Academic Stress and Resilience as Predictors of Pro-Social Behaviour among Undergraduates of Adekunle Ajasin University Akungba-Akoko

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***Abstract:** The problems of pro-social behavior among individuals have been in existence from the recorded history. Studies that have investigated pro-social behavior have used different predictors and populations with varied results. Therefore, this study investigated academic stress and resilience as predictors of pro-social behavior among first year undergraduates of Adekunle Ajasin University, Akungba-Akoko, Ondo State, Nigeria. The study adopted cross-sectional survey design while convenience sampling technique was used to collect data from 219 participants using the Pro-social Behavior Scale, Maslach Burnout Inventory and Resilience Scale. Data collected were analyzed using multiple regressions to test three hypotheses which were accepted at a p < .05 level of significance. The result showed that academic stress and resilience jointly predicted pro-social behavior among study participants [R^2 =.10, F (2,216) =11.88, p < .05]. In addition, academic stress (β= -.26, p < .05) independently predicted pro-social behavior while resilience did not independently predict pro-social behavior among study participants (β = .12, p > .05). The study concluded that academic stress is a strong predictor of pro-social behavior among study participants. It is recommended that university management and other stakeholders should organize regular seminars on stress reduction techniques that would encourage activities that would lead to pro-social behavior among undergraduates.*

***Keywords:** Academic stress, pro-social behavior, resilience, undergraduates.*

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Introduction

Pro-social behavior is a behavior directed toward promoting the well-being of other individuals. It includes a broad range of actions such as comforting, helping, co-operating, and sharing with intention to benefit one or more persons (Tendhar & de Mesquita, 2020). This means pro-social behavior is central to human social functioning (Thapliyal & Gupta, 2015). Pro-social behavior among students has been in existence for decades such as giving out extra pencil or biro to others in the classroom, sharing lunch with those who cannot afford, accommodating fellow students in their rooms for free until they are financially capable of securing theirs and many more. The capacity of students to engage in pro-social behavior with peers is believed to foster positive behavioral and academic growth (Durlak et al., 2011; Eisenberg et al., 2016). For instance, Ogunsola and Lasode (2017) found that pro-social behavior in academic settings such as knowledge sharing by individuals within colleagues promotes performance. Furthermore, Oladipupo and AbdulRahman (2018) gave the benefits of pro-social behavior to include the willingness to share knowledge which benefits both individuals and the academic institutions where such behaviors have taken place. Therefore, pro-social behavior plays positive roles in all aspects of human development especially as it promotes academic performance and social adaptation among undergraduates (Aknin et al., 2012; Alarcón & Forbes, 2017; Zuffianò et al., 2014; Caprara et al., 2015).

Some factors have been investigated as predictors of pro-social behavior. This study would consider two factors. The first factor considered is academic stress. Generally, stress refers to physical or psychological demands placed on an individual and the accompanying physiological, psychological and behavioral response (Memmott-Elisonet al., 2020). Academic stress occurs when a student feels more pressure on his mind as a result of his/her inability to meet the demands of academic rigors (Jeyasingh, 2022). Academic-related stress includes demands and pressure from school and school-related activities which affects students' academic performance (Berdida & Grande, 2022; Högberg et al., 2020). Students' stress related activities include examinations, tests, oral presentations and assignments (Mayorga et al., 2018).

Studies on academic stress have produced varied results. For example, Haller et al. (2022) found academic stress as a predictor of pro-social behavior among their study participants. Also, Harris et al. (2022) found students who engaged in pro-social behaviors greatly improve their self-efficacy, boost their moods, and serve as a protector against stressors. However, some studies did not find academic stress as predictor of pro-social behavior. For example, Sollberger et al. (2017) found that academic stress predicted the amount of money that individuals were willing to donate. This means that the ability for an individual to engage in pro-social behaviors when stressed would be a function of his or her reaction to the stressor.

However, some studies have found academic stress to reduce pro-social behavior among different populations and samples. For example, Babapour et al. (2022) did not find nurses' job stress as a predictor of pro-social behavior. In addition, Oleksa-Marewska (2020) did not find occupational stress to predict pro-social behaviors among their study participants. Further evidence was obtained by Arogundade and Oladipupo (2019) who did not find perceived stress as a predictor of pro-social organizational citizenship behavior among bankers. In

conclusion, Yuin and Yaacob (2018) confirmed that academic stress has negative influence on pro-social behavior among their study participants in Malacca, Malaysia.

Resilience was the second factor investigated in this study. Resilience is a set of qualities, resources or strengths that enable individuals to progress by successfully coping with adversity (Martí-Vilar et al., 2022). This implies that resilience people would exhibit resources such as positive emotions that would help them to be proactive in dealing with unfavorable situations as well as coming out as better individuals in time of adversity (Akintunde-Adeyi et al., 2023). Specifically, academic resilience is the ability of students to successfully deal with academic drawbacks and challenges that affect their academic performance (Martin & Marsh, 2019). Academic resilience enables students to pursue demanding and enduring university education (Tohtayong, 2018). Some studies have been conducted on resilience and pro-social behavior with varied results. For examples, Roche et al. (2022) and Martinsone et al. (2022) found resilience to predict pro-social behavior among college students during the COVID-19 pandemic. Similar result was obtained by Luo Ma and Deng (2023) in a study among pupils from K-1 and K-2 from different high schools in Dongguan City, China where resilience predicted pro-social behavior. Also, Moore et al. (2020) found resilience as a predictor of pro-social behavior among households in a low-income African-American neighborhood in Houston, USA. Further support of resilience as a predictor of pro-social behavior was from a study by Van Damme et al. (2022) among young women four years after prison detention in Flanders, Belgium. Other studies from different populations and samples where resilience predicted pro-social behaviors include sports (Nwankwo et al., 2018), among civil servants (Ogunleye et al., 2021), among healthcare professionals (Martí-Vilar et al., 2022) and pupils in 5th and 6th grades in primary school (Leontopoulou, 2010). All these studies have supported resilience as a predictor of pro-social behavior.

Although the significance of pro-social behavior towards a better society has been established, only few studies have been conducted to ascertain the possible predictors of pro-social behavior especially among youths in tertiary institutions in Nigeria, thus leaving gaps in knowledge that need to be filled. Therefore, the purpose of this study was to investigate academic stress and resilience as predictors of pro-social behavior among first year undergraduates in Adekunle Ajasin University, Akungba-Akoko, Ondo State, South-west, Nigeria. The research question raised to guide this study was: Would academic stress and resilience jointly and independently predict pro-social behavior among first year undergraduates of the AAUA?

The results of this study would help university management, parents, and researchers to understand the importance of academic stress and resilience in promoting pro-social behavior among undergraduates. Specifically, parents would benefit by providing activities and opportunities that would encourage communication among their children which would be beneficial in sharpening pro-social skills among them. Finally, school counselors would benefit from this study as the findings would help them to provide knowledge and information to the undergraduates who seek ways to reduce their academic stress and improve their academic resilience.

The following hypotheses were:

H1: Academic stress would independently predict pro-social behavior among first year undergraduates of the Adekunle Ajasin University Akungba-Akoko.

H2: Resilience would independently predict pro-social behavior among first year undergraduates of Adekunle Ajasin University Akungba-Akoko.

H3: Academic stress and resilience would jointly predict pro-social behavior among first year undergraduates of Adekunle Ajasin University Akungba-Akoko.

Method

Research design

The study adopted cross-sectional survey design where data were collected using validated questionnaires. The independent variables were academic stress and resilience while the dependent variable was pro-social behavior. The research study was conducted among first year undergraduates of Adekunle Ajasin University Akungba-Akoko (AAUA), Ondo State, Nigeria. The study covered all the eight Faculties: Education, Social Sciences, Administration and Management Sciences, Arts, Sciences, Law, Environment, and Agriculture. The reason for choosing AAUA for the study was primarily because the university environment is suitable for the execution of the research objectives, and the fact that the researchers work in the institution. This made it easier to access participants within a reasonable period of time.

Purposive sampling technique was used to select all the eight Faculties in AAUA while convenience sampling was used to distribute the research questionnaires to the participants.

Instruments

Three validated scales were used for data collection. To start with, pro-social behavior was measured using Pro-social Behavior Scale developed by Afolabi (2013). The scale consisted of 12 items which is rated on 5-point Likert's format that ranges from 1= Strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree. Sample items include: "I enjoy helping others" and "Helping others can put you in trouble". High score indicates high pro-social behavior while low score indicates low pro-social behavior. The original author obtained Cronbach's alpha of 0.89 while for the present study, it was 0.82.

In addition, academic stress was assessed using Maslach Burnout Inventory for students developed by Maslach and Jackson (1986). It scale consisted of 15- item rated on a 6-point Likert's format from 1= A few times a year, 2 = Many times a year, 3 = A few times every month, 4 = Many times every month, 5 = A few times every week and 6 = Everyday. Sample of items include: "I feel emotionally drained by my studies", "I feel tired when I get up in the morning" and "I have to face another day at school". High scores obtained from the scale indicate high academic stress, while low scores indicate low academic stress. The original authors reported Cronbach's alpha of 0.79 while in the present study, it was calculated as 0.74.

Finally, resilience was evaluated using Resilience Scale developed by Smith et al. (2008). It scale consisted of 6 items rated on 5-point Likert's format: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Sample items on the scale include: "I tend to bounce back quickly after hard times," and "I tend to take a long time to get over set-backs in my life". High score indicates resilience, while low score indicates low

level of resilience. The original authors reported Cronbach's alpha of 0.78 while for the present study, Cronbach's alpha calculated was 0.71.

Procedure for data collection

Formal letter of introduction was collected from the Department of Pure and Applied Psychology, Adekunle Ajasin University Akungba-Akoko (AAUA), Ondo State, Nigeria. The researchers met and interacted with the potential participants in their lecture halls where they were told the purpose of the study. They were equally asked for their consent to participate in the study. Potential participants who agreed to participate were told that their responses would be treated confidentially and that participation was voluntary. Based on their agreement to participate in the study, they were given the questionnaires to fill which took less than 15 minutes to complete. A total of 222 questionnaires were administered and collected on the spot out of which 219 were found properly filled and used for the analysis.

The collected data were analyzed using IBM SPSS version 23. Both descriptive and inferential statistics were computed. Zero-order correlation statistics was used to establish the relationships among the study variables. Hypotheses 1, 2 & 3 were tested using multiple regression analysis. All hypotheses were accepted at a $p < 0.05$ level of significance.

Theoretical Foundations

Two theories were used to anchor this study. The first was the Costly Signaling Theory which states that generosity is one means by which individuals gain social recognition and preferential treatment in their groups and thereby gain productive benefits in the long run (Gurven et al., 2000; Bliege Bird & Hawkes, 2002; McAndrew, 2019)). When applied to this study, individuals who engage in pro-social behavior serve their own interests by reliably demonstrating qualities that underlie the pro-social behavior such as resource control, trustworthiness, social skills, etc.

The second theory was the Job Demands-Resources Theory of Academic Stress. This was proposed by Demerouti et al. (2001). The theory has two dimensions: Demand and resource dimensions. Demands express the needs of the work individuals do in terms of physical, social and organizational aspects. On the other hand, resources are the physical, psychological, social and organizational aspects of work (Bakker et al., 2004). When this theory is adapted to the learning environment, demands are regarded as situations that have the functions of fulfilling the purposes regarding lecture activities; while resources are regarded as situations with the functions of realizing the objectives associated with the learning outcomes. When applied to this study, it implies that students are faced with many demands in the academic environment in terms of their lectures and other social activities with fewer resources which affect their academic activities and pro-social behavior (Wei et al., 2015).

Result

Test of Relationships

Zero-order correlation statistics was used to establish the relationship among study variables. The result is presented in Table1.

Table 1. Zero-order correlation of the study variables

Variables	1	2	3
Academic Stress	1		
Resilience	-.30**	1	
Pro-social Behavior	-.29**	.20**	1
Mean	46.22	19.26	45.09
SD	11.85	3.60	8.17

Note: Significant at **$p < .05$, N= 219

Table 1 shows zero-order correlation statistics of the study variables. The result showed that academic stress had a significant negative relationship with pro-social behavior [r (219) = -.29, p <.05]. Similarly, resilience had a significant positive relationship with pro-social behavior [r (219) = .20 p <.05]. The results made the data fit for multiple regression analysis.

Test of Hypotheses

H1: Academic stress would independently predict pro-social behavior among the first year undergraduates of the AAUA. This was tested using multiple regression analysis and the result is presented in Table 2.

Table 2. Multiple regression analysis showing. academic stress and resilience as predictors of pro-Social Behavior Among First Year Undergraduates of the AAUA

Predictors	β	t	R	R^2	Df	F
			.32	.10	2,216	11.88**
Academic Stress	-.26	-3.80**				
Resilience	.12	1.78				

* Significant   at a p < 0.05

Table 2 shows multiple regression analysis of academic stress as a predictor of pro-social behavior. The result revealed that academic stress predicted pro-social behavior among first year undergraduates of the AAUA (β= -.26, $p < .05$). The result supported hypothesis 1.

H2: Resilience would independently predict pro-social behavior among first year undergraduates of the AAUA. The hypothesis was tested using multiple regression analysis and the result is depicted in Table 2.

Table 2 shows multiple regression analysis of resilience as predictor of pro-social behavior among study participants. The result indicated that resilience did not independently predict pro-social behavior among first year undergraduates of the AAUA (β = .12, $p > .05$). Therefore, the hypothesis was not accepted.

H3: Academic stress and resilience would jointly predict pro-social behavior among the first year undergraduates of the AAUA. The hypothesis was tested using multiple regression analysis and the result is shown in Table 2.

Table 2 shows multiple regression analysis of academic stress and resilience as predictors of pro-social behavior. The result demonstrated that academic stress and resilience jointly predicted pro-social behavior among first year undergraduates of the AAUA [$R^2 =. 10$, F (2,216) = 11.88, $p < .05$]. This indicates that academic stress and resilience jointly accounted for 10% of variance in pro-social behavior. The R value of .32 shows a positive relationship between academic stress, resilience and pro-social behavior among study participants. Therefore, hypothesis 3 was accepted.

Discussion

This study examined academic stress and resilience as predictors of pro-social behavior among first year undergraduates of Adekunle Ajasin University Akungba-Akoko (AAUA), Ondo State, Nigeria. Three hypotheses were tested and accepted at a p < 0.05 level of significance.

The hypothesis that academic stress would independently predict pro-social behavior among first year undergraduates of AAUA was confirmed. The result indicated that high level of academic stress among undergraduates made them less likely to engage in pro-social behavior while those with low academic stress have higher tendency to engage in pro-social behavior. The result supported previous study where low academic stress among in-school adolescents in Malaysia led to pro-social behavior (Yuin & Yaacob, 2018). Similar results were obtained in Iran among nurses where job stress predicted their caring (pro-social) behaviors (Babapour et al., 2022). Also, the result lent credence to the finding by Harris et al. (2022) who found perceived academic stress as predictor of pro-social behavior during the COVID-19 pandemic. Finally, the present finding confirmed Arogundade and Oladipupo's (2019) result where perceived stress predicted pro-social behavior among bankers in Lagos, Nigeria.

The hypothesis that resilience would predict pro-social behavior among first year undergraduate students was not confirmed. This implies that pro-social behavior is not motivated by undergraduates' level of resilience. This result negated that of Luo Ma and Deng (2023) who found resilience as a predictor of pro-social behavior among students in high schools. Similar finding was reported among female adolescents who were admitted to the youth detention center in Flanders, Belgium where young women with high levels of resilience demonstrated higher level of pro-social behaviors (Van Damme et al., 2022). Also, the result contradicted findings by Ogunleye et al. (2021) who found employees' resilience as a predictor of pro-social behavior. The possible explanation for this negative result would be that since the participants are first year undergraduates, they may not have gotten reasonable workload that would show their level of resilience in the university environment.

The hypothesis that academic stress and resilience would jointly predict pro-social behavior among study participants was confirmed. This implies that the combination of academic stress and resilience influenced pro-social behavior among undergraduates of the AAUA. Undergraduates who showed low levels of academic stress were well able to act pro-

socially compared to those who experienced high levels of stress. This supported previous studies (Yuin & Yaacob, 2018; Haroz et al., 2013; Roche et al., 2022) where academic stress and resilience were found to predict pro-social behavior. Hence, academic-related stress and resilience among undergraduates can either make them to be either pro-social or not. Those who can manage their stress adequately and become resilience would better in engaging in pro-social behavior compared to those who are unable to manage their stress and develop resilience qualities. These undergraduates are in good positions to encourage others at the verge of giving up pro-social behavior. However, resilience quality in undergraduates made them bounce back, but this was not significant in this study (Aderibigbe & Themba, 2019).

Conclusion

This study examined academic stress and resilience as predictors of pro-social behavior among undergraduates of the Adekunle Ajasin University Akungba-Akoko, Ondo State. The result confirmed academic stress and resilience as joint predictors of pro-social behavior among study participants. However, only academic stress independently predicted pro-social behavior among study participants.

Based on the findings of this study, it is recommended that university authority should organize seminars and lectures on how to handle academic stress among undergraduates. In addition, undergraduates should develop good time management to know what to do at any particular time such as getting adequate sleep when the body demands. Good sleep allows the brains to recharge, repair muscles, reduce memory fatigue and boost immune system. These would help to reduce stress. Furthermore, undergraduates should develop good habits such as eating balanced diets and engaging in regular exercises to manage stress and develop resilience.

Limitations and Suggestions for Further Studies

Some limitations of this study need to be mentioned and addressed in further studies. To begin with, data in this study were collected using self-reported questionnaires which were not free of response bias. Further studies should include focus group discussions and key informant interviews to triangulate data collected from self-reported questionnaires. In addition, the study used only first year students with sample size of 219 which hindered generalization of the study findings. Further studies should increase sample size and include students in other years of study. Finally, only two independent variables were investigated in this study. Further studies should include personality traits, self-esteem and learned helplessness to investigate pro-social behavior.

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