse. This study examined the efficacy of a finance-based cognitive behavioral therapy (FBCBT) program in reducing financial stress among accounting students enrolled in South-East Nigerian universities. Employing a pretest-posttest randomized controlled trial design, 175 eligible participants drawn from four public universities were assigned to either a CBT experimental condition or a wait-listed control condition. Seven weeks of structured FBCBT sessions were administered, and outcomes were assessed using the Accounting Students Financial Stress Questionnaire (ASFSQ), a 28-item instrument yielding a Cronbach alpha reliability coefficient of 0.82. Statistical analysis conducted via EViews, employing a mixed-design repeated measures analysis of variance (ANOVA), indicated that participants in the CBT group exhibited significantly lower financial stress scores at post-test relative to both their own pretest scores and the concurrent scores of the wait-listed group ($p < .001$). The equivalence of post-test and follow-up scores ($p = .143$) further indicated that therapeutic gains were sustained across a two-month period. These findings suggest that FBCBT represents a viable, structured intervention for alleviating financial stress in this population and carry direct implications for university counselling policy in sub-Saharan Africa...

Keywords: financial stress, accounting students, cognitive behavioral therapy, randomized controlled trial, Nigeria.

Introduction

The psychological burden borne by university students in sub-Saharan Africa has attracted increasing scholarly attention, yet the specific nexus between financial adversity and student academic functioning remains inadequately theorized and insufficiently evidenced within the Nigerian higher education context. Stress, broadly

construed as the organism's incapacity to adequately respond to mental, emotional, economic, and spiritual demands (Baste & Gadkari, 2014). Stress manifests along a continuum encompassing affective dysregulation, cognitive disruption, and behavioral maladaptation (Laney et al., 2008; Igbokwe et al 2019). Within this continuum, financial stress occupies a particularly critical position: it operates not merely as a transient condition of resource scarcity but as a chronic psychological state capable of undermining academic persistence, emotional stability, and long-term developmental outcomes.

The global dimensions of financial stress underscore its complexity as a construct. At the macroeconomic level, financial stress functions as a composite indicator of conditions across multiple interconnected markets and proves difficult to predict with satisfactory precision, though recent advances in ensemble empirical mode decomposition and machine learning methodologies have substantially improved forecasting capacity (Ghosh & Dragan, 2023). At the micro-level, financial stress mediates the relationship between economic vulnerability and health outcomes in measurable ways; longitudinal data indicate that increases in financial stress reliably predict deteriorations in mental health, whilst decreases correspond with improved psychological well-being, with savings depletion and debt accumulation identified as the primary structural antecedents (Simonse et al., 2022; Ikpor et al. 2019). These findings carry a pointed institutional implication: universities are not passive environments within which financially stressed students happen to struggle; they are institutional actors with a demonstrable capacity to deploy structured therapeutic responses.

The relationship between financial stress and student academic functioning is particularly pronounced within the African higher education context, where inadequate welfare infrastructure, limited access to student credit, and family-level economic precarity converge. Research from Lebanese higher education demonstrates that financial stress exerts a significant and multidimensional impact on college students' well-being and mental health, with the magnitude of this impact further shaped by gender, marital status, academic major, and geographic location (Nasr et al., 2024; Eneogu et al.,2021). Although the Lebanese context differs substantially from the Nigerian one, the underlying mechanism, whereby financial hardship disrupts psychological equilibrium and thereby impedes academic engagement, is sufficiently generalizable to warrant systematic investigation within the South-East Nigerian context. Among accounting students in particular, financial distress is compounded by the technical and cognitively demanding nature of their academic program; the discipline requires sustained concentration and analytical rigor that become progressively more difficult to sustain under conditions of chronic economic pressure.

Cognitive behavioral therapy (CBT) has emerged as one of the most empirically supported psychological interventions for stress, anxiety, and depression across diverse populations and settings (Dryden, 2009; Butler et al., 2006). The theoretical architecture of CBT rests on the ABCDE model, wherein it is not the activating event (A) itself but the individual's belief (B) regarding that event that generates the emotional and behavioral consequences (C). The CBT process operates through systematic disputation (D) of irrational beliefs to facilitate a revised worldview or effect (E), thereby reconfiguring the cognitive patterns that sustain psychological distress (Ogba et al., 2020). This framework is particularly apposite for financial stress, given that the cognitive appraisal of financial conditions, rather than those conditions in isolation, frequently determines the severity of experienced distress. Group-based CBT has additionally demonstrated superiority over individual formats in several investigations of academic stress and related psychological conditions, attributable to the inter-relational dynamics that group settings facilitate and that independently attenuate symptom severity (Netterstrøm et al., 2013; Trimmer et al., 2016).

Despite the accumulating evidence for CBT's efficacy in managing psychological distress, its targeted application to finance-specific stress among university accounting students in Nigeria represents a discernible gap in the literature. The present study addressed this gap by examining whether a structured finance-based CBT program, specifically adapted to dismantle the irrational cognitive patterns associated with financial distress, could yield measurable reductions in financial stress among accounting students in South-East Nigerian universities. The following null hypotheses were tested at a 5% significance level:

H_{01}: There is no significant reduction in financial stress between accounting students exposed to the cognitive behavioral therapy intervention and those in the wait-listed control group from pretest to post-test.

H_{02}: The post-test financial stress scores of accounting students exposed to the cognitive behavioral therapy intervention do not differ significantly from follow-up scores.

Methodology

Research Design

The study employed a pretest-posttest randomized controlled trial (RCT) experimental design with a wait-listed control condition, a methodological framework that permits rigorous causal inference by controlling for extraneous variance through random assignment and the inclusion of a baseline measurement phase. This design

has been systematically applied across analogous Nigerian CBT intervention studies (Nwokeoma et al., 2019; Onyishi et al., 2020; Okide et al., 2020; Ede et al., 2020; Abiogu et al., 2020; Ugwuanyi, 2023; Ofuegbu et al. 2020), establishing a well-grounded precedent for its deployment within the present research context.

Participant Selection

A total of 203 accounting students from four public universities in South-East Nigeria were initially recruited, comprising 121 male and 82 female participants. Following a structured screening procedure, 175 students satisfied the eligibility criteria and were retained for the study. Inclusion required, first, formal enrolment in an accounting degree program and, second, a score of 70 or above on the Accounting Students Financial Stress Questionnaire (ASFSQ), a threshold operationally defined as indicative of high and clinically relevant financial stress. To preserve ecological validity and prevent social stigmatization, all students, including those who did not meet the inclusion threshold, remained within their intact classroom settings throughout the duration of the intervention. This arrangement ensured that the identification of financially distressed participants did not inadvertently expose them to peer-induced stigma or disruptive separation from their academic cohort.

Measurement Instrument

Financial stress was assessed using the Accounting Students Financial Stress Questionnaire (ASFSQ), a 28-item instrument rated on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5) and producing a minimum possible score of 25 and a maximum of 100. The scoring rubric delineated four interpretive bands: scores between 25 and 30 indicated the absence of financial stress; those between 31 and 39 reflected a subclinical presence of stress with minimal functional impact; scores between 40 and 69 corresponded to moderate financial stress; and scores of 70 and above represented an elevated, clinically significant threshold warranting therapeutic attention. The instrument was face-validated by subject matter experts in test development and psychological measurement. Internal consistency for the current sample was assessed using the Cronbach alpha method, yielding a coefficient of 0.82, a value comfortably exceeding the conventionally accepted threshold of 0.70 for research instruments. The item pool was adapted from the General Stress Index scales developed by Lin and Chen and by Balaji and Yumba, with contextual calibration to reflect accounting-specific financial stressors. This adaptation ensured that the instrument, whilst anchored to a specific disciplinary context, retained sufficient scope for deployment as a broader measure of student financial stress.

Intervention Procedure

The Finance-Based Cognitive Behavioral Therapy (FBCBT) program was adapted from the therapeutic frameworks developed by Sze and Wood (2007) and Cully and Teten (2008). The intervention spanned seven weeks and comprised eight structured sessions of 35 minutes each, administered to two intact experimental class groups on Tuesdays and Thursdays following scheduled academic lectures. Sessions were organized into three thematic modules. Module One (Sessions 1–4) addressed the cognitive foundations of financial stress, attending specifically to how dysfunctional beliefs and cognitive distortions shape emotional responses to financial conditions; within this module, inter-session exercises were assigned to assist participants in identifying their own thinking errors. Module Two (Sessions 5–6) focused on the behavioral dimensions of financial stress, examining the reciprocal relationship between participation in goal-directed and pleasurable activities and the maintenance or exacerbation of financial distress symptoms; participants were coached in setting attainable goals and identifying activities conducive to improved affect and greater personal agency. Module Three (Sessions 7–8) engaged participants with the social dimensions of their distress, developing their capacity to recognize and cultivate social support networks that mediate resilience. The grouping of sessions necessitated variable contact durations: the first contact block (Sessions 1–4) lasted 140 minutes per day, whilst both the second and third contact blocks (Sessions 5–6 and 7–8 respectively) each lasted 70 minutes per day. Rational emotive behavior therapy components were incorporated throughout, enabling participants to identify, challenge, and restructure irrational financial beliefs within a structured, facilitated setting. The two remaining intact classes were assigned to the wait-listed control condition. Baseline data were collected from all students prior to the commencement of the experimental phase; post-test measurement was administered upon completion of the seven-week program; and a follow-up assessment was conducted two months thereafter to evaluate the durability of therapeutic gains. The wait-listed group received several types of ethical and practical interaction as the wait for the active group. This group did not receive any therapeutic or ethical practical interventions. The were only given basic, self-guided reading materials on financial disclosure, budgeting and financial planning materials past account and undergraduate projects as they waited. They were also not restricted to particle other university-based capacity build program provided it did not conflict the FBCBT training modules. They also had minimal contact support.

The Therapist

The intervention was administered by a single licensed male psychotherapist holding a bachelor's degree in psychology and a master's degree in psychotherapy, and possessing demonstrated clinical expertise in CBT delivery. The therapist was not subjected to supplementary training for this study; instead, a treatment manual delineating the scope and sequencing of the intervention was provided as an operational guide. His clinical and interpersonal competencies encompassed analytical acuity, empathic attunement, structured communication, and the flexibility necessary to calibrate therapeutic engagement to participants' responses, each of which is considered essential to the integrity of therapeutic delivery. The irrational and dysfunctional cognitions targeted throughout the intervention were those specifically associated with financial stress, consistent with the FBCBT theoretical framework.

Research Integrity

A structured integrity check was implemented throughout the research lifecycle to ensure that findings were free from systematic bias. This encompassed transparent declaration of potential conflicts of interest, rigorous data management and collection protocols, accuracy verification procedures, and the systematic identification and resolution of data duplications.

Ethical Considerations

Institutional approval for the conduct of this study was obtained from the heads of relevant departments and the Faculty of Management Sciences authorities at the participating universities. Informed consent was secured from all participants prior to the commencement of the intervention. Given that all participants were aged 18 years or above, standard adult consent procedures were applied and duly observed.

Data Analysis

All statistical analyses were conducted using EViews. Prior to formal analysis, the dataset underwent systematic cleaning encompassing error screening, procedural standardization, accuracy validation, and identification of duplicate entries. The principal inferential method was a mixed-design repeated measures analysis of variance (ANOVA), selected for its capacity to partition within-group and between-group variance simultaneously and thereby assess both temporal change and group-level differences in financial stress scores. The sphericity assumption was evaluated using Mauchly's test ($W = 0.786$, $p = .329$), confirming that the assumption was not violated and that no sphericity correction was required.

Results

Table 1 presents the between-subjects effects for pretest scores. The omnibus test indicated that the corrected model was statistically significant ($F(3, 4) = 22.869$, $p = .006$, $R^2 = .945$), reflecting a high proportion of explained variance at the baseline phase. Critically, the pretest comparison between the CBT and control groups returned a non-significant result ($F(1, 4) = 0.121$, $p = .745$), confirming pre-intervention equivalence across the two conditions and thereby validating the integrity of the randomization procedure. Mean pretest financial stress scores were comparable: the CBT group ($M = 80.50$, $SD = 7.04$) and the wait-listed control group ($M = 80.00$, $SD = 7.07$) did not differ meaningfully at baseline, establishing the necessary conditions for a valid between-group post-test comparison.

Table 1. Tests of Between-Subjects Effects — Dependent Variable: Pretest Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	283.000a	3	94.333	22.869	.006	
Intercept	51520.500	1	51520.500	12489.818	.000	
Pretest: CBT vs. Control	.500	1	.500	.121	.745	
Group	18.000	1	18.000	4.364	.105	
Gender	264.500	1	264.500	64.121	.001	
Error	16.500	4	4.125			
Total	51820.000	8				

Corrected Total	299.500	7				

a R^2 = .945 (Adjusted R^2 = .904)

Table 2 presents the between-subjects effects for post-test scores. The post-test comparison between the CBT and control groups was highly significant ($F(1, 4) = 483.314$, $p < .001$, $R^2 = .992$), indicating a substantial and statistically reliable group difference following the intervention. The mean post-test scores further illustrated the magnitude of this divergence: the CBT group ($M = 44.25$, $SD = 4.34$) exhibited a pronounced reduction from baseline, whilst the control group ($M = 83.50$, $SD = 7.09$) remained at near-pretest levels. These results indicate that the FBCBT intervention produced a clinically and statistically significant reduction in financial stress among participants in the experimental condition. Accordingly, the first null hypothesis (H_{01}) was rejected.

Table 2. Tests of Between-Subjects Effects — Dependent Variable: Post-test Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	3147.375a	3	1049.125	164.569	.000	
Intercept	32640.125	1	32640.125	5120.020	.000	
Post-test: CBT vs. Control	3081.125	1	3081.125	483.314	.000	
Group	.125	1	.125	.020	.895	
Gender	66.125	1	66.125	10.373	.032	
Error	25.500	4	6.375			
Total	35813.000	8				
Corrected Total	3172.875	7				

a R^2 = .992 (Adjusted R^2 = .986)

Table 3 presents the post-test-to-follow-up comparison. No statistically significant difference was detected between post-test and follow-up scores ($F(1, 8) = 2.641$, $p = .143$), with follow-up scores ($M = 44.25$, $SD = 4.03$) remaining stable relative to post-test values ($M = 44.25$, $SD = 4.34$). This finding indicates that the therapeutic gains achieved during the FBCBT program were maintained across the two-month follow-up period. The second null hypothesis (H_{02}) was therefore retained, affirming both the durability and the sustained practical significance of the intervention's effects.

Table 3. Tests of Between-Subjects Effects — Dependent Variable: Follow-up Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	1138.042a	3	379.346	.976	.451	
Intercept	31176.042	1	31176.042	80.179	.000	
Post-test vs. Follow-up	1027.042	1	1027.042	2.641	.143	
Group	3.000	1	3.000	.008	.932	
Gender	108.000	1	108.000	.278	.612	
Error	3110.625	8	388.828			
Total	43694.000	12				
Corrected Total	4248.667	11				

a R^2 = .268 (Adjusted R^2 = −.007)

Discussion

The present investigation demonstrated that a structured, seven-week finance-based cognitive behavioral therapy program produced significant reductions in financial stress among accounting students enrolled in South-East Nigerian universities. This principal finding, reflected in the statistically significant divergence between post-test scores of the CBT group and those of the wait-listed control ($p < .001$), aligns with an accumulating body of evidence characterizing CBT as an efficacious modality for managing stress and anxiety across diverse populations and delivery formats. The magnitude of the observed reduction, from a mean pretest score of 80.50 to a post-test mean of 44.25, represents a clinically meaningful shift from the high-stress to the moderate-stress band of the ASFSQ scoring rubric, indicating that the intervention altered participants' functional relationship with financial distress rather than merely producing a statistical artefact.

The finding corroborates the conclusions of Richardson et al. (2022), whose evaluation of an online CBT intervention targeting the interface between financial difficulties and poor mental health reported comparable improvements in participants' psychological outcomes. Nabeshima and Klontz (2015) similarly demonstrated the conceptual viability of cognitive-behavioral approaches applied specifically to financial concerns, lending theoretical support to the present study's adaptation of conventional CBT to a finance-specific clinical context. Curtiss et al. (2021) characterize CBT as a gold-standard treatment for anxiety and stress-related disorders, a designation grounded in its systematic targeting of maladaptive cognitive and behavioral patterns. The present investigation extends this empirical base into an underexplored population and institutional setting, contributing substantively to the literature on evidence-based student welfare interventions in sub-Saharan Africa.

The durability of the intervention's effects, confirmed by the absence of a significant difference between post-test and follow-up scores ($p = .143$), is a particularly consequential finding. Therapeutic interventions that produce only short-lived effects are of limited practical utility in naturalistic university settings, where students remain continuously exposed to the financial pressures that precipitate distress. That therapeutic gains were sustained across two months suggests that FBCBT succeeded not merely in temporarily suppressing stress symptoms but in equipping participants with internalized cognitive and behavioral strategies capable of providing ongoing psychological protection. This interpretation accords with the conclusions of Tao et al. (2023), who found that cognitive restructuring, psychoeducation, and mindfulness components within technology-delivered CBT protocols yielded enduring reductions in psychological distress across chronic disease populations, and whose findings suggest that the durability of CBT effects is attributable to structural changes in participants' cognitive appraisal frameworks rather than to situational mood improvement.

The behavioral mechanisms through which the FBCBT program attenuated financial stress merit analytical attention. The program second module, centered on the relationship between goal-directed activity and mood regulation, is particularly relevant in this regard. Financial stress has been shown to restrict engagement in pleasurable and agentic activities, creating a self-reinforcing loop wherein reduced activity exacerbates distress and further curtails motivation (Koomson et al., 2022). The present intervention disrupted this cycle by explicitly coaching participants in the identification of attainable goals and the cultivation of activities conducive to improved affect and greater personal control. This aligns with broader evidence that stress management interventions combining skill development, cognitive reframing, and activity scheduling produce substantially greater reductions in occupational and academic stress than those deploying any single strategy in isolation (Holman et al., 2018; Ugwuanyi et al., 2021; Igwe et al., 2022). The social support module addressed in the programmer's concluding sessions likely contributed further to the sustained outcomes, given evidence that socially mediated coping mechanisms operate as independent moderators of the relationship between financial adversity and psychological well-being.

The implications of these findings for Nigerian university policy are direct and significant. Toker and Avci (2015) argue that CBT creates the pedagogical conditions necessary for improvements in students' academic capabilities, a position grounded in the logic that psychological stability is a prerequisite for effective cognitive engagement. Agboeze et al. (2020) similarly demonstrated that music-based CBT intervention significantly reduced test-taking anxiety among primary school pupils, reinforcing the cross-contextual applicability of CBT-derived frameworks to educational populations. The present investigation furnishes empirical evidence consistent with arguments within the specific context of Nigerian accounting education, where the cognitive demands of the discipline make psychological resilience a matter of direct academic consequence.

Limitations of the Study

The primary methodological constraint of this study was the reliance upon a single therapist for the entirety of the FBCBT intervention. Whilst the therapist was appropriately qualified and possessed relevant clinical expertise in

CBT delivery, this arrangement introduced the possibility of therapist-specific effects that may not generalize across other clinical contexts or therapeutic personalities. Future investigators seeking to replicate or extend this work should employ multiple therapists and formally examine potential moderating variables, including those associated with therapist gender, therapeutic style, and the severity of participants' pre-intervention financial distress. The geographical confinement of the sample to four public universities in South-East Nigeria additionally limits the generalizability of findings to other Nigerian regions or to other disciplinary contexts in which financial stress is prevalent and warrants targeted intervention.

Conclusion and Recommendations

The evidence produced by this randomized controlled trial substantiates the efficacy of finance-based cognitive behavioral therapy in reducing financial stress among accounting students in South-East Nigerian universities. Gains achieved through the seven-week FBCBT programmed were statistically significant, clinically meaningful, and sustained across a two-month follow-up period, collectively positioning FBCBT as a structured, scalable, and evidence-informed response to a psychological challenge that remains both pervasive and consequential in Nigerian higher education. Also, key scalability risks have been identified to include fidelity drift, socioeconomic variation and data privacy concerns. However, these risks can be mitigated through the implementation of mandatory, standardized checklists, designing a curriculum that will allow regional adaptation and other known measures.

University authorities and education policymakers should incorporate finance-based CBT program into the institutional welfare frameworks of accounting faculties and, more broadly, across undergraduate program in which financial stress demonstrably impairs academic functioning. Such program should be designed and delivered through collaboration with qualified psychotherapists, financial wellness practitioners, and relevant professional bodies, whose combined expertise is necessary to ensure both therapeutic fidelity and contextual appropriateness. For students themselves, the present evidence affirms that structured engagement with FBCBT represents a demonstrably effective pathway through which the cognitive and emotional burdens of financial adversity can be substantially and durably reduced, enabling greater academic focus and improved overall well-being throughout the pursuit of professional qualifications. Detailed recommendations for integrated finance – Based Cognitive Behavioral therapy (FBCBT) into university mental health services and national health policies. There should be a structural shift in both higher Educational infrastructural operational system and also in macro-level public health system in Nigeria. On Educational Infrastructure, specifically, public universities in Nigeria should urgently integrate and improve university mental Health services which will also extensively focused on FBCBT, especially going by the growing economic and financial stress among university students in Nigeria. This can be achieved through implementation of specified activities that will address the challenges, encouraging multi-disciplinary crisis screening. Developing standardized FBCBT service delivery models and systematic engagement of professional and counselors with university certified financial planners for collaborative workshops services for emotional related stress including financial related stress. On the area of National Health Policy, Federal Government should depend the newly introduced NEL fund, policy and encourage the state government to introduce a similar program in state owned universities to enable students' benefit from such programs. develop and implement a policy framework for FBCB-and public Health students capacity building training programs to be operatively in Nigeria. Universities. Implement performance-based feedback mechanisms and structured tracking to ensure compliance to the core principles of FBCBT in Nigerian universities. Fund national training programs blending financial coaching with clinical psychology competencies to cultivate a distinction class of professional public financial therapists. The effectiveness and acceptance of CBT in Nigeria are heavily influenced by cultural, geographical, religious and social conditions. Potential cultural factors influencing the effectives and acceptance of CBT in Nigeria have been identified to include: spiritual factors such as ancestral curses, spiritual warfare or divine punishment, others include stigma and shame, alternative care pathways and somatic expression. However, cultural adaptation measures like integrating religion, somatic conceptualizations, proverb based cognitive restricting and family including models have been identified as a veritable measure to regain the effectiveness and acceptability of CBT, especially FBCBT. Implementing Finance-based Cognitive Behavioral Therapy (FBCBT in Nigerian universities requires an improved structure and framework to manage personnel, associated costs and operational infrastructure. A comprehensive breakdown of the scalability and resources required to institutional FBCBT in Nigerian Universities will include: Personnel and Training requirements, digital and physical infrastructure, financial and operational cost. Scalability pathways should include, train-the trainer model digital-first Hybrid model, integrated and core model.

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Data Availability. The data generated and analyzed during the course of this study are held by the corresponding author and are available upon reasonable request.

Conflict of Interest. The authors declare no conflict of interest

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