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Research Article

Self-Regulation, Self-Efficacy, And Academic Procrastination

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ABSTRACT

Academic procrastination's costly psychological and educational effects present significant challenges in educational settings at various levels. The relationships between academic procrastination, self-regulation, and self-efficacy were revealed in this study among female students of the College of Arts and Sciences at the Northern Border University. Using hierarchical regression analysis, the mean age varied from 18.8 to 3.27 SD. The research demonstrated that the study variables of self-efficacy and certain self-regulation factors predict academic procrastination, as evidenced by strong reliability measures (Cronbach's alpha: 0.85-0.71). The model (self-efficacy, time management, self-motivation) accounts for 55% of the variance in procrastination. Illuminating the intricate psychological mechanisms that underlie academic delay. The findings indicate that academic procrastination can be effectively mitigated through targeted interventions that emphasize the development of self-efficacy, self-regulation skills, and time management strategies.

Keywords: Academic Procrastination, Self-Efficacy, Self- Regulation, Student Behavior.

1. Introduction:

One of the most intriguing and appealing aspects for university professors and educators is the existence of specific behavioral manifestations that many students experience. These encompass a lack of interest in learning and sheer indifference, a lack of academic success, regardless of whether it pertains to assignments or scientific pursuits, and adversely affected academic achievement. This may result in a reduction in their motivation to learn and a loss of enthusiasm, suggesting that this issue is complicated.

Whether psychological or social, the student's internal factors are interconnected and interact with the external environmental factors encompassing the educational process. Procrastination is exceptionally evident among students.(Sirois, 2014) It is inevitable that this results in academic failure.

The literature on psychological studies has underscored the learner's psychological, cognitive, and behavioral factors at the different levels of their academic achievement. Academic procrastination among students is a prevalent phenomenon that has been the subject of significant psychological and educational research. Tiny stage of study is devoid of this phenomenon. Procrastination may be rational, strategic, and advantageous when it is a deliberate decision to postpone activities that the individual can control (Steel, 2007, p. 66). The behavior of procrastination, however, is irrational.

The principle of prioritizing the most critical tasks is the foundation of strategic procrastination. To arrange and complete tasks according to their respective priorities in a conscious and organized manner. Duties, activities, and tasks are assigned in the appropriate chronological order throughout the various educational phases. This implies that we transfer these duties from the present to a future time to complete them. It does not mean they should be canceled or postponed until the end of their designated deadlines. Alternatively, they may be delayed indefinitely. Consequently, procrastination is regarded as one of the most prevalent issues affecting educational life and other aspects of social, economic, and even health life. Learners may employ procrastination to delay their academic assignments. Believing that they can still catch up and submit academic work and assignments by the deadline. In light of secondary concerns that incite their psychological and intrinsic motivation.

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They are prioritized over academic responsibilities. In the current era of technological advancement, students increasingly rely on the Internet to seek information, which results in a greater reliance on pre-existing sources. This attitude among university students results from a lack of interest or motivation and a failure to prioritize their academic endeavors. Delaying school and educational assignments also has a detrimental impact on educational and scientific achievement levels, success rates, and, in severe cases, failure.

This prompted researchers to concentrate on the subject to gain a more comprehensive understanding of it. It has been the subject of numerous investigations. Some research suggested that approximately 95% of American students intentionally postpone the commencement or completion of assignments. Additionally, 70% of students are involved in academic procrastination.(Zhang et al., 2020)

It is essential to acknowledge that most psychological research has concentrated on academic procrastination or procrastination in general, as indicated by (Day, et al., 2000; Steel, 2007). This is due to its extensive prevalence among young individuals (Zhou, 2019). The clear impact on educational achievement and its future outcomes on the individual is evident, and it may be dire. This serves as a warning of a turbulent life on the economic, psychological, social, and even health levels for procrastinators. Both (Blunt & Pychyl, 2000; Steel, 2007; Sirois & Pychyl, 2013) (Fernie,et al, 2017) observe that procrastinators redirect their attention to tasks and experiences that generate immediate and emotional outcomes and provide a direct and immediate benefit to them. This is a method of regulating the negative mood associated with tasks that are perceived as unpleasant or involve varying degrees of difficulty.

Procrastinators avoid confronting the negative emotions that are linked to their current responsibilities. Tasks are intentionally and consciously postponed as a solution to this issue. Procrastination is a conscious behavior that results in the postponement of functions and is also indicative of a failure in the self-regulation process, as confirmed by Steel (2007) and(Zhang et al., 2020). Consequently, procrastination is a deliberate and premeditated action that involves delaying the completion of essential duties until later. The motivations for this behavior have been the subject of disagreement among scientists and researchers. Numerous psychological studies have associated it with the cognitive aspects of procrastinators. Ellis and Knaus (1977) also presupposed that procrastination is a non-goal-directed and illogical behavior. It is founded on the primary function of aberrant cognition (Fernie,et al., 2017). In other words, the decision to procrastinate is intentional and random by employing the cognitive approach to this behavior. Procrastination is caused by two irrational beliefs, according to the Rational Emotive Behaviour Therapy perspective: Initially, procrastinators are uncertain about their capacity to finish a task.

Second, they are concerned about the potential negative social repercussions of not completing the task satisfactorily.

Therefore, pre-task concerns are a component of procrastination behavior. In addition to post-performance concerns associated with the consequences of the behavior. The procrastinator's disposition is adversely affected by this. For example, experiencing feelings of anxiety, tension, depression, and frustration. Consequently, certain psychological studies have verified the existence of specific cognitive structures involved in procrastination in its various forms. Such as the perception of the difficulty of a particular task (Solomon and Rothblum, 1984; Rothblum, et al., 1986) and self-efficacy beliefs (Haycock et al., 1998), as well as self-esteem (Ferrari, 1994; Stöber and Joormann, 2001) (Fernie,et al., 2017).

Additionally, procrastination has been perceived as a maladaptive endeavor. Fernie et al. (2017) defined procrastination as "the deliberate postponement of the commencement and completion of an explicit or implicit action, which is accompanied by a subjective sensation of discomfort." Distressing psychological emotions, such as remorse, sadness, and anxiety frequently accompany procrastination. Sirois (2014) identified the root cause of this phenomenon as the prioritization of mood regulation as a short-term, immediate outcome objective rather than the pursuit of a long-term objective. Students are under the impression that they have sufficient time to finish an academic assignment. Students use it to achieve temporary delight by delaying tasks and responsibilities to regulate their mood. This is because tasks and duties provide a different level of joy or comfort. The student employs procrastination as an avoidance strategy for the distressing situation to prevent the emotions that arise from their weak self-efficacy and academic performance.

Consequently, (Sirois, 2014) underscores the correlation between procrastination and cognitive and behavioral tendencies, which result in the prioritization of immediate mood regulation over goal-oriented thinking and necessary tasks. This implies that procrastination is a response to an immediate and instantaneous emotional state, as opposed to tasks and responsibilities that appear to have ample time to be completed, resulting in their postponement. Consequently, it is effortless to transition from unpleasant and tedious situations and responsibilities to tasks that are instantaneously cherished and thrilling. This results in the act of procrastinating consciously and voluntarily. This results in the disruption and confusion of educational duties and activities. It reduces self-efficacy and motivation to learn, which are the fundamental components of academic performance. Bandura (1997) posits that learning is the cognitive process of self-efficacy, while Zimmerman (2006) posits that competence in self-regulation is the outcome of a mutual and interactive triad that encompasses personal cognitive characteristics, behavior, and the environment (Bandura, 1991, p267).

Personal cognitive characteristics are associated with the efficacy of self-beliefs, the quality of analytical reasoning, and the establishment of individual objectives. The performer's judgments determine behavior in this model. Lastly, the environmental determinant pertains to the organizational environment, the degree of

challenge it presents, and how the environment reacts to the actions taken by the performer (Bandura, 1991). Bandura (1997) posits that the three forms of personal characteristics influence each other in a bidirectional manner, as norms that affect each other in a bidirectional manner and between themselves and the environment. Self-regulation is a guiding factor for self-efficacy. The term "self-regulation" has been proposed to describe the self-directed processes that allow learners to convert their cerebral abilities into performance skills in the context of learning. It also denotes the process by which learners direct their cognitions, motivations, and behaviors toward the attainment of their academic objectives. Three critical processes in self-regulation are proposed by social cognitive theory: self-observation, self-judgment, and self-reaction. (Schunk, 1995)

(Zimmerman, 2002)thereby affirms that students who are subject to self-regulation are more likely to achieve academic success and maintain a more optimistic outlook on their future. p65 Consequently, self-regulation is regarded as a conscious and significant strategy for the human self, as it aids in the definition of the self and is associated with the executive function of the self. It is also associated with self-control and the regulation of the environment, which is, to a certain extent, influenced by self-knowledge and personal belonging.

Academic procrastination is reduced to a failure in self-regulation on this basis. Self-regulation is also pertinent in terms of its theoretical implications. It is a fundamental concept for comprehending the human ego and its functioning. Self-regulation is the capacity of an individual to regulate their behavior through observation, planning, evaluation, and outcome, as seen from a social-cognitive perspective. It encompasses the development of thoughts, emotions, and behaviors that are planned and adjusted to attain personal objectives. We are curious about the influence of self-efficacy and self-regulation on academic procrastination, as self-regulation is a multifaceted structure influenced by various factors. Additionally, we are interested in the existence of specific factors that may contribute to academic procrastination.

H1: The level of academic procrastination among female students is statistically significantly influenced by self-efficacy and self-regulation factors.

2.Self-regulation and Procrastination

Self-regulation, which enables us to adapt to constantly changing circumstances and achieve our objectives, involves the capacity to monitor and modify our emotions, behavior, and cognition. This attribute is characterized by lower-level executive functions, such as reactive inhibition, and higher-level executive functions, such as proactive inhibition, and develops from early infancy to adulthood. Self-regulation development is associated with adulthood and brain maturation (Kim et al., 2017). Even during pre-adolescence, these distinctions appear.

According to(Zhang et al., 2020), the primary hypothesis is that children who demonstrate high levels of self-regulation in their daily lives will also demonstrate higher levels of reactive control and proactive inhibition in behavioral terms. Learners can convert their cognitive abilities into skills through self-directed processes known as self-regulation in the context of learning. Individuals' capacity to direct their mental and psychological endeavors over time is also relevant. (Cameron and McClelland., 2019) have noted that self-regulation skills are essential for children to manage their thoughts and actions, as well as to solve problems and plan and execute tasks.

These abilities, in turn, enable them to adjust to the expectations and requirements of the educational environment. The multidimensional construct of self-regulation regulates emotions, cognition, and behavior (McClelland, Ponitz, 2017; (Lenes et al., 2020) .

As a result, self-regulation is essential for individuals to act appropriately, execute tasks correctly and appropriately, and refrain from engaging in activities that may be detrimental or harmful. Self-regulation is employed in various processes, such as regulating emotions, thoughts, and actions, to accomplish physical or behavioral control or self-control to manage the demands of life effectively.

Self-regulation is a collection of skills and abilities used to organize and manage daily, immediate, and future skills. In addition to planning, evaluation, efficacy, initiative, and motivation, it indicates the individual's capacity to direct and control themselves. This operates according to structured cognitive processes that guide human behavior toward attaining desired objectives. It also functions as a mechanism for modifying and adapting to the environment in which it is situated. It is also regarded as a self-correction procedure by (de la Fuente et al., 2015) when confronted with contradictions, signs of imminent peril, or conflicting motivational states.

The educational environment at its various stages is one of the areas where the impact of self-regulation is most plainly evident. Education is a process that involves the acquisition of knowledge and its transformation into personal and self-awareness, a process known as the internalization of knowledge. The teacher's effort, educational curricula, study programs, and a suitable and integrated educational environment are all necessary for this process. The acquisition of knowledge and sciences is contingent upon the learner's integrated and coordinated endeavor to achieve knowledge. This implies that the student must be organized and make cognitive, emotional, and behavioral efforts appropriate for the educational stage he is about to complete.

According to (Tavakolizadeh et al., 2012), more organized learners possess cognitive abilities and are capable of enhancing them when confronted with challenges. They also direct their mental processes towards personal objectives and success.

Planning, self-awareness, self-control, emotional control, and self-evaluation are also significantly beneficial in pursuing educational success during the academic stages. Additionally, success necessitates the ability to persevere, organize time, be motivated to learn, and make an effort.
Consequently, as we have previously stated, it is possible to assert that self-regulation is a deliberate approach that individuals employ to manage their life affairs to mitigate failure or maladaptation and prevent environmental harm and threats.
This has a positive impact on academic performance, which in turn increases the student's motivation to pursue additional successes, thereby fostering a sense of independence and strength. Additionally, these learners possess the capacity to establish and select effective learning environment (Oguntuase & Sun, 2022). This learning method is particularly beneficial in developing adaptive beliefs and opinions in the field of education, particularly in the areas of preference for academics, perseverance, and effort. This, in turn, leads to the development of higher cognitive skills. This leads to the pupil experiencing a sense of independence, strength, and worthiness. We also observe that students who possess a high level of self-efficacy and self-confidence establish motivating objectives and identify the essential strategies for surmounting challenges. Self-efficacy is also a critical factor in determining positive outcomes and is a reliable indicator of quality of life.(Tinaz et al., 2020)
"Self-motivational beliefs are associated with self-regulation processes during three successive and cyclical stages," as validated by Bandura (1997).

The pre-performance stage: During the pre-performance stage, which occurs prior to engaging in the behavior, the individual employs a set of tasks and cognitive processes that motivate performance based on their beliefs. Self-regulatory processes for self-motivation, such as task planning, are a stage component. The individual's performance is improved due to the self-motivation to perform the behavior.

The performance stage: Based on the cognitive processes and plans established during the pre-performance phase, the individual executes the behavior or task during the performance stage. During this phase, the individual is actively involved in the task, ensuring that their actions meet environmental demands and expectations. The individual's capacity to regulate and manage their thoughts, emotions, and actions in response to the task directly influences the behavior produced, which is a direct result of the motivation and planning from the earlier stages. Performance is frequently impacted by continuous self-regulatory processes, which include monitoring progress and adjusting strategies as necessary.

The self-reflection stage:
Following the performance, the individual implements self-regulatory procedures for self-assessment and feedback. These processes influence future cognitive and behavioral responses, as well as the practice or experience of performance (including causal attribution, self-assessment, and satisfaction). This can be summed up as feedback on the complete behavior. These stages of self-regulation are presumed to occur cyclically during the duration of behavioral practice or performance.
Per Zimmerman (2006), an individual's behaviour during the performance stage is influenced by the behaviours and perceptions they develop during the performance stage.
Future behavior and its cognitive and affective beliefs are determined by the self-evaluation or self-reflection phase, which is influenced by the events that occur during the performance stage. Consequently, subsequent practices and performance behavior are perceived as being determined by self-motivation beliefs and other pre-performance perceptions. Thus, the self-regulation stages are consciously influenced by self-motivation and self-efficacy.
Consequently, self-motivation beliefs, such as self-efficacy, are essential in directing an individual's behavior during the subsequent phases of self-regulation. A person confident in their capacity to succeed will be more likely to self-motivate and take the necessary steps to develop their skills. This, in turn, will result in long-term enhancements in self-efficacy and influence future performance.
Bandura (1997) posits that self-regulation involves retrieving mental representations retained in memory to accomplish objectives. Consequently, social cognitive theory elucidates self-regulated learning as a sequence of regulatory processes that enhance the quality of mental representations. Subsequent behaviors are mediated by these enriched mental representations, which optimize prior learning. The most significant aspect is that academic success is cumulative and the outcome of prior experiences. Conversely, the physical and social environment also plays an important role.

• **Environmental Self-Regulation:** This term denotes an individual's capacity to monitor and modify the environment in which they operate by their objectives. Optimal performance can be achieved by students by selecting or modifying their environments in the context of learning, such as interacting with individuals who assist them academically or selecting a study location.
Ability to Modify the Environment: The performer, who is responsible for regulating their behavior, can make decisions that alter their work environment, thereby facilitating their adaptation to academic conditions and requirements. This modification could be as straightforward as relocating or more intricate, such as establishing a learning environment that is conducive to learning and includes specific resources. Educators

and administrators can facilitate self-regulation, which means that students are not solely responsible for controlling their environment but can also receive guidance and support from instructors.
Academic Procrastination as a Failure in Self-Regulation: Academic procrastination results from a failure in one or more cognitive processes associated with self-regulation. For instance, a student may need help organizing their environment in a manner that promotes success or may be unable to motivate themselves at the appropriate times. • Academic Procrastination is a direct consequence of a failure in the cognitive processes involved in self-regulation, which is a failure to manage time, objectives, and the surrounding environment. In other words, an individual who procrastinates may be unable to modify their behavior or organize their environment to achieve academic success. Where these processes constantly interact and influence each other.

3. Self-efficacy and Procrastination:

Academic procrastination is a concern for over 50% of college students (Solom (Rothblum, Solomon, and Murakami, 1986) and has adverse effects on both the student and the entire process. Students may be motivated to deceive to prevent failure and reduce their academic performance, as evidenced by their GPA, assignment grades, test scores, and course grades (Sew Kim & Nainee Tan Soon Aun, 2018)
Therefore, self-efficacy is a conviction about a student's ability to effectively complete an academic assignment. It is a critical factor in determining the success or failure of a student. Otherwise, they will encounter challenges in exhibiting commendable academic performance. According to Bandura (1977, p. 192), it is a collection of judgments that the individual has made, which reflect his beliefs regarding his capacity to perform specific behaviors, his adaptability in navigating complex and challenging situations, the extent of his perseverance in completing the tasks that have been assigned to him. Additionally, he believes that the individual's self-efficacy evaluation pertains to his assessment of his capacity to control events and execute tasks. In addition to its influence on his way of thinking and interaction, he also believes that his evaluation of his level of self-efficacy affects his motivation, level of effort, and initiative, particularly in the face of obstacles and challenges that impede his objectives. In general, self-efficacy is an internal value that individuals use to evaluate their cognitive and behavioral abilities and competencies to complete tasks and achieve the necessary goals.
Self-efficacy is one of the primary factors that contribute to cognitive and academic development by influencing students' motivation to learn, as stated by Pajares (2003). It is associated with the subjective assessments of an individual's capacity to organize and apply their skills, knowledge, and prior experiences to achieve specific outcomes within a particular field. It influences behaviors as well as perseverance, effort, decision-making, performance, and achievement. The value of endeavor and the strength of performance are also discussed in the context of problem-solving. Self-efficacy has been associated with a variety of psychological factors, such as depressive symptoms, anxiety, feelings of helplessness, self-esteem, pessimism, and the capacity to overcome problems and achieve success. Self-efficacy can either facilitate or impede motivation to learn, as the cognitive self is a significant element of motivational processes. People's assessment of their capacity to plan and execute the actions necessary to attain specific types of performance. Self-efficacy is the bedrock of human motivation, well-being, and achievement. According to Bandura (1977, P2), the function of self-efficacy beliefs in human performance is that "people's level of motivation, emotional states, and actions are based on what they believe rather than what is actually true."
An individual's emotional responses and cognitive processes are influenced by their self-efficacy. It can also be characterized as a function of an individual's self-belief in their ability to complete a mission.(Cherian & Jacob, 2013) therefore, it is evident that academic performance and productivity will be enhanced by the high level of perseverance associated with self-efficacy.
When contrasted with any other motivational construct, self-efficacy has been demonstrated to predict behavioral outcomes, particularly in psychology and education, effectively. Consequently, academic procrastination is a distinct indication of low self-efficacy. Psychological and academic issues may arise due to the intentional postponement of educational responsibilities and academic obligations.
Consequently, procrastination is a manifestation of low motivation and drive for academic achievement, as Taylor & Wilson (2019) have confirmed that individual differences in expectations regarding future outcomes, achievement, success, or failure, in addition to a focus on future-oriented thinking that facilitates the successful completion of objectives. Instills in the individual the motivation to pursue these objectives and strive for success. Planning, motivation, and efficacy are essential for attaining personal goals.
The period of adolescence and early adulthood is the most susceptible to procrastination behaviors, with a significant increase in prevalence, reaching 95% of adolescents (Steel, 2010) and between 80 and 95% of college students (Muñoz-Olano and Hurtado, Parrado, 2017; Codina et al., 2020). Additionally, the desire to reduce this behavior is observed in these populations. Procrastination is not synonymous with the inability to finish a task; instead, it is the act of procrastinating and completing it at the last minute despite the possibility of non-completion (Pardo et al., 2014). This, of course, results in a decline in one's sense of well-being. This results in tension and difficulty adhering to instructions (Milgram et al., 1992), failure to meet deadlines (Pestana et al., 2020), poor academic performance. (Kim et al., 2017), and personality issues (Park and Sperling, 2012).
Nevertheless, the function of academic procrastination as a mediator of learning processes and its influence on positive and negative factors pertaining to students' learning processes are considered(Ragusa et al., 2023). Academic procrastination behavior is a prevalent issue that frequently manifests in the tasks that students are expected to complete, including preparing for exams, completing assignments, or postponing a meeting or

project with an academic advisor (Dryden, 2000; Milgram, Mey-Tal, and Levison, 1998). (Kandemir & Palancı, 2014)(Kandemir, 2014)verified that approximately 40% to 60% of students procrastinate academically. This academic procrastination behavior results in adverse consequences for students, including academic failure, falling behind in challenging courses, and dropping out of school. It also has a detrimental impact on mental health, causing feelings of guilt, panic, stress, anxiety, and inadequacy. Does the individual perceive procrastination as detrimental? Some individuals believe they derive more enjoyment from life by procrastinating, as per Farran (2004).

Conversely, academic failure is the polar opposite of academic success. It denotes the student's incapacity to complete the educational process and their failure in academic performance. This presents a challenge for him in the educational sector, as it suggests that he cannot study and acquire the requisite knowledge and skills to succeed. It also indicates that the individual is incapable of meeting educational requirements and has poor adaptation, as evidenced by a decrease in self-efficacy and feelings of anxiety and disappointment.

Learners assess the progress of their assignment, determine its acceptability, and respond by either bolstering the work or altering their strategies. To be effective, self-regulation necessitates the maintenance of an ideal sense of self-efficacy (perceived competence) for learning and the provision of explanations of perceived reasons for outcomes that reinforce this sense and increase motivation. Ferrari (1994). (Mohamadi et al., 2011)

Specific challenges that students encounter during their college years hinder their ability to overcome these learning challenges, which results in academic failure. In the same vein, academic procrastination postpones academic assignments, resulting in academic dissatisfaction, stress, and failure.

Numerous studies have demonstrated that students who delay their academic responsibilities endure various adverse outcomes due to this conduct (Pintrich, 2000). Academic procrastination has adverse repercussions, including academic failure, falling behind in class, nonattendance, and bowing out of school (Rothblum, et al,. 1986).

Bandura (1997) posits that self-beliefs are a critical component of most contemporary theories of self-efficacy. He defines self-efficacy as the aggregate of individuals' judgments regarding their capacity to achieve specific performance levels. Self-efficacy is distinct from self-esteem and self-concept in that it is tailored to a particular task and is predicated on individuals' beliefs regarding their ability to perform in a specific situation in the future (Mohamadi et al., 2011).

Self-efficacy was also linked to the beliefs of instructors in the educational field, as well as the effectiveness of their performance. This results in their exertion being reduced. This is evident in the academic performance of students. Consequently, teachers' self-efficacy in the educational environment significantly influences the efficacy of the effort exerted by both the instructor and the learner. According to social cognitive theory, confirmed that teachers who do not anticipate success with specific students are more likely to decrease their effort in preparing and delivering education and to give up quickly at the first indication of difficulty, even if they possess strategies that could be beneficial to these students if implemented.

Bandura (1997) advocated that individuals must possess self-efficacy, which is the belief that they can effectively manage task demands to be motivated to perform tasks and achieve optimal performance levels. Their self-efficacy beliefs are believed to influence the goals that individuals establish for themselves, the effort they expend, their persistence in achieving them, and their capacity to endure failure.

4.Method

4.1. The research population

To verify the research hypotheses, a voluntary sample of 239 female students from the general preparation of the Applied College of Rafha Branch at the Northern Border University in the Kingdom of Saudi Arabia was employed. The sample was drawn from a total of 375 female students. Intentionally, they were represented by first-level female pupils of general preparation during the first semester of 2024. The standard deviation was 3.27, and the average age was 18.8, ranging from 18 to 21 years.

4.2 Research instruments

The Short Self Regulation Questionnaire (SSRQ) :by Carey et al. (2004) was employed in the present study. This questionnaire comprises 31 statements and is evaluated on a five-point Likert scale, ranging from strongly disagree to strongly concur. The outcomes exist within the range of 1 to 5. The subsequent statements are evaluated in reverse order: 2-3-4-6-7-9-10-11-16-22-23-27. The Cronbach coefficient value was estimated to be 0.71.(see table 1) . (Galindo-Contreras & Olivas-Ugarte, 2022)

General Self Efficacy Scale:

Schwarzer, Jerusalem (2004) developed the General Self-Efficacy Scale (GSE), which comprises ten statements that range from "Not at all true" to "Exactly true" and scores from 1 to 4. The Cronbach's coefficient was estimated to be 0.85.(table1)

(Schwarzer & Jerusalem, 1995). The general self-efficacy index, which ranges from 10 to 40, was calculated by adding the responses of participants to each item on a scale of 1 (Not at all true) to 4 (Exactly true). High scores indicate high levels of general self-efficacy.

The Academic Procrastination Scale: comprises 16 statements, with the range of (That is not me for sure=1) to (That is me for sure=4). The scores span from one to four. (Day, et al,. 2000.) Cronbach's coefficient is estimated to be 0.80.(table1)

Table1: Mean, Standard Deviation, and Coefficient Alpha (α) for the scale Scores

Scales	M	SD	Cronbach's Alpha	n
Procrastination Scale	2.24	.55	0.80	239
Self efficassy	3.15	.59	0.85	239
Self regulation(SSRQ)	3.31	.34	0.71	239

To clarify further, we extracted the factors from the scales (self-regulation, self-efficacy, academic procrastination) using Exploratory Factor Analysis (EFA). We extracted four factors for self-regulation, while self-efficacy and academic procrastination were single factors. (Table 2) illustrates the statistical significance of the measurement quality, which was statistically significant and ranged from 0.83 to 0.88 (P <0.001). Consequently, the determinants can be identified. The impact of self-efficacy and self-regulation factors on academic procrastination was investigated using statistical analysis and Hierarchical Multiple Regression, which involved the stepwise input of variables. The correlation matrix between the variables (Table 3) was obtained, and the results were as follows:

Table 2: **KMO and Bartlett's Test**

variables	Kayzer-Mayer-Olkin	Bartlets	
		Chi-Square	df
Procrastination	0.83	772.14***	120
Self-Efficacy	0.88	778.81***	45
Self-Regulation	0.87	2506.84***	435

*** *P*< 0.001

Statistics and correlation matrix. Pearson correlation analyses are employed to investigate the relationships between variables, and the self-regulation factor is demonstrated. (refer to Table 3). The self-efficacy variable was substantially and negatively correlated with all variables (self-motivation, time management, and procrastination) and positively correlated with monitoring and evaluation. The remaining factors exhibited substantial relationships among themselves. Demonstrate that the inclusion of a time management will not result in a significant relationship between self-motivation, monitoring, and time management.
Table 3 illustrates the correlation matrix among the variables under investigation. The findings suggest that the variables under investigation are significantly correlated. Particularly:
The correlation matrix among the study variables is presented in Table 3. The results indicate significant relationships between the variables under investigation. Specifically:

- A strong positive correlation was observed between *Effi* and *Eval* (r = 0.66, p < 0.001), while *Effi* showed a moderate positive relationship with *Moni* (r = 0.30, p < 0.001).
- *SEM* displayed a significant positive correlation with *Time* (r = 0.38, p < 0.001) and *Proc* (r = 0.43, p < 0.01) while negatively correlating with *Eval* (r = -0.65, p < 0.001).
- *Proc* was strongly positively correlated with *Time* (r = 0.72, p < 0.001) and negatively associated with *Eval* (r = -0.26, p < 0.001).
- These results confirm the intricate relationships among self-regulatory processes and procrastination, emphasizing the roles of efficacy, evaluation strategies, and time management.

Table 3: Means, SDs, and correlation matrix

	Mean	SD	Motiv	Time	Eval	Moni	Proc
Effi	3.16	0.594	-0.40**	-0.17**	0.66***	0.30***	-0.20***
SEM	2.65	0.735		0.38***	-0.65***	-0.06	0.43**
Time	1.84	0.699			-0.27**	0.032	0.72***
Eval	4.13	0.626				0.37***	-0.26***
Moni	3.65	0.808					-0.02
Proc	2.24	0.557					

*P<0.005
**P<0. 01
***P<0.001

Note: Effi=Self-Efficacy, SEM= **self motivation**, Time= Time management., Eval=Evaluation, Moni=Monitoring, Proc=Procrastination

Cronbach's alpha reliability analysis shows that the Self-efficacy scale =0.85, the academic procrastination scale= 0.81., and the short self-regulation scale =0.71. The analysis also does not support the assumptions of

multicollinearity, given that the tolerance value ranges from 0.60 to 1.00 while the value inflation factor (VIF) ranges from 1.00 to 2.17. (see table 4) Indicating that multicollinearity is not a problem in the study. Furthermore, histograms and normality plots suggested that the residuals were normally distributed, and plots of the regression-standardized residuals against the regression-standardized predicted values provided evidence that the assumptions of linearity and homoscedasticity were met.

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Also, this conclusion of **self-motivation** in model 2 added additional 15% variance in predicting students academic procrastination R2 =0.19, ΔR2 =0.15, *F*(1,236)=44.00, P0,001 and it significantly predicted academic procrastination.(=-0.42, CI=0.23,0.41, *P*0.001. The analysis showed that adding a Time management in model 3 showed an additional 36% variance in academic procrastination. R2 =0.55,ΔR2 =0.36,*F*(1,235)=191.065,P0,001. The analysis showed evidence of the significant effect of **Time management** on student academic procrastination. (=0.65, CI=0.65,0.59, *P*0.001).The evaluation factor showed an additional 0% variance in academic procrastination. R2 =0.55,ΔR2 =0.00, *F*(1,234)=0.02, P0,001 and did not have a significant predictive effect. So, monitoring is the same result. It did not have a significant effect.0.1% variance in academic procrastination. R2 =0.55,ΔR2 =0.01, *F*(1,233)=0.48, P0,001 and did not have a significant predictive effect. Accordingly, the results partially confirmed the hypothesis, as some of the organizational factors had a clear effect on academic procrastination. Thus, we accept the research hypothesis The findings suggested that academic procrastination among female students was adversely affected by self-efficacy. It demonstrated a positive effect on procrastination and the positive impact of self-motivation and time management. Additionally, the academic procrastination of female students was not significantly influenced by either Monitoring or Evaluation. This suggests that academic procrastination is influenced by both self-efficacy and self-motivation, as well as the time management. Model 3 represents the high variance when the time factor is included, which explains 55% of the variance. This suggests that female students have a propensity for systematic procrastination in their academic performance. The current study's findings corroborate the influence of self-efficacy and self-regulation on academic procrastination. (Table4)

variables	**Students Academic Procrastination**					
	Model 1		**Model2**		**Model3**	
		CI:95%		**CI:95%**		**CI:95%**
Self efficacy	-0.20***	-0.30,0.06	-0.02	-0.14,0.09	-0.01	0.07,0.9-
Self motivation			0.42**	0.23,0.42	0.18***	0.06,0.21
Time management					0.65***	0.45,0.59
Model fit Statistics						
F- value	9.54***		44.00***		191.06***	
R²	0.04		0.19		0.55	
Δ R²	0.04		0.15		0.36	

Note:*** *P* <.001

5.Discussion and conclusion:

Effective work practices and perseverance are essential for academic success. Despite the undeniable significance of a robust and successful college education, a recurring behavior directly associated with an individual's success and experience in college has been consistently disregarded: procrastination. It is estimated that academic procrastination is practiced by 75 to 95 percent of college students. The potential for success in college and, as a result, in future endeavors can be significantly impacted by this prevalent behavior. The study's findings indicated that self-efficacy accounted for 4% of the variance in procrastination, lack of perseverance for an additional 15%, and time management for 36%. Consequently, Model 3 explains 55% of academic procrastination. This implies that it is a failure of self-regulation in terms of ineffectiveness, absence of initiative, motivation to perform and study, and time waste. Self-efficacy also diminishes procrastination, which provides a comprehensive model of the variance in academic procrastination.

Self-efficacy influences self-regulation, which in turn influences the propensity to procrastinate. Self-efficacy also diminishes engagement in negative behaviors, which decreases the effectiveness and influence of self-regulation on academic procrastination.

Recent research has demonstrated that academic procrastination is characterized by low self-efficacy, disorganization, low intrinsic motivation, poor effort regulation, and time management (Melgaard et al., 2021).Consequently, some contend that academic procrastination is a reliable indicator of subpar academic performance.

The findings indicated that self-efficacy and the two self-regulation factors, intrinsic motivation and time management, had a statistically significant and beneficial impact. In our analysis, we discovered that academic procrastination was influenced by self-efficacy as an independent variable. The effect of this factor was negated once the remaining factors were incorporated. Significant effects were observed in self-efficacy and time. The hypotheses were confirmed because they were not necessary in the context of surveillance and regulation.
The current findings also corroborated the hypotheses that demonstrated the positive effects of poor time management and a lack of perseverance on academic procrastination. The relationship between them was significant, and we discovered that each had a positive impact on academic procrastination. The more time students had, the more likely they were to procrastinate.
Procrastination is a behavior that is based on beliefs, as confirmed by Farran (2004). In other words, specific individuals believe that delaying tasks is a form of procrastination used to exploit life. This implies that one has faith in the profit potential. Tasks are postponed and will be transferred to a future date. Then, perseverance diminishes due to a lack of motivation to complete them.
Additionally, self-efficacy diminishes. Procrastination is a desirable situation that individuals attempt to capitalize on in other matters that may appear more significant(Fernie et al., 2017). Until the deadline for task completion approaches to enhance performance. This implies that procrastinators may adopt organizational strategies in accordance with time constraints to achieve satisfactory results. This is accomplished by exerting the maximum amount of energy. Self-efficacy and motivation to attain are enhanced. Therefore, deliberate procrastination behavior can be a strategy for a person to motivate himself and act more in a controlled manner, and this person can accomplish his best work under the influence of time pressure and submitting duties or tasks on a specific date.
Conversely, the converse may transpire. Motivation and self-efficacy are diminished by the pressure to complete a task within a specified time frame. It is a source of anxiety, confusion, and failure. In this context, recent theories have emphasized that apparent procrastination is a form of temporal self-regulation failure that reflects a disconnect between the present and future self. However, research is scarce and inconsistent regarding the nature of procrastination's associations with time perspective. (Sirois, 2014)
To further clarify what we have found in our current research, adaptive behavior depends on the process of self-regulation. If students' self-regulation fails, compulsive behavior may begin to take over, such as attempts to cheat on exams or steal information, leading to impulsive behaviors, maladaptive habits, and obsessive behavior patterns due to not adhering to the specified performance within the specified time.
Feelings of anger, impulsiveness, and frustration are generated as an inevitable result of failure. Consequently, self-regulation encompasses the mechanisms that allow individuals to direct their actions towards a specific objective, regardless of the time frame at their disposal ((Kandemir, 2014) and in the face of evolving circumstances. To achieve a goal, successful self-regulation necessitates utilizing motivation, managing stress and physical factors (such as fatigue), and maintaining the goal-achieving path through sound executive functioning. Self-efficacy is also a factor in all of this. It is the collection of convictions that an individual holds regarding their vitality, competence, and capabilities in response to various challenges and responsibilities.
Goal selection and commitment, as well as the conviction that one can accomplish one's objectives, are facilitated by self-efficacy in goal-directed behavior. Consequently, self-regulation processes help to direct cognitive and motivational resources towards a specific purpose, control distractions, maintain a goal-oriented mindset, and adapt to challenging situations, such as academic examinations, activities, and assignments. The regulatory processes involved in goal-directed behavior necessitate intact affective and cognitive processes and cognitive resources closely linked to the fundamental mental executive functions provided by the frontal executive brain networks (Tinaz et al., 2020) .
All difficulties involve unnecessarily postponing academic duties, as (Senécal et al., 1995) ,Senecal and Koestner (2015) confirmed. It adversely affects students in terms of their cognitive, psychological, and social development. Consequently, students who procrastinate cannot sustain their initiative in the pursuit and attainment of the academic objectives that they are expected to achieve during their educational journey. Students who are motivated or regulate their behavior predominantly based on external emergencies. They will delay the commencement of their academic assignments until the very last minute, as they will only experience the pressure to complete them. Additionally, the more time there is to complete and execute the task, the more apparent and apparent procrastination becomes. This prompts us to examine the alternative form of academic procrastination, active procrastination.
(Lin & Zhou, 2022)introduced the concept as an alternative to inert procrastination, which results in academic failure. It is defined as a behavioral attribute that encompasses an individual's inclination to prioritize time

constraints to accomplish objectives. In any event, academic procrastination is a challenge that educators encounter in education and teaching. It may be one of the primary causes of student failure. Their inclination to lack self-regulation strategies and manage efforts earnestly and effectively while simultaneously fostering the motivation to learn and persevere, love of competition, and aspiration for success. It has the potential to result in students being inefficient in their education and failing to achieve exceptional results. This complicates their expectations of success.

Consequently, Teachers are responsible for fostering a sense of competence and accomplishment in their students. Conversely, improving teachers' confidence and persuasiveness necessitates reinforcing their conviction that they are capable of instructing all students, regardless of their circumstances. Thus, it appears imperative to foster these convictions among educators to assist students in surmounting academic obstacles and attaining elevated levels of success. Additionally, programs that enhance teachers' perceptions of their competence should be prioritized in order to inspire their students and instill success beliefs in their minds, thereby assisting them in effectively accomplishing their academic objectives.

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