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Metacognitive Awareness, Academic Procrastination, And Emotional Regulation Among Students

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Abstract

The present study examined the relationship between metacognitive awareness, academic procrastination, and emotional regulation among college students, and explored differences based on age and gender. A sample of one hundred students aged eighteen to twenty three years participated in the study, with seventy five percent females and twenty five percent males. Descriptive findings showed moderate levels of metacognitive awareness and emotional regulation, along with relatively high academic procrastination. Correlation analysis revealed no significant relationship between metacognitive awareness and either procrastination or emotional regulation. However, a significant negative relationship was found between academic procrastination and emotional regulation, indicating that students with better emotional control tended to procrastinate less. Age differences appeared only in metacognitive awareness, with younger students scoring higher. Gender differences were evident for emotional regulation, with female students demonstrating stronger emotional management skills, while no significant gender differences were found for metacognitive awareness or procrastination. These findings suggest that emotional regulation is a key factor associated with academic procrastination, whereas metacognitive awareness appears to function independently of the other variables. The results highlight the need for skill based interventions that strengthen emotional regulation to reduce procrastination among students.

Keywords: Metacognitive Awareness, Academic Procrastination, Emotional Regulation, Gender Differences, Age Differences.

1. Introduction

Metacognitive awareness, academic procrastination, and emotional regulation are three important psychological constructs that influence students' learning patterns, performance, and wellbeing. Metacognitive awareness refers to an individual's ability to reflect on and monitor their own thinking processes, which enables learners to plan, evaluate, and adjust their strategies during academic tasks (Schraw & Dennison, 1994). Students with higher metacognitive skills often demonstrate stronger academic engagement, because they can identify difficulties and adjust their approaches accordingly

(Young & Fry, 2008). Despite this, metacognitive competence does not always translate into behavioural consistency, particularly in situations where emotional factors interfere with decision making.

Academic procrastination is a widespread concern among college students and is characterised by the intentional delay of academic tasks despite anticipating negative consequences (Steel, 2007). Procrastination has been linked to lower academic achievement, emotional distress, and reduced self regulation. Research has shown that students often procrastinate not due to poor planning alone, but because of difficulties in managing negative emotions such as task related anxiety, frustration, or fear of failure (Sirois & Pychyl, 2013). This connection highlights the role of emotional regulation in understanding procrastination tendencies.

Emotional regulation involves the ability to recognise, understand, and manage emotional responses in adaptive ways (Gross, 2015). Students who effectively regulate their emotions are more likely to cope with academic stress, maintain motivation, and engage in tasks more consistently. Studies have demonstrated that poor emotional regulation contributes to avoidance behaviours, including procrastination, because students attempt to temporarily reduce emotional discomfort by delaying tasks (Eckert et al., 2016). Therefore, emotional regulation may serve as a protective factor that supports healthier academic routines.

Given the rising academic pressures in higher education, examining how metacognitive awareness, procrastination, and emotional regulation interact is essential for developing strategies that enhance student success. The present study aims to explore the relationships between these variables and identify differences based on age and gender.

2. Methodology

2.1 Objectives

1. To measure the scores of Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.
2. To determine the relationships between Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students
3. To evaluate the age difference based on the measures of Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.
4. To examine the gender difference based on the measures of Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.

2.2 Hypothesis

H_1:There is a significant relationship between Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.

H_2:There is a significant gender difference based on the measures of Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.

H_3:There is a significant age difference based on the measures of Meta Cognitive Awareness, Academic Procrastination and Emotional Regulation among students.

2.3 Sample

Participants in the study were college students. The sample consisted of 100 students. The sample was collected from various departments of an Arts and Science College. The researcher informed the respondents about the purpose of the study and obtained consent from them, assuring that all the information provided would be kept confidential. The researcher administered the Metacognitive Awareness Inventory (MAI), Academic Procrastination Scale, and Emotional Regulation Questionnaire (ERQ) in the form of a questionnaire sheet in person. A simple random sampling technique was employed for selecting the participants.

2.4 Description of Tools

2.4.1 Metacognitive Awareness Inventory (MAI)

The Metacognitive Awareness Inventory was developed by Schraw and Dennison (1994). It is a widely used instrument that measures an individual's awareness and regulation of their cognitive processes. The scale consists of 52 items, covering two major components Knowledge of Cognition and Regulation of Cognition. Higher scores indicate greater metacognitive awareness.

2. 4.2 Academic Procrastination Scale (APS)

The Academic Procrastination Scale was developed by Solomon and Rothblum (1984). It is designed to assess the tendency of students to delay academic tasks such as studying, completing assignments, and preparing for examinations. The scale consists of 30 items. Higher scores reflect greater levels of academic procrastination.

2.4.3 Emotional Regulation Questionnaire (ERQ)

The Emotional Regulation Questionnaire was developed by Gross and John (2003). It measures the strategies individuals use to regulate their emotions, focusing primarily on Cognitive Reappraisal and Expressive Suppression. The scale consists of 10 items. Higher scores on cognitive reappraisal reflect better emotional regulation.

2.5 **Procedure**

The researcher first obtained permission from the institution to collect data from students. Participants were approached individually and informed about the aim of the study. Consent was obtained, and confidentiality was assured. The questionnaires—MAI, Academic Procrastination Scale, and ERQ were administered in person in a classroom setting. Students were instructed clearly on how to respond to each item. The completed questionnaires were collected immediately to ensure accuracy and completeness. The data was then coded and prepared for statistical analysis.

3. Results

Table 1: Shows the frequencies and percentage of age and gender (N=100)

Demographic characteristics	Categories	frequency	Percentage
Age	18-20 years	74	74%
	21-23 years	26	26%
Gender	Male	25	25%
	Female	75	75%

Table 1 presents the frequency and percentage distribution of age and gender for the sample of one hundred students. Most participants belonged to the age group of eighteen to twenty years, comprising seventy four percent of the total samples, while twenty six percent fell in the age group of twenty one to twenty three years. With regard to gender, seventy five percent were female and twenty five percent were male. The table shows that the sample was largely represented by late adolescent females, which suggests that findings may reflect the characteristics of this subgroup more strongly.

Table 2: Shows the descriptive statistics of study variables (N=100)

Study variables	Mean	*SD*	Minimum	Maximum
Meta cognitive Awareness	42.6800	8.84876	22.00	52.00
Academic Procrastination	92.3000	18.20839	41.00	118.00
Emotional Regulation	38.3000	14.26127	10.00	70.00

Table 2 displays the descriptive statistics of the study variables. The mean score for metacognitive awareness was 42.68 with a standard deviation of 8.84, indicating moderate levels of metacognitive skills among students with some variability in scores. The mean score for academic procrastination was 92.30 with a standard deviation of 18.20, which suggests that students reported a relatively high tendency to delay academic tasks. Emotional regulation had a mean score of 38.30 with a standard deviation of 14.26, showing wide differences in students' ability to manage emotions. The minimum and maximum scores for all variables indicate that the full range of possible responses was utilised by the participants.

Table 3: Shows the relationship between Meta cognitive awareness, Academic Procrastination and Emotional Regulation among Students. (N=100)

Study variables	Meta cognitive Awareness	Academic Procrastination	Emotional Regulation
Meta cognitive Awareness	1	-.080(p= .428)	.004 (p= .966)
Academic	-.080 (p= .428)	1	-.346** (p=0.000)

Procrastination			
Emotional Regulation	.004 (*p*= .966)	-.346** (*p*=0.000)	1

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

Table 3 shows the correlation coefficients among the three study variables. Metacognitive awareness did not have a significant relationship with academic procrastination (r = −.080, p = .428), which indicates that students' metacognitive skills did not predict their procrastination behaviour. Similarly, metacognitive awareness showed no significant relationship with emotional regulation (r = .004, p = .966), suggesting no meaningful association between these two constructs. A significant negative correlation was observed between academic procrastination and emotional regulation (r = −.346, p < .01). This indicates that students who had better emotional regulation tended to show lower levels of academic procrastination. The results highlight emotional regulation as an important factor linked to procrastination tendencies, while metacognitive awareness appears unrelated to the other variables in this sample.

Table 4: Shows the age difference based on the measures of Meta cognitive awareness, academic procrastination and emotional regulation among students. (N=100)

Study variables	Age	*M*	*SD*	*t*	*df*	*p*
Meta cognitive Awareness	18-20 years	44.8514	8.24070	4.704	47.033	.000
	21-23 years	36.5000	7.62234			
Academic Procrastination	18-20 years	90.6351	19.51998	-1.877	66.143	.065
	21-23 years	97.0385	12.99071			
Emotional Regulation	18-20 years	38.1757	14.49266	-.150	45.613	.882
	21-23 years	38.6538	13.85335			

Table 4 presents age differences in metacognitive awareness, academic procrastination, and emotional regulation. A significant difference in metacognitive awareness was found between the two age groups (t = 4.704, p = .000). Students aged eighteen to twenty years reported higher metacognitive awareness (M = 44.85) compared to those aged twenty one to twenty three years (M = 36.50). This suggests that younger students in the sample showed better metacognitive skills. Academic procrastination did not differ significantly between the two age groups (t = −1.877, p = .065), although the older group showed slightly higher procrastination. Emotional regulation also did not differ significantly across age (t = −.150, p = .882), indicating that both age groups had similar levels of emotional management. Overall, age differences were observed only for metacognitive awareness.

Table 5: Shows the gender difference based on the measures of Meta cognitive awareness, academic procrastination and emotional regulation among students. (N=100)

Study variables	Gender	*M*	*SD*	*t*	*df*	*p*
Meta cognitive Awareness	Male (n=25)	41.4400	8.27184	-.845	44.658	.403
	Female (n=75)	43.0933	9.04818			
Academic Procrastination	Male (n=25)	97.0800	11.40512	1.975	72.570	.052
	Female (n=75)	90.7067	19.77562			
Emotional Regulation	Male (n=25)	28.4400	8.79905	-5.456	67.583	.000
	Female (n=75)	41.5867	14.25453			

Table 5 shows gender differences in the three study variables. There was no significant difference in metacognitive awareness between male and female students (t = −.845, p = .403), indicating that both genders had comparable levels of metacognitive skills. Academic procrastination showed a near significant difference (t = 1.975, p = .052), with males reporting slightly higher procrastination than females. Emotional regulation showed a significant gender difference (t = −5.456, p = .000). Female students reported better emotional regulation (M = 41.59) compared with male students (M = 28.44). This suggests that emotional management skills were stronger among females in the sample, while metacognitive awareness and procrastination did not show notable gender-based differences.

4. Discussion of the study

The findings of the present study offer insight into how metacognitive awareness, academic procrastination, and emotional regulation operate among college students. The absence of a significant relationship between metacognitive awareness and academic procrastination aligns with previous evidence suggesting that cognitive awareness alone may not be sufficient to alter behavioural tendencies such as delay or avoidance. Howell and Watson (2007) reported that the link between metacognition and procrastination becomes meaningful only when students apply strategic regulation, indicating that awareness without active behavioural regulation may have limited impact. The present findings further showed no significant association between metacognitive awareness and emotional regulation, which corresponds with research by Schraw and Dennison (1994) stating that metacognition and emotional processing operate through separate regulatory systems, although they may interact under specific learning conditions.

A significant negative relationship emerged between academic procrastination and emotional regulation, indicating that students with better emotional control engaged less frequently in procrastinatory behaviours. This result is consistent with prior studies showing that procrastination is closely connected to emotional difficulties, including anxiety, frustration, and poor stress management. Eckert et al. (2016) demonstrated that students often procrastinate to avoid negative emotions associated with academic tasks, supporting the idea that emotional regulation acts as a protective factor that reduces

avoidance behaviour. Similarly, Sirois and Pychyl (2013) emphasised that procrastination is an emotional regulation failure rather than a mere time-management problem.

Age differences were observed for metacognitive awareness, with younger students showing higher scores. This contrasts with findings by Veenman and Spaans (2005), who suggested that metacognitive skills tend to increase with age. The discrepancy might be related to differences in academic exposure or curriculum demands among the present sample. Emotional regulation and academic procrastination did not vary significantly with age, which is consistent with the work of Steel (2007), who noted that procrastination remains relatively stable across late adolescence and early adulthood.

Gender differences were prominent for emotional regulation, with female students scoring higher. This finding aligns with studies by Nolen-Hoeksema (2012) that point to gender-based emotional socialisation, where females are often encouraged to express and manage emotions more adaptively. Metacognitive awareness and procrastination did not differ significantly across gender, which supports the observations of O'Connor and Paunonen (2007), who reported minimal gender differences in self-regulatory academic behaviours.

Therefore, the results indicate that emotional regulation plays a critical role in reducing procrastination, while metacognitive awareness functions independently of both constructs in the present sample.

5. Conclusion of the study

The study plays the central role of emotional regulation in reducing academic procrastination among college students. Those who reported better emotional control were less likely to delay academic tasks, which supports existing findings that procrastination is strongly linked to emotional coping difficulties. Metacognitive awareness showed no meaningful association with procrastination or emotional regulation and differed significantly only across age groups. Gender differences were evident for emotional regulation, with females demonstrating stronger regulatory skills. The results suggest that interventions aimed at enhancing emotional regulation may be more effective for reducing procrastination than strategies focused solely on cognitive awareness.

6. Limitations

- The study relied on self report measures, which may introduce response bias and limit the accuracy of the findings.
- The sample was restricted to one hundred students from a specific age range, which reduces the generalisability of the results to wider student populations.

7. Implications

- Training programs that strengthen emotional regulation skills can help reduce academic procrastination among students.

- Colleges can incorporate counselling and skill building workshops to support students who struggle with emotional control and task management.
- Educators can design classroom activities that promote timely task completion by helping students manage academic stress more effectively.

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