



INFLUENTIAL EFFECT OF PERCEIVED STRESS AND ACADEMIC ENGAGEMENT ON ACADEMIC PERFORMANCE

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ABSTRACT

In Indian educational settings, academic success is equated with best academic performance. Hence, it's crucial to grasp the influential factors behind it. This research project aims to investigate the impact of perceived stress and academic engagement on academic performance. Utilizing both quantitative and qualitative research methods, data was collected from a diverse sample of students across various educational levels and disciplines. Measures of perceived stress, academic engagement, and academic performance were assessed through validated instruments and self-report measures.

The results indicate a significant correlation between perceived stress levels and academic engagement, suggesting that higher levels of perceived stress and academic engagement results in higher academic performance.

In conclusion, this study contributes to the existing body of knowledge by elucidating the complex interplay between perceived stress, academic engagement, and academic performance. By understanding these dynamics, stakeholders can develop evidence-based strategies to support students in navigating academic challenges and promoting their overall well-being and achievement.

Keywords: Perceived stress, Academic engagement, Academic performance.

1.INTRODUCTION

Perceived stress is the feelings or thoughts that an individual has about how much stress they are under at a given point in time or over a given time period.

Perceived stress incorporates feelings about the uncontrollability and unpredictability of one's life, how often one has to deal with irritating hassles, how much change is occurring in one's life, and confidence in one's ability to deal with problems or difficulties. It is not measuring the types or frequencies of stressful events which have happened to a person, but rather how an individual feels about the general stressfulness of their life and their ability to handle such stress. Individuals may suffer similar negative life events but appraise the impact or severity of these to different extents as a result of factors such as personality, coping resources,

and support. In this way perceived stress reflects the interaction between the individual and their environment which they appraise.

Wehlage, Rutter, Smith, Lesko & Fernandez (1989) has defined academic engagement as follows: The psychological investment needed to master and understand skills and knowledge explicitly taught in educational institutions. Academic engagement is defined as the interest level, participation and involvement that students try to show in learning both inside and outside the classroom. Academic engagement is more associated with academic performance. More engaged students are likely to have high levels of motivation, well-being which further contributes to their success.

Academic performance is defined as a student's ability to complete assignments, and it is assessed using objective criteria such as final course grades and grading point average (Carroll & Garavalia, 2004; Naser & Hamzah, 2018; Olivier et al., 2019). Education is seen as extremely important for an individual because it is required for obtaining good jobs, achievement and prospects for better living (Alsheikh, 2019; Mishra, 2019).

The relationship between perceived stress and academic performance is a bit complex. Some students have high resilience and maintain high level of academic performance and some others may face decline in academic performance.

But actively engaged students seek more support & guidance and perform well in the academics.

PROBLEM STATEMENT

This study examines the impact of perceived stress levels and academic engagement on the academic performance.

NEED FOR THE STUDY

It helps identify the specific factors that affect the student's engagement and the academic performance such as workload, social pressure and personal issues. By understanding the relationship between the three variables we can design programs to help the students in overcoming their issues. The study can also offer ways on how to make the student resilient when they high stress levels. Educational policies can also be framed according to needs of the students only when the relationship between perceived stress, academic engagement and academic performance is identified.

2.LITERATURE REVIEW

Perceived stress levels and academic engagement, along with various other factors like psychological factors have been widely studied for their impact on academic performance. Researchers at Malaysia's University of Technology MARA (UiTM) investigated how stress factors like health, social issues, and academic pressure affect Pre-Diploma Science students throughout a semester. They measured perceived stress levels at the beginning, middle, and end of the semester and compared them to academic performance. A crucial finding of the study is that students with higher perceived stress at the semester's end had a significantly lower academic performance. (Rafidah, K., Azizah, A., Norzaid, M. D., Chong, S. C., Salwani, M. I. & Noraini, I. 2009). There exists a significant negative correlation between perceived stress levels and academic performance, meaning students who felt more stressed tended to have lower grades. Interestingly, gender didn't seem to influence stress levels, but there was a difference between academic programs (Nadeem Talib and Muhammad Zia-ur-Rehman 2012). Psychological factors like self-esteem and academic self-efficacy were positively correlated with academic performance, suggesting that students with higher levels of self-esteem and academic self-efficacy tend to perform better academically. Conversely, Perceived stress showed a negative correlation with academic performance, implying that higher levels of stress may hinder academic achievement (Mohsen, Zeyad, Al Johani, Ehsan, Hussain, Fredrick, Andrew and Marcus; 2017). Low resilience, low optimism and high perceived stress resulted in poor academic performance in medical students.

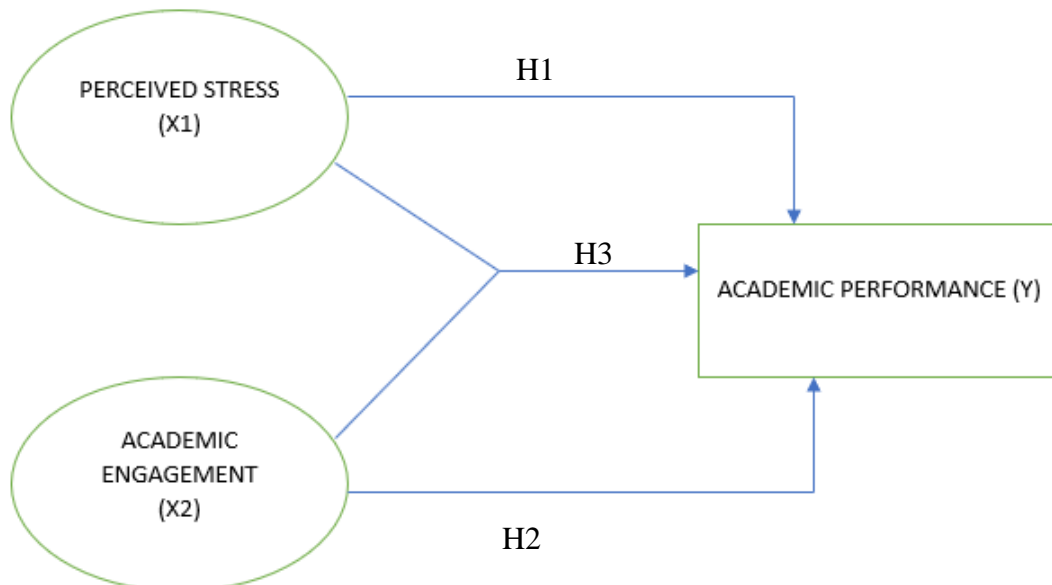
This demonstrates that academic performance and perceived stress are negatively correlated in clinical students (Popa-Velea, O.; Pîrvan, I.; Diaconescu, L.V. 2021).

Academic engagement significantly impacted how students progressed between early and late semester exams. Students who actively participated in class and completed homework performed better on the final exam than their baseline performance would predict. This suggests that engagement isn't just correlated with good grades, but may actually cause them by boosting the learning process and achievement (Gilman et al. 2009; Tinio 2009; Charlene Gerber, Nadia Mans-Kemp, Anton Schlechter Acta Academica 2013). Socio economic factors also seem to have a role in affecting learning engagement in students, which ultimately have an impact on academic performance. The findings revealed that low socio-economic status students tend to perform poorly in their academics than students with high socio-economic status (Sirin,2005; OECD, 2017; Wojtek Tomaszewski*, Ning Xiang and Mark Western). Cognitive engagement, a subdimension of academic engagement is found to be predictive of academic performance. A student's feeling of purpose for studying, along with their degree of engagement and motivation academically are important factors influencing their academic achievement. (Ugur Dogan 2015). Learning engagement plays a significant mediating role in the relation between intrinsic/extrinsic motivation and academic performance. The positive relation between learning engagement and academic performance which was widely confirmed, accepted and replicated by many researchers was once again substantiated (Hongbin Wu, Shan Li, Juan Zheng & Jianru Guo in 2020).

2.1.RESEARCH GAP

The existing studies does not discuss the relationship between perceived stress, academic engagement and academic performance. This study bridges the gap by exploring the effect perceived stress and academic engagement have on academic performance.

2.2.HYPOTHESIS



H1 - There is a significant relationship between Academic Performance and Academic engagement.

H2- There is a significant relationship between Perceived stress and Academic Performance.

H3- There is a significant relationship between Perceived stress and Academic engagement on Academic Performance.

3.RESEARCH METHODOLOGY

The research methodology refers to the structured procedure employed to collect, analyse, and decipher data with the aim of addressing research inquiries or exploring a particular subject. It encompasses the comprehensive structure and strategy embraced by researchers to carry out their investigations, ensuring that the research is thorough, credible, and dependable. The role of research methodology is paramount as it provides guidance to researchers throughout the entire research process, starting from establishing research objectives and designing the study, to gathering and scrutinizing data, and ultimately, deriving significant conclusions.

3.1.RESEARCH DESIGN

3.1.1.RESPONDENTS SELECTION

The respondents were 97 students pursuing their Undergraduate and Postgraduate degree and working professionals in Chennai with a major in the streams of Arts and Science. The Respondents' mean age was 21.10 years. Among them, 60% (n = 38) were male and 40% (n = 59) were female.

3.1.2.INSTRUMENT

All participants received a google form consisting of questions from two questionnaires – the Perceived Stress Scale (PSS) and the Utrecht Work Engagement Scale for Students (UWES – 9S), which were chosen based on the existing literature data supporting their adequacy to the aims of the study.

1.PERCEIVED STRESS

The perceived stress among the participants was assessed using the 10 item Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS comprehensively measures the degree of perceived stress across the past 30 days on a 5- point scale (0- never, 1- rarely, 2- sometimes, 3- fairly often, 4- very often). Six of the ten items were worded and scored in non-reverse direction (i.e., 'how often have you said that you were unable to control the important things in your life'). Four of the ten items were worded and scored in the reversed direction (i.e., 'how often have you said that things were going your way'). Total scores range from 0 to 40. The PSS scale shown to demonstrate acceptable levels of internal consistency and reliability with Cronbach's alpha measure of 0.775.

2.ACADEMIC ENGAGEMENT

The Utrecht Work Engagement Scale for Students (UWES- 9S; Schaufeli WB, Bakker WB et al., 2003) was used to gauge the participant's academic engagement. The UWES – Student measures students' academic engagement from three dimensions, i.e., vigor, absorption and dedication on a 5- point scale (0- never, 1- rarely, 2- sometimes, 3- fairly often, 4- very often). The UWES-9S scale proved to be internally consistent and reliable with a Cronbach's alpha of 0.87.

3.ACADEMIC PERFORMANCE

Participants' academic performance was indicated by their recent cumulative grade provided by their institutions.

All three scales showed acceptable internal consistency and reliability with a Cronbach's alpha of 0.71. In addition to these questionnaires, the participants were required to provide information about their age, gender and the degree they're currently pursuing.

3.2.DATA COLLECTION

All the variables mentioned above were collected from the respondents through the utilization of Google Forms, a widely used online survey platform known for its ease of administration, data management, and accessibility. Google Forms provided a convenient and efficient means to gather responses from a diverse pool of participants, ensuring a broad representation of individuals across various demographic backgrounds.

The utilization of an online survey platform like Google Forms facilitated the collection of large-scale data, allowing for a comprehensive analysis of the impact of Perceived stress on Academic Performance and Academic Engagement. The respondents were able to complete the survey at their convenience, ensuring minimal disruption to their daily routines. Additionally, the platform offered various question types and response formats, enabling the surveyor to receive unambiguous responses from the respondents.

Table 1: Questionnaire for Perceived Stress

PERCEIVED STRESS QUESTIONNAIRE	SCALE
In the last month, how often have you been able to control irritations in your life?	0-4
In the last month, how often have you been upset because of something that happened unexpectedly?	0-4
In the last month, how often have you felt confident about your ability to handle your personal problems?	0-4
In the last month, how often have you felt nervous and stressed?	0-4

Table 2: Questionnaire for Academic Engagement

ACADEMIC ENGAGEMENT QUESTIONNAIRE	SCALE
I feel energetic and capable when I'm studying or going to class	0-4
When I am doing my work as a student, I feel bursting with energy	0-4
I get carried away when I am studying	0-4

Table 3: Questionnaire for Academic Performance

ACADEMIC PERFORMANCE QUESTIONNAIRE
Current CGPA
<ul style="list-style-type: none">● Below 6● 6-7● 7-8● 8-9● Above 9

3.3. DATA ANALYSIS

We analyzed the survey responses by utilizing statistical techniques such as correlation and regression analysis to identify associations, and potential causal relationships between the study variables: perceived stress, academic engagement and academic performance.

4. RESULTS AND DISCUSSIONS

Data analysis involves examining, purifying, modifying, and structuring data to uncover valuable insights, draw informed conclusions, and aid in decision-making. It encompasses various methodologies and techniques, employed across a range of fields such as business, science, and social science. Data analysis contributes to a more evidence-based decision-making process, enhancing operational efficiency. Following data collection and processing, statistical approaches like Regression Analysis, correlation analysis and reliability analysis are utilized to analyze the data and assess the validity of formulated hypotheses.

4.1. DEMOGRAPHICS

The study involved 97 respondents, out of which 39% were male and 61% were female. A predominant portion of the respondents were undergoing undergraduate studies and postgraduate studies.

4.2. DESCRIPTIVE ANALYSIS

Descriptive statistics provide basic information about the central tendencies of the data, such as the mean, median, mode, range, and standard deviation.

➔ Descriptives

	N	Range	Mean	Std. Deviation	Variance
AP	97	3.00	8.5979	.87393	.764
PS- AVERAGE	97	1.60	3.0364	.40805	.167
AE-AVERAGE	97	1.89	3.0045	.45602	.208
Valid N (listwise)	97				

Figure 1: Descriptive analysis

The figure 3 shows descriptive statistics of three variables: perceived stress (PS-AVERAGE), academic engagement (AE-AVERAGE), and academic performance (AP).

Perceived stress (PS-AVERAGE): The mean score is 3.04, which suggests that students on average reported moderate levels of perceived stress. The standard deviation is 0.41, which suggests that there is a relatively small amount of variability in the data.

Academic engagement (AE-AVERAGE): The mean score is 3.00, which suggests that students on average reported moderate levels of academic engagement. The standard deviation is 0.46, which suggests that there is a slightly higher amount of variability in the data compared to perceived stress.

Academic performance (AP): The mean score is 8.60, with a standard deviation of 0.87. The mean score suggests that students on average performed moderately well academically.

4.3.RELIABILITY ANALYSIS

Reliability analysis is used to evaluate the consistency of a scale to determine the trustworthiness of its outcomes. It's measured using Cronbach's alpha. A Cronbach's alpha measure closer to 1 indicates that the items are highly correlated and consistently measure the intended construct.

The Cronbach's alpha scores of the three variables are:

- Perceived stress – 0.775
- Academic engagement – 0.870
- All three variables – 0.705

The measures (all closer to 1) indicate that all three variables consistently measure the intended constructs.

4.4.CORRELATION ANALYSIS

Correlation is a statistical tool that evaluate the direction and strength of relationship between two or more variables. It's measured using Karl Pearson's coefficient. The value ranges from -1 to +1. A score of +1 indicates a stronger correlation and -1 indicates a weaker relationship between the measured variables.

Correlation is used to evaluate the relationship between perceived stress, academic engagement and academic performance.

Correlations

		PS- AVERAGE	AP	AE-AVERAGE
PS- AVERAGE	Pearson Correlation	1	.842**	.919**
	Sig. (2-tailed)		<.001	<.001
	N	97	97	97
AP	Pearson Correlation	.842**	1	.900**
	Sig. (2-tailed)	<.001		<.001
	N	97	97	97
AE-AVERAGE	Pearson Correlation	.919**	.900**	1
	Sig. (2-tailed)	<.001	<.001	
	N	97	97	97

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

Figure 2: correlation of perceived stress, academic engagement and academic performance

Correlation analysis shows a strong positive relation between the independent variables (x1= Perceived stress, x2= Academic engagement) and dependent variable (y= Academic performance).

Perceived stress (PS-AVERAGE) and academic engagement (AE-AVERAGE): The correlation coefficient is 0.842. This indicates a strong positive correlation, suggesting that students who reported higher levels of perceived stress also reported higher levels of academic engagement.

Perceived stress (PS-AVERAGE) and academic performance (AP): The correlation coefficient is 0.919. This indicates a very strong positive correlation, suggesting that students who reported higher levels of perceived stress also reported higher academic performance.

Academic engagement (AE-AVERAGE) and academic performance (AP): The correlation coefficient is 0.900. This indicates a very strong positive correlation, suggesting that students who reported higher levels of academic engagement also reported higher academic performance.

4.5.REGRESSION ANALYSIS:

4.5.1IMPACT OF PERCEIVED STRESS (X1) on ACADEMIC PERFORMANCE (Y)

The regression analysis done to test the hypothesis if there is any significant relationship between perceived stress (X1) and academic performance(Y) ended with a significant p value (<0.05) and an adjusted R Square value of 0.710, which rejects the null hypothesis thereby upholding the alternate hypothesis that perceived stress have an impact on academic performance of students.

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PS- AVERAGE ^b		Enter

a. Dependent Variable: AP

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842 ^a	.710	.707	.47338

a. Predictors: (Constant), PS- AVERAGE

b. Dependent Variable: AP

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.031	1	52.031	232.195	<.001 ^b
	Residual	21.288	95	.224		
	Total	73.320	96			

a. Dependent Variable: AP

b. Predictors: (Constant), PS- AVERAGE

Figure 3: Regression statistic for X1 and Y

4.5.2.IMPACT OF ACADEMIC ENGAGEMENT (X2) ON ACADEMIC PERFORMANCE (Y)

The regression analysis done to test the hypothesis if there is any significant relationship between academic engagement(X2) and academic performance(Y) ended with a significant p value (<0.05) and an adjusted R Square value of 0.810, which rejects the null hypothesis thereby upholding the alternate hypothesis that academic engagement has an impact on academic performance of students

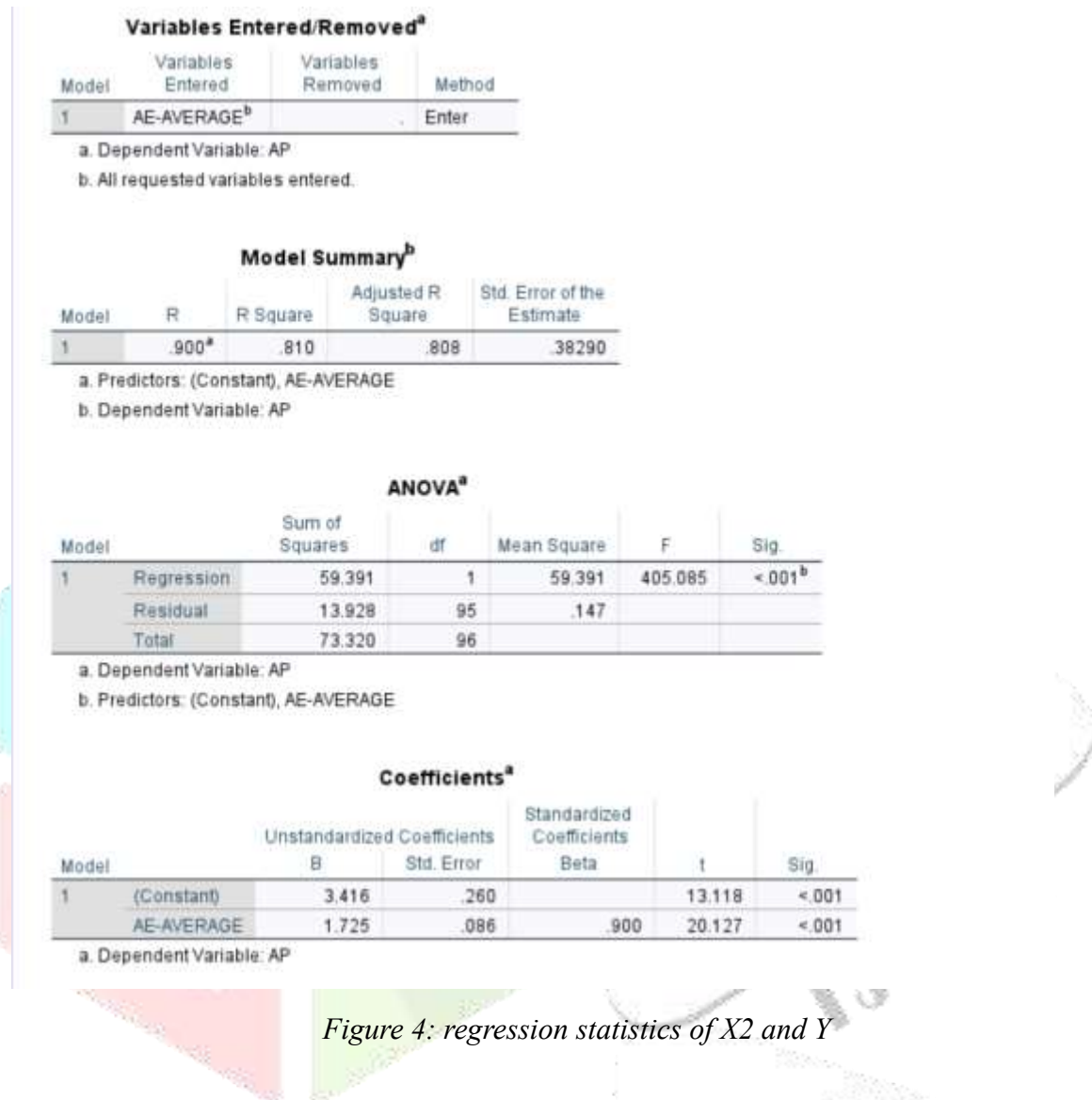


Figure 4: regression statistics of X2 and Y

4.5.3.IMPACT OF PERCEIVED STRESS(X1) AND ACADEMIC ENGAGEMENT(X2) ON ACADEMIC PERFORMANCE(Y)

The regression analysis done to test the hypothesis if there is any significant relationship between perceived stress(X1), academic engagement(X2) and academic performance(Y) ended with a significant p value (<0.05) and an adjusted R Square value of 0.811, which rejects the null hypothesis thereby upholding the alternate hypothesis that both perceived stress and academic engagement have an impact on academic performance of students.

Model	Variables Entered	Variables Removed	Method
1	AE-AVERAGE, PS- AVERAGE ^b		Enter

a. Dependent Variable: AP

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901 ^a	.811	.807	.38346

a. Predictors: (Constant), AE-AVERAGE, PS- AVERAGE

b. Dependent Variable: AP

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.498	2	29.749	202.318	<.001 ^b
	Residual	13.822	94	.147		
	Total	73.320	96			

a. Dependent Variable: AP

b. Predictors: (Constant), AE-AVERAGE, PS- AVERAGE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	3.299	.295		11.186	<.001	2.713	3.884
	PS- AVERAGE	.207	.244	.097	.851	.397	-.276	.691
	AE-AVERAGE	1.554	.218	.811	7.126	<.001	1.121	1.987

a. Dependent Variable: AP

Figure 5: Regression statistics of X1, X2 and Y

5.CONCLUSION

This research project aimed to examine the influential effect of perceived stress on academic engagement and academic performance. The findings of the study indicate that perceived stress and academic engagement have significant impacts, both individually and collectively, on the academic performance of students.

Perceived stress, encompassing feelings of uncontrollability, unpredictability, and the ability to cope with life's stressors, plays a crucial role in shaping students' academic outcomes. It reflects the interaction between individuals and their perceived stressfulness of life circumstances. Meanwhile, academic engagement, which refers to students' psychological investment and active involvement in learning, is strongly associated with academic performance. Engaged students demonstrate higher levels of motivation, well-being, and success in their academic pursuits.

The relationship between perceived stress and academic performance is complex. While some students with high resilience can maintain their academic performance despite stress, others may experience a decline. However, actively engaged students seek support and guidance, leading to improved academic performance.

This study highlights the need to identify specific factors that influence student engagement and academic performance, such as workload, social pressure, and personal issues. By understanding the interplay between perceived stress, academic engagement, and academic performance, effective programs and interventions can be developed to support students in overcoming challenges. Additionally, educational policies can be tailored to address the needs of students in managing perceived stress and enhancing academic engagement.

The literature review conducted in this research project examined the contributions of academic motivation, academic self-efficacy, and student engagement to academic performance. The findings from previous studies emphasized the predictive role of cognitive engagement, academic motivation, and self-efficacy in determining academic success.

In summary, this research project sheds light on the significant influence of perceived stress and academic engagement on academic performance. It provides valuable insights for educators, policymakers, and researchers to develop strategies that promote student well-being, resilience, and academic achievement. By addressing the challenges associated with perceived stress and fostering a supportive learning environment, educational institutions can enhance student outcomes and contribute to their overall success.

5.1.RECOMMENDATION

This research has found statistically significant positive correlations between perceived stress, academic engagement, and academic performance. The study revealed that perceived stress and academic engagement aggregately and independently have positive effect on the academic performance. The scope for future research in line with this research would be:

- 1) Investigate more moderating and mediating factors that might potentially have an effect on the academic performance of the students. For instance: the effect of motivational factors on academic engagement, self-efficacy and attitude towards academic curriculum affect academic engagement and ultimately academic performance.
- 2) Explore why students experiencing high stress report high engagement and how this engagement relates to effective learning.
- 3) Investigate potential negative consequences of stress-related engagement (e.g., burnout) that might have a significant adverse impact on the academic performance of students.

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