

Effects of resilience, emotional support and self-regulation on undergraduates' academic success: a moderating and mediating analysis

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Abstract

Purpose – Academic failure is seen as an educational challenge, and students are unable to adapt to the required academic skills that could foster academic success. Research on students' academic success and emotional support along the lines of moderation and mediation effects of resilience and self-regulation, especially among undergraduates in Sub-Saharan Africa (with Nigeria in context), is sparse. This study, therefore, investigates the moderating and mediating effects of resilience and self-regulation on the relationship between emotional support and academic success among undergraduates in South-West Nigeria.

Design/methodology/approach – The study adopted a non-experimental design of correlational research type and was underpinned by the conservation of resources (COR) and self-determination theories (SDT). The study population was comprised of undergraduates from universities in South-West Nigeria. The questionnaires used for data collection were the Students' Academic Success Questionnaire (SASQ; $\alpha = 0.87$), Students' Emotional Support Questionnaire (SESQ; $\alpha = 0.93$), Students' Resilience Questionnaire (SRQ; $\alpha = 0.94$) and Students'

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Declarations

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Self-Regulation Questionnaire (SSRQ; $\alpha = 0.95$). The Hayes macro process model 5 in SPSS version 26.0 was used for the data analysis at a 0.05% significance level.

Findings – Findings indicate a significant positive relationship among undergraduates' emotional support, self-regulation, resilience and academic success; resilience significantly moderates the relationship between emotional support and academic success; self-regulation partially mediates the impact of the relationship between emotional support and academic success.

Originality/value – Students' academic success over the years has been attributed to several variables, with students falling below the perceived academic benchmarks. Nevertheless, studies investigating the moderating or mediating role of academic resilience through self-regulation and emotional support on students' academic success in universities, especially in Sub-Saharan Africa, seem sparse. More importantly, this study provides empirical evidence that undergraduates' resilience, self-regulation and emotional support positively impact academic success. Also, undergraduates' resilience positively and significantly moderated the relationship between emotional support and academic success. Moreover, undergraduates' self-regulation partially mediated the relationship between emotional support and academic success.

Keywords Academic success, Emotional support, Mediation, Moderation, Pedagogy, Resilience, Self-regulation

Paper type Research paper

Introduction

Academic success, an often-utilised concept in higher educational research and assessment, remains a parameter for gauging students' learning outcomes (including the cognitive, affective, and psychomotor domains). Educators and educational researchers are specifically interested in identifying the characteristics that contribute to students' academic success, such as academic habits, learning skills, motivation, attitudes, interest, well-being, resilience, emotional support, self-control, teacher and school-related factors, home and community-related factors, to mention but a few. Evaluating the cognitive, psychological, and socio-emotional mechanisms involved in learning, and for learning is intricate to academic endeavours and development. However, when these desired outcomes are unclear, defining and assessing what academic success denotes within the teaching and learning space becomes even more challenging (York *et al.*, 2019). In some climes, especially in Sub-Saharan Africa (including Nigeria), a prominent quantitative indicator of students' academic success is the grade point average (GPA).

Emotional support, according to Federici and Skaalvik (2014), is the process of providing an individual with empathy, friendliness, encouragement, esteem, love, and care. According to Saeed *et al.* (2023) and Lobo (2023), emotional support is crucial for learning enhancements and helps students succeed academically. It encompasses creating a classroom atmosphere that is safe and supportive, listening to each student's unique concerns, and promoting constructive peer relationships. Emotional support from teachers, fellow students, family, and friends impacts students; as a result, these students perform better academically and adjust to school environments more easily (Lobo, 2023).

Self-regulation is the ability to perform the necessary actions to fulfil self-motivation, willing choice, independence, and self-sufficiency (Zhang, 2024). Understanding and promoting adaptive functioning throughout life depends heavily on self-regulation (Zhang, 2024). Favourable social environments (one full of emotional support) can enhance and refine cognitive skills, and improve academic outcomes. While self-regulation has been the focus of research, concerns about how these skills relate to resilience, academic success, or emotional support have received little attention.

Resilience is defined as the ability of an individual to achieve academic success while facing various hurdles and adversities that would typically hinder others with similar backgrounds from succeeding (Ye *et al.*, 2021). Studies depict that an individual's academic resilience is impacted by family, school, and environment-related factors (Sinay, 2018). Several studies (Cao *et al.*, 2024; Ye *et al.*, 2021) have investigated the relationship between academic factors and the impact of resilience on academic outcomes. Research continuously explores the complex and ever-evolving concept of resilience to understand its effects in

various domains, including academic self-regulation. More so, given the peculiarity of the study's context, high resilience, emotional support, and self-regulation have been affirmed (Formella and Ugwuanyi, 2024).

Research indicates the relationship between academic resilience, self-regulation and students' academic success (Artuch-Garde *et al.*, 2017; Cahya *et al.*, 2021; Li *et al.*, 2024; MacKinnon, 2022; McClelland and Cameron, 2011; Xie and Kuo, 2021), academic engagement and competence (Ang *et al.*, 2021; Osiesi *et al.*, 2024), academic resilience, emotional support and school involvement (Romano *et al.*, 2021), students' engagement, emotional support, academic resilience, and academic resilience (Lobo, 2023), mediation role of emotional support on academic achievement (Fang *et al.*, 2020; Mostafa, 2023). However, there is a gap in knowledge about the moderating and mediating roles of resilience and self-regulation on the relationship between emotional support and academic success among university undergraduates. Against this backdrop, this current study investigates the moderating and mediating effects of resilience and academic self-regulation on the relationship between emotional support and academic success of undergraduates in South-West, Nigeria.

Literature review

Emotional support

The term "emotional support" is assumed to be derived from "social support," which describes giving love, care, empathy, and trust. It demonstrates the beneficial effects of emotional support on individuals. Mutual emotional support among individuals (and students in this case) can improve a collectivist culture and promote one another's solidarity. Students spend most of their time in class, completing challenging assignments and coping with various demands and expectations, and are greatly impacted by the emotional support they receive from adults in the school setting, given the emotional strain associated with excessive academic demands (Romano *et al.*, 2021).

Self-regulation

Self-regulated learning has been identified as a critical component of successful learning in higher education (Travis and Bunde, 2020). According to Artuch-Garde *et al.* (2017), one of the most crucial protective elements for resilience is the capacity to self-regulate behaviour. This capacity should be developed, particularly in students, as it may positively affect their learning outcomes. Zimmerman and Labuhn (2012) describe self-regulation as a process that involves behaviour management in three key phases: the reflection on performance phase, which involves evaluating one's performance and what can be improved; managing emotions that are triggered by the results; and finally, using self-reflection to start the cycle anew.

Resilience

Academic resilience has been shown to influence learning engagements and is defined as the capacity to overcome setbacks and ongoing challenges in an academic setting (Romano *et al.*, 2021). It is also called the capacity to tolerate, adjust, and recover from hardship and stress. In the context of learning, students' resilience accounts for positive academic outcomes and well-being.

Academic success

Higher education institutions view student success as a fundamental measure for evaluating their excellence (National Commission for Academic Accreditation, 2015). Academic success can be defined as the acquisition of knowledge as evidenced by good assessment scores and the graduates' ability to obtain employment in a field relevant to their degree (York *et al.*, 2019). Academic success, participation in activities with a purpose for education, contentment,

acquiring the necessary knowledge, skills, and competencies, perseverance, achieving educational goals, and post-college performance are all subsets of academic success (Cachia *et al.*, 2018).

Theoretical background

The conservation of resources (COR) and self-determination (SD) theories provide the theoretical framework for this study, which examined the connections between academic success, emotional support, resilience, and self-regulation. According to Stevan Hobfoll's COR theory, individuals work hard to acquire, hold onto, and safeguard their resources (material, social support, and unique personal traits) (Dudek *et al.*, 2007). Resilience is essential for academic success since it helps students deal with stress and obstacles (Li *et al.*, 2024). Resilience improves self-regulation skills, which positively impacts academic success (Li *et al.*, 2024). Ryan and Deci (1985) posit that the Self-Determination Theory (SDT) emphasises the value of intrinsic motivation and the role that social and emotional support play in fostering a sense of autonomy, competence, and relatedness. The theory holds that undergraduates' academic resilience, engagement, and success can be greatly impacted by the emotional support they access, including peers, teachers, families, etc. (Ryan and Deci, 2000). Accordingly, emotional support mediates the association between academic performance and resilience, strengthening it (Li *et al.*, 2024). Through the COR AND SDT, students' drive for academic success can be ensured through resource control, maintenance, and motivational factors, as accrued to these students.

Conceptual framework

Research indicates that academic resilience and self-regulation contribute to students' academic success (MacKinnon, 2022). Resilient students can maintain motivation, avoid disengagement, and encourage learning (Ang *et al.*, 2021). Romano *et al.* (2021) examined the connections between academic resilience, teacher-perceived emotional support, and school involvement. The outcomes of the study were positive. Furthermore, perceived emotional support acted as a partial mediating factor in the association between academic resilience and school involvement. The Lobo (2023) study results show that emotional support partially mediated the relationship between students' engagement and academic resilience. The study conducted by Cahya *et al.* (2021) revealed that resilience and self-regulated learning positively impacted students' academic achievement. According to Li *et al.*'s study from 2024, self-regulation activities acted as a mediator in the favourable correlation between academic success, emotional support, and resilience.

Fang *et al.*'s (2020) findings did indicate a positive association between emotional support, academic achievement, and academic resilience. Mostafa (2023) examined the relationship between academic achievement, emotions, self-regulation, and academic resilience in postgraduate students, using the latter as a mediating variable. The findings demonstrate that academic emotions serve as a mediator. Similarly, the research by Artuch-Garde *et al.* (2017) indicated a favourable association between resilience and self-regulated behaviour. McClelland and Cameron's (2011) study found that self-regulation capacity is a crucial individual factor that impacts academic success. According to Xie and Kuo's (2021) research, there is no direct correlation between academic achievement and resilience or between resilience and other emotions that may mediate the relationship between both.

The study, therefore, hypothesise that:

Ha1. Emotional support positively impacts the self-regulation of undergraduates in universities.

Ha2. Emotional support positively impacts the academic success of undergraduates in universities.

- Ha3. Self-regulation positively impacts the academic success of undergraduates in universities.
- Ha4. Resilience positively impacts the academic success of undergraduates in universities.
- Ha5. Resilience positively moderates the relationship between emotional support and academic success among undergraduates in universities.
- Ha6. Self-regulation mediates the relationship between emotional support and academic success among undergraduates in universities.

Conceptualising the variables of the study

Figure 1 presents the conceptualisation of the variables in this study. The Figure examines the conditional direct effect of students' emotional support (ES) on self-regulation (SR), that is Ha1; the conditional direct effects of students' emotional support (ES), resilience (RL), and self-regulation (SR) on academic success (AS), that is Ha2, Ha3 and Ha4. Also, it examines the moderating effect of resilience (RL) on the linkage between emotional support (ES) and academic success (AS), that is Ha5. It also examines if students' emotional support (ES) has an indirect effect on their academic success (AS) through self-regulation (SR), that is, α_1 through Ha6.

Methodology

Research design

The study adopts a non-experimental design of the correlational research type. This is because the researchers did not manipulate the variables but examined the relationship that existed among the variables. This paradigm supports the empirical investigation of causal relationships, providing a basis for generalizable findings (Littlejohn and Foss, 2009).

Population, sampling technique, and sample

The study population was comprised of undergraduates from federal universities in South-West Nigeria. There are six federal universities in the South-West Nigeria. A simple random sampling technique using an open ballot without replacement was used to select three federal universities in the South-West. Also, a Google Form link was randomly sent to undergraduates in the selected institutions across levels through the various students WhatsApp and Telegram groups by some of the researchers and collaborators in this study who are lecturers in some of the selected universities apart from the University of Lagos where the researchers used their networks as point of contact to the students after seeking due permission for the study. In all, a total of five hundred and ninety-four (594) undergraduates volunteered to participate and were automatically sampled for this study.

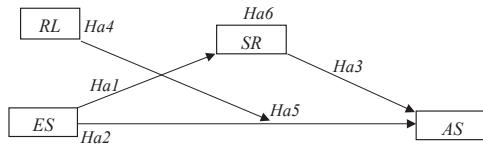


Figure 1. Conceptual framework. Source: Authors' own work. Where: ES: emotional support (independent) RL: resilience (moderator) SR: self-regulation (mediator) AS: academic support (dependent)

Instruments

The instruments used for data collection were the Students' Academic Success Questionnaire (SASQ), Students' Emotional Support Questionnaire (SESQ), Students' Resilience Questionnaire (SRQ), and Students' Self-Regulation Questionnaire (SSRQ), which was administered through electronic means (Google link form). For further information regarding these scales, see the [Appendix](#).

The researchers designed the SASQ to measure the level to which students attain academic success in their studies. Section A of the instrument elicited information on the respondents' demographic data, while Section B consists of items on student level of academic success with three subscales. The first subscale, persistence, has 8 items, the second subscale, problem-solving skills, has 10 items, and the third, critical thinking, has 10 items. This makes a total of twenty-eight (28) items. The response format of the instrument is always (scored as 4), most of the time (scored as 3), sometimes (scored as 2) and rarely (scored as 1).

The researchers designed the SESQ to measure students' emotional support toward attaining academic success in their studies. It consists of items on student emotional support with three subscales. The first subscale, relationship, has 11 items, the second subscale, communication, has 10 items, and the third subscale, peer connection, has 9 items. This makes a total of thirty (30) items. The response format of the instrument is always (scored as 4), most of the time (scored as 3), sometimes (scored as 2) and rarely (scored as 1).

The researchers designed the SRQ to measure students' resilience towards attaining academic success in their studies. It consists of items on student resilience with three subscales. The first subscale, adaptability, has 9 items; the second subscale, stress management, has 11 items; and the third subscale, self-esteem, has 9 items. This makes a total of twenty-nine (29) items. The response format of the instrument is always (scored as 4), most of the time (scored as 3), sometimes (scored as 2) and rarely (scored as 1).

The researchers designed the SSRQ to measure students' self-regulation towards attaining academic success in their studies. It consists of items on student self-regulation with three subscales. The first subscale, time management, has 8 items; the second subscale, goal setting, has 9 items, and the third subscale, study skills, has 8 items. This makes a total of twenty-five (25) items. The response format of the instrument is always (scored as 4), most of the time (scored as 3), sometimes (scored as 2) and rarely (scored as 1). In social science and educational research, the Likert scale is the most extensively used measurement tool for assessing affective attitudes ([Bishop and Herron, 2015](#)). In certain situations where researchers want to elicit clear opinions without permitting neutral responses, the 4-point Likert scale—as employed in this study—is especially suitable. Because the scales are ordinal, the internal consistency of the instruments was determined using the Ordinal alpha reliability estimate in R software. Three professionals in Test and Measurement confirmed the validity of the instruments' content from one of the universities included in the sample. These yielded SASQ ($\alpha = 0.87$), SESQ ($\alpha = 0.93$), SRQ ($\alpha = 0.94$) and SSRQ ($\alpha = 0.95$) respectively.

Procedure for data collection

The office of the faculty officers of the sampled universities provided ethical clearance for this study and offered written approval. The study's purpose and informed consent of the students were requested, and participation was voluntary. A web tool, Google Forms, was designed to host the instruments, and the same set of students responded to all the items in the instruments at once. This ensures ease of data collection, credence to the response rate, and obtains significant responses from the same respondents at different locations simultaneously ([Andres et al., 2020](#)). The Google link Form asks respondents to agree to participate by clicking the *"I consent to voluntarily participate in this survey"* icon before proceeding to the items in research instruments where they can provide their responses. Attempts to maximise the response rate involved the researchers sending weekly reminders on the various students'

WhatsApp groups by their lecturers and respective course representatives to boost the participation rate. Data collection lasted for three months.

Method of data analysis

The Hayes macro process in SPSS version 26.0 was used for the data analysis because of its specialised method for handling continuous, ordinal, and categorical data and determining moderation and mediation effects (Hayes and Preacher, 2014). Descriptive statistics were used to summarise the respondents’ demographic data, while inferential statistics (Hayes macro process V4.0, Model 5) were used to answer hypotheses 1 to 6 at a 0.05 significance level. To avoid potential multicollinearity with the interaction term, the variables were centred, and an interaction term between emotional support and resilience was created (Shieh, 2011). Thus, when both total and direct effects are significant, this implies that such variable/construct partially mediates (significant total and direct effects) the impact between the other variables or constructs of the study (Caemmerer *et al.*, 2024).

Results

Table 1 presents the demographic distribution of the respondents in the sampled public universities.

Descriptive statistics and normality test

Table 2 presents the descriptive statistics of the variables in this study and the normality test using skewness and kurtosis. The Table shows that the mean scores of emotional support (M = 91.61; SD = 17.07) and resilience (M = 91.28; SD = 14.32) were the highest, followed by the mean scores of academic support (M = 89.36; SD = 12.57) and self-regulation (M = 82.50; SD = 12.03). The results of the skewness and kurtosis of all the variables show that the values fall within an acceptable range of -2 to +2 and -7 to +7 (Byrne, 2010), respectively, for a normal distribution.

Table 1. Demographic data

Variable	Frequency	Percentage (%)
<i>Gender</i>		
Male	198	33.3
Female	396	66.7
Total	594	100
<i>Levels</i>		
Year 2	22	3.7
Year 3	356	59.9
Year 4	216	36.4
Total	594	100
<i>University</i>		
FUOYE	198	33.3
UNILAG	197	33.2
UNIBADAN	199	33.5
Total	594	100

Note(s): *FUOYE – Federal University Oye-Ekiti, Nigeria

*UNILAG – University of Lagos, Nigeria

*UNIBADAN – University of Ibadan, Nigeria

Source(s): Authors’ own work

Table 2. Statistics of the variables

Variable	N	Mean	SD	Skewness Statistic	Std. error	Kurtosis Statistic	Std. error
Academic success	594	89.36	12.568	-0.285	0.100	-0.260	0.200
Emotional support	594	91.61	17.067	-0.393	0.100	-0.226	0.200
Resilience	594	91.28	14.322	-0.384	0.100	0.025	0.200
Self-regulation	594	82.50	12.028	-0.644	0.100	0.311	0.200

Source(s): Authors' own work

Hypotheses

(1) Direct impact:

Ha1: Emotional support positively impacts the self-regulation of undergraduates in universities.

Table 3 presents the conditional impact of emotional support on self-regulation among undergraduates in the sampled universities. The result in the Table reveals that emotional support positively impacts self-regulation (**Ha1:** $\beta = 0.39, t = 16.27, p < 0.01$). Hence, this hypothesis is supported. This implies that emotional support positively impacts the self-regulation of undergraduates in the three sampled universities in southwest Nigeria.

Ha2: Emotional support positively impacts the academic success of undergraduates in universities.

Table 3 presents the results on the conditional impacts of emotional support, self-regulation, and resilience on academic success among the sampled undergraduates. Results in the Table show a high positive overall relationship of the conditional direct variables on the outcome ($R = 0.78$). The overall impact is significant ($F = 235.72; p < 0.05$). Furthermore, the result of **Ha2** in the Table reveals that emotional support positively impacts academic success (**Ha2:** $\beta = 0.24, t = 8.37, p < 0.00$). Hence, this hypothesis is supported. This implies that emotional support positively impacts the academic success of undergraduates in the three sampled universities in southwest Nigeria.

Ha3: Self-regulation positively impacts the academic success of undergraduates in universities.

Similarly, the result of **Ha3** in Table 4 reveals that self-regulation positively impacts academic success (**Ha3:** $\beta = 0.23, t = 5.88, p < 0.00$). Hence, this hypothesis is also supported. This

Table 3. Conditional direct impact of emotional support on self-regulation

Model summary						
R	R-sq	MSE	F	Df1	Df2	P
0.56	0.31	100.14	264.65	1.00	592.00	0.00

	Coeff	Se	T	P	LLCI	ULCI
Constant	82.50	0.41	200.92	0.00	81.69	83.30
Emotional support	0.39	0.02	16.27	0.00	0.34	0.44

Note(s): Outcome Variable: Self-regulation; N = 594
Source(s): Authors' own work

Table 4. Impact of conditional direct variables on academic success

Model summary							
R	R-sq	MSE	F	Df1	Df2	P	
0.78	0.62	61.15	235.72	4.00	589.00	0.00	

	Coeff	Se	t	P	LLCI	ULCI
Constant	69.61	3.30	21.11	0.00	63.13	76.08
Emotional support	0.24	0.03	8.37	0.00	0.19	0.30
Self-regulation	0.23	0.04	5.88	0.00	0.16	0.31
Resilience	0.28	0.04	6.69	0.00	0.20	0.36

Note(s): Outcome Variable: Academic Success; N = 594
Source(s): Authors' own work

implies that self-regulation positively impacts the academic success of undergraduates in the three sampled universities in southwest Nigeria.

Ha4: Resilience positively impacts the academic success of undergraduates in universities.

In the same vein, the result of **Ha4** in **Table 4** reveals that resilience positively impacts academic success (**Ha4:** $\beta = 0.28, t = 6.69, p < 0.00$). Hence, this hypothesis is also supported. This implies that resilience positively impacts the academic success of undergraduates in the three sampled universities in southwest Nigeria.

(2) Moderation Analysis (Interaction impact):

Ha5: Resilience positively moderates the relationship between emotional support and academic success among university undergraduates.

Table 5 presents the results of the impact of resilience on the relationship between emotional support and the academic success of undergraduates. The result in the Table reveals that the interaction/moderating impact of (Emotional support*resilience) accounted for a significant amount of variance observed in academic success ($R^2 = 0.00$). However, the interaction term accounted for a 0% change in academic success. The results on conditional effects of the focal predictor (emotional support) at increasing moderator (resilience) levels were significant. They had a strong impact of emotional support on academic success. Therefore, the result of **Ha5** reveals a positive, significant moderating impact of resilience on the linkage between emotional support and academic success (**Ha5:** $\beta = 0.00, t = 2.19, p < 0.03$). Hence, this hypothesis is supported. This implies that resilience significantly moderates the impact of the relationship between emotional support and academic success among undergraduates in the three sampled universities in southwest Nigeria.

(3) Mediation Analysis:

Ha6: Self-regulation mediates the relationship between emotional support and academic success among university undergraduates.

Table 6 presents the result on the mediating role of self-regulation on the relationship between emotional support and academic success of undergraduates in the sampled universities. The results reveal a significant indirect (mediating) impact of emotional support on academic success through self-regulation (**Ha6:** $\beta = 0.09, 95\% \text{ CI } [0.05; 0.13]$, bootstrapped), supporting the hypothesis. This implies that emotional support significantly impacts academic success through self-regulation among undergraduates. Further, in **Table 6**, the total effect of emotional support (ES) on academic success (AS) in the presence of the mediator (self-regulation) was significant ($b = 0.33, p < 0.000$).

Table 5. Interaction impact of resilience and emotional support on academic success

	Coeff	Se	<i>t</i>	<i>P</i>	LLCI	ULCI
Constant	69.61	3.30	21.11	0.00	63.13	76.08
Int_1	0.00	0.00	2.19	0.03	0.00	0.00

Test(s) of highest order unconditional interaction(s)						
	R2- chng	F	df1	df2	<i>P</i>	
Emotional support*resilience	0.00	4.82	1.00	589.00	0.03	

Conditional direct effect(s) of resilience on the linkage between emotional support and academic success						
Resilience	Effect	se	<i>t</i>	<i>p</i>	LLCI	ULCI
-14.87	0.21	0.03	6.22	0.00	0.14	0.27
0.00	0.24	0.03	8.37	0.00	0.19	0.30
14.87	0.28	0.03	8.42	0.00	0.21	0.34

Note(s): Int_1 = Focal Predictor*Moderator; Outcome: Academic Success; *N* = 594
Source(s): Authors' own work

Table 6. Mediation of self-regulation on emotional support and academic success

Total effect	Direct effect (ES → as)	Relationship	Indirect effect	Confidence interval		Conclusion
				Lower bound	Upper bound	
0.33 (0.000)	0.24 (0.000)	Ho ₆ : ES → SR → AS	0.09	0.05	0.13	Partial mediation

Source(s): Authors' own work

Discussion

This study examined the moderating and mediating effects of resilience and academic self-regulation on undergraduates' emotional support and academic success in the three sampled universities in southwest Nigeria. The study reveals that emotional support impacts self-regulation among undergraduates. Emotional support drives undergraduates' emotional intelligence, determining how they can self-regulate behaviour in the learning context. The emotions of undergraduates are potent variables that determine their academic, social, and future outcomes. Since emotional support enhances students' coping strategies against negative emotions and develops in them a sense of belonging and safety (Lobo, 2023; Saeed *et al.*, 2023), they are then able to self-generate their thoughts, feelings, and actions that are necessary for achieving academic goals, and put-up positive behaviours that foster their academic success. Undergraduates who self-regulate are adaptive and functional (Zhang, 2024). This reiterates the findings of Mostafa (2023) who indicates that self-regulation of students is influenced by academic emotions.

The finding of this study also reveals that emotional support positively impacts undergraduates' academic success. Undergraduates are likely to succeed academically (and otherwise) when they feel or have the support of family, peers, teachers, the community, and the learning space (Lobo, 2023). These sources of emotional support work together to ensure that students are mentally, socially, and educationally balanced to engage fully in their assigned academic and school-related tasks (Saeed *et al.*, 2023). More so, through this support,

students can afford and procure the necessities of their academic endeavour, which aids and makes their study flexible, enjoyable, and worthwhile. This finding is consistent with previous studies (Lobo, 2023) that affirm the positive impact of emotional support on students' academic outcomes.

The study also reveals that self-regulation positively impacts undergraduates' academic success. Students with a reasonable level of self-regulation are more academically focused, engaged, and outperforming. These students, aside from their regulation of self, can regulate other external factors such as time, extra-curricular engagement, reading/study habits, and other academic detractors that could have hampered their academic success. Furthermore, self-regulating students are academically responsive and eager to succeed. They attend classes punctually and regularly, complete all assigned tasks/assignments promptly, and are studious and willing to learn more, which endears them to academic success (Zhang, 2024). This is in tandem with the findings of MacKinnon (2022), McClelland and Cameron (2011), and Travis and Bunde (2020) who confirm that self-regulated learning is a significant factor that influences student academic outcomes and success.

The study's finding shows that undergraduates' resilience positively and significantly moderates the relationship between emotional support and academic success of undergraduates. This implies that resilient students can withstand the rigour and challenges of university education, as well as adjust favourably academically to other aspects of education life (Romano *et al.*, 2021). Also, academically resilient undergraduates who enjoy an appreciable level of emotional support from peers, friends, family, and society will likely focus and fully engage with their academic tasks and endeavours. This finding is consistent with previous research (Ang *et al.*, 2021; MacKinnon, 2022; Romano *et al.*, 2021).

Findings have revealed that self-regulation partially mediated (significant and direct effects) the impact between undergraduates' emotional support and academic success. This implies that students' emotional support, in conjunction with their self-regulation, can impact their academic success. As such, undergraduates' emotional support and self-regulation significantly predict their academic success. This is in tandem with the findings of Fang *et al.* (2020), Mostafa (2023), McClelland and Cameron (2011), Lobo (2023), Cahya *et al.* (2021), Li *et al.* (2024) that affirm that self-regulation behaviours mediated the positive relationship between emotional support and academic success.

The Study's implications for theory and practice

The study of resilience, self-regulation, and their impacts on the relationship between emotional support and academic success is significant in educational contexts. Through it, educators, university managers, and administrators can adopt effective interventions to enhance student general outcomes. Universities/societies are, by the findings of this study, universities/societies are to provide adequate emotional support from peers, and educators play a crucial role in fostering resilience and self-regulation among students. Thus, incorporating further professional training of university staff (academic and non-academic) and students in self-regulated learning strategies into the curriculum to enhance students' ability to set goals and monitor will be advantageous. Universities should utilise assessments that evaluate academic achievement and students' resilience and self-regulation skills. Lastly, university management must offer workshops to develop resilience through stress management techniques and effective study habits.

Conclusion and recommendations

This study provides further empirical evidence regarding the moderating and mediating effects of resilience and academic self-regulation on the relationship between emotional support and academic success of undergraduates in selected Nigerian federal universities. The study's findings reveal that undergraduates' academic resilience, self-regulation, and emotional

support positively impact their academic success. Also, the findings of this study show that undergraduates' resilience positively and significantly moderates the relationship between emotional support and academic success of undergraduates. Further, findings indicate that undergraduates' self-regulation partially mediated the relationship between emotional support and academic success. Stemming from the findings of this research, we recommend that university management provide and sustain mechanisms that foster undergraduates' academic resilience and self-regulation. A sustainable environment, full of emotional support, can be created by education stakeholders for undergraduates, both within and outside the universities' campuses. Programmes aimed at fostering students' general well-being should be promoted by university management and other concerned stakeholders to ensure an enabling learning environment for undergraduates' academic success.

Study's limitations and future research

This study is cross-sectional, with a sample that might not represent the population. Self/response biases associated with respondents' self-rating may have affected the results. Since the results were from a few regional public universities, they cannot be generalized to other contexts outside this current study. However, future research could expand this study beyond its current limitations and adopt other more robust methodologies to pursue the study's concerns.

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Further reading

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Student Academic Success Questionnaire (SASQ)

Dear Respondent,

This questionnaire aims at soliciting your response on your ability to attain academic success in your studies. We entreat that you tick (✓) to the right, the box that best situates your response. Your response will be treated with utmost confidentiality and used for academic/research purposes. Please note that participation is voluntary. Thank you.

Section A: Respondents' Bio-Data

Name of University: _____
 State: Ekiti [] Lagos [] Ondo [] Ogun [] Osun [] Oyo []
 Level: Year 1 [] Year 2 [] Year 3 [] Year 4 [] Year 5 and above []
 Gender: Male [] Female []

Section B: Student Academic Success

S/N	Items	Always	Most times	Sometimes	Rarely
A.	Persistence				
1	I am very confident in my ability to achieve my goals				
2	I quickly overcome academic challenges				
3	I can effectively manage my time to complete my academic task				
4	I feel comfortable seeking help from my teachers				
5	I have well defined strategies that help me learn effectively				
6	Having good grades in my academic is a good motivator for me				
7	I view setbacks in my academic as opportunities to improve				
8	I celebrate my small academic achievements				
B.	Problem Solving Skills				
9	I feel comfortable tackling unfamiliar academic problems				
10	I seek challenging academic problems to develop my solving skills				
11	I am confident in explaining my reasoning to academic problems clearly				
12	I enjoy the challenge of finding creative solutions to academic problems				
13	I am persistent in my efforts to solve academic problems				
14	I can deal with different solutions simultaneously				
15	I feel confident in my ability to identify the key issues in a complex academic problems.				
16	I can effectively break down complex academic problems into more-simplest form				
17	I adapt easily to problem solving when initial plan does not work				
18	I make plans for solution when faced with challenges				

C.	Critical Thinking				
19	I review the ideas presented in my academic work				
20	I am skilled at identifying potential biases in information presented in my academic studies				
21	I am comfortable forming my own well-reasoned opinion based on evidence				
22	I am comfortable forming my own well-reasoned opinion based on logic				
23	I find myself questioning information I encounter outside of academics as well				
24	Critical thinking skills are essential for success in my academic studies				
25	I strive to understand the underlying causes of academic concepts				
26	I am comfortable drawing connections between different concepts in my academic work				
27	I can identify different perspectives on a complex academic issue				
28	I am skilled at identifying potential biases in information presented in my academic studies				

Source(s): Authors' own work

Students Emotional Support Questionnaire (SESQ)

Dear Respondent,

This questionnaire aims at soliciting your response on how you manage your emotion in order to avoid disruption attaining academic success in your studies. We entreat that you tick (√) to the right, the box that best situates your response. Your response will be treated with utmost confidentiality and used for academic/research purposes. Please note that participation is voluntary. Thank you.

Students Emotional Support

S/N	Items	Always	Most times	Sometimes	Rarely
A.	Relationship				
1	I talk to my academic mentors about my academic struggles				
2	I ensure strong support system of my institution to stay motivated in my academic journey				
3	I receive constructive feedback from my mentors regarding my academic goals				
4	I receive constructive feedback from my colleagues regarding my academic goals				
5	I receive constructive feedback from family regarding my academic goals				
6	I get support from my colleagues to cope with academic activities				
7	I express my frustration regarding academic challenges to someone I trust				
8	I offer support to classmates who may be struggling academically				
9	I share my academic successes with others				
10	I actively seek opportunities to connect with peers in order to build positive relationships				
11	Knowing that people believed in me helps me overcome academic challenges				
B.	Communication				
12	I effectively communicate my academic goals to colleagues				
13	I seek clarification on academic topics without feeling judged				
14	I actively listen to the academic concerns of classmates in order to offer helpful solutions				
15	I use my verbal communication skills during academic presentations				
16	I relates in different ways with my colleagues during academic work				

17	I use non-verbal signs when I am with my colleagues to share ideas				
18	I express my academic challenges clearly to others				
19	I disagree with opinions of others respectfully to avoid conflict				
20	I relate freely with my study groups				
21	I appreciate those who offer assistance to me in academics				
C. Peer Connection					
22	I participate in collaborative learning activities with classmates				
23	I ask my classmates for clarification on academic concepts				
24	I build relationships with classmates in my academic studies				
25	I participate in student social activities during academic pursuit				
26	I engage in peer-support to influence my academic progress				
27	I interact with classmates outside of class				
28	I discuss my academic matters with my close classmates				
29	I sustain the connections I developed with peers during academic activities				
30	I seek for peer with like minds during my academic pursuit				

Source(s): Authors' own work

Students Resilience Questionnaire (SRQ)

Dear Respondent,

This questionnaire aims at soliciting your response on your resilience towards attaining academic success in your studies. We entreat that you tick (✓) to the right, the box that best situates your response. Your response will be treated with utmost confidentiality and used for academic/research purposes. Please note that participation is voluntary. Thank you.

Section A: Respondents' Bio-Data

Students Resilience

S/N	Items	Always	Most times	Sometimes	Rarely
A. Adaptability					
1	I have confidence in my skills to solve problems				
2	I have been successful in overcoming difficulties in life				
3	I accept fact with serenity when situation cannot be changed				
4	I give importance to address issues encountered during my academic work				
5	I adapt to changes in course workloads				
6	I find solutions to unexpected academic challenges				
7	I am comfortable seeking help from teachers for more understanding of concepts				
8	I maintain a positive attitude when faced with academic challenges				
9	I can comfortably adjust my learning strategies				
B. Stress Management					
10	I am open to learning new stress management techniques				
11	I identify the early signs of stress during academic workloads				
12	I engage in stress coping mechanisms after my academic workloads				
13	I seek help from friends when feeling overwhelmed with academic stress				
14	I seek help from a family member when feeling overwhelmed with academic stress				
15	I seek help from professionals when feeling overwhelmed with academic stress				
16	I manage my time effectively to minimize academic stress				
17	I find time to exercise after academic stress				
18	I find time to relax after academic stress				
19	I manage stress effectively when faced with academic pressure				
20	I am able to maintain a healthy sleep schedule even during demanding academic workloads.				

C.	Self Esteem				
21	Setbacks in my academic journey define my overall capabilities				
22	I maintain a positive self-image when faced with academic challenges				
23	I am motivated to improve my studies after making mistakes				
24	I am confident participating actively in class activities				
25	I have the potential to achieve my academic goals				
26	I take constructive criticisms to improve my academic performance				
27	I am proud of the effort I put into my academic studies regardless of the outcome				
28	I am confident in my ability to learn new things in order to overcome academic challenges				
29	I ensure that the outcome of my academics does not demoralise my academic pursuit				

Source(s): Authors' own work

Students Self-Regulation Questionnaire (SSRQ)

Dear Respondent,

This questionnaire aims at soliciting your response on your self-regulation towards attaining academic success in your studies. We entreat that you tick (√) to the right, the box that best situates your response. Your response will be treated with utmost confidentiality and used for academic/research purposes. Please note that participation is voluntary. Thank you.

Students Self-Regulation

S/N	Items	Always	Most times	Sometimes	Rarely
A.	Time Management				
1	I avoid distractions while studying				
2	I prioritise my academic tasks				
3	I create realistic schedules to manage my academic workload				
4	I manage unexpected disruptions				
5	I take breaks when needed to avoid burnout				
6	I maintain self-regulation for significantly academic success				
7	I constantly look for ways to improve my time management skills for optimal academic performance				
8	I resist the urge to procrastinate important academic assignments				
B.	Goal Setting				
9	I break down large academic goals into smaller manageable units				
10	I factor in time availability when setting academic goals				
11	I factor in resources availability when setting academic goals				
12	I am realistic about the challenges I may face in achieving my academic goals				
13	I monitor my progress towards my academic goals				
14	I adjust my academic goals based on changes in my academic journey				
15	I focus only on things that are essential for me to attain academic success				
16	I easily adjust my ability based on academic approach				
17	I achieve my academic goals despite unexpected challenges				
C.	Study Skills				
18	I am proactive in sticking to my scheduled study time				
19	I create effective study aids				

20	I manage distractions while studying to stay focused				
21	I constantly look for ways to improve my study skills for optimal learning				
22	I am open to trying new study skills				
23	I review my notes to solidify my understanding				
24	I self-assess my learning progress to cater for areas that need improvement				
25	I prioritise studying difficult topics I find challenging				

Source(s): Authors' own work

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