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Research Article

Correlation between Academic Procrastination and Self-Confidence among Medical Students at an Eastern Indian Institution: A Cross-Sectional Survey

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Abstract

Background: Procrastination can be seen as a form of self-sabotage. In educational contexts, this is often called academic procrastination, which means putting off academic tasks. Individuals who procrastinate might begin to feel overwhelmed and despondent, experiencing a decline in their self-assurance. This outlook can darken their view of the future and potentially result in diminished self-esteem. *Objective*: This study aimed to assess the relationship between academic procrastination and self-esteem among medical students. *Methods*: This cross-sectional study was conducted among 317 undergraduate medical students and data were collected through a questionnaire using the Procrastination Assessment Scale-Students (PASS) and the Rosenberg Self-Esteem Scale. The data were analyzed using descriptive analysis, an independent student's t-test, an ANOVA, and Pearson's correlation test. *Results*: Regarding gender, no significant difference was observed in the mean procrastination scores or the mean self-esteem scores and the difference found was non-significant. A negative correlation was found between procrastination and self-esteem, which was also found to be statistically significant (r= -0.138, p=0.036). *Conclusions*: Students with high self-esteem procrastinate less, whereas those who procrastinate more have comparatively lower self-esteem. Interventions designed to bolster students' problem-focused coping mechanisms can boost their motivation, help them manage their self-esteem more effectively, empower them to identify and tackle problematic scenarios with clear objectives and come up with various solutions.

Keywords: Academic performance, Medical students, Procrastination, Self-esteem.

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العلاقة بين التسويف الأكاديمي والثقة بالنفس بين طلاب الطب في مؤسسة شرق الهند: مسح مقطعي

الخلاصة

الخلفية: يمكن اعتبار التسويف شكلا من أشكال التخريب الذاتي. في السياقات التعليمية، غالبا ما يطلق على هذا التسويف الأكاديمي، مما يعني تأجيل المهام الأكاديمية. قد يبدأ الأفراد الذين يماطلون في الشعور بالإرهاق واليأس، ويعانون من انخفاض في ثقتهم بأنفسهم. هذه النظرة يمكن أن تلقى بظلالها على نظرتهم للمستقبل وربما تؤدي إلى انخفاض احترام الذات. **الهدف:** تقييم العلاقة بين التسويف الأكاديمي وتقدير الذات لدى طلاب الطب. **الطريقة:** أجريت هذه الدراسة المقطعية على 317 طالبا جامعيا في الطب وتم جمع البيانات من خلال استبيان باستخدام مقياس تقييم التسويف للطلاب (PASS) ومقياس روزنبرغ لتقدير الذات. تم تحليل البيانات باستخدام التحليل الوصفي، واختبار t للطالب المستقل، وANOVA ، واختبار ارتباط بيرسون. **النتائج:** فيما يتعلق بالجنس، لم يلاحظ فرق كبير في متوسط درجات التسويف أو متوسط درجات احترام الذات وكان الفرق الذي تم العثور عليه غير معنوي. تم العثور على علاقة سلبية بين التسويف واحترام الذات، والتي وجد أيضا أنها ذات دلالة إحصائية. **الاستنتاجات:** الطلاب الذين يتمتعون بتقدير عال للذات يماطلون أقل، في حين أن أولئك الذين يماطلون أكثر لديهم تقدير أقل نسبيا للذات. يمكن للتدخلات المصممة لتعزيز آليات التأقلم التي تركز على حل المشكلات لدى الطلاب أن تعزز دوافعهم، وتساعدهم على إدارة احترامهم لذاتهم بشكل أكثر فعالية، وتمكينهم من تحديد ومعالجة السيناريوهات الإشكالية بأهداف واضحة والتوصل إلى حلول مختلفة.

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INTRODUCTION

Procrastination is the deliberate tendency to delay the commencement and execution of a critical task, even when fully aware of the adverse outcomes that may follow [1]. Among the various forms of procrastination, academic procrastination stands out as particularly significant, given its potential to impede educational progress and result in unfavorable outcomes [2,3]. Furthermore, academic procrastination contributes to heightened stress levels and may worsen subsequent psychological and physical disorders [4]. Literature indicates that the prevalence of procrastination is approximately 20–25% in the general public, yet it surges to around 75% among university students [1]. Research has demonstrated that this tendency stems from deficiencies in time management skills, diminished concentration, depleted energy levels, as well as low self-efficacy and self-esteem [5]. Medical students play a crucial role in society as contributors to the future through their accomplishments. Recognizing the factors that enhance or impede their academic and professional success is of paramount importance. Addressing these factors to prevent academic failure becomes a significant undertaking [6]. Against this backdrop, the current study aims to evaluate academic procrastination among medical students and explore its correlation with self-esteem.

METHODS

Study design and setting

A cross-sectional study was conducted among 317 undergraduate medical students in the eastern region of India in November and December 2023. All undergraduate medical college students from the first year to the final year who were willing to participate in the study and gave informed consent were included. The ethical approval for the study was obtained from the institutional Ethical Committee (IEC/IMS.SH/SOA/2023/621).

Data collection and outcome measurements

We collected the data using a pretested-prevalidated questionnaire. The first section includes demographic data, such as gender and academic year of students. The second section was the Procrastination Assessment Scale-Students (PASS), designed by Linda J. Solomon and Esther D. Rothblum for medical students and used to measure procrastination tendencies circumscribed to the academic domain. The PASS is divided into two parts: the first part measures the prevalence of procrastination in six academic areas and the second part assesses the reason for procrastination. We sum the scores on the 5-point Likert-type scale (a = 1 to e = 5) for each academic task (ratings range from 2 to 10) and across the six areas of academic functioning (ranging from 12 to 60). Scores on reasons for procrastination and

interest in changing are summed as separate subscales. A total score can be obtained by summing all subscale scores. The third section was Rosenberg's self-esteem scale, given by Morris Rosenberg and consisting of 10 questions, a widely used self-report instrument for evaluating confidence in one's worth and abilities as well as emotional states such as triumph, despair, pride, and shame. A 4-point Likert scale format ranging from strongly disagree (1) to strongly agree (4) is used to rate all the statements, where a higher score suggests higher self-esteem. Out of 10 items, 5 are reverse-scored. A pilot study was conducted among 20 students to check the feasibility of the study. The sample size was calculated using the prevalence from previous studies after reviewing the literature using the following formula:

$$n=Z^2P(1-P)/d^2$$

where n represents the sample size and Z denotes the standard deviation Usually, 1.96 corresponds to a 95% confidence level. P = expected prevalence or proportion, where the prevalence of procrastination in medical students was taken as 75% [7]. Consequently, P = 0.75%.

d = degree of accuracy (usually 0.05).
$n = (1.96)^2 \times 0.75 \ (1-.75) / 0.05^2 = 288$

However, the sample size was rounded off to 317 for more accurate results and to adjust the non-response rate. The students were instructed not to disclose their names in the questionnaire. Untraceable code names were assigned and anonymity was maintained. The study proforma was in the form of an e-questionnaire (Google Form Link), which was forwarded to each batch of medical students through WhatsApp or email for 15 days to fill out and submit.

Statistical analysis

The responses were analyzed using the Statistical Package for the Social Sciences version 14.0 (IBM Corp., Armonk, New York, United States). The data were analyzed using descriptive analysis, an independent Student's t-test, an ANOVA, and Pearson's correlation test. The level of statistical significance was set at $p < 0.05$.

RESULTS

No significant difference was observed gender-wise in the mean procrastination scores (males: 37.2±9.5, females: 37.6±8.8; p=0.723). The mean self-esteem scores of males and females were almost similar in the present study (25.2±2.7 and 25.6±2.2) and the difference found was non-significant (p=0.205) as shown in Table 1.

Table 1: Gender wise distribution of subjects according to procrastination scores and self-esteem scores among MBBS students

|	Group	Number of students	Mean±SD	Mean difference	*p*
Procrastination score	Female	356	37.6±8.81	0.461	0.723
	Male	289	37.2±9.51		
Self-esteemed score	Female	356	25.6±2.45	0.394	0.205
	Male	289	25.2±2.75		

In Table 2, the mean procrastination scores were 34.0±8.6 for MBBS first-year students, 39.5±8.9 for MBBS second-year students, 34.0±7.7 for MBBS third-year students, and 44.1±6.7 for MBBS fourth-year students. Among all batches, the mean score was the highest for the final year. The difference in the mean score of procrastination between MBBS first year and MBBS second year was statistically highly significant ($p<0.001$), non-significant between MBBS first year and MBBS third year ($p=1.000$), highly significant between MBBS first year and final year ($p<0.001$).

Table 2: Mean scores of procrastination and self-esteem batch-wise among MBBS students

	Academic year	Mean±SD		1st yr	2nd yr	3rd yr	4th yr
Procrastination score	MBBS 1st Year (n=202)	34.0±8.67	Mean dif	-	-5.51	0.0338	-10.13
			p value	-	<.001	1.000	<.001
	MBBS 2nd Year (n=169)	39.5±8.91	Mean dif		-	5.5486	-4.62
			p value		-	<.001	<.001
	MBBS 3rd Year (n=148)	34.0±7.79	Mean dif			-	-10.17
			p value			-	<.001
	MBBS 4th Year (n=126)	44.1±6.78	Mean dif				-
			p value				-
Self-esteemed score	MBBS 1st Year (n=202)	25.5±2.76	Mean dif	-	-0.260	0.437	-0.0178
			p value	-	0.771	0.402	1.000
	MBBS 2nd Year (n-169)	25.7±2.07	Mean dif		-	0.697	0.2418
			p value		-	0.080	0.857
	MBBS 3rd Year (n=148)	25.0±3.36	Mean dif			-	-0.4547
			p value			-	0.468
	MBBS 4th Year (n=126)	25.5±1.75	Mean dif				-
			p value				-

The difference in mean procrastination scores between MBBS second year and third year was highly significant ($p<0.001$), and MBBS second year and final year are also statistically significant ($p<0.001$). Similarly, the difference in the mean scores of procrastination between MBBS's third year and final year was found to be highly significant ($p<0.001$). Table 2 also reveals a non-significant difference in the mean self-esteem score across all MBBS batches. Figure 1 shows a statistically significant negative correlation ($r= -0.138$, $p=0.036$) between procrastination and self-esteem.
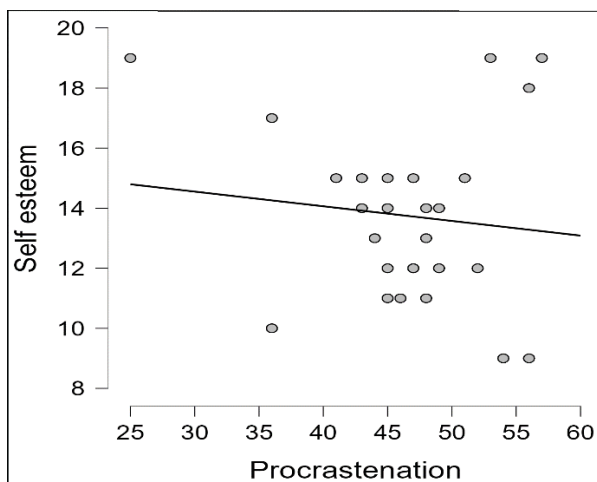
Figure 1: Correlation between procrastination and self-esteem among MBBS students.

DISCUSSION

Certainly, procrastination is a widespread behavior where individuals put off or delay important tasks, often in favor of less significant ones. This tendency is influenced by various factors, including psychological, personal, and educational aspects, all of which impact individuals and contribute to the postponement of activities. This phenomenon not only affects academic performance but also has implications for overall well-being, like self-esteem [8]. Therefore, we conducted a study to assess the relationship between academic procrastination and self-esteem among medical students. In the current studies, there was no significant difference observed in the mean procrastination scores based on gender ($p=0.723$). Similar findings were reported by Browne *et al*. [9] and Saleem and Rafique [10], and Ozer and Ferrari [11] also discovered no noteworthy difference between male and female students concerning academic procrastination. Additionally, Atalayin *et al*. [12], Ozer [13] and Madhan *et al*. [14] indicated no substantial variation in gender-based mean scores of procrastination. The diverse results yield unclear answers regarding which gender is more prone to engaging in procrastination. In contrast to the findings of the present study, research conducted by Ozer *et al*. [15] suggested that academic procrastination is less prevalent in females compared to males. This variance could potentially be attributed to the perception that females generally exhibit more responsible and

organized attitudes than their male counterparts. However, Rodarte Luna and Sherry [16] demonstrated conflicting results, indicating that female students procrastinate more frequently than males. Further focused research is necessary to elucidate the intricate relationship between gender and procrastination. The mean self-esteem scores of males and females in the present study were nearly similar (25.2 ± 2.7 and 25.6 ± 2.2, respectively), and the observed difference was non-significant ($p=0.205$). These results align with previous studies conducted by Marcic *et al*. [17], Babu *et al*. [18], and Bano *et al*. [19]. This similarity may be attributed to the equitable treatment of both genders in the medical curriculum, the absence of gender discrimination, and equal access to educational resources. It is noteworthy that the study's population consisted solely of medical students who received a uniform type of education. Past researchers have presented conflicting findings regarding gender differences in self-esteem. Gohil [20] discovered a significant difference in self-esteem between males and females, with females exhibiting higher levels of self-esteem. The author suggested that this could be attributed to the tendency of men to procrastinate more than women, leading to a detrimental impact on their self-esteem. Additionally, it is reported that females may experience lower self-esteem due to cultural emphasis on physical appearance, resulting in discontent about their looks [18]. Another study by Pleck [21] indicated that males might face lower self-esteem because they occasionally struggle to meet cultural standards of masculinity. The diversity in these findings underscores the complex and multifaceted nature of the relationship between gender, procrastination, and self-esteem. The present study has revealed a negative correlation between procrastination and self-esteem. Procrastination is characterized as a self-protective mechanism that conceals fragile self-esteem. Various studies have consistently demonstrated a significant inverse relationship between self-reported procrastination and self-esteem [22]. Procrastinators, driven by low self-esteem, exhibit a general inclination towards behaviors such as task delay and avoidance. These behaviors serve as a protective shield for self-presentation, offering an excuse for subpar performance and unfavorable outcomes.

Limitation of the study

As the present study involves students of only one institute, multicenter studies should be planned for better understanding. The present study includes potential sampling bias, self-reporting bias, and a cross-sectional design limiting causal inference. We need further longitudinal research to establish causality and generalizability. While more recent studies on procrastination tend to explain it through self-efficacy or self-regulation models, a substantial body of research has delved into and continues to explore the connection

between procrastination and self-esteem. Consequently, counselors and educators should focus on addressing not only procrastinators' levels of self-efficacy but also their self-esteem. Empowering students to strengthen their self-efficacy may effectively diminish procrastination tendencies.

Conclusion

Medical students who procrastinate tend to have lower self-esteem. When students delay academic tasks, they may feel less confident about themselves. It's crucial to tackle procrastination to prevent these negative effects on students' self-esteem and academic performance. By teaching effective time management skills and promoting a positive mindset, we can help students overcome procrastination and build healthier self-esteem. Future research can delve deeper into understanding how procrastination affects self-esteem, guiding the development of tailored interventions for students in medical and other academic fields.

Conflict of interests

No conflict of interests was declared by the authors.

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Data sharing statement

Supplementary data can be shared with the corresponding author upon reasonable request.

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