

## The Influence of Mindfulness on Academic Anxiety and Emotional Regulation Among Students

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### ABSTRACT

This paper aims to contribute to the growing body of research on the influence of mindfulness on academic anxiety and emotional regulation among university students. By investigating the efficacy of mindfulness and exploring the underlying mechanisms through which mindfulness may exert its beneficial effects, this research has the potential to inform the development of effective strategies for supporting student well-being and academic success. Through a comprehensive literature review, empirical research, and critical analysis, this paper will examine the current state of knowledge on this topic and identify potential areas for further exploration. Ultimately, the findings of this research may provide valuable insights for university administrators, counselors, and educators seeking to implement mindfulness practices to address the prevalent challenges of academic anxiety and emotional dysregulation among university student populations.

**Keywords:** *Mindfulness, Academic Anxiety, Emotional Regulation*

Amid the fast-paced and ever-evolving modern society we live in, people are confronted with mounting pressures and anxieties, making the pursuit of inner peace and happiness more vital than ever before. Recently, a traditional yet contemporary practice known as "Mindfulness" has gained significant traction in Western culture.

In today's demanding academic environment, students often find themselves grappling with heightened levels of anxiety. The pressure to excel academically, coupled with various personal and social obligations, can significantly impact students' emotional well-being and overall performance. As such, there is a growing interest in identifying how mindfulness practices effectively alleviate academic anxiety and enhance emotional regulation among this demographic. It has emerged as one of the most widely researched and discussed topics within the realms of clinical and fundamental psychology, reflecting its growing prominence and relevance.

Mindfulness is the remarkable ability that allows us to regain control and wholeness within ourselves. Picture a magician who cuts their body into separate pieces and scatters them in different directions - hands in one area, arms in another, legs elsewhere. Then, through an astonishing force, the magician calls out and miraculously reassembles all the disjointed

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Received: April 25, 2024; Revision Received: May 25, 2024; Accepted: May 28, 2024

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parts back into one complete, unified body once more. In a similar vein, mindfulness empowers us to metaphorically pull together our fragmented attention and sense of self, restoring it to an integrated state of awareness and presence. Mindfulness is like that—it is the miracle which can call back in a flash our dispersed mind and restore it to wholeness so that we can live each minute of life (Hanh, 1976). Mindfulness, the practice of being present and accepting the current moment, has recently gained attraction as a potential tool for decreasing the level of anxiety and promoting well-being.

In the demanding and high-pressure academic environment, students frequently encounter significant academic anxiety and difficulties regulating their emotions, which can adversely affect their academic performance, mental health, and overall quality of life. Anxiety is defined as a painful or apprehensive uneasiness of mind usually over an impending or anticipated illness (Merriam-Webster, 2012). Stressors from home or school can affect students' "learning, behaviours, and overall academic performance" (Harpin, Rossi, Kim, & Swanson, 2016). Academic anxiety is a prevalent issue that impacts students at all educational levels, from elementary school through higher education institutions. Emotional regulation, the ability to effectively manage and respond to one's emotions, is also a critical skill for students as they navigate the challenges and transitions of university life. Emotional regulation can be broadly defined as a person's ability to control or modulate their emotional state in the service of their goals (Gross and Thompson, 2007). Emotion regulation is a mechanism that explains the benefits of mindfulness and is defined as: an individual's efforts to "influence which emotions they have and when they have them" (Gross & John, 2003)

Comprehending the impact of mindfulness on academic anxiety and emotional regulation carries profound implications for both the theoretical underpinnings and practical applications within the realms of psychology and education. By elucidating the ways in which mindfulness techniques can ameliorate the detrimental effects of academic stressors on students' psychological health, this investigation plays a pivotal role in advancing the development of evidence-backed interventions.

Through this research, we strive to enhance our understanding of how mindfulness practices can be harnessed to empower students in navigating the challenges of academia, ultimately fostering their holistic growth, regulating emotions and academic success.

### **REVIEW OF LITERATURE**

Malik et al. (2021) a study explored the relationship between mindfulness, anxiety, and emotional regulation strategies among 210 university students aged 18-26. Mindfulness was negatively correlated with anxiety and maladaptive regulation strategies, while anxiety was positively associated with maladaptive strategies. Maladaptive strategies appeared to exacerbate anxiety when combined with low mindfulness levels. Lack of adaptive strategies strengthened the negative link between low mindfulness and high anxiety, leading to more anxiety symptoms. The researchers discussed the implications of these findings, which suggest mindfulness and adaptive regulation strategies could help reduce anxiety in university students facing new social and educational challenges.

Dawood Nawaz et al. (2021) a quantitative study using questionnaires examined how test anxiety and mindfulness relate to academic performance in 350 university students from Multan. Results showed a significant relationship between the variables, with gender differences. Males exhibited higher test anxiety and lower mindfulness levels compared to females, though academic performance was similar across genders. The findings suggest

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mindfulness training could help reduce test anxiety and boost academic achievement, particularly for male students who tend to experience more test anxiety and less mindfulness. The research adds to the literature on test anxiety, mindfulness, and academic success in social sciences and public health.

Coo Calcagni et al. (2018) the study investigated the effect of mindfulness practice on the academic performance of 302 psychology students at the University of Barcelona. Students were divided into two groups - one group engaged in 10 minutes of mindfulness before class for 10 weeks, while the control group did not practice mindfulness. Academic performance was measured by year-end grades. The results showed that students who practiced mindfulness achieved better academic performance compared to the control group. This suggests mindfulness is an effective, innovative strategy that can be easily implemented to enhance undergraduate students' learning experience and academic achievement. However, further research is needed to understand the psychological mechanisms underlying the positive impact of mindfulness on academic performance.

Alomari, H. (2023) this study aimed to evaluate mindfulness levels in university students, considering gender and academic achievement. Using the Five Facet Mindfulness Questionnaire (FFMQ) with 39 items, students' observation, description, awareness, nonjudgment, and nonreactivity were assessed. The FFMQ was translated into Arabic and tested on 60 students to confirm validity and reliability. Then, 489 students from public universities participated. Findings showed a moderate level of mindfulness across all domains, with no notable gender differences. Higher academic achievers demonstrated increased mindfulness, but this relationship had a weak impact on academic performance, explaining less than 1% of the variance.

## METHODOLOGY

### *Rationale*

Academic life poses significant stressors and anxiety for students due to factors like heavy workloads, performance pressures, time management issues, and future concerns. Uncontrolled academic anxiety can detrimentally impact students' mental health, motivation, and academic performance. Effectively regulating emotions is also crucial for navigating the emotional challenges inherent to academics.

Mindfulness has emerged as a promising approach for managing anxiety, and emotional dysregulation, among students. Mindfulness cultivates present-moment, non-judgmental awareness of thoughts, feelings, and bodily sensations. Regular practice can enhance emotional awareness, reduce reactivity to negative emotions, and promote adaptive emotion regulation strategies.

This study aims to explore how mindfulness practices impact academic anxiety and emotional regulation among students. Examining the relationships between mindfulness, academic anxiety, and emotional regulation can provide insights into mindfulness's role in mitigating academic anxiety and promoting emotional well-being. The findings could have practical implications for educational institutions, mental health professionals, and students by informing mindfulness-based program implementation to support overall student well-being and success. Additionally, this research can further understand mindfulness as a coping strategy for anxiety and emotional challenges beyond academics.

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### *Aim*

To investigate the effects of mindfulness on reducing academic anxiety and improving emotional regulation skills among university/school students.

### *Objectives*

- To evaluate the role of mindfulness in the relationship between academic anxiety and emotional regulation.
- Analysing the Efficacy of mindfulness on academic anxiety and emotional regulation.

### *Hypothesis*

- H1: there will be a significant correlation between mindfulness on reducing anxiety levels among students.
- H2: there will be a significant correlation between mindfulness on improving emotional regulation among students.
- H3: Mindfulness will significantly predict academic anxiety among students.
- H4: Mindfulness will significantly predict emotional regulation among students.

### *Sample*

The current study was conducted on university students i.e., participants who were in the age range of 18-28 years. This research aims to examine how mindfulness influences academic anxiety and emotional regulation in university students. The data was collected from a total of 152 participants who completed the survey containing three questionnaires. The participants were recruited using convenience sampling, a non-probability sampling technique that is often utilized when access to a specific population is readily available and there are practical constraints, such as limited time and resources, that restrict the use of alternative sampling methods. Convenience sampling involves selecting participants based on their accessibility and availability, rather than through random selection procedures. Both online (via Google Forms) and in-person (using printed survey forms) methods were employed to gather responses from the participants.

### *Tools Used*

**Perth Emotion Regulation Competency Inventory (PERCI):** The Perth Emotion Regulation Competency Inventory (PERCI) is a 32-question self-report survey that evaluates a person's ability to regulate their emotions. It measures an individual's capacity to alter their emotional experiences and expressions, both inwardly and outwardly.

It examines these aspects of emotion regulation competency for managing both unpleasant and pleasant emotional states.

The initial portion of the questionnaire focuses on negative or distressing emotions, such as sadness, anger, or fear. The latter part addresses positive or pleasant emotions, including happiness, amusement, or excitement.

The Cronbach's  $\alpha$  and  $\omega$  of reliability and found all subscale scores to have high reliability, with  $\alpha$  values ranging from .74 to .92 and  $\omega$  values ranging from .76 to .92 (Derya Akbaş, 2022)

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**Academic anxiety scale:** Academic anxiety scale is a 4-point Likert scale. The questions were designed to cover a range of worries and fears that students commonly experience in academic environments and situations. The response options were:

1. Not at all typical of me,
2. Somewhat typical of me,
3. Quite typical of me, and
4. Very typical of me.

The Academic Anxiety Scale is a recently created measure for assessing academic anxiety that was developed and had its psychometric properties validated in 2019. The underlying goal of this scale was to generate a simplified broad contextual representation for anxieties experienced within academic settings (Cassady, 2010).

Evidence regarding the scale's reliability and validity suggests it is an effective tool for evaluating the perceived stressors and sources of academic anxiety experienced by university students. The measures of reliability for the final 11-item scale were excellent. The split-half reliability, which assesses internal consistency by correlating scores from one half of the scale with the other half, was 0.91. Cronbach's alpha, another statistic for evaluating the internal consistency and reliability, was 0.90. Both high values indicate that the 11-item scale has strong reliability.

### **The Mindful Attention Awareness Scale (MAAS)**

The Mindful Attention Awareness Scale (MAAS) assesses individual differences in how frequently people experience mindful states over time. It is a 15-question survey using a 1-6 Likert scale to measure a person's trait-level or dispositional mindfulness.

It measures one's tendency toward mindfulness versus mindlessness. Scores on the MAAS correlate strongly with self-consciousness, rumination, and self-reflection. There was convergent validity (positive correlation) between MAAS and cognitive emotion ( $r=0.23$ ,  $P<0.05$ ). MAAS reliability in university sample as 0.82 (Brown & Ryan, 2003)

### ***Research Design***

The research design employed in this study was a correlational research design, which aimed to examine the relationships between variables without manipulating them to explore the strength and direction of associations between these variables. Furthermore, Regression analysis will be used to ascertain the predictive relationship between mindfulness and academic anxiety, and between mindfulness and emotional regulation. In this study, mindfulness was an independent variable and emotional regulation, and academic anxiety were the dependent variable.

### ***Procedure***

Convenience sampling was employed to recruit participants. Before proceeding with the survey, all participants, whether completing it in-person or online via Google Forms, provided their informed consent. The consent form included contact information for any queries or concerns and outlined how the data would be utilized for the study. After consenting, participants were requested to complete the questionnaire. Clear instructions were provided to ensure accurate responses, and any uncertainties or concerns were addressed to help participants understand and feel comfortable with the process. Participant anonymity was protected throughout the survey administration, with no personally identifiable information collected. Upon completion, participants' responses were gathered

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and securely stored. Software like Microsoft Excel was used for individual data scoring to facilitate data management and analysis. The Statistical Package for Social Sciences (SPSS) was then utilized to enter the data and conduct further analyses, such as correlational and linear regression analyses. Correlational analysis investigated the relationships and strengths between variables like mindfulness, academic anxiety, and emotional regulation. Additionally, linear regression analysis examined whether mindfulness influenced academic anxiety and emotional regulation among students.

### ANALYSIS AND FINDINGS

The present section discusses the main results of the study. Statistical analysis was conducted in IBM SPSS Statistics 21. Descriptive analysis was conducted to summarize the collected data and identify patterns.

**Table 1: Descriptives of the variables**

Descriptives statistics

	Mindfulness	academic anxiety	emotional regulation
N	152	152	152
Mean	55.2	22.8	114
Median	53.0	23.0	116
Standard deviation	12.5	6.59	26.3

The table above displays the total number of participants (n=152) and summarizes both the variability and central tendency of each variable within the sample.

For mindfulness, the mean is 55.2; for academic anxiety, it stands at 22.8; and for emotional regulation, it reaches 114. The median represents the central value when data is arranged from smallest to largest. For mindfulness, the median sits at 53.0; for academic anxiety, it registers at 23.0; and for emotional regulation, it hits 116. This suggests that half of the respondents scored above these values and the other half scored below. The standard deviation for mindfulness is 12.5; for academic anxiety, it measures 6.59; and for emotional regulation, it extends to 26.3. This indicates that scores on the emotional regulation scale display the highest variability among the three variables, followed by mindfulness and then academic anxiety.

**Table 2: Correlation matrix of the variables**

		Mindfulness	Academic anxiety	emotional regulation
<b>Mindfulness</b>	Pearson's r	—		
	p-value	—		
<b>Academic anxiety</b>	Pearson's r	-0.382***	—	
	p-value	< .001	—	
<b>emotional regulation</b>	Pearson's r	-0.280***	0.307***	—
	p-value	< .001	< .001	—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

The correlation coefficient between Mindfulness and Academic Anxiety is -0.382, indicating a strong inverse relationship. This means that higher levels of Mindfulness are associated with lower levels of Academic Anxiety, and vice versa. The correlation is statistically

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significant at the  $p < .001$  level, indicating a low likelihood of this relationship occurring by chance.

The correlation coefficient between Mindfulness and Emotional Regulation is  $-0.280$ , suggesting a moderate inverse relationship. This implies that individuals with higher levels of Mindfulness tend to exhibit better Emotional Regulation abilities, and vice versa. Again, the correlation is statistically significant at the  $p < .001$  level.

The correlation coefficient between Academic Anxiety and Emotional Regulation is  $0.307$ , indicating a moderate positive relationship. This means that higher levels of Academic Anxiety are associated with poorer Emotional Regulation abilities, and vice versa. Like the other correlations, this relationship is statistically significant at the  $p < .001$  level.

**Table 3: Regression analysis of the variables**

### Linear Regression

#### Model Fit Measures

Model	R	R <sup>2</sup>
1	0.382	0.146

#### Model Coefficients - Academic anxiety

Predictor	Estimate	SE	t	p	Stand. Estimate	95% Confidence Interval	
						Lower	Upper
Intercept	33.983	2.2563	15.06	< .001			
Mindfulness	-0.202	0.0398	-5.07	< .001	-0.382	-0.531	-0.233

The R value of  $0.382$  indicates a moderate positive correlation between mindfulness and academic anxiety. This means that as mindfulness increases, academic anxiety tends to decrease, but the relationship is not very strong. The R<sup>2</sup> value of  $0.146$  represents the coefficient of determination, which suggests that  $14.6\%$  of the variation in academic anxiety can be explained by the variation in mindfulness levels. This means that mindfulness accounts for a relatively small portion of the variance in academic anxiety, and other factors not included in the model may play a more significant role.

The intercept value of  $33.983$  represents the predicted level of academic anxiety when mindfulness is zero (or at its mean level, depending on how the variables were centered). The estimate value of  $-0.202$  for mindfulness indicates that for every one-unit increase in mindfulness, academic anxiety decreases by  $0.202$  units, holding all other factors constant. The standard error (SE) of  $0.0398$  for mindfulness is a measure of the variability of the estimate. A smaller SE value indicates a more precise estimate. The test statistic utilized to ascertain the statistical significance of the predictor variable, mindfulness, is represented by a t-value of  $-5.07$ . The large absolute value of the t-statistic suggests that the relationship between mindfulness and academic anxiety is unlikely to have occurred by chance. The p-value of  $< .001$  for mindfulness confirms that the relationship between mindfulness and academic anxiety is statistically significant at the  $0.001$  level (or a  $0.1\%$  significance level). This means that the probability of observing such a relationship if there were no actual relationship in the population is less than  $0.1\%$ . The standardized estimate (Stand. Estimate) of  $-0.382$  pertaining to mindfulness signifies the alteration in academic anxiety (measured in standard deviation units) linked to a one-unit adjustment in mindfulness, while keeping other variables constant. This value allows for a direct comparison of the relative importance of

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different predictors in the model. The 95% confidence interval for the estimate of mindfulness ranges from -0.531 to -0.233. This interval represents the range of plausible values for the true population value of the estimate with 95% confidence. Since the interval does not include zero, we can conclude that the relationship between mindfulness and academic anxiety is statistically significant.

The results suggest that mindfulness has a statistically significant negative relationship with academic anxiety among students. Higher levels of mindfulness are associated with lower levels of academic anxiety. However, it's important to note that the model explains only 14.6% of the variation in academic anxiety, indicating that other factors not included in the model may also contribute significantly to academic anxiety levels. Additionally, the moderate correlation and standardized estimate suggest that the relationship between mindfulness and academic anxiety, while significant, is not particularly strong.

**Table 4 Linear Regression**

Model Fit Measures

Model	R	R <sup>2</sup>
1	0.280	0.0786

Model Coefficients - emotional regulation

Predictor	Estimate	SE	t	p	Stand. Estimate	95% Confidence Interval	
						Lower	Upper
Intercept	146.970	9.349	15.72	< .001			
Mindfulness	-0.591	0.165	-3.58	< .001	-0.280	-0.435	-0.126

The R value of 0.280 indicates a weak positive correlation between mindfulness and emotional regulation. The R<sup>2</sup> value of 0.0786 suggests that only 7.86% of the variation in emotional regulation can be explained by mindfulness.

The intercept value of 146.970 represents the predicted level of emotional regulation when mindfulness is zero (or at its mean level, depending on how the variables were centered). The estimate value of -0.591 for mindfulness indicates that for every one-unit increase in mindfulness, emotional regulation decreases by 0.591 units, holding all other factors constant. The standard error (SE) of 0.165 for mindfulness is a measure of the variability of the estimate. The t-value of -3.58 for mindfulness is the test statistic used to determine the statistical significance of the predictor variable. The p-value of < .001 for mindfulness confirms that the relationship between mindfulness and emotional regulation is statistically significant at the 0.001 level (or a 0.1% significance level). The standardized estimate of -0.280 for mindfulness represents the change in emotional regulation (in standard deviation units) associated with a one-unit change in mindfulness, holding other factors constant. The 95% confidence interval for the estimate of mindfulness ranges from -0.435 to -0.126. Since the interval does not include zero, we can conclude that the relationship between mindfulness and emotional regulation is statistically significant.

The results suggest that mindfulness has a statistically significant negative relationship with emotional regulation among students. Higher levels of mindfulness are associated with lower levels of emotional regulation. However, it's important to note that the model explains only 7.86% of the variation in emotional regulation, indicating that other factors not included in the model may play a more significant role in influencing emotional regulation.



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Additionally, the weak correlation and standardized estimate suggest that the relationship between mindfulness and emotional regulation, while significant, is not particularly strong.

### CONCLUSION

The study contributes to the growing body of evidence supporting the incorporation of mindfulness-based interventions in educational settings. By cultivating mindfulness skills, students may be better equipped to manage academic-related stress, regulate their emotions more effectively, and ultimately enhance their overall well-being and academic performance.

Overall, the findings of this study contribute to the growing recognition of the positive impact of mindfulness in educational contexts and provide a foundation for developing mindfulness-based interventions to address the challenges faced by students. While further research is needed to explore additional variables, causal mechanisms, and potential moderators or mediators, the current study highlights the potential benefits of mindfulness in mitigating academic anxiety and enhancing emotional regulation, ultimately supporting student mental health and academic success.

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#### **Acknowledgment**

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

#### **Conflict of Interest**

The author(s) declared no conflict of interest.

**How to cite this article:** Shrestha, M. (2024). The Influence of Mindfulness on Academic Anxiety and Emotional Regulation Among Students. *International Journal of Indian Psychology, 12*(2), 2761-2769. DIP:18.01.240.20241202, DOI:10.25215/1202.240