Published by The College of Science & Information Technology (COSIT), TASUED, Vol. 19, No. 1, pp. 73-88.

COSIT, TASUED
Journal of Science and Information Technology (JOSIT)

Motivation, Self-Awareness, Extracurricular Activities and Proactive Personality as Predictors of Academic Performance among Undergraduate Students

Zangonde, G. S.; Banjo, O. O.; Okediji, I. T.; Samaye, I. B.; Adesuyi, O. E.; Efe, S. O.

Department of Biological Sciences, Tai Solarin University of Education, Ijagun, Ogun State, Nigeria
Corresponding Author: zangondegs@tasued.edu.ng

Abstract

The academic performance of undergraduate students is pivotal for their future success, but various psychological factors often impede their ability to reach full potential. This study investigates the predictive roles of motivation, self-awareness, extracurricular activities, and proactive personality on academic performance among undergraduate students. Using a descriptive survey design, 802 students from the College of Science and Information Technology (COSIT) were selected via simple random sampling. Data were gathered utilizing a modified questionnaire and subsequently analyzed through both descriptive and inferential statistical methods. Findings indicated high levels of intrinsic motivation (M = 32.18, SD = 3.74), extrinsic motivation (M = 28.10, SD = 5.11), self-awareness (M = 44.92, SD = 5.03), and proactive personality (M = 32.21, SD = 3.73), with low levels of extracurricular activity (M = 25.61, SD = 5.54). Significant disparities were identified between male and female students concerning intrinsic motivation, self-awareness, and participation in extracurricular activities ($p < 0.05$); however, no notable differences were detected in extrinsic motivation ($p > 0.05$). Furthermore, the analysis indicated that parental educational background and age did not yield significant differences ($p > 0.05$). Correlational analysis demonstrated significant associations between intrinsic and extrinsic motivation ($r = 0.366$, $p = 0.000$), extracurricular activities and self-awareness ($r = 0.130$, $p = 0.000$), as well as academic performance and extrinsic motivation ($r = -0.094$, $p = 0.008$). Lastly, regression analysis indicated that motivation, self-awareness, extracurricular involvement, and proactive personality traits are significant predictors of academic performance ($R^2 = 0.042$, $F(5,796) = 7.051$, $p = 0.000$). These findings provide critical insights for educational administrators aiming to enhance students' development. Thus, these factors are to be recognized in the fulfilment of the entire curriculum in the educational system.

Keywords: Academic Performance, Extracurricular Activities, Motivation, Proactive Personality, Self-awareness

INTRODUCTION

Concerns regarding the understanding of cognitive mechanisms connected to students' behaviour and academic performance are growing among educators and other stakeholders. Some psychological components have become a major issue for the educational community since they are a key predictor of students' academic progress. Undergraduate academic achievement is a multifaceted concept that is shaped by a variety of influences, encompassing both individual characteristics and environmental conditions. In contemporary educational psychology, determining the variables that forecast academic achievement has garnered a great deal of interest. Extracurricular activities, proactive personality, motivation, and self-awareness inventory are the four primary variables that this research focuses on in order to elucidate their individual and combined influence on undergraduate students' academic outcomes.

Academic achievement is mostly dependent on motivation, which is a crucial behavioural driver. It includes both intrinsic and extrinsic drive, among other factors (Ryan

Cite as:

Zangonde, G. S., Banjo, O. O., Okediji, I. T., Samaye, I. B., Adesuyi, O. E. and Efe, S. O. (2025). Motivation, Self-Awareness, Extracurricular Activities and Proactive Personality as Predictors of Academic Performance among Undergraduate Students. *Journal of Science and Information Technology (JOSIT)*, Vol. 19, No. 1, pp. 73-88.

& Deci, 2020). While extrinsic motivation entails completing a task in order to obtain rewards from outside sources or stay away from penalties, intrinsic motivation is the act of engaging in an activity for its own gratification (Fishbach & Woolley, 2022). Numerous scholarly investigations have emphasized the crucial function of motivation in the academic domain. According to Javed et al. (2022), students who are more intrinsically motivated tend to perform better academically because they are more involved in the learning process. Similar findings were made by Saleh et al. (2018), who discovered a favorable correlation between academic achievement and intrinsic motivation. In contrast, extrinsic motivation, while beneficial in some contexts, can sometimes lead to surface-level engagement and lesser long-term academic benefits (Ketonen, 2017). A review by Stevens et al. (2022) confirmed that motivation is a significant predictor of college success, linking it to higher grade point average and retention rates. These findings underscore the necessity of fostering both intrinsic and extrinsic motivation among students to optimize academic outcomes.

Self-awareness, defined as the conscious understanding of one's own character, emotions, motivations, and desires, is fundamental to both personal and academic growth (Carden et al., 2022). The self-awareness inventory is a tool used to assess this construct, often encompassing elements like emotional intelligence, self-concept, and reflective practices. Research indicates that self-awareness is intricately linked to academic performance. Nonweiler et al. (2024) emphasized that emotional intelligence, a component of self-awareness, significantly impacts students' ability to manage stress, set goals, and engage in effective learning strategies. According to Regueig (2021), academic performance was better for student who had stronger emotional intelligence, which is a sign of greater self-awareness. Furthermore, Bușu (2020) emphasized that learners who are self-regulated and have a high level of self-awareness are better at organizing, overseeing, and assessing their academic work, which results in better academic performance. This implies that improving self-awareness via focused treatments can have a favourable impact on students' academic paths.

The impact of extracurricular activities on academic performance has been widely studied, with mixed but predominantly positive results (Griffiths et al., 2021). Engagement in extracurricular activities, such as athletics, the arts, clubs, and other non-academic endeavours, provides students with significant opportunities for personal development, skill enhancement, and social engagement (Vandell et al., 2022). Through the provision of a comprehensive educational experience, these activities can enhance academic learning. According to Barbosa et al. (2020), involvement in organized extracurricular activities is linked to improved academic performance and a lower dropout rate. However, the consensus remains that moderate and well-balanced engagement in extracurricular activities generally supports academic success by enhancing students' social networks, leadership skills, and overall well-being. Research indicates a significant positive relationship between motivation and extracurricular activities among undergraduate students (Griffiths et al., 2021). Barbosa et al. (2020) found that students who engage in extracurricular activities often exhibit higher levels of intrinsic motivation, which enhances their commitment to academic and non-academic pursuits. Buckley and Lee (2021) further demonstrated that involvement in such activities fosters a motivational environment, promoting self-discipline and time management skills. In contrast, De Sisto et al. (2022) warned that an over-commitment to extracurricular activities could result in a decrease in academic motivation, highlighting the necessity of a balanced approach.

Extracurricular activities are essential for fostering proactive personality traits among students. Participation in activities outside the classroom, including sports, arts, and clubs, offers students valuable opportunities to cultivate their leadership abilities, initiative, and resilience (Owen et al., 2022). These experiences often require students to take charge, make decisions, and persist through challenges, which are key characteristics of a proactive personality. Research by Aoyagi et al. (2020) supports this, indicating that students involved in extracurricular activities demonstrate higher levels of initiative and proactive behaviours. Consequently, engagement in these activities not only improves academic and social competencies

but also cultivates a proactive mind-set that is essential for future success.

A proactive personality is marked by the tendency to take initiative, effect change, and persist until meaningful goals are achieved. This trait reflects a forward-thinking, action-oriented approach to challenges and opportunities in life (Deng et al., 2020). Studies consistently show that individuals with proactive personalities tend to achieve higher academic performance. Gao et al. (2020) identified proactive personality as a significant predictor of educational success, with proactive students demonstrating greater engagement and resilience in their academic pursuits. Han and Ellis (2021) linked proactive personality with career success indicators, suggesting that its benefits extend beyond academia. Deng et al. (2020) emphasized that proactive students are more likely to seek academic support, engage in collaborative learning, and utilize effective study strategies. These behaviors contribute to better academic outcomes, highlighting the importance of fostering proactive traits in students.

Motivation and self-awareness are closely linked, as a self-aware student is better equipped to understand and leverage his/her motivational drivers. For example, a self-aware student might recognize the importance of intrinsic motivation and seek activities that align with their interests, thereby enhancing their engagement and performance (Carden et al., 2022). Extracurricular activities often serve as a platform for developing proactive traits. Students with proactive personalities are likely to take initiative in these contexts, leading to leadership roles and enhanced social capital, which can positively influence their educational performance (Su & Zhang, 2020). Moreover, the skills and experiences gained through extracurricular involvement can reinforce a proactive mindset, creating a cycle of personal and academic growth (Millunchick et al., 2021). This study therefore, seeks to explore the complex and multifaceted predictors of academic success among undergraduate students by examining the roles of motivation, self-awareness inventory, extracurricular activities, and proactive personality. The integration of these variables within a comprehensive conceptual framework offers a robust basis for future research and practical interventions, ultimately contributing to the enhancement of educational outcomes for undergraduate students.

The academic performance of undergraduate students serves as a significant predictor of their future success; however, numerous students encounter difficulties in realizing their full potential as a result of various psychological factors. Among these, motivation, self-awareness, participation in extracurricular activities, and proactive personality traits are pivotal. Motivation drives students to set and pursue academic goals, while self-awareness allows them to understand their strengths and weaknesses, facilitating better learning strategies. Extracurricular activities provide holistic development and practical skills, and a proactive personality enables students to take initiative and adapt to challenges. Despite the importance of these factors, there is a significant knowledge gap in understanding how they collectively influence academic performance. Existing research has often examined these variables in isolation, failing to capture their interactive effects. This fragmented approach overlooks the complexity of student experiences and the multifaceted nature of academic success. Low academic performance among undergraduates is frequently linked to psychological factors, but comprehensive studies addressing the combined impact of motivation, self-awareness, extracurricular activities, and proactive personality are scarce. Understanding how these variables interact can provide deeper insights into why some students excel while others do not, despite similar academic environments. This study aims to bridge this knowledge gap by investigating how motivation, self-awareness inventory, extracurricular activities, and proactive personality together predict academic performance among undergraduate students.

This study aimed to investigate motivation, self-awareness inventory, extracurricular activities and proactive personality as predictors of academic performance among undergraduate students. This aim was achieved by the following objectives;

1. To determine the level of motivation, self-awareness, proactive personality and extracurricular activities of undergraduate students.
2. To determine the differences in undergraduate students' motivation, self-awareness, proactive personality

and extracurricular activities based on gender of the students.

3. To determine the differences in undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities based on parents' educational background.
4. To determine the differences in undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities based on age of the students.
5. To investigate the correlation of undergraduates students motivation, self-awareness, proactive personality and extracurricular activities with students' academic performance among self-awareness, motivation and academic performance undergraduate students.
6. To investigate the interactive effect of motivation, self-awareness, extracurricular activities and proactive personality on academic performance of undergraduate students.

Research Questions

1. What is the level of motivation, self-awareness, proactive personality and extracurricular activities of undergraduate students?
2. What are the differences in undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities based on gender of the students?
3. What are the differences in undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities based on parents' educational background?
4. What are the differences in undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities based on age of the students?
5. What is the correlation of undergraduate students' motivation, self-awareness, proactive personality and extracurricular activities with students' academic performance among self-awareness, motivation and academic performance undergraduate students?
6. What is the interactive effect of motivation, self-awareness, extracurricular activities and proactive personality on academic performance of undergraduate students?

METHODOLOGY

Research Design

A descriptive survey was used as the research design for this study.

Population of the Study

The population of this study is all students of the University of Science and Information Technology (COSIT) at the Tai Solarin University in Ijagun, Ogun State.

Sample and Sampling Techniques

A total of 802 students from the College of Science and Information Technology (COSIT) at Tai Solarin University of Education in Ijagun, Ogun State, were chosen using the simple random sampling method.

Instrument for Data Collection

The questionnaire was adapted online which was divided into five sections. Section A was used to gather demographic data about the respondent, Section B consist of questionnaire to measure motivation of respondents which is 20 item questionnaire on a 4-point Likert scale (Strongly agree to strongly disagree). Section C was extracurricular activities scale. Section D consisted of proactive personality scale which is also a 4-point Likert scale. Section E consisted of items to measure self-awareness scale.

Method of Data Collection

A proper introduction of the purpose of the study was done to the respondents in other to prepare their minds. Respondents' participation in the survey was voluntary as their informed consent was taken into consideration. The questionnaire was administered to the respondents who are ready to take part in the survey, which was filled on the same spot and retrieved back immediately.

The students' scores in the course - General Biology I were used as the academic performance in this study. The results of biology, computer science and chemistry students of the college of science and information technology, Tai Solarin University

of Education in the 2022/2023 and 2023/2024 academic sessions were used as academic performance of this study.

Reliability of Instrument

Instrument reliability was determined by administering the questionnaire to 50 students who were not selected as part of the targeted population. The Cronbach alpha coefficient was used to analyse the data, and coefficients of 0.784, 0.972, 0.817 and 0.860 were obtained for motivation, extracurricular activities, proactive personality and self-awareness scales, respectively.

Data Analysis

Descriptive statistics, such as mean and percentages, were employed to examine the socio-demographic characteristics of the respondents, while inferential statistics, including t-tests, chi-square tests, correlation, and linear regression, were utilized to address the research questions. All analyses were conducted using the Statistical Package for Social Science (SPSS) version 23.

RESULTS AND DISCUSSION

Results

The demographic characteristics of the respondents in this study are presented in Table 1. This investigation discovered that there were 400 male students, which accounted for 49.9% of the total, while there were 402 female students, making up 50.1% of the total. According to age, 62.2% of the undergraduate students were in the 18-20 age range, while 36.2% were between 21-25 years old. Out of the undergraduate students, 12 individuals (1.5%) were discovered to be between the ages of 26 and 30, whilst just 1 person (0.1%) was older than 30. In addition, this survey discovered that 654 (81.5%) of the undergraduate students had parents with a higher level of education, whereas 148 (18.5%) of them had parents with a lower level of education. According to this study, the birth positions of the students were analysed and it was determined that 36.3% (243 students) were first-born, 23.2% (186 students) were second-born, and 20.8% (167 students) were third-born. Out of the total number of students, 105 (13.1%) were born fourth, while 63 (7.9%) were born fifth. However, 38 students, accounting for 4.7% of the total, were born at a position higher than the fifth.

Table 1. Demographic characteristics of respondents (undergraduate biology students).

		Frequency	**Percentage (%)**
Gender	Male	400	49.9
	Female	402	50.1
Age	18 - 20 years	499	62.2
	21 - 25 years	290	36.2
	26 - 30 years	12	1.5
	Above 30 years	1	0.1
Parents' Educational Background	Educated	654	81.5
	No formal education	148	18.5
Birth Position in Family	First	243	30.3
	Second	186	23.2
	Third	167	20.8
	Fourth	105	13.1
	Fifth	63	7.9
	Above Fifth	38	4.7

Presented in table 2 are the levels of undergraduate students' intrinsic motivation, extrinsic motivation, self-awareness, extra-curricular activities and their pro-active personality. This study found the minimum and maximum levels of the undergraduate students' intrinsic motivation to be between 19 and 40, respectively, of which the calculated midpoint was 29.5. The mean intrinsic motivation of the students was found to be 32.18 ± 3.74. The Table 3 presents the mean differences of undergraduate students' intrinsic and extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality based on their gender. The study found 400 males and 402 female undergraduate students. The difference in the students' intrinsic motivation was found to be statistically significant (Sig.=0.002). However, the female students were found to have a higher (32.58 ± 3.56) mean intrinsic motivation than that of the male students (31.78 ± 3.87). However, this study found no significant difference (Sig. = 0.499) between the mean extrinsic motivation of the students. Although the female students were found to have a higher mean extrinsic motivation (28.22 ± 4.89) than their male counterparts (27.98 ± 5.31). Furthermore, the self-awareness of the students was found to be higher among the female students (45.87 ± 4.68) than the male students (43.96 ± 5.18). The study found the difference in their mean self-awareness to be statistically significant (Sig. = 0.000).

The analysis revealed a statistically significant difference in the extra-curricular activities of male and female students, with a p-value of 0.009. However, the male students were found to have higher extra-curricular activities (26.13 ± 5.33) than the female students (25.10 ± 5.50). Furthermore, the mean pro-active personality of the students was found to be higher in the female students (32.43 ± 3.55) than their male counterparts (31.98 ± 3.88). However, the difference in the students' mean pro-active personality was not statistically significant (Sig. = 0.089).

This findings suggests that academic intervention may need to consider gender-responsive strategies to better address gaps that might affect students' performance. Enhancing self-awareness in male students or encouraging more structured extracurricular involvement among females may promote a more balanced academic experience. Students' intrinsic motivation was higher than the mid-point, therefore the level of their intrinsic motivation was found to be high. However, the extrinsic motivation of the students had minimum and maximum levels of 13 and 40, respectively, of which the calculated mid-point was 26.50. The mean level of the students was found to be higher (28.10 ± 5.11) than the calculated midpoint, therefore, the students' level of extrinsic motivation was said to be high. Furthermore, for students' self-awareness, the minimum and maximum levels were between 18 and 56, respectively. The calculated midpoint was found to be 37, which was lower than the students' mean level of self-awareness (44.92 ± 5.03). Therefore, the students' level of self-awareness was said to be high.

Also, this study found students' extra-curricular activities to have minimum and maximum levels of 10 and 43, respectively. However, the students' mean level of extra-curricular activities was 25.61 ± 5.54, which was found to be lower than the calculated mid-point (26.50). Therefore, this study found the students' level of extra-curricular activities to be low. Lastly, the students' level of pro-active personality index was found to have minimum and maximum levels of 14 and 40, respectively. The mean level (32.21 ± 3.73) was found to be higher than the midpoint (27.00). Therefore, the level of students' pro-active personality index was found to be high.

Table 2. Levels of undergraduate students' intrinsic motivation, extrinsic motivation, self-awareness, extracurricular activities and proactive personality.

	Minimum	Maximum	Midpoint	Mean	Std. Deviation	Remark
Intrinsic Motivation	19	40	29.5	32.18	3.74	High
Extrinsic Motivation	13	40	26.50	28.10	5.11	High
Self-awareness	18	56	37.00	44.92	5.03	High
Extra-curricular activities	10	43	26.50	25.61	5.54	Low
Pro-active personality	14	40	27.00	32.21	3.73	High

Table 3. Differences of undergraduate students' intrinsic and extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality based on their gender.

	Gender	Frequency	Mean	Std. Deviation	Sig.
Intrinsic motivation	Male	400	31.78	3.87	0.002
	Female	402	32.58	3.56	
Extrinsic motivation	Male	400	27.98	5.31	0.499
	Female	402	28.22	4.89	
Self-awareness	Male	400	43.96	5.18	0.000
	Female	402	45.87	4.68	
Extra-curricular activities	Male	400	26.13	5.53	0.009
	Female	402	25.10	5.50	
Pro-active personality	Male	400	31.98	3.88	0.089
	Female	402	32.43	3.55	

Table 4 shows the mean differences of undergraduate students' intrinsic and extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality based on their parents' educational background. It was discovered that 654 students had educated parents while 148 students had non-educated parents. This study found the intrinsic motivation to be higher in students whose parents were non-educated (32.55 ± 3.25) than those students whose parents were educated (32.09 ± 3.83). The difference in the mean intrinsic motivation was however not statistically significant (Sig. = 0.184). Based on the students' extrinsic motivation, students with non-educated parents had higher extrinsic motivation (28.16 ± 4.62) compared to the students with educated parents (28.08 ± 5.21). However, the difference in the students' extrinsic motivation was not statistically significant (0.878). Furthermore, students' self-awareness was found to be higher in students with educated parents (44.96 ± 4.95) than those with non-educated parents (44.74 ± 5.36). The difference in the students' self-awareness was however found not to be statistically significant (Sig. = 0.625).

The students' extra-curricular activities was found to be higher in students with educated parents (25.66 ± 5.53) when compared to students who had non-educated parents (25.41 ± 5.58). The difference discovered in the students extra-curricular activities was not statistically significant (Sig. = 0.613). Finally, students' pro-active personality did not have significant difference (Sig. = 0.324) between the students. However, the students with non-educated parents had higher pro-active personality (32.48 ± 3.74) when compared to the students who had educated parents (32.15 ± 3.72). This suggests that these traits develop independently of parental education.

Table 4. Differences of undergraduate students' intrinsic and extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality based on their parents' educational background.

	Parents' educational background	Frequency	Mean	Std. Deviation	Sig.
Intrinsic motivation	Educated	654	32.09	3.83	0.184
	No formal education	148	32.55	3.25	
Extrinsic motivation	Educated	654	28.08	5.21	0.878
	No formal education	148	28.16	4.62	
Self-awareness	Educated	654	44.96	4.95	0.625
	No formal education	148	44.74	5.36	
Extra-curricular activities	Educated	654	25.66	5.53	0.613
	No formal education	148	25.41	5.58	
Pro-active personality	Educated	654	32.15	3.72	0.324
	No formal education	148	32.48	3.74	

Table 5 presents the mean differences of undergraduate students' intrinsic and extrinsic motivations, self-awareness, extra-curricular activities and pro-active personality based on their ages. This study found 499 of the students to be between 18-20 years of age, 290 students to be between 21-25 years of age. 12 students were found to be between 26-30 years of age while only 1 student was 30 years or above. It was however, discovered that there was no significant difference in the mean levels of the students' intrinsic motivation (Sig. = 0.790), although the highest mean intrinsic motivation (32.67 ± 5.01) was found among students who were in the 26-30 years age category, while the least mean intrinsic motivation (29.00 ± 0.00) was found in the student who was 30 years or above. Whereas, students in both 18-20 years and 21-25 years age categories had in-between intrinsic motivation mean of 32.21. Furthermore, the extrinsic motivation of the students was found to be highest (28.25 ± 5.08) among those who were in the 18-20 age category and least (20.00 ± 0.00) in the student who was 30 years or above. Whereas, those students in the 21-25 years and 26-30 years age categories had mean extrinsic motivation of 27.89 ± 5.02 and 27.33 ± 7.62, respectively. However, the difference in the mean extrinsic motivation was found not to be statistically significant (Sig. = 0.296). Also the self-awareness of the students was found to be highest (45.32 ± 5.01) among students in the 18-20 years age category, while it was least (41.00 ± 0.00) in the student who was 30 years or above. However, students in the 21-25 years and 26-30 years age categories had mean self-awareness of 44.27 ± 4.97 and 44.42 ± 5.97, respectively. The difference in the mean self-awareness of the students was however found to be statistically significant (Sig. = 0.033).

Albeit, the extra-curricular activities of the students was found not to have significant difference (Sig. = 0.763) among the students. However, the highest extra-curricular activities (26.00 ± 0.00) was discovered in the student who was 30 years or above, while the least (24.00 ± 5.72) was discovered among students who were in the 26-30 years age category. Whereas, students in the 18-20 years and 21-25 years age categories had mean extra-curricular activities of 25.59 ± 5.59 and 25.73 ± 5.45, respectively. Finally, difference in the pro-active personality of the students was also found not to be statistically significant (Sig. = 0.896). However, the highest mean pro-active personality (32.58 ± 2.96) was discovered in the students who were in the 26-30 years age category, while it was least (30.00 ± 0.00) in the student who was 30 years or above. However, the students who were in the age categories of 18-20 years and 21-25 years had mean pro-active personality of 32.24 ± 3.73 and 32.14 ± 3.74, respectively.

Table 5. Mean differences of undergraduate students' intrinsic and extrinsic motivations, self-awareness, extra-curricular activities and pro-active personality based on their ages.

	Age category	Frequency	Mean	Std. Deviation	Sig.
Intrinsic motivation	18-20 years	499	32.21	3.79	0.790
	21-25 years	290	32.21	3.59	
	26-30 years	12	32.67	5.01	
	30 years and above	1	29.00	0.00	
Extrinsic motivation	18-20 years	499	28.25	5.08	0.296
	21-25 years	290	27.89	5.02	
	26-30 years	12	27.33	7.62	
	30 years and above	1	20.00	0.00	
Self-awareness	18-20 years	499	45.32	5.01	0.033
	21-25 years	290	44.27	4.97	
	26-30 years	12	44.42	5.97	
	30 years and above	1	41.00	0.00	
Extra-curricular activities	18-20 years	499	25.59	5.59	0.763
	21-25 years	290	25.73	5.45	
	26-30 years	12	24.00	5.72	
	30 years and above	1	26.00	0.00	
Pro-active personality	18-20 years	499	32.24	5.59	0.896
	21-25 years	290	32.14	5.45	
	26-30 years	12	32.58	5.72	
	30 years and above	1	30.00	0.00	

Table 6. Correlation among intrinsic and extrinsic motivations, self-awareness, extra-curricular activities, pro-active personality and academic performance of undergraduate students.

	Intrinsic Motivation	Extrinsic Motivation	Self-awareness	Extra-curricular activities	Pro-active personality	Academic Performance
Intrinsic Motivation	1					
Extrinsic Motivation	0.366**	1				
Self-awareness	0.044	-0.012	1			
extra-curricular Activities	0.019	0.071*	0.130**	1		
Pro-active Personality	0.008	-0.029	0.595**	0.214**	1	
Academic Performance	0.064	-0.094**	0.135**	-0.026	0.023	1

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Table 6 presents the correlations that exist among undergraduate students' intrinsic motivation, extrinsic motivation, self-awareness, extra-curricular activities, pro-active personality and their academic performance. This study found that there was medium correlation between students' intrinsic motivation and extrinsic motivation and the correlation was found to be statistically significant (r. = 0.366; Sig. = 0.000). However, this study found very low correlation between intrinsic motivation and self-awareness (r. = 0.044), extra-curricular activities (r. = 0.019), pro-active personality (r. = 0.008) and academic performance (r. = 0.064) of the students. The correlations were also found not to be statistically significant (p>0.005). Also, this study found the correlation between students' extrinsic motivation and self-awareness to be negative and very low (r. = -0.012) as well as pro-active personality (r. = -0.029). Meanwhile, the correlations were not statistically significant (p>0.05). However, significant but low correlations exist between students' extrinsic motivation and extra-curricular activities (r. = 0.071; Sig. = 0.045) as well as students' academic performance which is negatively low (r. = -0.094; Sig. = 0.008). Furthermore, there exist positive and relatively high correlation between self-awareness of the students and their pro-active personality (r. = 0.595; Sig. = 0.000). Also, there exist significant but low positive correlation between students' self-awareness and extra-curricular activities (r. = 0.130; Sig. = 0.000) as well as students' academic performance (r. = 0.135; Sig. = 0.000).

Extra-curricular activities index of the students was found to significantly correlate with their pro-active personality (r. = 0.214; Sig. = 0.000). Albeit, low and negative, but non-significant correlation also exist between the students' extra-curricular activities and their academic performance (r. = -0.026; Sig. = 0.458). Finally, this study found low and no significant correlation between students' pro-active personality and their academic performance (r. = 0.023; Sig. = 0.516).

Table 7 shows the interactive effects of intrinsic motivation, extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality on academic performance of undergraduate students. This study found that there were positive impacts exerted by intrinsic motivation (ß = 0.105; t = 2.825; Sig. = 0.005), extrinsic motivation (ß = -0.132; t = -3.516; Sig. = 0.000) and self-awareness (ß = 0.182; t = 4.217; Sig. = 0.000) on students' academic performance. This implies that a unit increase in undergraduate students' intrinsic motivation results in 0.105-increase in their academic performance. Also, a unit increase in the students' extrinsic motivation causes -0.132 decrease in the students' academic performance. Albeit, a unit increase in the students' self-awareness leads to 0.182-increase in their academic performance. However, students' extra-curricular activities had negative non-significant impact on academic performance of the undergraduate students (ß = -0.025; t = -0.688; Sig. = 0.492). Also, students' proactive personality had negative non-significant impact on the students' academic performance. (ß = -0.085; t = -1.937; Sig. = 0.053). Furthermore, the regression model shows R^2 value as 0.042; indicating that students' intrinsic motivation, extrinsic motivation, self-awareness, extra-curricular activities as well as their pro-active personality accounted for only 4.2% of the variance in academic performance of the undergraduate students in this study. However, the model was found to be significant ($\mathbf{F}_{5,796} = 7.051$; $\mathbf{R^2} = 0.042$; **Sig.** = 0.000).

Table 7. Effects of intrinsic motivation, extrinsic motivation, self-awareness, extra-curricular activities and pro-active personality of undergraduate students on their academic performance.

Model	**Unstandardized Coefficient** R^2=0.042 $F_{5, 796}$=7.051 p=0.000		**Standardized coefficient**	**t**	**Sig.**
	B	**Standard error**	**Beta**		
Intrinsic motivation	0.282	0.10	0.105	2.825	0.005
Extrinsic motivation	-0.258	0.073	-0.132	-3.516	0.000
Self-awareness	0.363	0.086	0.182	4.217	0.000
Ex. Curricular activity	-0.044	0.064	-0.025	-0.688	0.499
Pro-active personality	-0.228	0.118	-0.085	-1.937	0.053

DISCUSSION

These findings aligns with the studies of Buzdar et al. (2017), Ghaonta (2017), and Almalki (2019), all of which reported high levels of motivation among students in Pakistan, India, and Saudi Arabia respectively. However, contrasting findings were reported by Agustina et al. (2021), who observed low levels of student motivation in their respective studies. The current study also found that undergraduates exhibit a high level of proactive personality, supporting the results of Chen et al. (2021), and Chai et al. (2023), who emphasized students' tendencies to take initiative and act on their goals. In addition, a high level of self-awareness was observed, consistent with studies by Atmojo et al. (2020), and Lailatussaidah et al. (2021). However, this contrasts with Viskovich and De George-Walker (2019), who reported lower self-awareness levels. Finally, students showed low participation in extracurricular activities, a finding supported by Anjum (2021), but contradicted by Vicente and Barroso (2020) and De Vera and Queroda (2020).

This finding is consistent with past studies. Ghaonta (2017) and Raheem et al. (2024) similarly reported that intrinsic motivation varies significantly by gender. For self-awareness, findings from Mondal et al. (2023), and Raheem et al. (2024) support the present result, confirming higher levels of self-awareness among female students. Gender also significantly influenced extracurricular participation, consistent with Vicente and Barroso (2020), De Vera and Queroda (2020) and Muhammad et al. (2022), who found males more involved in such activities. These differences may reflect social norms shaping gendered engagement patterns. However, this study found no significant gender difference in extrinsic motivation and proactive personality, aligning with Adamma et al. (2018) who reported similar result.

Murayama (2022) noted that intrinsic and extrinsic motivations are shaped by personal interest rather than parental influence. Ryan and Deci (2020) similarly emphasized that while early family environment matters, personal experiences play a greater role in motivation development. Barrett (2017) added that self-awareness, involving cognitive and emotional growth, is cultivated individually. Al-Ansari et al. (2016) also observed that extracurricular participation is more peer- and interest-driven than parent-influenced. Ramadhani and Suharso (2020) linked proactive personality traits more to individual experiences than family background. However, Davis-Kean et al. (2021) argued that educated parents may indirectly influence these traits through supportive involvement and resources, even if not directly.

These findings suggests that these traits are largely stable across age groups. Intrinsic motivation, defined as engaging in activities for personal satisfaction, has been shown to remain consistent across the lifespan (Borkowski & Thorpe, 2023; Legault, 2020). While some studies, like Ferrer et al. (2022) and Mackenzie et al. (2018), suggest younger individuals may be more driven by novelty or achievement, these differences were not statistically significant. Similarly, extrinsic motivation also shows little age variation. Legault (2020) and Borkowski & Thorpe (2023) reported steady

levels across age groups, despite minor declines noted by Thompson (2023). Participation in extracurricular activities likewise appears unaffected by age, with research showing consistent involvement driven by interest and opportunity rather than age itself (Schuepbach, 2015). Furthermore, proactive personality traits, such as initiative-taking, were also found to be stable across age groups (Mammadov, 2022). Though minor variations were noted (Lee & Cho, 2019; Miller & Reed, 2023), none reached statistical significance, aligning with the present findings.

This aligns with the findings of Jesu Prakash and Vasimalairaja (2015), who reported that both self-awareness and self-motivation jointly influence students' academic outcomes in Biology. Similarly, Zambuk (2021) found that self-motivation and self-awareness interact to significantly affect academic performance among secondary school students in Bauchi State, Nigeria. Raheem *et al.* (2024) also confirmed that these psychological factors play a key role in students' academic success.

Conversely, the study found no significant relationship between extracurricular activities or proactive personality and academic performance. This supports the findings of Islam *et al.*, (2018), who observed that proactive personality does not predict academic outcomes. Abizada *et al.* (2020) also reported that participation in extracurricular activities had no meaningful effect on students' academic performance. However, this finding contrasts with that of Kong *et al.*, (2021), who found a positive, though non-significant, correlation between proactive personality and academic performance among nursing students in China.

CONCLUSION

Conclusively, this study highlights the high levels of both intrinsic and extrinsic motivation, pro-active personality, and self-awareness among undergraduate students. Despite these positive indicators, a low level of engagement in extracurricular activities was observed. Significant gender differences were found in intrinsic motivation, self-awareness, and extracurricular activities, while no significant gender differences emerged in extrinsic motivation and pro-active personality. Furthermore, the study revealed no significant relationships between students' motivational factors, self-awareness, and extracurricular activities based on parental educational background or age. Notably, motivation and self-awareness were found to significantly impact academic performance, whereas extracurricular activities and pro-active personality showed no significant influence. These findings provide valuable insights for enhancing student engagement and academic success.

RECOMMENDATIONS

In light of the results obtained from this study, school administrators are encouraged to create more engaging extracurricular programs to foster student development beyond academics. Also, self-awareness are crucial for student success, counsellors can develop personalized coaching or career planning services that encourage proactive behaviour and self-reflection among students, guiding them in their academic and personal lives. Furthermore, policymakers should consider creating initiatives that support student engagement in extracurricular activities, as these can contribute to holistic development. Finally, parents can play vital roles by encouraging their children to participate in extracurricular activities and fostering a supportive environment that promotes self-awareness and motivation.

Therefore, further studies are hereby suggested in the aspects of some other psychosocial and environmental variables that pertain to undergraduate students' learning or academic achievements.

REFERENCES

Abizada, A., Gurbanova, U., Iskandarova, A., & Nadirzada, N. (2020). The effect of extracurricular activities on academic performance in secondary school: The case of Azerbaijan. *International Review of Education, 66*(4), 487-507.

Adamma, O. N., Ekwutosim, O. P., & Unamba, E. C. (2018). Influence of extrinsic and intrinsic motivation on pupils academic performance in mathematics. *Online Submission, 2*(2), 52-59.

Agustina, E. T., Wahyudin, A. Y., & Pratiwi, A. A. (2021). The students' motivation and academic achievement at tertiary level: a correlational study. *Journal of Arts and Education, 1*(1), 1-14.

Al-Ansari, A., Al-Harbi, F., AbdelAziz, W., AbdelSalam, M., El Tantawi, M. M., & ElRefae, I. (2016). Factors affecting student participation in extra-curricular activities: A comparison between two Middle Eastern dental schools. *The Saudi Dental Journal, 28*(1), 36-43.

Almalki, S. A. (2019). Influence of motivation on academic performance among dental college students. *Open access Macedonian Journal of Medical Sciences, 7*(8), 1-24.

Anjum, S. (2021). Impact of extracurricular activities on academic performance of students at secondary level. *International Journal of Applied Guidance and Counseling, 2*(2), 1-14.

Aoyagi, K., Ishii, K., Shibata, A., Arai, H., Fukamachi, H., & Oka, K. (2020). A qualitative investigation of the factors perceived to influence student motivation for school-based extracurricular sports participation in Japan. *International Journal of Adolescence and Youth, 25*(1), 624-637.

Atmojo, S. E., Muhtarom, T., & Lukitoaji, B. D. (2020). The level of self-regulated learning and self-awareness in science learning in the covid-19 pandemic era. *Jurnal Pendidikan IPA Indonesia, 9*(4), 512-520.

Barbosa, A., Whiting, S., Simmonds, P., Scotini Moreno, R., Mendes, R., & Breda, J. (2020). Physical activity and academic achievement: an umbrella review. *International Journal of Environmental Research and Public Health, 17*(16), 1-14.

Barrett, A. L. (2017). *Establishing connections with mindful interactions: Impact of parent education on perceptions of self-awareness and mindful parenting practices (Master's thesis, The University of North Carolina at Charlotte)*, 1-23.

Borkowski, J. G., & Thorpe, P. K. (2023). "Self-regulation and motivation: A life-span perspective on under achievement". In: *Self-regulation of learning and performance* (pp. 45-73). Routledge.

Buckley, P., & Lee, P. (2021). The impact of extra-curricular activity on the student experience. Active *Learning in Higher Education, 22*(1), 37-48.

Bușu, A. F. (2020). Emotional intelligence as a type of cognitive ability. *Revista de Științe Politice. Revue des Sciences Politiques, 66*, 204-215.

Buzdar, M. A., Mohsin, M. N., Akbar, R., & Mohammad, N. (2017). Students' academic performance and its relationship with their intrinsic and extrinsic motivation. *Journal of Educational Research, 20(*1), 1-34.

Carden, J., Jones, R. J., & Passmore, J. (2022). Defining self-awareness in the context of adult development: A systematic literature review. *Journal of Management Education, 46* (1), 140-177.

Chai, H., Hu, T., & Niu, G. (2023). How proactive personality promotes online learning performance? Mediating role of multidimensional learning engagement. *Education and Information Technologies, 28*(4), 4795-4817.

Chen, P., Bao, C., & Gao, Q. (2021). Proactive personality and academic engagement: the mediating effects of teacher-student relationships and academic self-efficacy. *Frontiers in Psychology, 12*, 1-12.

Davis-Kean, P. E., Tighe, L. A., & Waters, N. E. (2021). The role of parent educational attainment in parenting and children's development. *Current Directions in Psychological Science, 30*(2), 1-12.

De Sisto, M., Huq, A., & Dickinson, G. (2022). Sense of belonging in second-year undergraduate students: The value of extracurricular activities. *Higher Education Research & Development, 41*(5), 1727-1742.

De Vera, M. R. G. T., & Queroda, P. G. (2020). Effects of Extra Curricular and Co-curricular Activities to the Academic Performance of Intermediate Pupils. *ASEAN Multidisciplinary Research Journal, 5*, 1-16.

Deng, Q., Zheng, B., & Chen, J. (2020). The relationship between personality traits, resilience, school support, and creative teaching in higher school physical education teachers. *Frontiers in Psychology, 11*, 1-9.

Fishbach, A., & Woolley, K. (2022). The structure of intrinsic motivation. *Annual Review of Organizational Psychology and Organizational Behavior, 9*, 1-9.

Gao, Q., Chen, P., Zhou, Z., & Jiang, J. (2020). The impact of school climate on trait creativity in primary school students: the mediating role of achievement motivation and proactive personality. *Asia Pacific Journal of Education, 40*(3), 330-343.

Ghaonta, I. (2017). Intrinsic and Extrinsic Academic Motivation of School Students of Shimla District. *International Journal of Scientific Engineering and Science, 1*(7), 24-28.

Griffiths, T. L., Dickinson, J., & Day, C. J. (2021). Exploring the relationship between extracurricular activities and student self-efficacy within university. *Journal of Further and Higher Education, 45*(9), 1294-1309.

Han, F., & Ellis, R. A. (2021). Patterns of student collaborative learning in blended course designs based on their learning orientations: a student approaches to learning perspective. *International Journal of Educational Technology in Higher Education, 18*(1), 1-9.

Islam, S., Permzadian, V., Choudhury, R. J., Johnston, M., & Anderson, M. (2018). Proactive personality and the expanded criterion domain of performance: Predicting academic citizenship and counterproductive behaviors. *Learning and Individual Differences, 65*, 41-49.

Javed, R., Qureshi, F. H., & Khawaja, S. (2022). Academic intrinsic motivation and learning engagement in mature students in private higher education institutions in the South of England. *European Journal of Education Studies, 9*(2), 1-7.

Jesu Prakash, M., & Vasimalairaja, M. (2015). Self-awareness and Self-motivation Has Stimulus on the Academic Concert of XI Standard Pupils in Biology Subject. Tamil nadu: *International Journal of Scientific Engineering and Applied Science (IJSEAS), 1*(9), 1-21.

Ketonen, E. (2017). *The role of motivation and academic emotions in university studies (Doctoral dissertation, Dissertation, University of Helsinki)*, 1-41.

Kong, L. N., Yang, L., Pan, Y. N., & Chen, S. Z. (2021). Proactive personality, professional self-efficacy and academic performance in undergraduate nursing students in China. *Journal of Professional Nursing, 37*(4), 690-695.

Lailatussaidah, L., Isti'adah, F. N. L., & Nugraha, A. (2021). Profile of self-awareness among junior high school students. ProGCouns: *Journal of Professionals in Guidance and Counseling, 2*(2), 62-72.

Legault, L. (2020). *Intrinsic and extrinsic motivation. Encyclopedia of personality and individual differences,* 2416-2419.

Mammadov, S. (2022). Big Five personality traits and academic performance: A meta‐analysis. *Journal of personality, 90*(2), 222-255.

Millunchick, J. M., Brennan‐Wydra, E., Henderson, T., Johnson, A., & Finelli, C. J. (2021). The role of college knowledge and proactive behavior on participation in cocurricular activities. *Journal of Engineering Education, 110*(1), 114-142.

Mondal, S., Mandal, C., Mura, G. C., & Paria, M. (2023). Self-awareness Skill among Students at Higher Secondary Level. *Asian Journal of Education and Social Studies, 43*(4), 22-29.

Muhammad, S., Kiazai, A. N., & Farooq, M. (2022). A Study on Effects of Co-Curricular Activities on Academic Achievements of Secondary School Students in District Quetta. *Science Journal of Social Research, 5*(1), 1-41.

Murayama, K. (2022). A reward-learning framework of knowledge acquisition: An integrated account of curiosity, interest, and intrinsic and extrinsic rewards. *Psychological Review*, *129*(1), 1-12.

Nonweiler, J., Vives, J., Barrantes-Vidal, N., & Ballespí, S. (2024). Emotional self-knowledge profiles and relationships with mental health indicators support value in 'knowing thyself'. *Scientific Reports, 14*(1), 1-9.

Owen, K. B., Foley, B. C., Wilhite, K., Booker, B., Lonsdale, C., & Reece, L. J. (2022). Sport participation and academic performance in children and adolescents: a systematic review and meta-analysis. *Medicine & Science in Sports & Exercise*, *54*(2), 299-306.

Raheem, M. A., Naz, S., & Nasir, M. (2024). Impact of self-motivation on the academic performance of university students: a comparative study of male and female students of university of education D. G. Khan Campus. *Annals of Human and Social Sciences, 5*(2), 195–202.

Ramadhani, R., & Suharso, P. L. (2020). "Effects of parental involvement, proactive personality, and gender on career decision self-efficacy among high school student". In: *3rd International Conference on Intervention and Applied Psychology (ICIAP 2019) and the 4th Universitas Indonesia Psychology Symposium for Undergraduate Research (UIPSUR 2019) (pp. 226-235)*. Atlantis Press.

Regueig, S. (2021). *Exploring the effects of emotional intelligence and self–awareness on teachers' teaching styles and learners' learning performance (Doctoral dissertation, Université Ibn Khaldoun-Tiaret-)*, 1-41.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 1-9.

Saleh, S., Ashari, Z. M., & Kosnin, A. M. (2018). Personality traits and intrinsic motivation on academic performance. *International Journal of Engineering & Technology*, *7*(4.28), 317-322.

Schuepbach, M. (2015). Effects of extracurricular activities and their quality on primary school-age students' achievement in mathematics in Switzerland. *School Effectiveness and School Improvement, 26*(2), 279-295.

Stevens, A. E., Abu-Ramadan, T. M., & Hartung, C. M. (2022). Promoting academic success in college students with ADHD and LD: A systematic literature review to identify intervention targets. *Journal of American College Health, 70*(8), 1-14.

Su, F., & Zhang, J. (2020). Proactive personality and innovative behavior: A moderated mediation model. *Social Behavior and Personality: an International Journal, 48*(3), 1-12.

Thompson, D. (2021). Proactive personality and academic performance among undergraduate students. *Journal of Applied Psychology, 38*(2), 176-191.

Vandell, D. L., Simpkins, S. D., Pierce, K. M., Brown, B. B., Bolt, D., & Reisner, E. (2022). Afterschool programs, extracurricular activities, and unsupervised time: Are patterns of among senior secondary school students in Bauchi State. *International Journal of Advances in Engineering and Management (IJAEM), 3*(9), 1512-1519.

participation linked to children's academic and social well-being? *Applied Developmental Science, 26*(3), 426-442.

Vicente, M. M., & Barroso, V. C. (2020). Extracurricular activities and academic performance: Differences by gender and public and charter School. *MLS Educational Research, 4* (1), 73-89.

Viskovich, S., & De George-Walker, L. (2019). An investigation of self-care related constructs in undergraduate psychology students: Self-compassion, mindfulness, self-awareness, and integrated self-knowledge. *International Journal of Educational Research, 95*, 109-117.

Zambuk, U. B. (2021). Achievement motivation and academic self-efficacy as correlates of academic performance