

# Self-Esteem And Academic Procrastination: The Role Of Time Management And Self-Regulation As Mediators

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## Abstract:

The practice of putting off academic work till the last minute is quite prevalent among undergraduate students. Using time management and self-regulation as mediators, this study aims to examine how academic procrastination affects students' sense of self-esteem. To understand the correlation, we used protection motivation theory where self-esteem is considered as threat, academic procrastination is the behavior, poor time management as threat appraisal and self-regulation is considered as coping appraisal. The research is conducted on undergraduate students selected through convenience sampling method and primary data are collected through survey questionnaire. Inferential, demographic, and descriptive analysis is performed to analyze the data and the findings will suggest probable solution to prevent or reduce the tendency of academic procrastination among undergraduate students, especially those who are suffering from low self-esteem.

**Keywords:** Academic Procrastination; Self-esteem; Self-regulation; Time management; Protection Motivation Theory.

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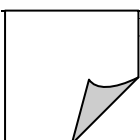
## I. Introduction

Academic procrastination is the act of delaying or postponing academic tasks, such as studying, writing papers, or completing assignments, despite knowing that doing so may have negative consequences. This behavior is often triggered by a lack of motivation or interest in the task, fear of failure, poor time management, low self-confidence, or the presence of competing distractions or obligations. Academic procrastination can have a significant impact on a student's academic performance and overall well-being, and it is a topic of ongoing research in the fields of psychology and education. Research has shown that procrastination can have a negative impact on academic performance, mental health, and well-being. Various factors have been identified as contributing to academic procrastination; self-esteem and self-regulation have been found to play a significant role.

Self-esteem, or an individual's overall evaluation of themselves, has been found to be negatively associated with academic procrastination. Low self-esteem individuals may procrastinate as a way to avoid potential failure and the negative self-evaluations that may result from it. Self-regulation, or the ability to control one's thoughts, emotions, and behaviors, has also been found to be related to academic procrastination. Individuals with poor self-regulation may struggle to plan, prioritize and execute tasks effectively, leading to procrastination.

Time management, the ability to use one's time effectively and efficiently, has been found to be a key mediator in the relationship between self-esteem and academic procrastination. Individuals with low self-esteem may struggle with time management, leading to procrastination. Similarly, self-regulation has been found to be a mediator in the relationship between time management and academic procrastination. Individuals with poor self-regulation may struggle to effectively manage their time, leading to procrastination.

Although procrastination has become quite common among undergraduate students, there are still many factors that should be analyzed and examined to determine the reasons behind academic procrastination and also, to find a solution for this tendency. A lack of motivation can result from a number of factors, such as



the following: unpleasant, boring, or uninteresting tasks, as well as unclear or underestimated task objectives; a lack of academic skills; a lack of self-efficacy; a lack of time management; and a sense of failure (I don't want to fail, even after offering it my all), or a fear that succeeding will put one in the spotlight. A fear that succeeding will put one in the spotlight (feeling as if tasks are being imposed from the outside), A person's inability to exert self-control (such as waiting for the appropriate mood, acting on impulse, or being side-tracked) and their susceptibility to the persuasion of their contemporaries are two of the many factors that might contribute to their lack of motivation [1].

Based on the protective motivation theory, prior studies have established a connection between students' sense of self-worth and their propensity for academic procrastination [2]. But other factors and variables are yet to be researched to measure the relationship among them. So, the current study aims to investigate the relationship between self-esteem, self-regulation, time management and academic procrastination. The study will examine the role of time management and self-regulation as mediators in the relationship between self-esteem and academic procrastination. The results of this study will have important implications for understanding and addressing academic procrastination.

The research is focused on academic procrastination tendency of undergraduate students, especially those who are facing low self-esteem, and this research represents the relationship between academic procrastination and self-esteem, focusing on the role that self-efficacy in time management and the ability to self-regulate play as mediators in that relationship. In this study, the following research questions are put forth—

1. What is the core relationship between academic procrastination and self-esteem?
2. Does students' poor time management influence their academic procrastination behavior as a threat appraisal?
3. Can self-regulation be considered as a coping mechanism for students' academic procrastination behavior?

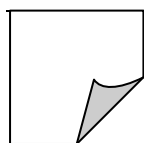
## **II. Literature Survey**

### ***Academic Procrastination***

The concept of procrastination is evolved from behavioral theories where it is defined as a “task specific avoidance behavior”[3]. Rozental and Carlbring[4], explained the idea of procrastination through reinforcement theories where academic procrastination is dependent on punishments and rewards. This theory suggests that students that are more likely to procrastinate are either rewarded for this behavior or were not punished enough [3]. There are some students who have a history of successful procrastination, or a tendency to find more rewarding activities than studying [5]. Academic procrastination theories have evolved over time to incorporate cognitive and cognitive-behavioral components. Academic procrastination is characterized as a lack of self-regulation [6]. This means that a person is unable to monitor, manage, or exert control over his or her thoughts, behaviors, emotions, and performance in accordance with the importance of the work. These days, academic procrastination has grown to be a major issue for students in higher education [7]. Students who are more likely to put off finishing their assignments until the very last minute will definitely have bad academic performance and grades, which will eventually have an effect on their whole academic life as well as the degree of enjoyment they take in their studies[6].

### ***Self-Esteem***

Self-esteem is the belief in one's own abilities or value. How a person views himself, his capabilities, and his limitations is defined by his or her self-esteem[8]. Higher levels of happiness and contentment, better relationships, and better physical and mental health are all often linked to high levels of self-esteem. Conversely, low self-esteem can lead to a range of negative consequences, including academic procrastination, low confidence, and difficulty achieving personal goals. Low confidence is another negative outcome that is often associated with low self-esteem. Confidence is the belief in one's own abilities, judgment, and decision-making skills [9]. Students with low self-esteem may struggle with confidence in their academic abilities, leading to a lack of motivation and engagement in their studies. This can also affect their social interactions, as they may feel hesitant to participate in class discussions or seek help from teachers or peers. Moreover, Procrastination is a typical strategy adopted by persons who have poor self-esteem because they feel that any lack of competence implies a lack of value as a person. These individuals believe that they should be able to do everything perfectly [10]. Steel's [8] meta-analysis of 33 research with a total of 5748 participants found that those who procrastinate tend to have lower levels of self-esteem. The findings demonstrated a statistically significant negative weighted average correlation ( $r = -.27$ , confidence range for 95 percent:  $-.31$  to  $-.24$ ). Klassen et al. [11] discovered that academic procrastination among undergraduate students was negatively predicted by a lower level of self-esteem. If researchers have a better grasp of the numerous mediators that exist between low self-esteem and academic procrastination, they will be able to assist university students by designing more effective treatments.



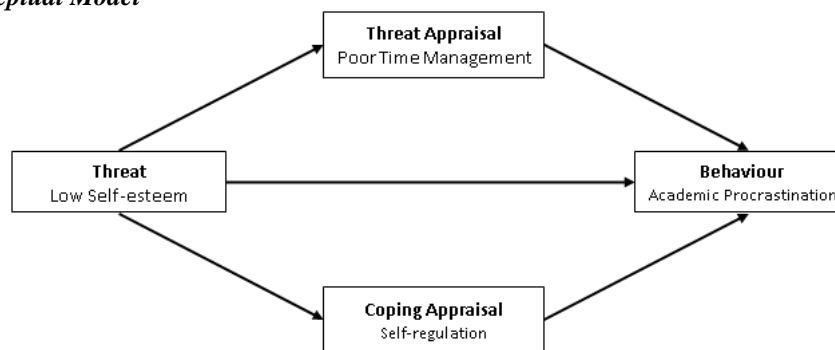
### **Self-Regulation**

Self-regulation refers to the ability of an individual to control their thoughts, emotions, and behaviors in order to achieve specific goals or objectives. It is a complex and multi-faceted construct that encompasses various subprocesses, such as self-monitoring, planning, goal-setting, and impulse control. Self-regulation is considered a key aspect of psychological functioning and is critical for a wide range of life activities, including academic performance, occupational functioning, and overall well-being. Recent studies on procrastination have concentrated on the assumption that a lack of self-regulation is the root cause of procrastination [8], [12]. According to Senecal et al. [13], procrastination is strongly linked to the difficulties pupils have self-regulating their academic habits. Self-regulation concerns such as procrastination and obesity (as well as excessive debt) may be on the increase, according to Steel's survey of 216 articles [8]. Near the conclusion of his paper, Steel emphasizes the significance of procrastination research in understanding the connections between personality traits, performance, and motivation. Procrastination was predicted by metacognitive self-regulation more than academic self-efficacy beliefs, according to Wolters [12], who looked at the connection between procrastination and self-regulated learning. For the most part, research suggests that procrastination is associated with a lack of self-regulation, and that better understanding of procrastination requires a focus on self-regulation.

### **Time Management**

Time management refers to the ability to effectively and efficiently plan, prioritize, and execute tasks in order to achieve specific goals or objectives. It involves setting priorities, making a schedule, and allocating time and resources effectively to achieve maximum productivity and effectiveness. Time management is a critical aspect of personal and professional functioning and essential for achieving academic and occupational success, as well as overall well-being. Research in the field of psychology has shown that time management is positively associated with a wide range of positive outcomes, such as academic achievement, occupational success, and well-being. However, it is also known that time management can be hindered by various factors, such as procrastination, poor self-regulation, and lack of motivation, which can lead to negative outcomes. Procrastination and time management are closely related and can have a negative impact on one another. Procrastination can undermine an individual's ability to manage their time effectively, as it involves delaying or avoiding tasks that are necessary for achieving one's goals [14]. This can lead to a build-up of unfinished tasks or a lack of progress towards one's goals, which can be frustrating and demoralizing. In turn, poor time management skills can contribute to procrastination, as individuals may struggle to plan and organize their time effectively, leading to a lack of motivation or a sense of being overwhelmed [15]. This can create a vicious cycle, as the negative consequences of procrastination may further undermine an individual's time management skills and make it more difficult for them to overcome procrastination in the future. There are several strategies that individuals can use to improve their time management skills and overcome procrastination. One approach is to set clear and specific goals, which can help to focus one's attention and provide a sense of direction [16]. It is also important to establish a schedule or routine that helps to prioritize tasks and allocate time effectively [14]. Other strategies include breaking large tasks into smaller, more manageable chunks, using time management tools such as calendars or to-do lists, and learning to manage distractions and interruptions [17].

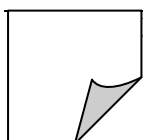
### **Proposed Conceptual Model**



**Figure 1** Conceptual Model

Based on the conceptual framework derived from theory, the following hypothesis are developed:

- H<sub>1</sub>:** There is a significant positive relationship between Low Self-esteem and Poor Time Management.
- H<sub>2</sub>:** There is a significant negative relationship between Low Self-esteem and Self-regulation.
- H<sub>3</sub>:** There is a significant positive relationship between Low Self-esteem and Academic Procrastination.
- H<sub>4</sub>:** There is a significant positive relationship between Poor Time Management and Academic Procrastination.
- H<sub>5</sub>:** There is a significant negative relationship between Self-regulation and Academic Procrastination.



- H<sub>6</sub>:** Poor Time Management plays a mediating role between Low Self-esteem and Academic Procrastination.  
**H<sub>7</sub>:** Self-regulation plays a mediating role between Low Self-esteem and Academic Procrastination

### III. Materials And Methods

#### *Design and Sampling*

The quantitative approach is used in accordance with the study's goals and objectives. Using a well-designed survey questionnaire, primary data is gathered for the study. The surveys will be conducted in English. Deductive approaches from existing literature will be used to gather the research's constructs. The survey is conducted using an online survey questionnaire through Google form. The study is conducted on undergraduate students from two different categories of institutes (Engineering University and General University). The total population will be 10,878. The breakdown is shown in table 1.

**Table 1** Research Area and Population

University	Population	Source
Khulna University of Engineering and Technology (KUET)	3,913	KUET website
Khulna University (KU)	6,965	KU website
Total Population	<b>10,878</b>	

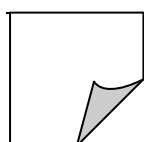
For the study, the **Non-probability Convenience Sampling Method** is used where the sample respondents are selected based on the willingness of the respondents. This technique is commonly used for research that has a large population and the entire population are eligible to be the sample. The number of samples is determined based on the criteria of data analysis. As the researchers have intended to use Structural Equation Modelling (SEM) method, the minimum sample needed to apply SEM model efficiently in IBM AMOS is 200. So, the researchers have collected **212 samples**[18].

#### **Procedure**

Descriptive statistics, Frequency analysis, Cross tabulation, Normality test and Reliability test-Cronbach's Alpha were done in SPSS version 26 for Windows. IBM AMOS version.19 was used for further Normality, Reliability and Validity test using measure models and Confirmatory Factor Analysis (CFA). After that, AMOS 19 was used to create a SEM model that portrayed the comprehensive relationship between all of the study's variables. For this research, Kolmogorov-Smirnova and Shapiro-Wilk test is done in SPSS. Also, Skewness and Kurtosis analysis of all the construct and their items are done using SPSS AMOS for further normality analysis.

The data of this research was analyzed in three steps. These are –

1. **Demographic Data Analysis:** Demographic Data reflects the characteristics of the samples. For this research, students' gender, educational institute and academic performance (CGPA) are collected for descriptive analysis. It includes –
  - Frequency Analysis
  - Normality Test
2. **Measurement Model Analysis:** In AMOS the first stage is to reach the measurement model to connect with the latent variables. It also helps to use many independent or dependent variables. The main purpose of this study is to find out both the model's and the constructs' reliability, validity, and Normality. The reliability test ensures the stability and validity test ensures the accuracy among the variables. It includes –
  - Confirmatory Factor Analysis (CFA) or Model Fit test
  - Construct Reliability Test
  - Cronbach's Alpha Test
  - Composite Reliability Test
  - Construct Validity
  - Convergent Validity Test
  - Discriminant Validity – Fornell and Larcker Criterion
3. **Structural Model Analysis:** Structural modelling is a statistical technique that is used to analyze the relationships between variables. The purpose of the study is to forecast the output layer data using the input feature data that focuses on the structural model. It includes –
  - Multiple Regression
  - Path Co-efficient Model
  - Mediation Analysis



**Measures**

1. Academic Procrastination
2. Self-esteem
3. Self-regulation
4. Time Management

**Pilot Test**

For this research, pilot test is used to test the feasibility of the research design, the reliability and validity of measurement tools, the clarity of instructions, or the logistics of data collection and analysis [19]. Pilot tests were also used to estimate the sample size needed for the main study and to assess the potential impact of the research on the participants [20].

**Pilot Test 1:** For this research, pilot tests were run two times. As, initially the questionnaire had 24 items, the pilot study was done on 32 people as sample size should be greater than number of items on questionnaire [20]. The first pilot study had shown frequency analysis to detect any missing value. Then the reliability test, Cronbach’s Alpha was performed. The result of reliability test was poor and the correlation of correlated items were negative due to negative average covariance. As a result, the model did not fit in AMOS either. So, the items on the questionnaire were revised and a second pilot test was performed.

**Pilot Test 2:** In the second pilot study, sample size was 25 and the number of items of the questionnaire was 22 as it was improvised based on reliability and validity. The Cronbach's Alpha test was then conducted, and this time, all of the Alpha values were over the acceptable level. When the data was entered into IBM AMOS, it demonstrated high reliability and a good match in the structural model. So, the second pilot test proved the reliability and validity and gave insights to proceed further with the main research. A comparative reliability analysis of both pilot tests is given in Table – 2.

**Table 2** Reliability Statistics of Pilot test 1 and 2

Reliability Statistics – Cronbach’s Alpha Test				
Recommended Alpha value = >0.60				
Constructs	Pilot Test 1		Pilot Test 2	
	Cronbach’s Alpha	N of Items	Cronbach’s Alpha	N of Items
Students’ Tendency of Academic Procrastination	0.765	3	0.908	3
Students’ Low Self-esteem	<0.30	6	0.936	6
Students’ Poor Time Management	<0.30	7	0.927	7
Students’ Self-regulation	0.473	8	0.864	6

**Demographic Characteristics**

Using SPSS, we have created CGPA Binned variable that shows the classification of CGPA and the percentage of students in that class.

**Table 3** Cross Tabulation of CGPA and Gender

CGPA (Binned)				Gender	
Valid		Frequency	Percent	Male	Female
		2.00 - 2.49	1	.5	0
	2.50 - 2.99	25	11.8	18	7
	3.00 - 3.49	118	55.7	71	47
	3.50+	68	32.1	31	37
	Total	212	100.0	120	92

**Confirmatory Factor Analysis**

**The factor structure:** The proposed relationship between our 4 latent variables and 18 observed variables. Here, the factor structure specified how the observed variables are related to each other and to the latent variables. Standardized regression weights are coefficients in a regression model that have been transformed so that they can be directly compared to one another.

- All of the items' standardized regression weights were found to be more than the threshold of 0.40.
- All of our standardized regression weights in this case are greater than 0.60, indicating a very good beta coefficient. The effect is stronger if the beta coefficient's absolute is higher.
- So, the relationship among our indicators to their constructs is very strong and it is ready for structural analysis. All the standardized and unstandardized regression weights were significant, and their beta coefficient were above acceptance range.

**The model modification:** In this study, initially there were 22 items or indicators. After performing the CFA analysis, 4 indicators were eliminated due to low beta coefficient.

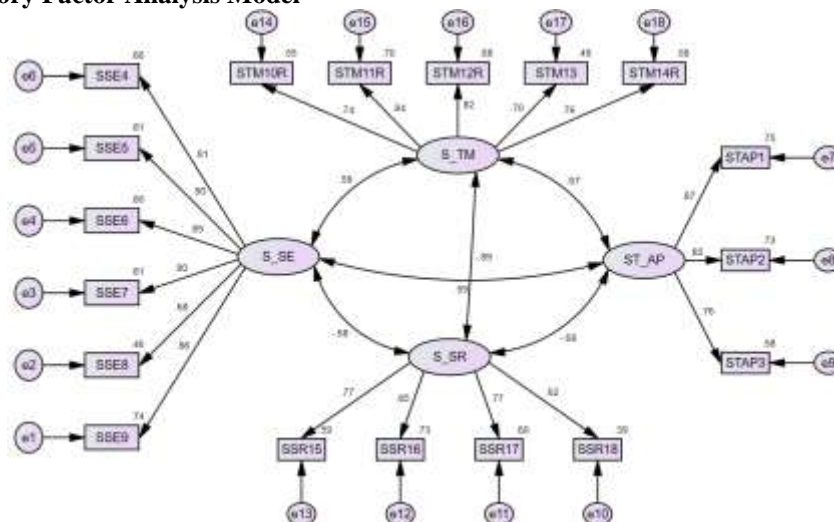
**Model Fit Summary:** Amos software was used to conduct the confirmatory factor analysis, and a model fit test was run. For the model fit test, three categories of goodness of fit tests have been identified: incremental fit (CFI, TLI, IFI, RFI, NFI), absolute fit (RMSEA, GFI), and parsimonious fit (Chisq/df).

- If the Root Mean Square of Average value is less than 0.10, some academics consider it valid. The average root square value of 0.082 is acceptable. The values for incremental fit tests should be greater than 0.9, but there is some research that shows that the comparative or incremental fit indices can be less than 0.9 while still meeting the criteria. Therefore, some academics have also said that values for TLI, IFI, CFI, IFI, RFI, and NFI that are above 0.8 are acceptable.
- As a result, all of the values for IFI, IFI, TLI, CFI, RFI, and NFI are greater than 0.8, which is a sign that they are acceptable. Additionally, some studies suggest that chi-square should be less than 3.
- The chi-square goodness of fit test value is less than 3, which is acceptable, according to the table. Therefore, our Model fits our analysis well.

**Table 4**Model Fit Summary

Model Fit Summary	Values	Suggested Value	Reference
CMIN/DF (Discrepancy divided by degree of freedom)	2.296	<5	[21]
RMR (Root Mean Square Residual)	0.082	<1.00	[22]
CFI (Comparative Fit Index)	0.940	>0.80	[23]
TLI (Tucker-Lewis's coefficient)	0.929	>0.80	[23]
IFI (Incremental Fit Index)	0.941	>0.80	[23]
RFI (Relative Fit Index)	0.881	>0.80	[23]
NFI (Normed Fit Index)	0.899	>0.80	[23]
RMSEA (Root Mean Square Error of Approximation)	0.078	<0.080	[24]
GFI (Goodness of Fit Index)	0.859	>0.80	[25]

**The Confirmatory Factor Analysis Model**



**Figure 2**The Confirmatory Factor Analysis (CFA) Model

**Scale Validity and Reliability**  
**Cronbach's Alpha**

**Table 5**Cronbach's Alpha Results

Reliability Statistics		
	Cronbach's Alpha	N of Items
Students' Tendency of Academic Procrastination	0.863	3
Students' Low Self-esteem	0.935	6
Students' Poor Time Management	0.878	5
Students' Self-regulation	0.842	4

We can observe from the Table that all four constructs have Cronbach's alpha reliability values above 0.80, which is greater than 0.70. This signifies that a higher level of internal consistency is suggested for the items. Thus, the constructs used in the study are reliable.

**Composite Reliability**

**Table 6**Comprehensive Composite Reliability

Construct	Composite Reliability	Acceptable Range
Students' Low Self Esteem	0.937	[26] >0.70
Students' Tendency of Academic Procrastination	0.867	
Students' Self-regulation	0.843	
Students' Poor Time Management	0.882	

It is advised that a construct's reliability be at least 0.70. It's quite likely that all the items consistently measure the same construct if the composite reliability is high. According to the findings, all of the constructs' composite reliability ranges from 0.843 to 0.937, above 0.70. A clear indication that all the items consistently measure their corresponding construct. By considering the individual indicator reliability and the number of indicators, the sum of the Reliability is excellent here.

**Construct Validity**

The average squared loadings of each indicator linked to a construct are used to determine the AVE (Average Variance Extracted). When the Average Variance Extracted (AVE) value is more than 0.50, convergent validity is demonstrated statistically [26]. As, here, all the AVE of our items are above 0.05 and our Convergent Validity is above 0.70. So, our items can successfully represent the underlying construct.

**Table 7**Comprehensive Convergent Validity

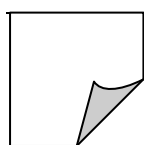
Construct	Average Variance Extracted (AVE) (>0.50 Acceptable)	Convergent Validity (>0.70 acceptable)
Students' Low Self Esteem	0.713	0.937
Students' Tendency of Academic Procrastination	0.685	0.867
Students' Self-regulation	0.565	0.838
Students' Poor Time Management	0.600	0.882

**Discriminant Validity – Fornell and Larcker Criterion**

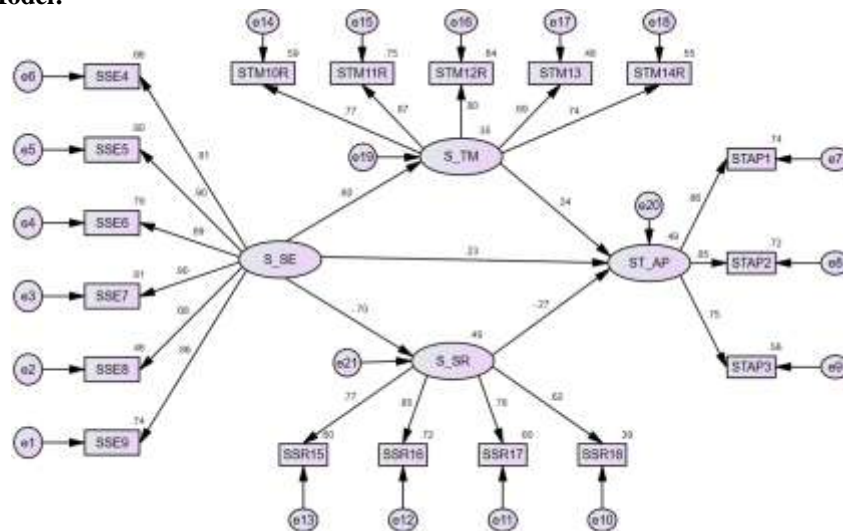
Discriminant validity has been assessed through the Fornell-Larkcer criterion. The table shows that diagonal value of reflective construct SSE (Students' Low Self-esteem), STAP (Students' Tendency of Academic Procrastination), SSR (Students' Self-regulation) and STM (Students' Poor Time Management)'s Sq. Root of AVE (Average Variance Extracted) are above their correlation with all other constructs, that means all values are significant and valid. The Four constructs in the research have their own individual identity and are not too highly correlated with other constructs in the study. So, the constructs are valid to perform the research.

**Table 8**Discriminant Validity Matrix

	SSE (Students' Low Self-esteem)	STAP (Students' Tendency of Academic Procrastination)	SSR (Students' Self-regulation)	STM (Students' Poor Time Management)
SSE (Students' Low Self-esteem)	0.844	0.591	-0.682	0.582
STAP (Students' Tendency of Academic Procrastination)	0.591	0.828	-0.682	0.671
SSR (Students' Self-regulation)	-0.682	-0.682	0.752	-0.89
STM (Students' Poor Time Management)	0.582	0.671	-0.89	0.775



**Structural Equation Modeling  
Path Co-efficient Model:**



**Figure 3**Path Co-efficient Model.

**Path Co-efficient Model Analysis**

**Table 9**Path Co-efficient Model Analysis

Path	Beta	T Statistics	P- Value	Conclusion	Status of Hypothesis
S_TM ← S_SE	0.490	7.987	.000	Significant;Positive relationship	H1Accepted
Path from Low Self-esteem to Poor Time Management					
S_SR ← S_SE	0.436	-7.801	.000	Significant; Negative relationship	H2Accepted
Path from Low Self-esteem to Self-regulation					
ST_AP ← S_SE	0.225	2.202	.028	Significant;Positive relationship	H3Accepted
Path from Low Self-esteem to Academic Procrastination					
ST_AP ← S_TM	0.399	4.119	.000	Significant;Positive relationship	H4Accepted
Path from Poor Time Management to Academic Procrastination					
ST_AP ← S_SR	-0.425	-2.753	.006	Significant; Negative relationship	H5Accepted
Path from Self-regulation to Academic Procrastination					

**Mediation Analysis**

The study assessed the mediating role of Students’ Poor Time Management (S\_TM) and Students’ Self-regulation (S\_SR) on the relationship between Students’ Low Self-esteem (S\_SE) and their tendency of Academic Procrastination (ST\_AP). The result revealed a significant indirect effect of S\_SE on ST\_AP through S\_TM (beta = 0.196, t value = 2.11, p value = 0.004, at 90% confidence level), supporting H6. Analyzing the mediating role of S\_SR, the study found a significant mediating role of S\_SR on the linkage between S\_SE and ST\_AP (beta = 0.185, t value = 1.71, p value = 0.071, at 90% confidence level), supporting H7. Furthermore, the direct effect of S\_SE on ST\_AP in presence of the mediators was also found significant (beta = 0.225, p value = 0.028). Hence, S\_TM and S\_SR partially mediated the relationship between S\_SE and ST\_AP.

**Table 10**Mediation Analysis

Relationship	Direct Effect	Indirect Effect	Confidence Interval (at 90%)		P-value	Conclusion	Status of Hypothesis
			Lower Bound	Upper Bound			
S_SE → S_TM → ST_AP	.225 (0.225)	0.196	.186	.209	.004	Partial Mediation	H6Accepted
S_SE → S_SR → ST_AP		0.185	.178	.202	.071		H7Accepted



**IV. Results And Discussion**

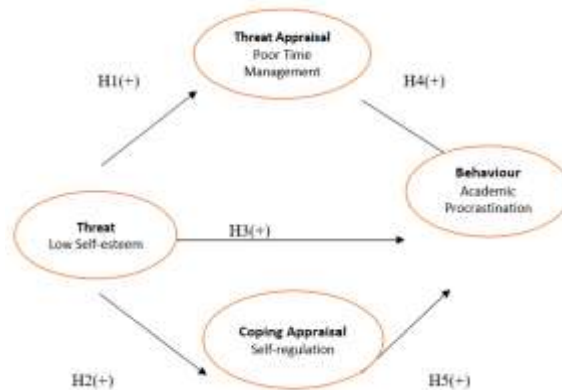
The present study was aimed to explore the relationship between self-esteem and academic procrastination, and to examine the roles of time management and self-regulation as mediating factors. And all the hypothesis of this research were proven.

**Table 11**Result of Hypotheses

SL	Hypothesis	Decision
1	There is a significant positive relationship between Low Self-esteem and Poor Time Management.	Accepted
2	There is a significant negative relationship between Low Self-esteem and Self-regulation.	Accepted
3	There is a significant positive relationship between Low Self-esteem and Academic Procrastination.	Accepted
4	There is a significant positive relationship between Poor Time Management and Academic Procrastination.	Accepted
5	There is a significant negative relationship between Self-regulation and Academic Procrastination.	Accepted
6	Poor Time Management plays a mediating role between Low Self-esteem and Academic Procrastination.	Accepted
7	Self-regulation plays a mediating role between Low Self-esteem and Academic Procrastination.	Accepted

As the first hypothesis suggested, the significance of the positive relationship between low self-esteem and poor time management is that it suggests that individuals with low self-esteem may be more likely to struggle with managing their time effectively. This relationship may be due to several factors, including negative attitude, difficulty in setting and achieving goals, or difficulty making decisions. Low self-esteem can impact an individual’s ability to manage their time effectively in a number of ways. In addition to the direct effects on time management, low self-esteem may also have indirect effects on time management through its impact on other factors that can influence time management, such as motivation, concentration, and stress levels. For example, individuals with low self-esteem may be less motivated to complete tasks or may experience increased levels of stress or anxiety that interfere with their ability to concentrate and manage their time effectively. The significant negative relationship between low self-esteem and self-regulation suggests that individuals with low self-esteem may have difficulty regulating their thoughts, emotions, and behaviors in a way that allows them to achieve their goals and lead a fulfilling life. Self-regulation involves the ability to control one’s impulses, emotions, and behaviors in order to achieve a desired outcome or goal. Low self-esteem may interfere with self-regulation in several ways. For example, individuals with low self-esteem may have negative thought patterns or beliefs about themselves that lead to negative emotions, such as sadness, anxiety, or anger.

**Result on Hypothesis Research Model**



**Figure 4**Result on Hypothesis Research Model

The significant positive relationship between low self-esteem and academic procrastination suggests that individuals with low self-esteem may be more likely to engage in procrastination behaviors in their academic work. This figure cabinets a model in which poor time management is perceived as a threat, and low self-esteem is appraised as a coping resource. In this model, self-regulation is viewed as a coping appraisal, and academic procrastination is the behavior that results from the interaction between these factors. This model suggests that individuals who struggle with poor time management may perceive this as a threat to their academic success and may turn to their self-esteem as a coping resource. If their self-esteem is low, they may struggle to regulate their thoughts, feelings, and behaviors effectively, leading to academic procrastination as a coping strategy. The results after the analysis suggest that low self-esteem, poor time management, and poor self-regulation are all related to academic procrastination. Specifically, low self-esteem and poor time management are positively related to academic procrastination, while self-regulation is negatively related to

academic procrastination. Additionally, both poor time management and self-regulation appear to play mediating roles in the relationship between low self-esteem and academic procrastination. This suggests that low self-esteem, poor time management, and poor self-regulation may all contribute to academic procrastination, and that improving these factors could be important for reducing procrastination and improving academic performance. It's worth noting, however, that these are just hypotheses, and more research would be needed to confirm or refute these relationships.

### **V. Implication Of The Findings**

One implication is that interventions targeting low self-esteem, poor time management, and poor self-regulation could be effective in reducing procrastination and improving academic performance. For example, interventions that aim to improve self-esteem may help individuals feel more confident and capable, which could in turn lead to better time management skills and more effective self-regulation. Similarly, interventions that aim to improve time management skills may help individuals break tasks down into smaller, more manageable chunks, or allocate enough time for each task, which could reduce procrastination. And interventions that aim to improve self-regulation skills may help individuals manage their thoughts, feelings, and behaviors more effectively, which could also reduce procrastination.

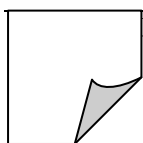
Moreover, targeting poor time management and poor self-regulation may be particularly important in efforts to reduce procrastination in the academic sector. By addressing these factors, it may be possible to more effectively reduce procrastination and improve academic performance.

### **V. Conclusion**

Self-esteem is an important factor that can impact an individual's academic and personal life. Low self-esteem is often associated with negative outcomes such as academic procrastination, but these issues can be addressed and improved through strategies that support effective time management and self-regulation. By developing these skills, individuals can overcome procrastination and achieve their academic and personal goals.

### **References**

- [1] O. Bojuwoye, "Causes Of Academic Procrastination Among High School Pupils With Learning Disabilities In Ilorin, Kwara State, Nigeria," *Int. J. Technol. Incl. Educ.*, Vol. 8, No. 1, Pp. 1404–1409, Jun. 2019, Doi: 10.20533/Ijtie.2047.0533.2019.0171.
- [2] Y. Zhang, S. Dong, W. Fang, X. Chai, J. Mei, And X. Fan, "Self-Efficacy For Self-Regulation And Fear Of Failure As Mediators Between Self-Esteem And Academic Procrastination Among Undergraduates In Health Professions," *Adv. Health Sci. Educ.*, Vol. 23, No. 4, Pp. 817–830, Oct. 2018, Doi: 10.1007/S10459-018-9832-3.
- [3] J. R. Ferrari, J. L. Johnson, And W. G. MacCown, *Procrastination And Task Avoidance: Theory, Research, And Treatment*. In *The Plenum Series In Social/Clinical Psychology*. New York London: Plenum, 1995.
- [4] A. Rozental And P. Carlbring, "Understanding And Treating Procrastination: A Review Of A Common Self-Regulatory Failure.," *Psychology*, Vol. 5, No. 13, Pp. 1488–1502, 2014, Doi: 10.4236/psych.2014.513160.
- [5] G. Oettingen, H. B. Kappes, K. B. Guttenberg, And P. M. Gollwitzer, "Self- Regulation Of Time Management: Mental Contrasting With Implementation Intentions," *Eur. J. Soc. Psychol.*, Vol. 45, No. 2, Pp. 218–229, Mar. 2015, Doi: 10.1002/Ejsp.2090.
- [6] M. Balkis And E. Duru, "Procrastination, Self-Regulation Failure, Academic Life Satisfaction, And Affective Well-Being: Underregulation Or Misregulation Form," *Eur. J. Psychol. Educ.*, Vol. 31, No. 3, Pp. 439–459, Jul. 2016, Doi: 10.1007/S10212-015-0266-5.
- [7] K. R. Kim And E. H. Seo, "The Relationship Between Procrastination And Academic Performance: A Meta-Analysis.," *Personal. Individ. Differ.*, Vol. 82, Pp. 26–33, 2015, Doi: 10.1016/J.Paid.2015.02.038.
- [8] P. Steel, "The Nature Of Procrastination: A Meta-Analytic And Theoretical Review Of Quintessential Self-Regulatory Failure.," *Psychol. Bull.*, Vol. 133, No. 1, Pp. 65–94, Jan. 2007, Doi: 10.1037/0033-2909.133.1.65.
- [9] C. S. Dweck, *Mindset: The New Psychology Of Success*, 1st Ed. New York: Random House Publishing Group, 2006.
- [10] M. M. L. Rebetez, L. Rochat, And M. Van Der Linden, "Cognitive, Emotional, And Motivational Factors Related To Procrastination: A Cluster Analytic Approach," *Personal. Individ. Differ.*, Vol. 76, Pp. 1–6, Apr. 2015, Doi: 10.1016/J.Paid.2014.11.044.
- [11] R. M. Klassen, L. L. Krawchuk, And S. Rajani, "Academic Procrastination Of Undergraduates: Low Self-Efficacy To Self-Regulate Predicts Higher Levels Of Procrastination," *Contemp. Educ. Psychol.*, Vol. 33, No. 4, Pp. 915–931, Oct. 2008, Doi: 10.1016/J.Cedpsych.2007.07.001.
- [12] C. A. Wolters, "Understanding Procrastination From A Self-Regulated Learning Perspective.," *J. Educ. Psychol.*, Vol. 95, No. 1, Pp. 179–187, Mar. 2003, Doi: 10.1037/0022-0663.95.1.179.
- [13] C. Senecal, R. Koestner, And R. J. Vallerand, "Self-Regulation And Academic Procrastination," *J. Soc. Psychol.*, Vol. 135, No. 5, Pp. 607–619, 1995.
- [14] D. M. Tice And R. F. Baumeister, "Longitudinal Study Of Procrastination, Performance, Stress, And Health: The Costs And Benefits Of Dawdling.," *Psychol. Sci.*, Vol. 8, No. 6, Pp. 454–458, 1997, Doi: 10.1111/J.1467-9280.1997.Tb00460.X.
- [15] K. B. Klingsieck, "Procrastination: When Good Things Don't Come To Those Who Wait," *Eur. Psychol.*, Vol. 18, No. 1, Pp. 24–34, Jan. 2013, Doi: 10.1027/1016-9040/A000138.
- [16] E. A. Locke And G. P. Latham, "Building A Practically Useful Theory Of Goal Setting And Task Motivation: A 35-Year Odyssey.," *Am. Psychol.*, Vol. 57, No. 9, Pp. 705–717, 2002, Doi: 10.1037/0003-066x.57.9.705.
- [17] H. Dittmar And C. Klimmt, "The Role Of Time Management In The Enjoyment Of Video Games," *Cyberpsychol. Behav.*, Vol. 9, No. 5, Pp. 614–623.



- [18] B. L. Beck, S. R. Koons, And D. L. Milgrim, "Correlates And Consequences Of Behavioral Procrastination: The Effects Of Academic Procrastination, Self-Consciousness, Self-Esteem And Self-Handicapping.," J. Soc. Behav. Personal., Vol. 15, No. 5, Pp. 3–13, 2000.
- [19] R. B. Johnson And L. B. Christensen, Educational Research: Quantitative, Qualitative, And Mixed Approaches, 5th Ed. Thousand Oaks, Ca: Sage, 2014.
- [20] W. Trochim And J. P. Donnelly, The Research Methods Knowledge Base. Cengage Learning, 2006. [Online]. Available: <https://books.google.com.bd/books?id=097maaacaaj>
- [21] Rex B. Kline, Principles And Practice Of Structural Equation Modeling. Guilford Press, 2011.
- [22] P. M. Bentler And D. G. Bonett, "Significance Tests And Goodness Of Fit In The Analysis Of Covariance Structures.," Psychol. Bull., Vol. 88, No. 3, Pp. 588–606, Nov. 1980, Doi: 10.1037/0033-2909.88.3.588.
- [23] J. F. Hair, Ed., Multivariate Data Analysis: A Global Perspective, 7. Ed., Global Ed. Upper Saddle River, Nj Munich: Pearson, 2010.
- [24] V. Mcmillan, Writing Papers In The Biological Sciences, 5th Ed. Boston: Bedford/St. Martin's, 2012.
- [25] T. Kline, Psychological Testing: A Practical Approach To Design And Evaluation. Thousand Oaks, Calif.: Sage Publications, 2005.
- [26] W. G. Zikmund, Barry J. Babin, Jon C. Carr, And Mitch Griffin, Business Research Methods, 9th Ed. Cengage Learning, 2013.

