RESEARCH ARTICLE

EXPLORING THE DYNAMICS OF ACADEMIC PERFORMANCE: A COMPREHENSIVE ANALYSIS OF THE CORRELATION WITH STUDENTS' MOTIVATION

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ABSTRACT

The main focus of this research paper is to examine the correlation between students' motivation and their academic performance. A crucial connection needs to be established between motivated students and their academic achievement. Higher levels of motivation exhibit a significant impact on academic performance. Barriers to academic achievement include personal circumstances and learning disabilities. Moreover, the relationship between academic performance and students' motivation is not always straightforward due to complications involving student engagement. The study employs a primary quantitative data gathering method to collect relevant and topic-related data. Numerical information is collected to gain insights into key aspects of academic success. The collected data is statistically analysed using SPSS software. Utilizing 13 survey questions—3 related to demographics and 10 pertaining to variables—researchers gather information about the research topic. A total of 55 respondents from diverse categories participated in this data collection process. Motivation, self-belief, and various external factors significantly influence academic performance in this study.

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INTRODUCTION

A noteworthy connection needs to be established between students who are motivated and the optimal performance of these students. A higher level of motivation has a positive impact on academic performance. Therefore, motivated students are more likely to engage in academic performance (Raza, Furqan & Ilham, 2022). They are more active in the class and try to complete their assignment efficiently. Also, the additional learning opportunities help to attract students to be more engaged with their studies and to foster academic performance. Intrinsic motivation is another factor which has a significant effect on the performance of the educational sector. Moreover, it helps to enhance the genuine interest of students. Long-term academic success is another crucial factor that has to be facilitated with the aid of proper engagement of the learners (Carmona-Halty et al. 2021). Additionally, when the learners become intrinsically motivated by their education system, it has to facilitate the growth of their academic performance. On the other hand, belief in the ability to succeed helps the students become more motivated; therefore, the self-efficiency of the students becomes highlighted with the aid of this self-efficiency process (Kim, Hong & Song, 2019). Motivated students are capable of achieving various challenging goals. Eventually, it helps to develop academic performance. Proper goal setting inculcatesthe students to fathom the clear aspects of the academy. Therefore, it helps them to achieve the desired goals more effectively.

After that, the performance of the students has to be facilitated, and it helps to bring innovation within the education system (Paulsen & McCormick, 2020). Innovative ideas help to attract students and assist them to achieve their desired goals. It also benefits to foster academic performance and develop the growth of the skills of the students. Lack of motivation is an issue that has to be faced by the students, which has a negative impact on their educational performance (Li, 2020). Personal circumstances, as well as learning disabilities, are the barriers to academic performance. Additionally, correlation between the academic performance and students' motivation is not always straightforward; there are some complications between student engagement and academic performance. Motivation, and self-belief, the diverse types of external factors, have aneffective role on academic performance (Leenknecht et al. 2021). So, the individual differences bring complex aspects to academic performance. The achievements of the students are dependent on academic performance and a better structure of the academy also has a positive impact on student engagement (Tokac Novak & Thompson, 2019). A flexible environment helps to attract students, and they become more motivated with the education system. The aim, research objectives, research questions and hypothesis are presented as follows:

Setting clear goals helps to motivate students and to comprehend that for which they are working. When students are capable of finding relevance, they become motivated, as they find out about the future development of their careers (Burnette et al. 2020).
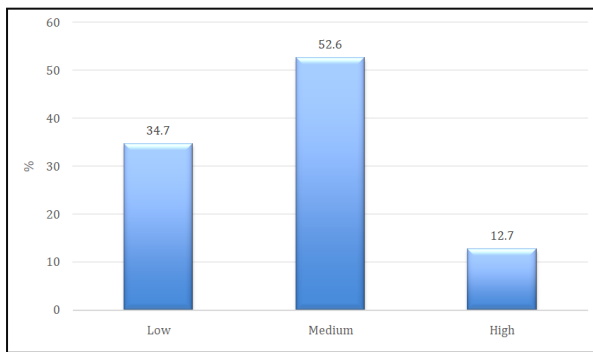
Figure 1. Relationship between motivation and academic performance (Source: Carmona-Halty et al. 2021)

On the other hand, a supportive environment has a positive impact on the success of the students; therefore, the performance of the students becomes fostered with the aid of a positive environment in the academy. Moreover, encouraging classrooms, a prominent level of technology, and an innovative learning process help to attract students, therefore, it helps to foster academic growth, and the bright future of the students has to be highlighted (Mahdy, 2020).
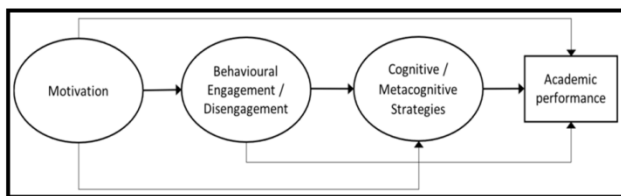

Figure 2. Education Science (Source: Burnette et al. 2020)

Proper feedback helps the students bring their progress and is capable of adjusting their efforts accordingly. Intrinsic reward is also a key factor that helps to motivate students; therefore, desired academic achievement has to be fostered by this technique. Teacher and peer relationships are also an effective factor that helps to motivate the students (Burnette et al. 2020). Recognizing, as well as celebrating the success of the students helps them to be more attracted to the education system, and capable of bringing fuel to their motivation.

LITERATURE REVIEW

Critically analyse the impact of Student Motivation on academic success: Student motivation is extremely important in determining their academic achievements. It can have a substantial impact on a student's attitude, behaviour, and academic accomplishment. It can be seen from the explanation of, Wu et al. (2020) that students that are motivated are more likely to vigorously participate in their studies. These students are more inclined to participate in class discussions, ask questions, and seek assistance when necessary. This participation promotes a deeper comprehension of the content and improves their overall learning experience (Partovi&Razavi, 2019). Motivated students are more likely to persist in the face of obstacles and disappointments. When faced with challenging tasks or tests, they are less inclined to quit, which can lead to improved long-term academic outcomes. On the other hand, students who are highly motivated are more likely to manage their time well (Mandasari, 2020). These are the student groups who are more likely to set goals, plan study schedules, and prioritize their academic obligations. This can lead to greater organizational and productivity, as well as academic success. Motivation often leads to improved work quality and learning standards for students. In this matter, Ibáñez et al. (2020) explained students who are driven to succeed will put in necessary time and effort to write well-researched, well-written papers, projects, and assignments. This can lead to improved grades and academic achievement. Students who are motivated have a more positive attitude toward learning. According to, Madigan & Kim (2021) motivated students are able to manage setbacks as growth opportunities rather than hurdles, and they are more willing to learn from their mistakes.
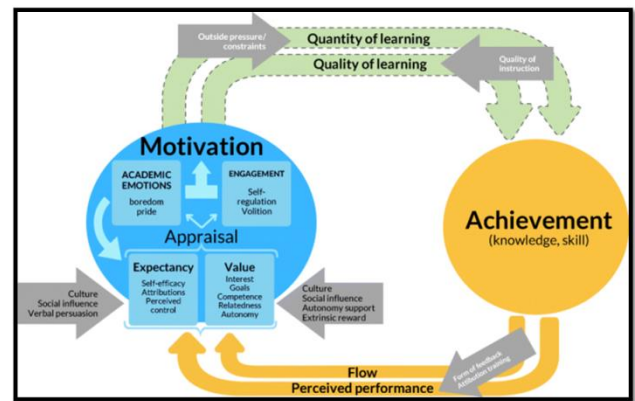

Figure 3. Educational Psychology (Source: Burnette et al. 2020)

This cheerful attitude can help them with academic performance. In this matter, Erbas & Demirer (2019) explained that students who are motivated are more likely to attend class on a regular basis. They realize the importance of attending lectures and participating in debates, which can result in a better knowledge of the topic and improved academic performance. Students who are motivated are more likely to establish successful study habits, such as active learning techniques, note-taking skills, and critical thinking abilities. These behaviours contribute to a better knowledge of the subject and academic success. Students who are initiative-taking can show systematic better accomplishment of goals for themselves. In this matter, Alhadabi&Karpinski (2020) stated these students strive for greatness and seek to perform at their best, which can lead to exceptional academic achievements. Students who are motivated can overcome procrastination, which is a typical impediment to academic success (Khanet al. 2019). Also, the motivated students are more willing to start their projects and studies for exams early and avoid last-minute cramming to avoid exam and project stress, showing better results at the end. Academic success can improve a student's self-esteem, and motivation is important in obtaining that success. As students achieve their academic goals, they acquire confidence in their talents, which can encourage them even more to succeed.

Investigating the Relationship between Student Motivation and Academic Performance: Investigating the link between student motivation and academic achievement is a strenuous but necessary field of educational research. According to, Baynard (2020) understanding the way motivation affects the academic performance of a student is able to help educators and policymakers build more effective student success initiatives. Motivation can refer to a variety of elements: intrinsic motivation, personal interest, extrinsic motivation, external incentives or consequences, and other motivational theories, such as self-determination theory or accomplishment goal theory (Howard et al. 2021). Clear establishment of the motivation of students helps in ensuring their scope in doing good overall. Grades, standardized test scores, course completion rates, and other markers of learning can all be used to assess academic success. Here, Ferrer et al. (2020) opined, that determining whatever measurements or criteria have been used to evaluate academic performance in studies are well aligned with the skill sets of students. Motivated students have an interest in learning as compared to others. In this matter, Camacho-Morles et al. (2021) mentioned, that despite the setbacks in academic performance, motivated students often step in front of any crucial question raised in class by teachers. A strong and rigid personality can be developed in a student in the future through such a motivated mindset from the beginning. According to, Howard et al. (2021) motivation helps to influence not only short-term academic achievement but also a student's educational and professional trajectory. Students who are highly motivated are more likely to continue further education and seek possibilities for personal and professional development. While personal motivation is important, external factors such as helpful professors, a suitable learning environment, and the availability of resources can all have an impact on a student's motivation and, hence, academic achievement.
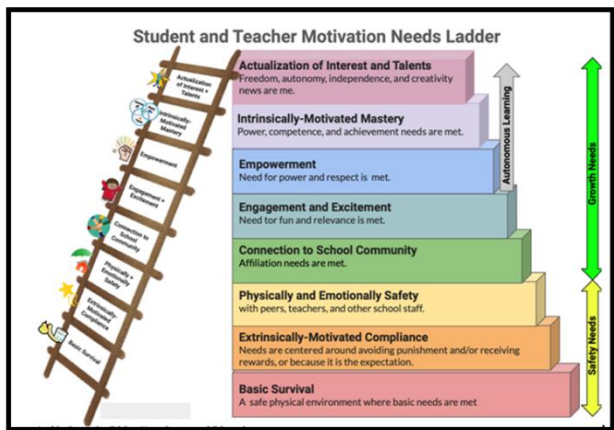
Figure 4. Relation between students and teacher (Source: Camacho-Morles et al. 2021)

As opined byMartinez et al. (2019) parental support plays the most crucial role in the constant motivation of a student regarding their studies. Encouraging children after their mistakes and suggesting doing better in future events can help them engine with their studies in a motivated manner (Baynard, 2020). Negative comments and feedback from teachers or powers regarding the inferior performance of an individual can be demotivated and discourage them from studies. Motivation and academic performance frequently form a positive feedback loop. The moment students achieve academic success, it can improve their confidence and motivation, resulting in even better performance (Leenknecht et al. 2021). Low motivation as a result of poor performance, on the other hand, is able to generate a cycle of underachievement. Students are better positioned to be motivated for self-actualization, including academic success when their physiological, safety, social, and esteem needs are met (Borah, 2021). Motivation is determined by the likelihood of success and the perceived value of the outcome. Students are more motivated when they believe they can complete a task successfully and appreciate the reward of that success. Therefore, the motivation of students and their academic performance have a positive and strong correlation.

METHODOLOGY

Primary quantitative data collection method is used in this study, therefore, with the help of this data collection technique, relevant, and topic-related data has to be collected. Biases of the data collection method have been eliminated with the aid of this data collection process, after that, subjectivity is the key aspect of this data collection method (Raza, Furqan & Ilham, 2022). With the aid of this data collection process, researchers are capable of gathering more relevant, as well as up-to-date data helps to analyse the impact of students' motivation to develop success, as well as the future growth of the students' facilitation. (Carmona-Halty et al. 2021). Numerical pieces of information are collected with the aid of this research study as it helps to understand the key aspects of academic success. Collected data has been analysed statistically with the aid of SPSS software. After that, with the support of the 13 survey questions, that is, 3 questions are based on demographics and 10 questions related to the variables, researchers are capable of gathering pieces of information about the research topic.In this study, 55 respondents from various categories tried to take part in this data collection technique. Based on their respondents, researchers tried to analyse the collected data. Moreover, descriptive analysis, model summary, ANOVA test, Coefficient test, and correlation test have been a part of this study. (Kim, Hong & Song, 2019). After that, with the support of these data analysis techniques, researchers are capable of identifying the significant relationship between the variables correlation and the students' motivation which helps to enhance the performance of the academy. A large sample size of data has to be analysed properly with the aid of this data collection process. Therefore, hypothesis testing also assists to identify the significant relationship between the variables.

Answers to what, who, and when questions are discussed properly with the aid of this data collection method (Paulsen & McCormick, 2020).Eventually, this research method helps to provide more extant to participants' answers.

FINDING AND ANALYSIS

Demographic Analysis

Gender: Figure 5analyses the response rate of the participants according to their gender. 59.6% of female participants were allowed to take part in this process which is the maximum response rate for participants. 31.6% of male participants took part in this process and 5.3% of participants did not prefer to take part in this data collection process. With the support of this response rate, researchers are capable of understanding the impact of academic performance to enhance students' motivation.
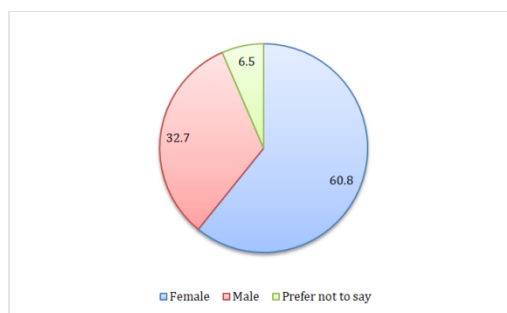

Figure 5.Gender (Source: IBM SPSS)

Category of Age: Figure 6 helps to identify the response rate of the participants. The maximum response rate of participants belonged between the 20-35 years age group, and their response rates are 35.1%. The lowest response rate is above 65 years of age group, and their response rates are 10.5%. After that, a 31.6% response rate is carried out by the 35-50-year-old age group and 50-65-year-old age group participants have a 19.3% response rate. As per this response rate, researchers are capable of understanding the rate of the responses on this topic.
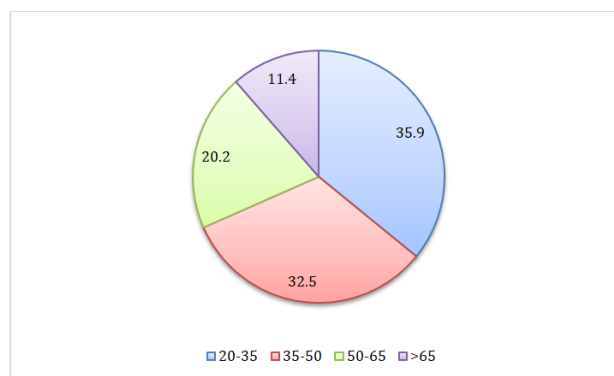

Figure 6. Category of age (Source: SPSS software)

Marital Status: Figure 7 is based on the response rate of the participants, and it shows that the maximum response rate is 70.2% and respondents belong to a married category. Therefore, the lowest response rates for participants are unmarried and their response rate is 26.3%.

Statistical Analysis

Descriptive Analysis: Table 1 helps to identify the mean, standard deviation, and standard error values of the variables. The mean value of the dependent variable (DV) is 3.51 and the standard deviation value is 1.169.

Aim	Research objectives	Research questions	Hypothesis
The principle aim of this research study is to investigate the correlation between academic performance and students' motivation.	RO 1: To identify the relationship between student's motivation and academic performance	RQ 1: What is the relationship between students' motivation and academic performance?	H1: There is a significance relationship between students' motivation and academic performance
	RO 2: To discuss the factors which have a positive impact on the student's motivation	RQ 2: Which factors have a positive impact on the student's motivation?	H2: There is a correlation between students' motivation and teachers' involvement
	RO 3: To analyse the significant effect of teachers on motivating students	RQ 3: What is the significant effect of teachers on motivating students?	H3: There is a positive correlation between students' motivation and academic structure
	RO 4: To find out the role of academic structure in motivating students	RQ 4: What is the role of academic structure in motivating students?	

Table 1. Descriptive analysis of different variables (Source: IBM SPSS)

Descriptive Statistics				Mean		Std. DeviationStatistic	Kurtosis	
	N Statistic	Minimum Statistic	Maximum Statistic	Statistic	Std. Error		Statistic	Std. Error
DV	55	1	5	3.51	0.158	1.169	0.156	0.634
IV1	55	1	5	3.89	0.161	1.197	0.072	0.634
IV2	55	1	5	3.69	0.170	1.260	0.013	0.634
IV3	55	1	5	4.04	0.158	1.170	1.407	0.634
IV4	55	1	5	3.89	0.148	1.100	0.794	0.634
Valid N(list wise)	55							

After that, the standard error value of this variable is .158. Therefore, the first independent variable (IV 1) conducted the mean value of 3.89 and the standard deviation value of 1.196. Moreover, this variable has .161 standard error values.

Figure 7. Marital Status (Source: IBM SPSS)

Therefore, the second and third independent variables have 3.69 and 4.04 mean values, and 1.260, and 1.170 standard deviation values, respectively. These two variables are conducted .170 and .158 standard error value. The mean value of fourth variable is 3.89.Moreover, standard deviation value is 1.100. The Standard error value of the fourth variable is .148.

Hypothesis 1: Hypothesis testing is an important part of this research study, therefore, with the aid of this testing process, correlation among the variables is identified. Table 2 is based on the details of the regression analysis of the first hypothesis. As per the model summary table, the significance value of the first independent variable is 0.001.

Table 2. Linear regression analysis (Source: IBM SPSS)

Therefore, according to The ANOVA table significance value of this identified variable is also 0.001. So, the t value of this variable is 13.133. Moreover, with the aid of this table, it is mentioned that there is an existing co-relation found between these first variables and the dependent variable, as their significance value is less than 0.005. After that, the beta value of this first variable as per the coefficient table is .875.
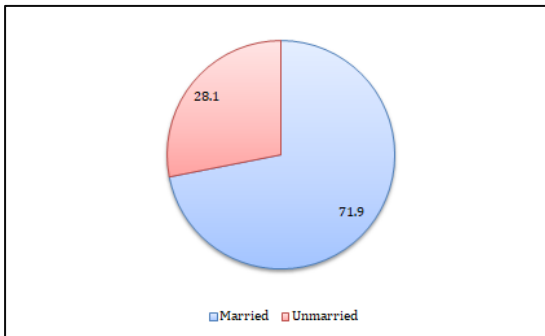
Hypothesis 2: According to Table 3, the significance value is .001 as per the ANOVA table, and the t value is 7.664. This significance value is less than 0.05, therefore, it is indicated that there is a positive relationship between these independent and dependent factors. As per this table, the R-value is .725; and the adjusted R square value is .517. Additionally, the R square value according to this table is .526.

Table 3. Linear regression analysis for Hypothesis 2 (Source: IBM SPSS)

Hypothesis 3: Table 4 helps to indicate the relationship of the third hypothesis with the aid of linear regression analysis. As per the model summary table, the significance value is .001 and the t value of this variable is 7.500. Therefore, it is noticed that there is a highly co-related relationship exists between these variables. Additionally, according to the model summary table, the R-value is .718, and the R square value is .515.According to this table, the adjusted R square value is .506. The beta value as per the coefficient table is .718.

Correlation Test: With the aid of table 5, the sig value of the first variable is .001, therefore, these two variables are co-related to each other. The significance values of the second and the third variables are both .001.These two variables also have highly correlated relationships with their dependent variables.

Table 4. Linear regression analysis for Hypothesis 3 (Source: IBM SPSS)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.718[a]	.515	.506	.822	.515	56.253	1	53	<.001	1.820

a. Predictors: (Constant), IV 3
b. Dependent Variable: DV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.971	1	37.971	56.253	<.001[b]
	Residual	35.775	53	.675		
	Total	73.745	54			

a. Dependent Variable: DV
b. Predictors: (Constant), IV 3

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.616	.401		1.536	.131
	IV 3	.717	.096	.718	7.500	<.001

a. Dependent Variable: DV

Table 5. Correlation test between a dependent variable and independent variables (Source: SPSS Software)

Correlations

		DV	IV 1	IV 2	IV 3	IV 4
DV	Pearson Correlation	1	.875**	.725**	.718**	.563**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	55	55	55	55	55
IV 1	Pearson Correlation	.875**	1	.640**	.757**	.708**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	55	55	55	55	55
IV 2	Pearson Correlation	.725**	.640**	1	.623**	.576**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	55	55	55	55	55
IV 3	Pearson Correlation	.718**	.757**	.623**	1	.737**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	55	55	55	55	55
IV 4	Pearson Correlation	.563**	.708**	.576**	.737**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	55	55	55	55	55

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

With the aid of this table, it is noticed that the financial stability of the investors is based on the proper strategy. After that, the sig value of the fourth variable is .001, this value is also less than 0.05, and therefore, a significant correlation is highlighted between these two variables. With the support of this correlation table, researchers are capable of understanding that, there is a significant relationship between academic performance and student motivation. This analysis also helps to collect real-time data and with the aid of this data analysis process, a significant correlation has to be identified.

DISCUSSION

The overall discussion about the research study is highlighted in this section. As per this study, it is highlighted that proper motivation helps the students to be more attracted to the education system. Therefore, it helps to enhance the overall performance of the education system. After that, a positive working environment is an effective way to attract students. With the aid of a flexible working environment, the desired goals of the students become fulfilled (Kim, Hong & Song, 2019). They are capable of discussing the fears, and weaknesses of the teachers, therefore, searchers are capable of providing an effective solution that helps the students to be more attracted to the education system. As per this study, it is understood that proper goal setting helps the students to understand the clear aspects of the academy and it helps them to achieve the desired goals more effectively. Also, the performance of the students has to be facilitated, and it helps to bring innovation within the education system (Carmona-Halty et al. 2021). Therefore, a positive relationship is highlighted with academic performance and student motivation.

Proper technology, innovative ideas, and motivation of the employees help to encourage students to be more attracted to the organization. In addition, proper feedback and reward helps students be more attracted to the education system, and it helps them enhance their efficiency in future (Raza, Furqan & Ilham, 2022). Therefore, this study also assists to understand that, recognizing, as well as celebrating the success of the students helps them to be more attracted to the education system, and capable of bringing fuel to their motivation. Educational development is the key factor which attracts students to become motivated, and it helps them to achieve academic success.

In the literature review section, researchers are able to briefly discuss the relationship between the student's motivation and academic performance. Therefore, with the aid of this relationship, future career development of the students has to be facilitated (Here, Ferrer et al. 2020). On the other hand, proper mindset, peer and teacher relationship, interest and passion help the students to be more attracted to the education system. Furthermore, intrinsic rewording also plays an effective role in tracking the progress of the students (Kim, Hong & Song, 2019). This study also benefits to understand that grades, standardized test scores, course completion rates, and other markers of learning can all be used to assess academic success. Whatever measurements or criteria have been used to evaluate academic performance in studies is well aligned with the skill sets of students.

CONCLUSION

In the introduction section of this study, a basic discussion about the relationship between the motivated students and their performance on the academic sector has to be discussed. Therefore, the aim of the research study is addressed in this section. In the same way, research objectives, and research questions play a significant impact on this study. With the aid of this study, researchers are capable of understanding that students ' motivation helps to enhance the performance of the academy. Following that, the significance of the research study is also highlighted within this section to understand the impact of academic performance on students' motivation. In the literature review section, researchers are capable of developing a theme which is based on the research objectives. Therefore, based on the relevant themes, a brief discussion about this research topic has to be facilitated. Positive and negative impacts of the teachers on the student's performance are also discussed within this section. Accordingly, the significant impact of the feedback and reward techniques to motivate students is also discussed within this study. In the methodology section, the data collection process has been identified. So, researchers are capable of collecting statistical indications with the aid of this primary data collection process. In the findings portion, researchers are allowed to analyse the collected data statistically with the support of the SPSS software. Moreover, based on the 13 survey questions, researchers are capable of gathering pieces of information about this topic. Consequently, descriptive analysis, model summary, ANOVA test, Coefficient test, and correlation test are included in this study. In the discussion portion, the overall discussion about the research topic has to be addressed and the positive and negative impact of academic performance on the students' motivation has to be discussed within this section of the study. Moreover, this research study helps to analyse the collected data with the support of the demographic, as well as statistical data analysis process.

DECLARATIONS

Conflicts of interest/Competing interests: Authors declare no conflict of interest and competing interests.

Ethics approval (include appropriate approvals or waivers): Not applicable.

Consent to participate: All authors agree to participate in this research.

Consent for publication: All authors agree to the publishing of the paper.

Availability of data and material: The author confirms that all data generated or analyzed during this study are included in this article.

Code availability (software application or custom code): Not applicable

Authors' contributions: Rachel Joseph: Data curation, Investigation, Resources, Software, Validation, Visualization, Writing – original draft and review & editing; Selvaraju Sivamani: Conceptualization, Formal Analysis, Methodology, Project administration, Supervision, Writing – original draft and review & editing**.**

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