EMOTIONAL INTELLIGENCE, PERSONAL COMPETENCE, SELF-REGULATION AND DECISION MAKING AS PREDICTORS OF UNDERGRADUATE STUDENTS' LEARNABILITY IN BIOLOGY

BY

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Abstract

The research investigated the role of emotional intelligence, personal competence, self-regulation, and decision-making as predictors of undergraduate students' learnability in Biology. A descriptive survey research design was employed for this study. The sample comprised three hundred and twenty (320) third-year students from the Department of Biological Sciences, Tai Solarin Federal University of Education, selected through the intact class sampling method. Data were collected using an adapted questionnaire. The analysis of the data was conducted using descriptive statistics, Pearson's Product-Moment Correlation (PPMC), and multiple regression. Findings revealed that the levels of biology undergraduate students' emotional intelligence, personal competence and self-regulation were high, while the students' level of decision making was low. There was significant relationship between biology undergraduate students' academic performance and personal competence. Meanwhile, there

were no significant relationships between students' academic performance and the students' emotional intelligence, self-regulation and decision-making. However, there existed significant correlations among the students' emotional intelligence, personal competence, self-regulation, and decision-making. The personal competence of undergraduate biology students significantly influenced their academic performance. The findings suggest that university administrators should facilitate workshops aimed at enhancing students' decision-making competencies, thereby fostering the development of more robust critical thinking and problem-solving skills.

Keywords: Emotional intelligence, Personal competence, Self-regulation, Decision making.

Introduction

The concept of learner characteristics is fundamental within the fields of learning science and cognition, serving to identify the specific demographic of students and to assess various dimensions of their personal, academic, social, or cognitive profiles that may impact their learning processes. Understanding learner characteristics is crucial for instructional designers, as it allows for the development of tailored educational experiences that cater to the needs of the target audience. One significant aspect of the learning process is literacy ability, which plays a vital role in enabling learners to effectively and accurately assimilate information. Learner characteristics can be categorized into individual mental factors that influence educational activities, encompassing personal, academic, social/emotional, and cognitive dimensions (Nakayama *et al.*, 2021).Hence, it is imperative to study emotional intelligence, personal competence, self-regulation, and decision-making of students. These characteristics are interrelated and often influence each other. For instance, high emotional intelligence can enhance decision-making skills by allowing learners to better understand and manage their emotions when faced with choices. Personal competence can improve self-regulation by fostering a deep understanding of one's abilities and limitations, leading to more effective management of learning behaviours. Together, these characteristics create a foundation for a learner's overall academic success and personal development. Incorporating these characteristics into educational programmes and encouraging their development in learners can lead to more effective and holistic learning experiences, which has influence on academic performance (Nakayama *et al.*, 2021).

Emotional intelligence (EI) encompasses the capacity to identify, comprehend, and regulate one's own emotions, in addition to the ability to recognize, interpret, and impact the emotions of others. Intelligence is one of the attributes that educators should be aware of in order to support kids who are struggling academically and raise student achievement. High performers have both of these qualities. Cognitive and emotional intelligence capabilities complement each other. Uncontrolled emotions might make a person more prone to ignorance. Without emotional intelligence, people won't be able to fully utilize their cognitive ability (Arghode *et al.*, 2022).

Decision-making constitutes the process of selecting among alternatives by recognizing a decision, collecting relevant information, and evaluating potential solutions. Proficient decision-making abilities are essential for students as they progress through their educational experiences. Effective decision-making encompasses critical thinking, problem-solving, and the careful consideration of the advantages and disadvantages associated with different options. Learners who can make sound decisions are often

more confident and proactive in their studies, leading to better academic outcomes. They can prioritize tasks, manage their time efficiently, and make choices that align with their long-term educational and career goals (Vany *et al.*, 2023). The decision-making styles of students represent a variable factor that differs among individuals, potentially contributing to procrastination in academic tasks related to assignment workloads. Decision-making style can be characterized as a learned habitual response pattern that individuals exhibit when faced with decision-making scenarios. It is important to note that this style is not a personality trait; rather, it reflects a habitual inclination to respond in a particular manner within specific decision-making contexts (Majeed, 2021).

Furthermore, personal competence encompasses students' collaborative learning behaviors and communication skills, which enable them to effectively express, communicate, assist, share, and offer compliments to their peers within educational environments. This concept of personal competence includes elements of self-awareness and self-management. Self-awareness pertains to the recognition of one's emotions, strengths, weaknesses, values, and motivations, while self-management involves the regulation of one's emotions and behaviors across various situations (Omidullah & Javed, 2020). For learners, personal competence is essential as it impacts how they perceive and react to challenges. High personal competence allows learners to set realistic goals, stay focused, and persist through difficulties. It also involves self-motivation and a commitment to continuous self-improvement, both of which are critical for academic success (Nwigwe *et al.*, 2024). The students' personal competence plays a significant role in their academic performance, which may not be fully assessed through cognitive evaluations. Furthermore, students' collaborative learning behaviors exhibit both direct and indirect relationships with their present and future academic outcomes. Those students who demonstrate effective engagement and possess personal competencies are likely to achieve favorable academic results (Nisar *et al.*, 2022).

Self-regulation is defined as the capacity to effectively govern one's cognitive processes, emotional responses, and behavioral actions in pursuit of long-term objectives; it involves self-discipline, self-control, and the ability to delay gratification (Sahranavard *et al.*, 2018). Learners who excel in self-regulation can stay on task, avoid distractions, and maintain a steady pace of work; this characteristic is particularly important in the context of independent learning and time management. Self-regulated learners can monitor their progress, adjust their strategies as needed, and remain motivated even in the face of setbacks. They tend to perform better academically because they can effectively manage their learning processes (Ononuju *et al.*, 2023). Self-regulation among students is a critical component in evaluating academic success. It is intricately linked to study skills, which encompass a student's capacity to take responsibility for and manage their own learning processes. Furthermore, self-regulation involves the establishment of learning objectives, the formulation of strategies to achieve these objectives, and the on-going assessment of progress towards their realization. The acceptance of responsibility is a fundamental aspect of self-regulation that students are expected to uphold (Zawadi, 2024). Stewart and Maisonville (2020) assert that the principle of academic integrity necessitates that each student assumes responsibility for their own work, thereby ensuring that all students have equitable access to a quality education, free from unlawful disruptions caused by the actions of others.

Statement of the Problem

The problem of low academic performance in biology among students represents a significant challenge for both educators and learners. This phenomenon can be attributed

to a multitude of factors, including influences from the individual student, parental involvement, institutional support, societal context, and governmental policies. Low academic performance is characterized by students achieving grades that fall below the normative average for a given subject area. This underperformance may be attributed to a range of factors, particularly those related to the personal characteristics of the students, including emotional intelligence, individual competence, self-regulation, and decision-making skills. The primary issues contributing to students' low academic performance may be linked to insufficient learner characteristics, particularly a deficiency in emotional intelligence. This inadequacy can impede their capacity to effectively manage stress and emotions, ultimately resulting in diminished focus and motivation. Furthermore, a lack of personal competence may lead to inadequate self-awareness and self-management skills, which can hinder students' ability to establish and accomplish their academic goals. Furthermore, inadequate self-regulation skills can lead to difficulties in maintaining attention, avoiding distractions, and managing time effectively. Finally, poor decision-making skills may result in students being unable to prioritize tasks, choose effective study strategies, or make beneficial academic choices. Collectively, these deficiencies in learner characteristics can create a significant barrier to academic success, particularly in demanding subjects like biology. It is therefore imperative to examine emotional intelligence, personal competence, self-regulation and decision making as predictors of academic performance undergraduate biology students.

Aim and Objectives of the Study

This study aimed to examine emotional intelligence, personal competence, self-regulation and decision making as predictors of undergraduate biology students' academic performance. Specifically, the study aimed to:

i. determine the levels of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making.
ii. find out the levels of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making based on gender, and age of students.
iii. examine the relationship that exist among undergraduate biology students' emotional intelligence, personal competence, self-regulation, decision making and their learnability.
iv. investigate the individual and combined impacts of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making on students' learnability.
v. explore the combined effect of emotional intelligence, personal competence, self-regulation, decision making of undergraduate students on their learnability in Biology.

Methodology

Research Design: The study was conducted utilizing a descriptive survey research design.

Population of the Study: The study's target population consisted of undergraduate students enrolled in the Department of Biological Sciences at Tai Solarin Federal University of Education, Ijagun, Ogun State.

Sample and Sampling Technique: The study's sample comprised three hundred and twenty (320) third-year students enrolled in the Department of Biological Sciences at Tai Solarin Federal University of Education. Intact class that cohort the entire 300-level students were used for the study. This method was chosen for practicality and efficiency, as it enabled the researcher to gather data from a pre-existing group of students without the need for random sampling. The intact class technique is often employed in educational research when the population is easily

accessible and when seeking to ensure that the study represents a typical sample of students.

Research Instrument: The instrument used for collecting data was through administration of close ended questionnaire, which comprised four (4) scales: Emotional Intelligence Scale, Personal Competence Scale, Self-Regulation Scale, and Decision-Making Scale. The academic performance data for this study was obtained from students' examination scores of BIO 321 (General Physiology) in the 2023/2024 academic session.

Method of Data Analysis: In the context of data analysis, descriptive statistics—comprising frequencies, percentages, means, and standard deviations—were employed to assess the demographic characteristics of the participants. To investigate the relationships among emotional intelligence, personal competence, self-regulation, decision-making, and academic performance, inferential statistics, specifically Pearson's correlation and linear regression, were utilized. The analysis was conducted using Statistical Package for Social Sciences (SPSS) version 20.

Results: Presented in Table 1 are the levels of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making. This study found the emotional intelligence of the students to have minimum and maximum levels of 60 and 115, respectively, of which the calculated mid-point was found to be 87.5. The mean emotional intelligence of the students was 94.48 ± 9.32, which was found to be higher than the mid-point, therefore, the students' emotional intelligence is said to be high. Also, the students' level of personal confidence had minimum and maximum values of 44 and 75, respectively, of which the calculated mid-point was found to be 59.5. The mean personal competence of the students was 62.70 ± 6.46, which was discovered to be higher than the mid-point, therefore, the students level of personal competence is said to be high. Similarly, the students' level of self-regulation was found to have minimum and maximum values of 44 and 75, respectively, of which the calculated mid-point was 59.9. The mean self-regulation of the students was 62.14 ± 6.25, which was found to be higher than the mid-point. Therefore, this study found the level of students' self-regulation to be high. However, the level of students' decision-making had minimum and maximum values of 44 and 92, respectively. The mean decision-making of the students was 60.64 ± 6.89, which was found to be lower than the mid-point. Therefore, this study found the level of students' decision making to be low.

Table 1: Levels of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making.

	Minimum	Maximum	Mid-point	Mean	Std. Dev.	Remark
Emotional Intelligence	60	115	87.5	94.48	9.32	High
Personal Competence	44	75	59.5	62.70	6.46	High
Self-regulation	44	75	59.5	62.14	6.25	High
Decision Making	44	92	68	60.64	6.89	Low

Table 2 shows the levels of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making based on the gender of the students. The study indicated that there was no statistically significant difference in emotional intelligence between male and female students (p = 0.470), whereas, female students emotional intelligence (94.70 ± 9.01) was found to be higher than that of the male students (93.82 ± 10.23). Also, there was no statistically significant difference between male and female students' personal competence (p = 0.805). However, the female students were found to have a relatively higher personal competence (62.75 ± 6.39) than their male counterparts (62.54 ± 6.69). Furthermore, the students' self-regulation was found not to be statistically significant in terms of their gender (p = 0.681). Meanwhile, the female students were found to have a higher self-regulation (62.22 ± 6.22) than the male students (61.89 ± 6.36). However, the students' level of decision making was found to be relatively higher among the female students (60.68 ± 6.66) than the male students (60.51 ± 7.61). Meanwhile, the difference in the decision making of the students was not statistically significant (p = 0.842).

Table 2: Levels of undergraduate students' emotional intelligence, personal competence, self-regulation and decision making based on their gender

	Gender	Mean	Std. Deviation	Sig.
Emotional Intelligence	Male	93.82	10.23	0.470
	Female	94.70	9.01	
Personal Competence	Male	62.54	6.69	0.805
	Female	62.75	6.39	
Self Regulation	Male	61.89	6.36	0.681
	Female	62.22	6.22	
Decision Making	Male	60.51	7.61	0.842
	Female	60.68	6.66	

Table 3 displays the levels of emotional intelligence, personal competence, self-regulation, and decision-making among students, categorized by age. The findings indicate that the youngest students exhibited elevated levels across all positive variables, whereas those within the 16-20 age group demonstrated the lowest values for these variables. This observation suggests that commencing college at a younger age may foster more favorable attitudes in students.

Table 3: Levels of undergraduate students' emotional intelligence, personal competence, self-regulation and decision making based on their age categories.

	Age	Mean	Std. Deviation	Sig.
Emotional Intelligence	15 years and below	107.00	0.00	0.243
	16-20 years	93.74	9.28	
	21 years and above	94.84	9.32	
Personal Competence	15 years and below	65.00	0.00	0.293

	16-20 years	61.96	6.45	
	21 years and above	63.11	6.45	
Self-Regulation	15 years and below	70.00	0.00	0.376
	16-20 years	61.83	6.63	
	21 years and above	62.27	6.02	
Decision Making	15 years and below	62.00	0.00	0.496
	16-20 years	60.03	6.58	
	21 years and above	60.98	7.07	

Table 4 shows the relationships that occur among students' emotional intelligence, personal competence, self-regulation and academic performance. The findings of this study indicate a statistically significant and positive correlation between students' academic performance and their personal competence, with a correlation coefficient of r = 0.189 and a p-value of 0.001. However, this study found low and no significant relationship (p > 0.05) between students' academic performance and students' emotional intelligence (r = 0.079); students' self-regulation (r = 0.072) and students' decision making (r = 0.024). However, this study found high, positive and significant relationships between students' emotional intelligence and students' personal competence (r = 0.605; p = 0.000); students' self-regulation (r = 0.579; p = 0.000) and students' decision making (r = 0.545; p = 0.000). Furthermore, this study found high, positive and significant relationships between students' personal competence and students' self-regulation (r = 0.659; p = 0.000) and students' decision making (r = 0.552; p = 0.000). Also, this study discovered a high, positive and significant relationship between students' self-regulation and students' decision making (r = 0.640; p = 0.000).

Table 4: Correlations among emotional intelligence, personal competence, self-regulation, decision making and learnability of undergraduate biology students.

	Emotional Intelligence	Personal Competence	Self Regulation	Decision Making	Students' Learnability
Emotional Intelligence					
Personal Competence	0.605**				
Self-Regulation	0.579**	0.659**			
Decision Making	0.545**	0.552**	0.640**		
Students' Learnability	0.079	0.189**	0.072	0.024	

Table 5 shows the interactive effects of undergraduate biology students' emotional intelligence, personal competence, self-regulation and decision making on their academic performance. The regression model shows R^2 value as 0.046; indicating that

students' emotional intelligence, personal competence, self-regulation and decision making jointly accounted for 4.6% of the variance in the academic performance of the students. However, the model was found to be statistically significant ($F_{4, 315} = 3.382$; Sig. = 0.005; $R^2 = 0.046$).

Table 5: Combined effects of emotional intelligence, personal competence, self-regulation and decision making of undergraduate biology students on their learnability.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	$R^2 = 0.046$; $F_{4, 315} = 3.382$; p = 0.005				
	B	Std. Error	Beta		
Emotional Intelligence	-0.018	0.109	-0.012	-0.164	0.870
Personal Competence	0.589	0.168	0.278	3.507	0.001
Self-Regulation	-0.096	0.182	-0.044	-0.528	0.598
Decision Making	-0.189	0.149	-0.095	-1.264	0.207

Discussion of Findings

The study found that the levels of emotional intelligence, personal competence, and self-regulation among biology undergraduates were high, but decision-making was low. This result is in consonance with findings from Nieto-Carracedo *et al.* (2024), who emphasized the role of emotional intelligence in influencing academic outcomes indirectly through mediating factors like emotional well-being and motivation. Similarly, Kwaku *et al.* (2024) stated that while emotional intelligence may correlate with academic performance, its influence is not direct for all components, particularly self-awareness and self-management. Thus, the high levels of emotional intelligence and self-regulation among students, coupled with the non-significant direct impact on academic performance, reflect broader findings suggesting that emotional intelligence operates through complex mediation pathways.

The study showed that there were no statistically significant differences in the male and female undergraduate students' levels of emotional intelligence, personal competence, self-regulation as well as decision making. The finding contrasts with the study of Nabina and Ashish (2024), where no significant difference was found in emotional intelligence across demographic variables like ethnicity and parental education, though their study did note age as a factor. This divergence from some earlier studies suggests that the relationship between demographic factors and emotional intelligence or decision-making may vary based on cultural or institutional contexts.

The study indicated that there were no statistically significant differences in the levels of emotional intelligence, personal competence, self-regulation, and decision-making among biology undergraduate students

when analyzed according to their age categories. This outcome is consistent with the findings of Zawadi (2024) and Omidullah and Javed (2020), who underscore the significance of self-competence and self-regulation in relation to academic success. Zawadi specifically noted that students' self-regulatory strategies play a vital role in academic achievement, especially within open and distance learning contexts. This is reflected in the significant impact of personal competence on the students' performance in the present study, suggesting that personal skills like self-confidence and goal-setting are pivotal in academic contexts. However, the non-significant relationship between emotional intelligence and academic performance found in this study mirrors the results of Bilimale *et al.* (2024), where emotional intelligence did not correlate positively with academic outcomes, supporting the view that academic performance is influenced more by cognitive rather than emotional skills.

The study also indicated that there was significant relationship between biology undergraduate students' academic performance and personal competence. Meanwhile, there were no significant relationships between students' academic performance and students' emotional intelligence, students' self-regulation and students' decision making. However, there existed significant correlations among students' emotional intelligence, personal competence, self-regulation as well as students' decision making. Although decision-making was found to have no significant impact on academic performance, this finding contrasts with studies like Vany *et al.* (2023), which reported that avoidant decision-making styles predict academic procrastination, thus influencing academic performance. The lack of impact in the current study may suggest that while decision-making influences behaviors like procrastination, it might not directly affect overall academic performance, or that the students in the present study may not rely heavily on decision-making processes in ways that significantly impact their grades.

The study showed that Biology undergraduate students' personal competence had significant impact on the learnability of the students. However, this study found no significant impact of undergraduate biology students' emotional intelligence, self-regulation and decision making on undergraduate students' academic performance. Meanwhile, the regression model of the variables was found to be significant. This finding indicates that these factors are interdependent, aligning with the views of Khan *et al.* (2023), who noted that emotional intelligence is positively associated with the ability to adapt to different situations, a key aspect of self-regulation. Furthermore, Kongqi *et al.* (2024) demonstrated that self-regulation mediates the relationship between resilience and academic performance, highlighting the interplay of emotional intelligence and self-regulation in academic contexts. The regression model in the current study, which demonstrated the significance of these factors collectively, reinforces the importance of considering emotional, personal, and cognitive skills as interconnected influences on student performance.

Conclusion

Conclusively, the high levels of emotional intelligence, personal competence, and self-regulation among Biology undergraduate students reflect their strong abilities in managing emotions, demonstrating interpersonal skills, and regulating their behavior. However, the low level of decision-making indicates a potential area for improvement in critical thinking and problem-solving. The lack of statistically significant differences based on gender and age across emotional intelligence, personal competence, self-regulation, and decision-making suggests that these factors are consistent across demographic groups. The significant relationship between academic performance and personal competence highlights the importance of interpersonal skills in academic success. On the other hand, the absence of significant relationships between emotional intelligence, self-regulation, decision-making,

and academic performance indicates that these factors may not directly influence students' grades. The notable relationships observed among emotional intelligence, personal competence, self-regulation, and decision-making suggest a degree of interrelatedness that may have an indirect impact on academic performance.

Recommendations

In light of the findings, the subsequent recommendations have been proposed:

- University administrators should organize workshops to improve students' decision-making skills, helping them develop stronger critical thinking and problem-solving abilities.
- Educators should incorporate personal competence development into the curriculum, emphasizing interpersonal skills to enhance students' academic performance.
- Biology departments should provide tailor mentorship programmes toward addressing students' emotional intelligence, supporting them in managing academic stress and improving overall well-being.
- Researchers and education policymakers should investigate more on effective interventions aimed at enhancing students' decision-making skills, thereby promoting comprehensive development that contributes to academic achievement.

References

Arghode, V., Brill, D. & Canivel, F. (2022). The role of emotional intelligence in academic performance: A systematic review. *Educational Psychology Review*, *34*(3), 635-654.

Bilimale, A. S., Hedge, S., Pragadesh, R., Rakesh, M., Anil, D. & Gopi, A. (2024). The relationship between emotional intelligence and academic performance among medical students in Mysuru. *International Journal of Academic Medicine*, *10*, 82–86.

Khan, F. N., Imad, M. &Shakir, H. (2023). Exploring the effects of emotional intelligence on students' academic performance: A case of university students in KPK, Pakistan. *Journal of Social & Organizational Matters*, *2*(3), 99–109.

Kongqi, L., Huatian, W., Oi-Ling, S. & Hong, Y. (2024). How and when resilience can boost student academic performance: A weekly diary study on the roles of self-regulation behaviors, grit, and social support. *Journal of Happiness Studies*, *25*(36), 1–26.

Kwaku, D., Inusah, S., Rita, Y. & Prisilla, C. (2024). Emotional intelligence and academic performance: How does the relationship work among pre-service teachers in Ghana? *Cogent Education*, *11*(1), 1–15.

Majeed, H. (2021). **The significance of problem-solving and decision-making in education**. *Journal of Educational Psychology*, *34*(2), 198-210.

Nabina, P. & Ashish, K. (2024). A cross-sectional study on the association between emotional intelligence and academic performance among nursing students of selected nursing colleges in Kathmandu. *International Journal of Education Humanities and Social Science*, *7*(1), 261–275.

Nakayama, M., Mutsuura, K. & Yamamoto, H. (2021). **Characteristics of learners and their effects on learning activities**. *Education and Information Technologies*, *26*(1), 835-850.

Nieto-Carracedo, A., Gomez-Iniguez, C., Tamayo, L. A. & Igartua, J. J. (2024).

Emotional intelligence and academic achievement relationship: Emotional well-being, motivation, and learning strategies as mediating factors. *Psicologиа Educativa*, *20*(1), 1–8.

Nwigwe, O. E., Shaoan, M. R., Igweani, C. C., Ouattara, C. A. & Okagbue, E. F. (2024). University students' intentions to develop competences and its influencing factors: A Nigerian context. *Academic Journal of Interdisciplinary Studies*, *13*(4), 697–713.

Omidullah, A. & Javed, M. (2020). The role of self-competence in enhancing students' academic achievements. *Journal of Educational Sciences*, *25*(4), 291–304.

Ononuju, N. A., Okwara-Kalu, C. E., Obinna-Akakuru, U. O. & Ndubuisi, O. V. (2023). Students' self-regulation as correlate of academic achievement in biology in public secondary schools in Orlu Education Zone, Imo State, Nigeria. *International Journal of Education, Teaching and Social Science*, *3*(3), 182–190.

Sahranavard, S., Miri, M. & Salehiniya, H. (2018). The relationship between self-regulation and educational performance in students. *Journal of Education and Health Promotion*, *7*, 154.

Stewart, L. & Maisonville, B. (2020). The importance of self-regulation in academic honesty and success. *Journal of Academic Integrity, 7*(1), 15-28.

Vany, M., Eslavath, R., Lakshmi, R., Saniya, M., Allen, J., Shivanand, P. & John, A. (2023). Influence of decision-making styles and affective styles on academic procrastination among students. *Educational Psychology and Counselling*, *10*, 1–13.

Zawadi, L. (2024). Self-regulation and academic achievement in higher education: The case of African universities. *International Journal of Academic Research in Education, 19*(1), 22-37.

Nisar, H., Elgin, D., Bradshaw, C., Dolan, V., Frey, A., Horner, R. & Sutherland, K. (2022). Promoting Social and Behavioral Success for Learning in Elementary Schools: Practice Recommendations for Elementary School Educators, School and District Administrators, and Parents.*2M Research*ss