

Academic Stress and Suicidal Ideation: Moderated Mediation Study

Franca Obiageli Okechukwu

University of Nigeria, Nsukka

Kalu T. U. Ogba (✉ kalu.ogba@unn.edu.ng)

University of Nigeria, Nsukka

Juliet Ifeoma Nwifo

University of Nigeria, Nsukka

Ogba Miracle Oluchi

Abia State University

Onyekachi Blessing Nneka

University of Nigeria, Nsukka

Chinonso Nwanosike

University of Nigeria, Nsukka

Onyishi Bonaventure Amuche

University of Nigeria, Nsukka

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Abstract

Objective: To examine the moderated mediation association of coping and resilience on academic stress and suicidal ideation.

Method: We sample 505 undergraduate volunteers [including 329(65.1%) males and 176(34.9%) females] from three South-Eastern Nigerian Universities. Participants were administered self-report: Lakaev Academic Stress Response Scale (LASRS; Lakaev, 2006), Scale for Suicidal Ideation (SSI; Beck, Kovacs, & Weissman, 1979), Brief COPE (B-COPE; Carver, 1997) and Resilience Scale (RS-14; Wagnild & Young, 1993).

Results: Hayes regression-based PROCESS macro showed that academic stress was a significant predictor of coping. Coping did not significantly predict suicidal ideation but moderated the effect of academic stress on suicidal ideation, such that low or moderate coping with academic stress would most likely lead to suicidal ideation. However, resilience negatively predicted suicidal ideation and was positively associated with academic stress. A Sobel test ($z = 3.21, p = .004$) confirmed that resilience fully mediated the relationship between academic stress and suicidal ideation.

Conclusion: Educational administrators and policy makers should incorporate courses and teachings that entail effective coping skills as well as inculcate resilience especially to fresh undergraduates, since resilient students recover from academic stress given that they practice adequate coping strategies; and such students may not likely ideate about suicide

Background

Suicide is multifarious and a major concern for public health [1, 2]. It is a diverse, less comprehensible, life-threatening phenomenon. This could be due to people's minute ability to have a complete access to and knowledge of a potential 'suicider'; as several studies have documented the suicidal intentions concealment of most victims [3, 4, 5]. [1] noted that one person dies by suicide every 40 seconds despite progress in national prevention strategies, consequently it has become the second leading cause of death among youths. Suicide is predominant among the youth. [2] observed that the reports of suicide is rare in children under the age of 10, but in the developed world, the prevalence begins to increase for youths between 10 to 14 years of age, and 15 to 24 years age group [6]; while among their Nigeria counterparts, the prevalence is 13-29years, and 18- 35years age group [7]. These age brackets remarkably appear to be "transitory-into-productive" age(s) where most youth in mainly under-developed (and in some western) worlds are transiting from tertiary institutions into the uncertain world of labour markets.

Stresses of completing tertiary education as well as worries about unemployment, poverty and destitution, economic crises, feelings of insecurity, marginalization (including biases) and economic disempowerment [8] are as enormous in the society as requiring adequate knowledge of coping. Failure to adequately cope greatly increases the chances of severing youths (who at their age, are battling to have firm superego identity) from the traditional values and moral regulations which seemed to have

earlier provided moral foundation and guide; leading to thoughts of suicide and its eventual act. This could account for scholars [9, 10] report that suicidal thoughts are more common among younger age group.

Stress is no longer new to people as it has permeated every aspect of humanity. Hence, the present study would emphasize academic stress. Undergraduateship is not devoid of challenges and stressful circumstances, and such are not limited to adapting to new academic environment, academic workload, academic performance, attending to lectures, overwork, or future employment [11, 12], most seriously, social and financial stresses [13]. These stressors whether short or long-term impact heavily on the coping (either adaptive or maladaptive) capacity of the undergraduates [13]. Productive (adaptive) coping protects students against suicide and suicidal ideation [14, 15]; whereas, ineffective/dysfunctional (maladaptive) coping skills among students under persistent academic stress and negative emotions trigger higher suicidal incidences [16]. The relationship between academic stress and suicidal ideation has been well documented in literature [17–19]. Generally, role of stressful life events in suicidal ideation, attempts and completion have been key areas of study in the epidemiology of mental disorders [20, 21]. Although, suicidal behaviour often occurs in the context of acute and chronic stressors [22], it does not seem to prove a causal link. The existing association could be coincidental or co-morbid in nature. Understanding the causal pathway between academic stress and suicidal ideation is very important to advance research in knowledge about suicide, intervention and treatment. This is an important contribution the current study offers to the body of knowledge.

[23] noted that coping is a conscious effort to reduce stress, with coping strategies entailing the masterful ways of tolerating, reducing or minimizing stressful events. The conceptualization and categorization of different coping styles is inconsistent in literature (cf. [24]). Thus, we considered coping as a unidimensional construct and scale [25]. Notwithstanding divergent opinions on conceptions of coping, coping has colossal impacts on stress (academic not exempted) and suicidal ideation as well as action. For instance, behavioural disengagement and self-blame have been shown to increase suicidal vulnerability [26], with deficient coping and problem solving skills being strongly linked to suicidal ideation [27, 28], and passive coping (usually fantasizing) positively associated with suicidal ideation [29], as well as ineffective coping skills and negative emotions triggering higher risk of suicide [30]. Coping skills such as active coping and positive reframing were negatively associated with suicide, whereas, coping skills like self-distraction, substance abuse, behavioural disengagement, venting, and self-blame were positively associated with suicide e.g. [16].

Beside these direct associations, psychopathological factors, including depression [31], hopelessness [32], and psychological distress [33], have been tested as mediators between life stress and suicide ideation, with less research enquiries involving resilience. Resilience is an individual's tendency to bounce back to a previous state of normal functioning, or simply not showing negative effects after stress and adversity. Resilience could be explained as one's ability to pick-up from strenuous challenges [34], and could be positively associated with one's unique characteristic that helps boost such a person's surviving adaptation and invariably moderates those unpleasant side-effects of stress. It has been documented

that resilient persons are more likely to exhibit adaptive lifestyles; with respect, particularly, to social functioning, morale and somatic health, yet still encounter, practice or are optimistic even amidst difficulties [35]. Consequently, it has been argued that resilience and the resiliency theory may help to promote healing at deeper, softer but yet more efficacious level [36]. The relationship between resilience and well-being has been proposed to be mediated by positive view of the self, the world and the future [37]. Studies [38] have found youths' perceived resilience associated with less suicidal ideation, whereas higher psychological distress was associated with higher suicidal ideation. Furthermore, depression had been linked to suicidal ideations while anxiety, mental health, resiliency, and daily stresses were also noted to play significant roles in suicidal ideation [39]. Again, resilience dimensions such as social resources and familial cohesion were strongly and negatively correlated with humiliation, interpersonal sensitivity, and depression in subjects with previous suicidal attempts [41].

To our knowledge, fewer or no studies have examined coping as a moderator and resilience as a mediator between academic stress and suicide ideation as well as its act; perhaps in just one study. However, some studies had investigated coping as a moderator on the relationship between stress (not necessarily academic stress) and suicide ideation e.g., [41]. We assume that coping will have a moderating impact on suicidal ideation (and its act) and academic stress of undergraduates who adopt functional or adaptive coping, unlike those who do not; while resilience will mediate the path of the relationship. The Integrated Motivational-Volitional Model IM-VM [42] explains this relationship. According to IM-VM model, defeat and entrapment are the primary drivers of suicidal ideation, and that, acquired capability along with other factors (e.g., access to lethal means, planning, etc) explain the propensity to act on suicidal thoughts. In this context, defeat and entrapment may be predisposed by academic stress. For instance, a student who is stressed but adopts dysfunctional or ineffective coping styles (blaming oneself for problems, ignoring them, or escaping through fantasizing thoughts) when confronted with the aforementioned potential stressors may begin to consider suicide as an option to end the perturbation [43]. On the contrary, those who may adopt effective or functional strategies (positive reevaluation, planning, and seeking out support) might not contemplate suicide as optional [16]. In other words, coping could either increase or decrease the effect of academic stress on suicidal ideation and its act whereas resilience helps them to bounce back having adaptively coped with academic stress. Therefore, we hypothesize that students who practice negative or dysfunctional coping skills to academic stress are more vulnerable to suicidal ideation (and perhaps the act) than those who do not (H1) and that resilience will help them bounce back (H2). In other words, less adaptive or functional coping skills and poor resilience on the negative impact of academic stress increases the likelihood of students' suicidal ideation and acts.

In comparison to most western societies, single studies on the moderating roles of coping and mediating roles of resilience on academic stress and suicidal ideation in a Nigerian sample are very rare. Also, studies with Nigerian (and perhaps other) samples had rather dominated the areas of protective and risk factors for suicidal behaviour and ideation e.g., [44–47]. Our study becomes germane as it advances the knowledge quest of suicide.

The understandings that suicidal ideation may decrease among undergraduates because of adaptive or functional coping skills; and that students who practice functional coping skills may suppress the negative experiences, anxiety, and psychological distress that emanate due to academic stress, is very crucial in proposing and inculcating a positive academic survival approach. This outcome could equally be transferred into other domains of students' lives; even after school. This study is essential to policy makers, educational administrators, parents, students and the society as no one is exempted from the scorching heat of rampant suicide among undergraduates- a generational transitory population. Therefore, the study encourages the stakeholders to teach and practice adaptive coping skills whose ripple effects do not only reduce suicidal ideation but help in healthy living.

Method

2:1 Participants and Procedure

The study adopted a cross sectional design to sample a total number of 505 undergraduates of three South-Eastern University, Nigeria. They consisted of 329(65.1%) males and 176(34.9%) females who were conveniently sampled and at their clustering, administered self-report battery of measures. Their ages ranged from 16–30 with the mean age of 22.41yrs and standard deviation of .45. A total of 492(97.4%) were single while 7(1.4%) were married. Christians in the sample were 486(96.2%), traditional 17(3.4%) and Islam 2(.4%). The four instruments were prepared in a questionnaire format. The questionnaires were distributed to students who willingly accepted to take part in the study with preceding self-introduction and explanation of the objective of the study. Out of the 530 copies of the questionnaire distributed, 523 were returned (98.7% return rate) while 18 were discarded due to improper completion. To preserve the homogeneity of the sample, all participants were undergraduates irrespective of other demographic characteristics. Those who just graduated and are not yet working but were in the University either undergoing one postgraduate program (or the other) or not were also inclusive. Our procedures met relevant ethical guidelines and legal requirements in Nigeria to have warranted the ethical approval obtained from the Institutional Review Board, University of Nigeria, Nsukka.

2:2 Instruments/Measures

2.2.1 Lakaev Academic Stress Response Scale (LASRS)

The LASRS is a 21-item structured scale that measures stress responses specifically among university students in the domains of Physiological, Behavioural, Cognitive, and Affective. Respondents rated how much of the time they experienced symptoms on a 5-point Likert scale [48] with the anchors: None of the Time(1), A little of the Time (2), Some of the Time (3), Most of the Time (4), and All of the Time(5). Items are summed for subscale scores and subscales are summed for a total LASRS stress response score. Higher scores indicate a greater stress response. It has an excellent psychometric property with internal consistency ranging from .64 to .92 [48]. However, the Kaiser-Meyer-Olkin Measure of sampling adequacy

was .71, and the Bartlett's test of Sphericity was 4602.31 ($p < .001$), indicating that the sample was sufficient to test for factorial validity of the scale. Our pilot testing of the scale yielded a Cronbach Alpha of .83.

2.2.2. Scale for Suicidal Ideation (SSI)

SSI is a 19-item self-report scale designed to quantify the intensity of current conscious suicidal intent and acts by scaling various dimensions of self-destructive thoughts or wishes. The items assessed the extent of suicidal thoughts and their characteristics as well as the respondent's attitude towards them; the extent of the wish to die, the desire to make an actual suicide attempt, and details of plans, if any; internal deterrents to an active attempt; and subjective feeling of control or "courage" regarding a proposed attempt. Each item consisted of three alternative statements graded in intensity from 0 to 2. The SSI's total score was the sum of the individual item scores and could range from 0 (low ideation) to 38 (high ideation). In other words, a positive rating (> 1) on any of the ideation scale's 19-item was considered as a potential indicator of suicide ideation. Out of 29 items, 16 have positive and significant item-total correlations and a Cronbach alpha .89 was obtained, which indicated high reliability of SSI and also supported the validity of this scale [49]. Validity of SSI was also indicated by the moderate correlations with clinical ratings of suicidal risk and self-harm [50]. The scale was pilot tested and result yielded a Cronbach Alpha of .82.

2.2.3. Brief COPE (B-COPE)

B-COPE consists of 14 sub-scales, of two items each. B-COPE therefore, has a total of 28 items, which measure 14 conceptually differentiable coping skills. Some of these skills are known to be generally adaptive: others are known to be problematic. The B-COPE provides researchers a way to assess potentially important coping responses quickly. Items are rated in a four response options of: 1 (not at all) to 4 (Always). [25] reported the B-COPE to have yielded a Cronbach Alpha of .87 and we obtained a Cronbach Alpha of .93.

2.2.4. Resilience Scale (RS)

RS-14 measures the capacity to withstand life stressors, and to make meaning from challenges. It contains items which measure two major dimensions of Psychological resilience: personal competence (as it was indicated in items 1, 2, 5, 6, 7, 8, 9, 11, 12, 14), and acceptance of self and life (as it was indicated in items 3, 4, 10, 13). It has a composite internal consistency reliability of .93 [51]. All the 14 items are positively worded and participants responded on a 7-point scale that ranged from strongly Disagree (1) to Strongly Agree (7). We obtained a Cronbach Alpha of .90. Higher score on RS-14 indicated greater resilient capacity.

2.2.5. Statistical Analysis

The study is a survey. Pearson's Correlation (r) analysis was conducted to examine the relationships of the demographic factors and the major variables in the study while Hayes regression-based PROCESS

macro used to test the hypotheses for the study. The reason for the choice of correlation is based on [52] assertion that correlations play a major role in demonstrating linkages between (a) scores on different tests, (b) test scores and non-test (demographic) variables, (c) scores on parts of tests and scores on whole tests, etc. [51]. Multiple regression analysis allows researchers to simultaneously use several predictor variables. Due to the evidence of the contribution of relevant demographic factors in several countries including Nigeria [47, 19, 46] demographic factors were included in the first step of the regression analysis as control variables. All analyses were conducted using Statistical Package for Social Sciences (SPSS) version 22 [53, 54]. By so doing, one would be able to explain better the variation in the dependent variable and hence make more accurate predictions.

Results

Simple descriptive statistics and correlation were employed to test mean, standard deviation and correlations of the variables whose results are illustrated in Table 1:

Table 1: Mean, Standard Deviation and correlation of the variables.

	(Mean, SD)	1	2	3	4	5	6	7	8	9
1. Suicidal Ideation	(5.86, 5.94)	1.00								
2. Gender	(1.35, .48)	-.02	1.00							
3. Age	(1.25, .45)	-.03	-.01	1.00						
4. Marital Status	(1.06, .37)	.08*	-.09*	-.07	1.00					
5. Ethnic Group	(1.21, .69)	.05	-.14	-.05	.35**	1.00				
6. Edu Qua....	(1.01, .09)	.05	-.02	.20**	-.01	.04	1.00			
7. Academic Str.	(45.46, 12.39)	.17***	.15**	.10	-.10*	-.02	.02	1.00		
8. Coping	(68.80, 12.64)	.04	.09*	.06	-.22**	-.17**	.03	.36	1.00	
9. Resilience	(75.28, 17.48)	-.29***	.16**	.04	-.09*	-.12*	-.09*	-.11**	.21**	1.00

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1 above showed that suicidal ideation has positive association with marital status ($r = .08$, $p < .05$) but did not correlate with gender, age, ethnic group, and educational qualification. While academic stress ($r = .13$; $p < .001$) positively correlated with suicidal ideation, resilience ($r = -.24$; $p < .001$) was negatively associated with suicidal ideation. However, suicidal ideation had no association with coping. Other demographics like gender, age, ethnic group which did not correlate with suicidal ideation were excluded from the analysis and marital status which correlated with suicidal ideation was controlled in the subsequent moderation and mediation analysis as shown in Table 2 below:.

Table 2: Hierarchical Regression Model

Predictor	B	Standard Error of B	β	t	F	R ²
Step 1						
Marital Status(P) SI(D)	1.10	.77	.07	1.43	.85	.01
Step 2						
Academic Stress(P) SI(D)	.09	.02	.18	3.98***	15.87	.04
Step 3						
Coping SI(D)	-.03	.02	-.01	-.11	.01	.04
Step 4						
Resilience(P) SI(D)	-.07	.02	-.20	-4.42***	19.53	.08
Academic Stress x Coping	.37	.04	.36	8.73***	76.14	.13
Academic Stress x Resilience	.18	.03	.25	6.31***	39.85	.20

*** $p < .001$. D= Dependent, M=Moderator, P=Predictor, SI= Suicidal Ideation

In Table 2, regression analysis was used to investigate the hypothesis that coping moderates the effect of academic stress on suicidal ideation and its act. Results indicated that academic stress was a significant predictor of coping, ($B = .37$, $SE = .04$, $p < .001$), and that coping would not significantly predict suicidal ideation and its act, ($B = -.03$, $SE = .02$) but could moderate the relationship such that low or moderate coping with academic stress would most likely lead to suicidal ideation, ($B = -.01$, $SE = .02$, $t = -3.43$, $p < .001$) (LLCI = $-.0079$, ULCI = $-.0021$). To avoid potentially problematic high multicollinearity with the interaction term, the variables were centered and an interaction term between academic stress and suicidal ideation was created [55]. Examination of the interaction plot [Figure 1] showed that suicidal ideation was significant at lower and moderate levels of coping but not at higher (adaptive) coping.

Furthermore, resilience negatively predicted suicidal ideation, $B = -.07$, $SE = .02$, $p < .001$, and was positively associated with academic stress, $B = .18$, $SE = .03$, $p < .001$. With these results, the hypothesis that resilience mediates between academic stress and suicidal ideation was justified and therefore, tested. Results indicated that the indirect effect was significant, ($IE = .023$, $SE = .011$, 95%) (LLCI = $.0054$, ULCI = $.0503$). This result was tested using a percentile bootstrap estimation approach [56], implemented with the PROCESS macro Version 3 [57]. A Sobel test was equally conducted and found full mediation in the analysis ($z = 3.21$, $p = .004$). It was however, found that resilience fully mediated the relationship between academic stress and suicidal ideation [Figure 2]. Equally, [Figure 2] illustrates the moderated mediation model for the relationship [57].

Discussion

Stressors have so much accompanied undergraduateship [11, 13, 12] that adequate coping skills have become panacea to the likelihood of impending suicidal ideation and the eventful act [17, 18] notably observed among students. We found that coping did not significantly predict suicidal ideation and its act, but moderated the relationship such that low or moderate coping with academic stress would most likely lead to suicidal ideation and perhaps its eventful act. Students are mostly confronted with the challenges

of adapting to new academic environment, academic workload, academic performance, attending to lectures, overwork, or future employment [11, 12], most seriously, social, emotional and financial stresses [13]. This is also in consonance with worries about unemployment rates, poverty and destitution, economic crises, feelings of insecurity, marginalization and economic disempowerment that dominates our society today. It equally becomes worse when the student(s) lose their guardian/parents/sibling that takes care of their academic bills or the guardian/parents/sibling is befallen by mishap that renders him/her almost wretched.

Often times, students attend lecture classes on empty stomach with no hope of food for the day. In such hopeless state, concentration and comprehension become questionable. In the midst of fellow students, one worries about what to put on to look like others, how to procure reading materials and text books, even problem of trekking from far distances to school on daily basis. The little sustaining hope of such students is even dashed by the difficulty of securing a lucrative job perhaps at the end of the studies; thereby, making the student feel dejected, miserable and crestfallen. At this point, suicidal thoughts could set in. There are however, other innumerable worries of students arising perhaps from consistent sexual molestation from the opposite sex; constant threats from cultists; frustration due to continued failure of one or more courses; hike in prices and fees, etc. All these stressors and worries leave most students with no option than adequate coping skills which when inadequate would most likely lead to suicidal ideation.

Our finding is consistent with [14–16] studies. Other extant literature [15, 18, 19] have however documented the relationship between academic stress and suicidal ideation. Although, suicidal behaviours have been seen to mostly occur in the context of acute and chronic stressors [22], whether this proves a causal link is unclear. However, this association could simply be accidental or co-morbid in nature. Hence, understanding the causal pathway between academic stress and suicidal ideation is very important in furthering research knowledge about suicide, intervention and treatment. In this regard, we found that adequate coping with academic stressors could be paramount to avoiding suicidal ideation and the eventful act among students. This finding is very important as educational administrators and policy makers should incorporate courses and teachings of effective coping skills to especially young students since stressors are inherent in the lives of undergraduate students especially in our society and at this perilous time.

Resilient students have the ability to recover from stress [34] but not without adequate coping strategies. Our study found that resilience was positively associated with academic stress and negatively predicted suicidal ideation. Thus, the hypothesis which stated that resilience would mediate the relationship between academic stress and suicidal ideation was confirmed with the indirect effect significant. This simply implies that those who cope well with academic stress have more chances of bouncing back than others who did not; and do not likely ideate about suicide. In line with our findings, [35] noted that resilient persons have much more adaptive behaviours, particularly in the areas of social functioning, morale and somatic health, and such persons equally experience positive emotions amidst stress; given that moral and social functioning are anti-suicidal tonics. Resiliency theory proposed by [36] explained that qualities of resilience such as optimism, hopefulness and meaningful engagement ensure higher immune levels

than helplessness, hopelessness and depression (which are precursors of suicide). Therefore, resilience promotes succor at adequate coping under threats of various academic stressors.

Our finding can find explanations in the Salutogenic Model of Resilience developed by Aaron Antonovsky nearly 20 years ago. In its explanations of resilience, salutogenic model ignores the whole notion of risk exposure as a prerequisite for being labelled “resilient” and rather places the emphasis on factors that contribute to health and wellbeing. The salutogenic model specifically focused on factors that help identify coping resources which may contribute to resilience and effective adjustment, notwithstanding adversity and risk [58]. It is adequate coping skills that make resilient students able to regain sense of balance that keeps them going despite academic difficulty and trouble; and equally enable them find meaning amidst academic confusion and turmoil. Resilient students are self-confident and understand their own strengths and abilities. They do not feel a pressure to conform but take pleasure in being unique. Extant literatures have documented the relationships between resilience and well-being [37], with perceived resilience associated with less suicidal ideation whereas higher psychological distress was associated with higher suicidal ideation [38]. Furthermore, depression, anxiety, mental health, resiliency, and daily stresses had been linked to suicidal ideations and play significant role in suicidal ideation [39]. To our knowledge, it seems that no study had particularly evaluated the moderated mediation of coping and resilience on the path of academic stress and suicidal ideation. Hence, our study becomes an interesting read for students, educational administrators, and some other non-governmental suicidal organizations.

Our study is not without limitations. For instance, small sample size of our study may not have been large enough to account for generalizations across cultures. Again, as a cross-sectional study, our data do not allow for full inferences about causal directionality. Therefore, future studies should consider making more directional inferences perhaps from a more controlled experimental investigation as well as cross cultural variances in suicidal ideation. We did not also take into account several ways people ideate about suicide (e.g., active ideation with plans, thoughts of suicide, and urges) as noted by [59]. There is likelihood that the frequency, duration, intensity, and future possibility of these ways of ideating suicide could have been propagated by academic environment and that most students at different times have the urges, thoughts (with or without) active plans. This area should be explored further.

Conclusion

Resilient students having the ability to recover from stress are only possible with adequate coping strategies even as resilience positively associated with academic stress and negatively predicts suicidal ideation. However, those who cope well with academic stress have more chances of bouncing back than others who did not; and those who bounce back, do not likely ideate about suicide. Academic pursuit is mostly characterized by a number of stressors especially in Nigerian context more than in the Western clime. This accounts why a number of students in Nigeria were reported to have committed suicide as a result of one or more poorly treated academic-related stressors. Therefore, this finding is very important as it has shown how important it is for students to adopt positive coping strategies towards solving their

stress-related academic pursuits as well as learning to be persistent even in the midst of threatening academic situations. It is aptly relevant at a time when survival/graduation from the university is largely dependent on adoption of adequate coping strategies as well as enduring the hard times of studentship particularly in an environment that hardly support education.

Declarations

RE: Ethical Approval for ACADEMIC STRESS AND SUICIDAL IDEATION: MODERATED MEDIATION STUDY (D.PSY.UNN.0010419)

Dear Researchers

The above referenced research project has been reviewed and approved in line with the Department of Psychology, University of Nigeria, Institutional Review Board. The reference number is listed beside the title.

In line with our procedures, this approval is valid for one year (21st November, 2019 - 22nd December, 2020). Any changes regarding the presented protocol will require reconsideration by the Review Board. You also require to complete and submit the termination form at the end of this project.

The Department of Psychology, University of Nigeria, Institutional Review Board hereby affirms our approval of all the experimental protocols as far as this project is concerned. Our approval was, of course, based on our confirmation that all methods are carried out in line with the relevant guidelines and regulations as stipulated by University of Nigeria, Institutional Review Board.

Informed consent was duly obtained from all the participants and it is worthy to mention that parents/guardians or legal guardians of participants less than 18years of age supplied the informed consent for their children.

Consent for Publication

Not applicable

Availability of Data and Materials

The datasets generated and/or analyzed during the study are available from the corresponding author based on special request and the corresponding author should be contacted via his email: kalu.ogba@unn.edu.ng.

Competing Interest

We declare that our study was carried out successfully without any relationships that would be understood as a potential conflict of or competing interest.

Funding

Not Applicable

Authors's Contributions

OFO critically and constantly proof read this work. KTUO, performed the data coding, data analysis and interpretation of the results. OMO and NJI's expertise were brought to bare in coining the topic, and putting together the introduction of this work. The discussion was however anchored by OBN. While NCI formatted the references, all authors joined OAB in study design, gathering of data and equally approved the final version of the manuscript for submission.

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Figures

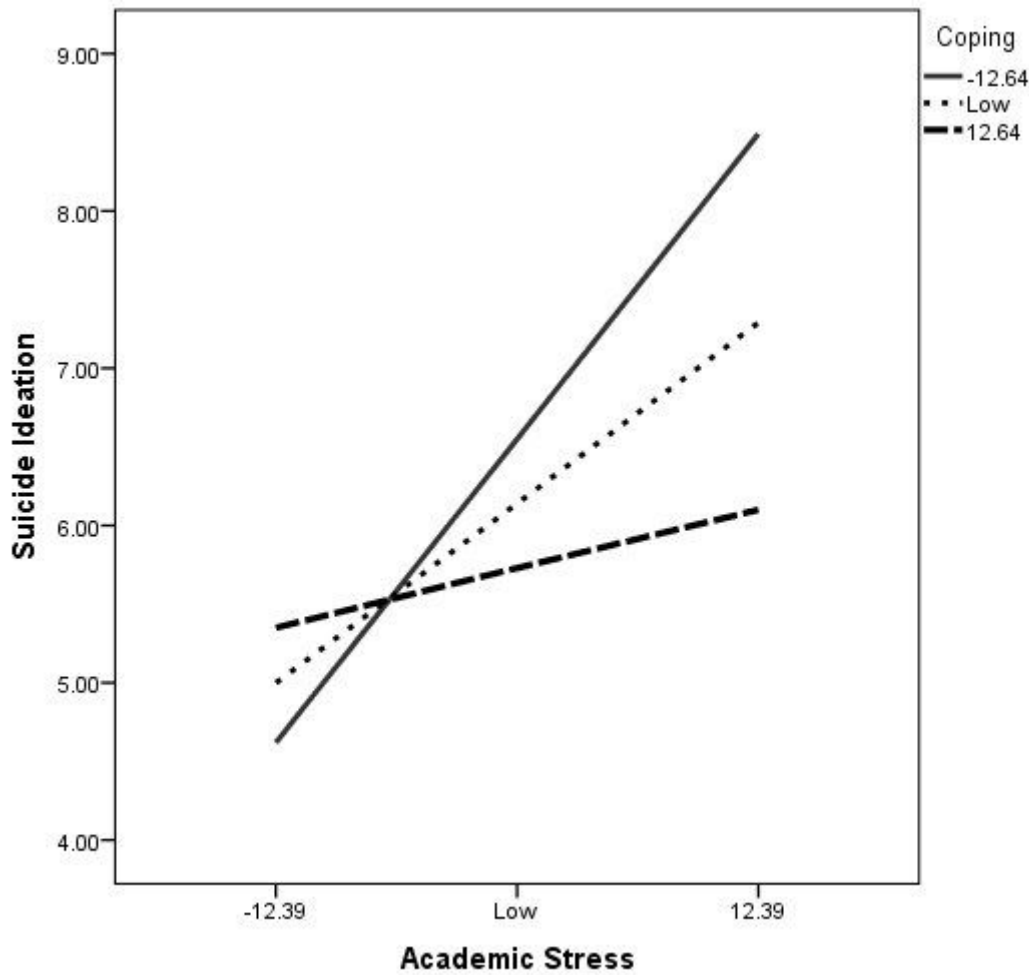


Figure 1

Coping moderating between academic stress and suicidal ideation.

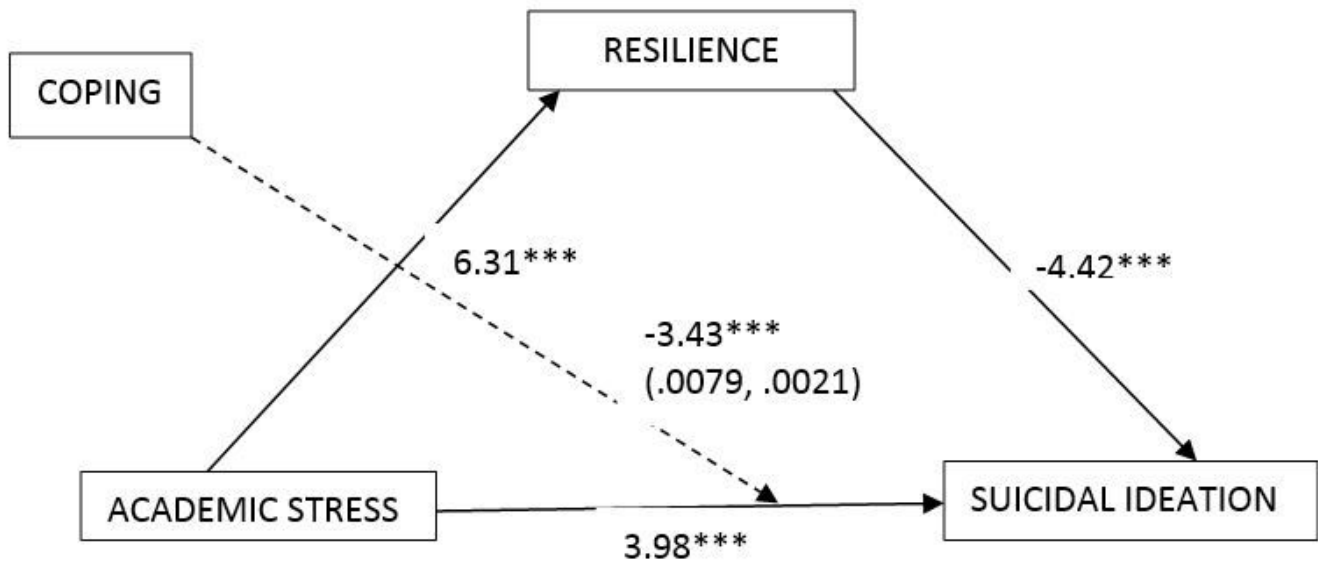


Figure 2

Moderated mediation model of coping and resilience on the relationship between academic stress and suicidal ideation.