




# “Academic resilience, emotional intelligence, and academic performance among undergraduate students”

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# ACADEMIC RESILIENCE, EMOTIONAL INTELLIGENCE, AND ACADEMIC PERFORMANCE AMONG UNDERGRADUATE STUDENTS

## Abstract

Academic resilience and emotional intelligence are considered important personal resources for furthering students' academic performance. However, many educational organizations seem to trivialize the performance implications of these constructs in teachings and curriculum. Consequently, it can decrease not just their academic performance but also their employability, as they lack the generic competencies to adapt and survive in a stressful context. Even so, empirical evidence on integrating academic resilience, emotional intelligence, and academic performance remains unexplored in the Nigerian university context. Therefore, the study aimed to investigate the linkages between academic resilience, emotional intelligence, and academic performance in Nigeria. The partial least square (PLS) modeling method was utilized for testing the stated hypotheses with data collected from 179 final year undergraduate students in the regular B.Sc. Business Administration and B.Sc. Marketing program at Delta State University, Nigeria. From the PLS results, the study reported that academic resilience was positively related to emotional intelligence ( $\beta = 0.125$ ,  $p = 0.007$ ), academic resilience ( $\beta = 0.231$ ,  $p = 0.000$ ) and emotional intelligence ( $\beta = 0.260$ ,  $p = 0.000$ ) were positively related to academic performance, and emotional resilience mediated the positive relationship between academic resilience and academic performance ( $\beta = 0.057$ ,  $p = 0.005$ ). While academic resilience predicted academic performance, it also predicted emotional intelligence, which affected academic performance significantly and positively.

## Keywords

resilience, emotions, intelligence, performance, students,  
public university, Nigeria

## JEL Classification

I21, I23

## INTRODUCTION

Nowadays, students around the world encounter a myriad of stressors impacting their cognitive and emotional function, such as an unconducive learning environment, limited support resources, poor teacher support, poor parental support, examinations, etc. The constant encounter of these stressors can cause students to experience apathy or disengagement from their studies, making them perform poorly. Academic resilience (AR) and emotional intelligence (EI) have been evidenced as critical personal resources that can stimulate students' related outcomes, like academic performance (AP), in such situations (Chew et al., 2013; Romano et al., 2021; Sarrionandia et al., 2018). Despite this fact, many educational organizations have focused mainly on conventional knowledge. Moreover, they deemphasize the performance implications of other individual competencies, like AR and EI, on students in teachings and curriculum. This situation can affect not just AP but the employability of potential graduates. In this line, Ibout et al. (2018) argue that the lack of generic competencies

partly explains the notion of many graduates being half-baked and not ready to face the evolving challenges in the world of business. They further indicated that this notion seems quite pervasive in Nigeria. Therefore, it is plausible that individuals who lack AR and EI tend not to perform well in any challenging and stressful context. Therefore, understanding AR and EI relationships/influences can help students maintain optimal functioning in their engagement in academic activities, subsequently enhancing their academic achievements or performance.

## 1. LITERATURE REVIEW

The academic environment dynamics have made the concept of academic resilience (AR) and emotional intelligence (EI) to be crucial for enhancing academic performance (AP) among students. Due to this notion, educational organizations are faced with the challenge of developing these concepts among students to improve AP considerably. There are ample studies on AR, EI, and AP to situate this study within the traditions of inquiry. However, first, it is important to conceptualize the constructs individually before establishing the possible linkages.

AR is a cognitive capacity to successfully anticipate and adapt to challenging circumstances in an academic context (Romano et al., 2021). As a facet of psychological capital (PsyCap) linked to adaptation, it is a phenomenon of positive psychological development where a student's cognitive function and development are not impeded by stressful events and conditions in his/her academic path (Zheng et al., 2020). Cassidy (2015) defines AR as the ability to cope with problems effectively when faced with educational challenges, reducing the effect of risk factors (e.g., stressful academic life events) while strengthening protective factors (e.g., social support, optimism, and active coping) that enhance the ability to deal with such challenges. In this way, students have the potential to demonstrate resourcefulness by using internal and external resources in response to exposure to a series of development and contextual challenges in an academic setting (Pooley & Cohen, 2010). Cassidy (2015) mentions that most AR definitions feature resourceful, innovative, and adaptive enabling responses to challenges or threats as key elements. As such, AR is a critical resource for academic excellence and desirable and advantageous quality in students that is likely to affect different academic-related outcomes, such as performance, achievement, wellbeing, and quality of life (Cassidy, 2016).

AR can be learned and interwoven with contextual experiences in a student's life overtime (Edward & Warelow, 2005). It is developed through a set of capabilities that emanate from critical observation and correction of maladjustment tendencies connected to challenging events. Students can develop capabilities in anticipation of any unexpected academic challenge (proactive resilience), which helps to build preparedness for potential stressors. This approach helps understand emerging situations that cannot be wholly circumvented but for which students can prepare proactively. At the same time, students can take swift and appropriate actions to protect themselves from challenges as they emerge (reactive resilience), thus, acting instinctively. These two aspects form AR. Importantly, students' capacity for AR is determined not only by internal factors (e.g., personality variables and intelligence), but also by the resources available to the student from his/her relations with family, the educational organization, and broader environment.

EI refers to cognitive ability and capacity to make one's emotions work by using them in ways that lead to expected results (Edward & Warelow, 2005). Sarwar et al. (2017) described EI as a set of capabilities and competencies impacting students' ability to handle the varied academic pressures and demands. It is a personal resource consisting of abilities that facilitates the effective processing and use of emotional information to guide cognition and action (Sarrionandia et al., 2018). Here, emotions are mental responses (cognitive, conative, and behavioral) triggered by an individual's environment appraisal. It provides information about an individual and others, and comprises a feedback mechanism, which conveys information that stimulates behavior and action in a given context (Santos et al., 2021). According to Putwain et al. (2022), emotions can be characterized by valence and physiological activation. Mayer and Salovey (1997) indicated that EI comprises four interrelated abilities: perceiving emotion, facilitat-

ing emotion, comprehending emotion, and managing emotion. Perceiving emotion is seen as the ability to accurately recognize and be sensitive to one's own emotions and others'. Facilitating emotion involves the ability to integrate, express, and use emotions to guide behavior in certain cognitive activities, such as interpersonal communication and problem-solving. Comprehending emotions relates to the ability to understand the nature of emotions via an analysis of causes and consequences. Managing emotion is the ability to regulate or modify emotional expressions to facilitate self-improvement, growth and/or performance (Chew et al., 2013; Schneider et al., 2013).

Arguably, students with a high degree of EI can master their emotions, which entails that they may be able to make good decisions and, therefore, be led to act accordingly due to an understanding of the situation. Furthermore, EI is of salience to academic success as it depends on how emotions are managed with regard to the ability to influence, interact, collaborate, and function in any given academic context. As stated by Slåtten et al. (2021), since emotions can broaden students' attention and cognition for academic learning, it is logical to assume that it would likely result in the achievement of desired outcomes. However, the influence of emotions on attention and cognition may show some variability according to an individual's motivational intensity (Putwain et al., 2022). Therefore, EI cannot be enhanced without a clear commitment to changing one's thinking and behavior through training and development. In summary, EI has been identified as one of the critical success factors affecting students' personal and academic life. Thus, there is a call to improve the emotional competencies of students so that they can be successful in both contexts (Santos et al., 2021).

AP (also known as academic success or academic achievement) is the extent to which students acquire knowledge, skills, and attitude from educational activities (Suleman et al., 2019). It is an improvement construct for students' academic achievements or excellence, which intends to measure learning or knowledge through course grades or grade point average (GPA). These objective performance data are usually readily available for AP measurement (York et al., 2015). Despite grades and GPA being valid and reliable measures for

AP, Guterman (2021) suggests that considerations should be given to students' perspectives or perceptions concerning their own achievements. However, this task has proved challenging as there is no realistic and accepted subjective AP measurement method in the available literature. However, Lamas (2015) argues that course grades and GPA have been used as performance indicator, and these have been linked to different cognitive and non-cognitive variables. Further, they have been related to personality, learning processes, social capital, study habit, engagement, and gender. Like business organizations, educational organizations are interested in the level of performance, in this case, of academics and students, and how to sustain and improve this performance (Slåtten et al., 2021).

Studies linking EI and AP often cite AR as a contextual resource (Thomas & Zolkoski, 2020; Suleman et al., 2019), which suggests that AR relates with both EI and AP (Slåtten et al., 2021). Concerning the AR-AP link, Bittmann (2021) demonstrated that students with AR have more productive academic trajectories consistently, report better grades, experience more satisfaction with their academic lives, and have lower dropout intentions due to better engagement. Interestingly, in the AR-EI link, Zheng et al. (2020) pointed out that EI and AR's positive correlation may equally suggest AR fostering of EI. However, there is no evidence to demonstrate AR's predictive effect on EI. Individuals with better AR have better EI because of the reciprocal association between both constructs (Afzal et al., 2016; Da et al., 2021). Zheng et al. (2020) confirmed the bidirectional relationship between resilience and EI of secondary school students in Shanghai, China. Tugade and Fredrickson (2004) argued that resilient individuals are characterized by their positive emotionality because they strategically elicit positive emotions to use in challenging contexts. A distinguishing factor in high resilient individuals is their capacity to learn from challenges and draw on this knowledge to their advantage. EI emerges as an outcome of resilience because the knowledge from the utility of positive emotions in managing oneself in challenging situations enhances EI.

Recently, Olusoji et al. (2021) contended that resilience is a psychological resource that positively influences individual emotions. He/she can con-

trol their emotions and guide their actions in any given context. Further, they found that resilience as a sub-factor of PsyCap had a significant positive relation with EI from a sample of public-sector employees in Nigeria. Sarwar et al. (2017), studying PsyCap, EI, and project success, demonstrated that the association between resilience and EI was significant and positive. Finally, Hartmann et al. (2020) argued that positive emotional dynamics stemming from the demonstration of AR are expected to cause upward spirals of students functioning, thus, affecting EI positively. Whereas negative emotional experiences stemming from failure to demonstrate resilience may cause downward spirals, thus affecting EI negatively.

EI evolves due to the influence of a set of psychological and personal factors impacting an individual's capacity to adapt to challenging situations (Trigueros et al., 2019). Since academic life is emotionally demanding and challenging due to uncertain and ambiguous academic contexts (Rode et al., 2007), AR can enable the development of adaptive emotion-related abilities to cope with changing academic demands and circumstances, thereby improving AP (Romano et al., 2021). Olusoji et al. (2021) and Sarwar et al. (2017) have used EI as a mediation factor in organizational settings but paid less attention to its use in educational contexts (Afzal et al., 2016). The conservation of resources (COR) theory contends that students who invest their resources (time, effort, and attention) in developing AR can enhance EI to manage emotional information effectively under stressful educational conditions to achieve AP. Therefore, it is reasonable to infer that students with high AR tend to have more capacity to engage in EI processes (perceive, facilitate, understand, and regulate emotions) to cope favorably with the changing academic demands and circumstances. In turn, high AR weakens the effect(s) of stressors on AP (Halbesleben et al., 2014). Following this argument, Afzal et al. (2016) claimed that AR weakens the link between positive and negative emotions via EI. AR is a developmental process through which students demonstrate positive emotionality in challenging academic conditions. Learning is, in part, a function of students' capacity to successfully navigate academic challenges and setbacks; thus, academic resilience is critical for learning. This is to say that AR creates learning opportu-

nities for the continuous improvement of EI to facilitate adaptive actions. Through accurate perception, facilitation, comprehension, and regulation of emotions, these actions enhance students' functioning to better AP accordingly.

While AR and EI link has been previously established, an increasing number of studies have analyzed the EI-AP link. Chew et al. (2013) found that students with more EI performed better in both continuous assessments and the final professional exams in medical students at Universiti Putra Malaysia. Khajehpour (2011) reported a significant positive relationship between EI and AP in high school students in Tehran, Iran. Meher et al. (2021) showed a significant positive correlation between EI and AP in 4 years integrated B.Ed. students at Gangadhar Meher University, Sambalpur. Using a sample of undergraduate students in Kohat University of Science and Technology, Pakistan, Suleman et al. (2019) demonstrated that EI and academic success are strongly positive. Partido and Stafford (2018) found that higher EI correlated positively with academic and clinical performance among dental hygiene students at Ohio State University. Contrary to these findings, Rode et al. (2007) found that the influences of EI on AP are more indirect than direct in a sample of undergraduate business students, suggesting that individuals should not only have EI, but also be motivated to use it. Using a sample of undergraduates in Albaha University in Saudi Arabia, Alghamdi (2014) found that EI and AP correlation was not statistically significant.

Based on the literature review, it can be concluded that AR can relate to EI and AP, and EI can function as a mediation factor in the link between AR and AP. However, empirical data integrating EI, AR, and AP in a single study is somewhat lacking. Only Zheng et al. (2020) has confirmed AR relation with EI, and no single study has used EI as a mediator despite its link to AR and AP in an academic setting. Furthermore, the EI-AP link in academic settings is somewhat mixed and unclear on the directionality of this relationship, with studies showing both significant and non-significant results. This confirmed the observations of Bracket et al. (2011). Even so, none of these studies were conducted in Africa, Nigeria, in particular, making the probable link to be an open issue for research

in this context. This study enhanced the generality and applicability of research in this regard.

## 2. AIMS AND HYPOTHESES

This study aims to investigate the link between academic resilience, emotional intelligence, and academic performance. Following the literature review, four (4) hypotheses were formulated as follows:

- H1: *Academic resilience is positively related to emotional intelligence.*
- H2: *Emotional intelligence is positively related to academic performance.*
- H3: *Academic resilience is positively related to academic performance.*
- H4: *Emotional intelligence mediates a positive relationship between academic resilience and academic performance.*

## 3. METHODS

The study population was all the final year (400 level) undergraduate students in the regular B.Sc. Business Administration and B.Sc. Marketing program at Delta State University, Abraka, Delta State, Nigeria. Both programs are offered in the Department of Business Administration and Marketing, Faculty of Management Sciences. The permission from the department's head before administering the questionnaire to the students was first obtained.

Along with this, the final course grades (continuous assessment and examination scores) for business policy were collected to ascertain AP. Business policy is a three units core course taken in 400L first semester. Students selected a time and lecture hall during regular academic hours that would be convenient for them to complete the survey in a single session. 179 students voluntarily participated in this study. After informed consent was obtained from the participants, instructions on how to answer the questionnaire were given before the questionnaire administration. This exercise was

conducted in July 2021. The respondents also received answers to any questions or comments during the exercise. The questionnaire completion time was about 7-8 minutes. No missing data and outliers were found in the data collected, indicating a response rate of 100%. The sample had a demographic profile of 88 (49%) males and 91 (51%) females with a mean age of 21 years. 57% were obtaining a bachelor's degree in business administration and 43% in marketing.

The questionnaire had a bio-information with a cover letter indicating the research aims and declaration of anonymity and confidentiality. The measures were adopted from previously validated scales. Eight question items for AR were adapted from Ephrem et al. (2021). This scale has both reactive and proactive questions and has been used in entrepreneurial studies involving students. Sample items include "I always find a quick solution when I face a problem" and "I quickly react to any unexpected situation that happens to me, however bad." The study utilized the Brief Emotional Intelligence Scale (BEIS) of 10 question items (Davies et al., 2010). Sample items include "I have control over my emotions" and "When I am in a positive mood, I am able to come up with new ideas." This EI scale was used by Thomas and Zolkoski (2020). A 5 point-Likert scale was used in rating the question items. The course grades were used as a single item measure for AP, and it was measured using the scoring categories, that is, 70 and above (A), 60-69 (B), 50-59 (C), 45-49 (D), 44 and below (F).

The study used the partial least square structural equation modeling (PLS-SEM) approach as the analytical data technique. The PLS is not only good for mediation analysis but for constructs with a single-item measure, like AP (Hair et al., 2017). The PLS results were estimated using the two-step approach by Anderson and Gerbing (1988). First, there is an assessment of the outer model quality through reliability and validity, and second, an estimation of the inner model for hypotheses testing. The rule of thumb indicated by Hair et al. (2017) was followed in assessing the outer and inner model results. The bootstrap method was used to evaluate the significance of the hypotheses following the rule of thumb by Hair et al. (2017). Finally, AR and EI were modeled as the first-order reflective constructs.

## 4. RESULTS

The study analyzed the outer model using the quality criteria for reflective constructs as stated by Hair et al. (2017). They include factor loadings (FL), composite reliability (CR), average variance extracted (AVE), and discriminant validity. The FLs result showed that all the items were above the recommended cut-off score of .70, demonstrating item reliability. The CR scores, which evaluate the internal consistency reliability, were above the recommended .70. Thus, construct reliability was established. The AVEs score exceeded the cut-off mark of .50, suggesting convergent validity was achieved. Further, discriminant validity using the Fornell-Larcker criterion showed that the constructs were conceptually distinct as each construct's AVE was higher than the inter-construct correlations. Having achieved satisfactory reliability and validity values in line with the rule of thumb by Hair et al. (2017), the study advanced to the second step to estimate the structural model.

**Table 1.** Measurement model results

Construct	Item	FL	CR	AVE	AR	EI	AP
AR	AR_1	0.863	0.871	0.693	0.772	-	-
	AR_2	0.884					
	AR_3	0.743					
	AR_4	0.741					
	AR_5	0.869					
	AR_6	0.799					
	AR_7	0.714					
	AR_8	0.832					
EI	EI_1	0.710	0.775	0.585	0.221	0.801	-
	EI_2	0.782					
	EI_3	0.775					
	EI_4	0.832					
	EI_5	0.837					
	EI_6	0.813					
	EI_7	0.785					
	EI_8	0.740					
	EI_9	0.753					
	EI_10	0.853					
AP	-	1.000	1.000	1.000	0.165	0.238	1.000

**Table 2.** Structural model results

H	Paths	$\beta$	P-value	Support
1	AR $\rightarrow$ EI	0.125	0.007	Yes
2	EI $\rightarrow$ AP	0.231	0.000	Yes
3	AR $\rightarrow$ AP	0.260	0.000	Yes
4	AR $\rightarrow$ EI $\rightarrow$ AP	0.057	0.005	Yes

Note:  $P < 0.05$ ;  $R^2 = .452$ .

Table 2 shows the structural model estimates of the hypothesized relationships, both direct and indirect effects. The results showed that AR has a significant positive relation with EI ( $\beta = 0.125$ ,  $p = 0.007$ ); thus, *H1* was supported. *H2* claimed that EI is positively related to AP. The estimates ( $\beta = 0.231$ ,  $p = 0.000$ ) provide support for this hypothesis. *H3* predicted that AR is positively related to AP. The estimates ( $\beta = 0.260$ ,  $p = 0.000$ ) supported this hypothesis. The specific indirect effect result demonstrated that EI mediated the positive relation between AR and AP ( $\beta = 0.057$ ,  $p = 0.005$ ), and this mediation could be classified as complementary, thus, supporting *H4*. In complementary mediation, both the direct and indirect effects have the same effect, which is positive. The  $R^2$  score suggests that the model accounted for a 45.2 percent variation in AP, which is considered moderate by Hair et al. (2017).

## 5. DISCUSSION

The positive relation between AR and EI concurred with Zheng et al. (2020) that AR has a predictive association with EI in an academic context and showed consistency with the findings of Olusoji et al. (2021) and Sarwar et al. (2017), where resilience was conceptualized as a facet of PsyCap. The correlation between AR and EI indicated by Afzal et al. (2016) and Da et al. (2021) was confirmed. Since successful regulation of emotional experiences is a critical aspect of AR, students with high AR tend to strengthen EI processes to demonstrate positive adaptation to challenging situations. EI benefits from the experiential nature of students' adaptive functioning in a challenging academic environment. It seems logical to argue that EI may be one of the protective factors of AR due to the overlapping process of emotional regulation that results in adaptive emotions (Thomas & Zolkoski, 2020).

EI and AP positive relation affirmed the position of previous investigations (Chew et al., 2013; Khajehpour, 2011; Meher et al., 2021; Partido & Stafford, 2018; Suleman et al., 2019) that had a similar result. However, it contradicted the findings of Rode et al. (2007) and Alghamdi (2014), where EI and AP had no significant positive association. Rode et al. (2007) suggested that individuals should have EI and be motivated to use it. Cassidy (2015) puts forward that resilient students maintain high motivational achievement and performance despite the presence of conditions placing them at risk of poor performance. Arguably, AR, as a positive psychological state induced by events in students' academic lives, facilitates the development of positive emotions that underlie the motivation to develop and use EI accordingly. In this context, positive emotions trigger an upward spiral in emotional wellbeing and build thought-action repertoire, enhancing EI processes' factors (Løvoll et al., 2017).

AR and AP positive relation found support from Bittmann (2021). Thus, AR has a positive association with academic success. It is also in tandem with the general expectations of Thomas and Zolkoski (2020), Slåtten et al. (2021), and Suleman

et al. (2019): AR is an inner strength or resource a student should possess and capitalize on for better AP. Arguably, the cognitive state of students and co-occurring emotions would not be compromised in any way to negate AP because of the protective factors (e.g., emotion regulation, personal strength, social competence, social support quality) impeding the negative impact of stressful educational contexts.

The finding of EI mediating AR and AP positive relation may appear relatively new due to the context in which it was investigated and the limited related literature following Afzal et al. (2016). However, the finding agrees with Olusoji et al. (2021) and Sarwar et al. (2017). They stated that EI can play a mediation role in relationships involving individual/team/organizational performance. Concurring with these findings also is the theoretical statements of Romano et al. (2021) and Trigueros et al. (2019) that students with high AR tend to use creative means of adapting to cultivate positive emotions because of their innate ability to manage and use emotional information for better performance. The theoretical statements formulated in line with COR to explain the link between AR, EI, and AP were confirmed.

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## CONCLUSION

The purpose of this study was to investigate the relationship between academic resilience, emotional intelligence, and academic performance, of the undergraduate business administration and marketing students in a Nigerian public university. Emotional intelligence was used as a mediation factor in this relationship. Three important conclusions emerged from the PLS results. First, academic resilience and emotional intelligence are antecedent academic performance factors, as seen from their positive effects. Second, academic resilience is positively related to emotional intelligence, proving the predictive effect of academic resilience on emotional intelligence. Third, emotional intelligence mediated the positive relationship between academic resilience and academic performance, and the mediation was deemed complementary because the direct and indirect effects were similar in effect.

Based on these findings, the study recommended that educational organizations, as epicenters of knowledge, should introduce training programs focusing on academic resilience and emotional intelligence into the university curriculum. Like entrepreneurship programs that have been integrated into the school curriculum and proven effective, training programs focusing on academic resilience and emotional intelligence should equally be treated in the same manner. The programs should utilize the practice/experiential and simulated learning approach to enhance competency development. It should be structured in line with a process-focused view, indicating competencies needed at each process step. There are many popular models that can guide the execution of this task, for instance, Mayer and Salovey's (1997) model of emotional intelligence. With this targeted approach, practical competencies that are context-specific, relevant, and instrumental for development and performance can be aptly identified and learned.



Further, assessments should be given to monitoring students learning progress. It is expected that these training programs would raise self-awareness of the constructs in view and enable students to assess themselves in relation to their strengths and weaknesses properly. Given the uncertainties in the Nigerian environment, educational organizations and students should take issues concerning academic resilience and emotional intelligence seriously as they are strongly predictive of not just academic performance but other personal endeavors outside an academic setting. Hence, it should be treated as an up-skilling program for students. Furthermore, future research should consider academic resilience and/or emotional intelligence as a moderator in the context of the research model for more insights.

## AUTHOR CONTRIBUTIONS

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