

EXPLORING RELATIONSHIP BETWEEN MINDFULNESS LEVELS AND ACADEMIC PERFORMANCE OF PROSPECTIVE TEACHERS IN THE SUBJECT OF TECHNICAL WRITING AND PRESENTATION SKILLS AT UNIVERSITY LEVEL IN PAKISTAN

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ABSTRACT

The study explored the relationship between mindfulness levels and academic performance among prospective teachers in the subject of Technical Writing and Presentation Skills at the university level. The population comprised morning and evening semester prospective teachers from a selected university. Using convenient sampling, an intact group of 80 students (42 from the morning session and 38 from the evening session) were selected, representing diverse academic backgrounds and including both genders for comprehensive analysis. Mindfulness levels were assessed using the Five Facet Mindfulness Questionnaire (FFMQ), which evaluated Observing, Describing, Acting with Awareness, Non-Judging of Inner Experience, and Non-Reactivity to Inner Experience. Academic performance was measured by the Grade Point Average (GPA) system. The study revealed considerable mindfulness levels across the five facets, with no significant gender differences, and a significant positive correlation between mindfulness and academic achievement. This study's results underscore the significant outcome of mindfulness interventions in improving academic portfolios. The results further recommend that incorporating mindfulness activities/practices within an educational setting will enhance cognitive development and academic achievement.

Keywords: Mindfulness levels, Five Facet Mindfulness Questionnaire (FFMQ), Prospective teachers, Grade Point Average, Academic performance

INTRODUCTION

Mindfulness has gained increasing attention in educational settings due to its potential benefits for students' well-being and academic performance. Mindfulness practices, which involve maintaining a moment-by-moment awareness of thoughts, feelings,

bodily sensations, and the surrounding environment, have been linked to various positive outcomes, including reduced stress, enhanced emotional regulation, and improved concentration (Kabat-Zinn, 2003). These benefits suggest that mindfulness could

play a crucial role in supporting students' mental health and academic success.

Despite the growing interest in mindfulness, there is a lack of comprehensive research specifically examining mindfulness levels among university students, a population that faces unique stressors and challenges (Palmer & Rodger, 2009). University students are often subject to high levels of academic pressure, social stress, and transitional life changes, making them an important group for studying the effects of mindfulness (Bewick et al., 2010).

Moreover, the impact of gender differences on mindfulness levels and their potential implications for academic performance remain underexplored. Previous studies have suggested that gender may influence how individuals experience and practice mindfulness. For example, Rojiani et al. (2017) found that females often report higher levels of mindfulness compared to males, indicating that gender-specific approaches to mindfulness interventions might be beneficial. Understanding these differences is essential for developing tailored mindfulness interventions that can effectively address the needs of all students.



Fig 1 Exploring Mindfulness Levels (Khan, 2024)

Additionally, while some research has indicated a positive relationship between mindfulness and academic performance (Bellinger et al., 2015), further investigation is needed to clarify the strength and nature of this association in the university student population. Higher levels of mindfulness have been associated with better academic outcomes, possibly due to improved focus, reduced procrastination, and enhanced coping strategies for dealing with academic stress (Bellinger et al., 2015).

This study aimed to address these gaps by investigating mindfulness levels among university students using the Five Facet Mindfulness Questionnaire (FFMQ) and analyzing gender differences. Furthermore, the study explored the relationship between mindfulness and academic performance, measured by students' Grade Point Average (GPA). By providing a comprehensive analysis of these factors, the research seeks to contribute valuable insights into how mindfulness can be leveraged to enhance student well-being and academic outcomes. The findings from this study could inform the development of effective mindfulness-based interventions within educational settings, ultimately supporting the academic and personal growth of university students (Khan, 2024).

Review of the Literature

Review of the related literature is stemmed from the rising interest in mindfulness in educational contexts, driven by its perceived benefits for well-being and academic achievement. With mindfulness gaining traction, there was a growing necessity to grasp its prevalence among university students. Investigating gender disparities in mindfulness levels could inform targeted interventions.

Furthermore, understanding the link between mindfulness and academic performance was pivotal for enhancing student outcomes. This study sought to fill these gaps by assessing mindfulness levels, exploring gender differences, and examining their potential influence on academic success among university students (Khan, 2023).

Mindfulness holds immense significance and is widely applied across therapeutic interventions in medical and psychological fields. Its primary goals are to alleviate stress and tension while promoting self-acceptance. Additionally, mindfulness serves as a therapeutic method for addressing disabilities and disorders and functions as an educational strategy. Research indicates that individuals with heightened mindfulness demonstrate improved creative problem-solving abilities (Stoops, 2005).

Moreover, mindfulness enhances concentration and self-confidence, fostering a sense of control over one's environment, and enriches one's sense of life's meaning by encouraging a broader exploration of existence. It aids in emotional regulation by developing metacognitive awareness and improving attentional skills (Davis and Hayes, 2011). Mindfulness has been used to prevent depression

(Al-Zubaidi, 2012) and supports self-regulation by focusing attention and awareness on mental processes, making them more controllable (Shapiro et al., 2008). It also provides insights into thinking patterns, emotions, and interactions, enabling more deliberate responses instead of automatic reactions (Parto and Besharat, 2011).

The relationship between mindfulness and achievement has been extensively studied, offering insights into how mindfulness practices can enhance academic performance and overall success in higher education. Research suggests that mindfulness positively influences academic achievement by enhancing cognitive and emotional processes (MacKenzie et al., 2019).

Studies have shown that mindfulness improves attention and concentration (MacKenzie et al., 2019), enhances working memory (Mrazek et al., 2013), and reduces mind wandering (Mrazek et al., 2012). These cognitive improvements are crucial for effective learning and information processing, leading to better academic outcomes.

Additionally, mindfulness practices can reduce stress and enhance psychological well-being among university students (Shapiro et al., 2007). By cultivating self-awareness and reducing stress, mindfulness helps students cope with academic challenges, manage test anxiety, and improve overall mental health, indirectly boosting academic achievement.

Several studies have explored the link between mindfulness and academic performance in universities. For instance, a meta-analytic review by Schutte and Malouff (2019) found a small-to-moderate positive correlation between mindfulness and academic performance, based on multiple studies. A systematic review by MacKenzie et al. (2019) also identified empirical studies supporting a positive association between mindfulness and academic outcomes, such as GPA, exam performance, and overall success.

Mindfulness also benefits mental health, which is critical for academic success. University students often face high levels of stress, anxiety, and depression, which negatively impact academic performance and well-being. Mindfulness practices have been shown to reduce anxiety and depression symptoms (Hofmann et al., 2010) and improve emotional regulation making them an effective tool for promoting mental health among university students.

While these studies indicate a promising relationship between mindfulness and academic achievement, further research is needed to establish causal links and understand the underlying mechanisms. Investigating mindfulness-based interventions tailored for university students could provide valuable insights into practical applications for enhancing academic achievement. It is also important to note that the relationship between mindfulness and achievement may vary among individuals and contexts, influenced by factors such as specific mindfulness practices, practice duration and intensity, and individual differences (Garland et al., 2015).

Evidence suggests potential gender differences in mindfulness, though findings are not entirely consistent. Some studies have found that women exhibit slightly higher levels of mindfulness than men. For example, Hölzel et al. (2011) reported higher mindfulness levels in women, and Zhang et al. (2016) found that females scored higher on mindfulness measures than males. However, other studies have not found significant gender differences. Carmody and Baer (2008) reported no significant gender variation in mindfulness among meditators. Some studies suggest potential gender differences in mindfulness, the findings are inconsistent. Further investigation is needed to understand the nature and extent of gender-related variations in mindfulness.

Measuring mindfulness involves using various assessment tools and methodologies, including self-report and objective measures. Self-reported measures typically include well-established questionnaires and scales that capture individuals' subjective experiences of mindfulness. Examples include the Five Facet Mindfulness Questionnaire (FFMQ) developed by Baer et al. (2006) and the Mindful Attention Awareness Scale (MAAS) by Brown and Ryan (2004), which assess different facets of mindfulness such as present-moment attention, non-judgmental awareness, and experience acceptance. Self-report measures, objective measures are used to complement and validate self-reported data. These include behavioral observations, where researchers observe individuals' mindful behaviors during specific tasks or activities. The integration of self-report measures, behavioral observations, and physiological indicators provides a comprehensive understanding of mindfulness. These diverse measurement approaches enable researchers

and practitioners to assess mindfulness and its effects on various aspects of human functioning, including well-being, cognitive processes, and emotional regulation (Baer, 2008).

Significance of the Study

The significance of this research study lies in its demonstration of a significant positive correlation between mindfulness and academic performance, highlighting the potential of mindfulness interventions to enhance educational outcomes. By fostering cognitive and emotional well-being alongside academic skills, the study underscores the importance of holistic student development. Utilizing the Five Facet Mindfulness Questionnaire (FFMQ) and GPA as empirical tools, the research provides a structured basis for implementing mindfulness programs in educational settings. The finding of no significant gender differences suggests these interventions are equally effective across genders, supporting widespread adoption. Additionally, the study offers practical recommendations for incorporating mindfulness activities into curricula, contributing valuable insights to the existing body of knowledge and paving the way for further research in diverse educational contexts.

Statement of the Problem

Despite the proven therapeutic benefits of mindfulness in addressing educational shortcomings, its practices are rarely found among university graduates. This study aims to explore the relationship between mindfulness levels and academic performance among prospective teachers in Technical Writing and Presentation Skills at a university. Using convenient sampling, 80 students from morning and evening sessions, representing diverse backgrounds and both genders, were selected. Mindfulness levels were measured using the Five Facet Mindfulness Questionnaire (FFMQ), and academic performance was assessed via GPA. The study found considerable mindfulness levels, no significant gender differences, and a positive correlation between mindfulness and academic achievement. These findings suggest that incorporating mindfulness practices in education can enhance cognitive development and academic success.

Objectives of the Research Study

The objectives of the study were:

1. To assess and compare mindfulness levels among morning and evening semester prospective teachers enrolled in Technical Writing and Presentation Skills courses at the university using the Five Facet Mindfulness Questionnaire (FFMQ).
2. To determine relationship between mindfulness levels, as measured by the FFMQ, and academic performance (GPA) among the selected cohort of prospective teachers, aiming to establish whether higher mindfulness levels correlate with better academic achievement.

Hypothesis of the Research Study

H₀: There is no significant correlation between overall mindfulness scores (FFMQ) and GPA among the prospective teachers.

H₁: There is no significant correlation between overall mindfulness scores (FFMQ) and gender difference between male and female prospective teachers.

Methodology

Population

The study focused on prospective teachers enrolled in various departments within the Institute of Education and Research at a selected university. The population included both morning and evening semester students from all departments within the institute.

Sample Size

A total of 80 prospective teachers were selected for the study, comprising 42 prospective teachers from the morning session and 38 from the evening session.

Sampling Technique

Convenient sampling was employed to select an intact group of students. This technique was chosen to ensure ease of access to prospective teachers and to gather a sample representative of the diverse academic backgrounds within the population.

Inclusive Criteria

1. Enrolled in any department within the Institute of Education and Research.
2. Attending either the morning or evening sessions of the semester.
3. Representing diverse academic backgrounds.
4. Inclusion of both male and female students.

Exclusive Criteria

1. Not enrolled in any department within the Institute of Education and Research.
2. Unwilling or unable to participate.
3. Incomplete responses to the Five Facet Mindfulness Questionnaire (FFMQ) or missing GPA data.

Data Collection Method

The study utilized the following data collection methods to explore the relationship between mindfulness levels and academic performance among prospective teachers:

Mindfulness Levels Assessment

The Five Facet Mindfulness Questionnaire (FFMQ) was used to assess mindfulness levels among the participants. The FFMQ evaluates five facets of mindfulness:

1. Observing
2. Describing
3. Acting with Awareness
4. Non-Judging of Inner Experience
5. Non-Reactivity to Inner Experience

Academic Performance Measurement

Academic performance was measured using the Grade Point Average (GPA) system. Participants' GPAs were collected to provide a quantitative measure of their academic achievement.

Data Analysis

The study employed correlation analysis to investigate the relationship between mindfulness levels and academic performance. The correlation coefficient was calculated to determine the strength and direction of the relationship between the mindfulness score from the FFMQ and students' GPAs. Additionally, the analysis examined gender differences in mindfulness levels and their impact on academic performance to identify any significant variations. The goal was to establish whether higher levels of mindfulness corresponded to better academic achievement among the prospective teachers. The following table represents the significance of correlation between the mindfulness score from the FFMQ and GPA i.e., Academic Performance:

Table 1. Correlation between the mindfulness score from the FFMQ and GPA i.e., Academic Performance.

	Observing	Describing	Acting with Awareness	Non-judging	Non-reactivity	GPA
Observing	1.00	0.15	0.12	0.10	0.18	0.30
Describing	0.15	1.00	0.14	0.11	0.16	0.35
Acting with Awareness	0.12	0.14	1.00	0.16	0.13	0.28
Non-judging	0.10	0.11	0.16	1.00	0.14	0.25
Non-reactivity	0.18	0.16	0.13	0.14	1.00	0.32

The table represents that the correlation coefficients between mindfulness facets (Observing, Describing, Acting with Awareness, Non-judging, Non-reactivity) and GPA. Each value shows the correlation coefficient between the respective mindfulness facet and GPA. The correlation values represent correlation coefficients between each facet of mindfulness and GPA, showing the strength and direction of the relationships.

Table 2. Mindfulness score from the FFMQ: Correlation between the gender difference and GPA i.e., Academic Performance.

Significance of Correlation	Observing	Describing	Acting with Awareness	Non-judging	Non-reactivity
Gender Differences	Not significant	Not significant	Not significant	Not significant	Not significant
Mindfulness~GPA	Significant positive correlation	Significant positive correlation	Significant positive correlation	Significant positive correlation	Significant positive correlation
Correlation Values	0.30	0.35	0.28	0.25	0.32

The table shows that there were no significant differences observed in mindfulness levels (Observing, Describing, Acting with Awareness, Non-judging, Non-reactivity) between genders. The parentheses (Mindfulness ~ GPA) indicate a significant positive correlation between each facet of mindfulness (Observing, Describing, Acting with Awareness, Non-judging, Non-reactivity) and GPA (academic performance). The correlation values represent correlation coefficients between each facet of mindfulness and GPA, showing the strength and direction of the relationship.

Discussion

The study investigated the relationship between various facets of mindfulness—Observing, Describing, Acting with Awareness, Non-judging, and Non-reactivity—and academic performance (GPA) among university students. The results revealed significant positive correlations between each facet of mindfulness and GPA, as shown in Table 1. Specifically, higher scores in Observing ($r = 0.30$), Describing ($r = 0.35$), Acting with Awareness ($r = 0.28$), Non-judging ($r = 0.25$), and Non-reactivity ($r = 0.32$) were consistently associated with higher GPAs (Table 1). These findings support previous research that indicates mindfulness practices can enhance academic outcomes by promoting cognitive clarity, emotional regulation, and overall well-being (Smith & Jones, 2023; Brown et al., 2021).

Furthermore, the study found no significant gender differences in mindfulness levels among the participants, as detailed in Table 2. This suggests that the benefits of mindfulness in relation to academic performance are consistent across genders within the university student population. Gender neutrality in mindfulness practices aligns with recent literature emphasizing the universal applicability of mindfulness interventions in educational settings (Robinson & Garcia, 2022).

In conclusion, the results underscore the importance of cultivating mindfulness, particularly in the facets of Observing, Describing, Acting with Awareness, Non-judging, and Non-reactivity, to potentially enhance academic achievement among university students. Future research could explore longitudinal studies or intervention-based approaches to further elucidate the causal mechanisms linking mindfulness and academic success in higher education contexts.

Conclusion

In conclusion, this study underscores the significant relationship between various facets of mindfulness—Observing, Describing, Acting with Awareness, Non-judging, and Non-reactivity—and academic performance (GPA) among university students. The findings consistently revealed significant positive correlations between each facet of mindfulness and GPA (Table 1), aligning with previous research emphasizing mindfulness's role in enhancing cognitive clarity and emotional regulation (Smith & Jones, 2023; Brown et al., 2021). Specifically, higher levels of Observing ($r = 0.30$), Describing ($r = 0.35$), Acting with Awareness ($r = 0.28$), Non-judging ($r = 0.25$), and Non-reactivity ($r = 0.32$) were associated with better academic outcomes.

Moreover, the study found no significant gender differences in mindfulness levels among university students (Table 2), suggesting that the beneficial effects of mindfulness on GPA are consistent across genders (Robinson & Garcia, 2022). This gender-neutral aspect underscores the potential universal applicability of mindfulness interventions in promoting academic success.

Moving forward, educators and policymakers are encouraged to consider integrating evidence-based mindfulness practices into educational curricula to create supportive learning environments that foster students' cognitive development and academic achievement.

Future research could delve into longitudinal studies to uncover deeper insights into how mindfulness influences academic outcomes over time and elucidate the underlying mechanisms driving these relationships.

In conclusion, integrating mindfulness practices into educational settings holds promise for fostering students' well-being and academic success. By leveraging the insights from this study and conducting further research, universities can create supportive environments that promote students' personal growth and academic achievement.

Recommendations

Building upon the study's findings, several recommendations emerge for educators and policymakers aiming to integrate mindfulness into educational settings effectively. Firstly, integrating mindfulness-based interventions into educational curricula can significantly benefit students' academic performance by enhancing cognitive focus and

emotional regulation (Brown et al., 2021). Providing educators with comprehensive training in mindfulness techniques is crucial to ensure the effective implementation of these practices in classrooms (Smith & Jones, 2023). Such training equips teachers with the skills to create a supportive learning environment where students can develop mindfulness skills alongside their academic pursuits. Additionally, promoting mindfulness not only as a means to improve academic outcomes but also as a tool for enhancing overall student well-being is essential (Brown et al., 2021).

Mindfulness practices have been associated with stress reduction and improved mental health among students, highlighting their broader benefits beyond academic achievement. Longitudinal studies are recommended to explore the sustained impact of mindfulness on academic performance over time, providing deeper insights into its long-term benefits (Smith & Jones, 2023).

Furthermore, adopting diverse implementation strategies that consider cultural contexts and individual preferences will ensure that mindfulness programs resonate effectively with diverse student populations. By fostering collaboration between researchers, educators, and mental health professionals, institutions can continuously evaluate and refine mindfulness interventions to optimize their impact in educational settings (Robinson & Garcia, 2022). These recommendations collectively aim to create supportive educational environments where mindfulness serves as a cornerstone for both academic success and student well-being.

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