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Procrastination and Mindfulness: An Intervention

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Abstract: The present study aimed to examine the impact of mindfulness-based therapy on procrastination and mindfulness levels among participants. A pre-test and post-test design was employed to measure changes before and after the therapeutic intervention. Fifty participants completed standardized measures of procrastination and mindfulness both prior to and following mindfulness-based therapy. Data were analyzed using paired samples t-tests and Wilcoxon Signed-Rank tests. Results indicated a significant decrease in procrastination ($M = 74.2$ to $M = 60.7$) and a significant increase in mindfulness ($M = 74.0$ to $M = 61.8$) after therapy with ($p < .001$) for both comparisons. Although normality assumptions were violated, nonparametric analyses confirmed the findings. The results support the effectiveness of mindfulness-based interventions in reducing procrastination and improving mindfulness. Implications for clinical, educational, and organizational applications are discussed.

Keywords: *Mindfulness, Procrastination, Therapy, Pre-Test Post-Test Design, Behavioral Change*

1. Introduction

Procrastination is a widespread behavioral issue characterized by the unnecessary delay of tasks despite potential negative consequences (Steel, 2007). It has been linked to decreased productivity, increased stress, and impaired well-being. Mindfulness, defined as the awareness that arises through paying attention to the present moment in a nonjudgmental way (Kabat-Zinn, 1994),

has emerged as a promising approach for addressing maladaptive behaviors such as procrastination.

Mindfulness-based therapy aims to cultivate awareness and self-regulation, helping individuals respond to internal experiences rather than react impulsively. By fostering nonjudgmental awareness of thoughts and emotions, mindfulness may enable individuals to recognize avoidance patterns and engage more effectively with tasks.

The current study investigates whether mindfulness-based therapy can significantly reduce procrastination and increase mindfulness levels among participants. It was hypothesized that participants would show a decrease in procrastination scores and an increase in mindfulness scores after therapy.

Procrastination is the voluntary delay of an intended course of action, though it is expected to worsen the delay. This is a persistent problem that affects the academic functioning of students. It is associated with increased stress, reduced performance, and reduced well-being. Many individuals struggle to control procrastinatory behaviors, highlighting the gap between intention and action despite their negative outcomes. Recent psychological research has pointed to underlying cognitive and emotional factors, such as impulsivity, poor self-regulation and negative affect, as core contributors to procrastination.

Defined as intentionally bringing attention to the present moment non-judgmentally, mindfulness has emerged as a promising intervention for various behavioural and emotional challenges. Mindfulness may help individuals respond more adaptively to task-related anxiety and discomfort, which are the key drivers of procrastination, by enhancing awareness and acceptance of one's thoughts and feelings. Studies have explored the potential of mindfulness-based interventions to reduce procrastinatory behavior by improving emotional control, attention regulation, and self-compassion.

This study investigated the effectiveness of mindfulness as an intervention for procrastination. Specifically, it examined whether planned mindfulness practices can reduce the frequency and intensity of procrastination behaviors in students. Thus, exploring the psychological mechanisms that underlie this effect. Integrating insights from cognitive-behavioural theories and mindfulness research, this study aimed to contribute to a more nuanced understanding of how present-focused awareness may serve as a tool for enhancing productivity and psychological well-being.

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2. Literature Review

Psychological research has extensively examined procrastination, typically characterizing it as the unnecessary postponement of tasks even when such delay may lead to adverse outcomes (Steel, 2007). According to Sirois and Pychyl (2013), procrastination is associated with negative outcomes such as increased stress, anxiety, poor academic and job performance, and reduced well-being. Tice and Baumeister (1997), suggested that traditional cognitive-behavioural models attribute procrastination to deficits in self-regulation, time management, and emotion regulation. Emotional avoidance plays a particularly significant role, where individuals delay tasks to escape feelings of discomfort or inadequacy.

In recent years, mindfulness has emerged as a promising framework for addressing these self-regulatory difficulties. According to Kabat-Zinn (1994), the involvement of mindfulness intentionally directs one's attention to the present moment with openness and without judgment. Research by Sirois and Tosti (2012) has shown that higher levels of trait mindfulness negatively correlate with procrastination tendencies, suggesting that more mindful individuals are less likely to procrastinate. This may be due to their enhanced ability to tolerate unpleasant emotions and reduce automatic, avoidance-based behaviors.

Mindfulness-Based Interventions (MBIs), such as Mindfulness-Based Cognitive Therapy (MBCT), and Mindfulness-Based Stress Reduction (MBSR) have demonstrated efficiency in reducing symptoms of anxiety, depression, and stress- factors that contribute to procrastinatory behaviour (Khoury et al., 2013). Participants who completed an 8-week mindfulness training reported reduced procrastination and improved emotional regulation (Scent & Boes, 2014). Mindfulness training among university students led to significant decreases in academic procrastination and increased engagement in academic tasks (Galla, 2016).

Furthermore, MBIs appear to target the fundamental mechanisms that maintain procrastination. For example, mindfulness can reduce over-identification with thoughts (i.e. cognitive fusion), which is a common factor in task avoidance (Hayes et al., 2006). By fostering a more detached awareness of thoughts and feelings, mindfulness helps individuals act according to values and goals rather than transitory discomfort. Research by Eckert et al. (2016) supports this, showing that mindfulness reduced the tendency to engage in avoidance behavior, including procrastination, by increasing present-moment awareness and decreasing reactivity.

While the empirical base is still developing, existing findings suggest that mindfulness is a feasible intervention for reducing procrastination. However, gaps remain in the literature regarding the long-term effectiveness of MBIs and the specific mindfulness components (e.g., awareness vs. acceptance) that most strongly influence procrastination behaviors.

3. Method

3.1 *Sample*

A total of 50 participants, all females (N = 50) took part in the study. All participants completed both pre-test and post-test assessments. There were no missing data cases. Participants were recruited voluntarily and were informed about the purpose and confidentiality of the study.

3.2 *Sampling*

The purposive sampling method was used for the present study.

3.3 *Design*

The study employed a pre-test post-test within-subjects design to assess the effect of mindfulness-based therapy on two variables: procrastination and mindfulness. The independent variable was the therapy condition (before vs. after), and the dependent variables were the levels of procrastination and mindfulness.

3.4 *Hypotheses*

H1: There will be a significant decrease in procrastination scores among students after mindfulness-based therapy.

H2: There will be a significant increase in mindfulness scores among students after mindfulness-based therapy.

3.5 *Procedure*

Participants completed standardized questionnaires measuring procrastination and mindfulness before the start of mindfulness-based therapy. Following several sessions of mindfulness-based intervention, the same measures were administered again. Data were then analyzed using paired samples t-tests and Wilcoxon Signed-Rank tests to determine pre- and post-therapy differences.

3.6 *Measures*

3.6.1 Questionnaire of Procrastination Assessment Scale-Students (PASS) by Solomon and Rothblum (1984), was used to measure the procrastination of the students.

Reliability: In one study, the PASS had internal consistency (Cronbach's alpha) of ≈ .84 for the total scale. Other studies report alphas in the .70s (e.g., ≈ .73) for translated/adapted versions. Some reports suggest the "reasons for procrastination" sub-scale or sections achieved alphas in the .80+ range.

Validity: Construct validity: PASS scores are significantly correlated with related constructs like anxiety, self-esteem, delaying behavior, and academic performance, supporting the measure's validity. Factor analysis: Early work found factors labelled "Fear of Failure" and "Task Aversiveness" among reasons for procrastination. Cross-cultural adaptations report acceptable fit indices (in translated versions), indicating the structure holds across contexts. The Cronbach alpha of the test in the present study was found to be 0.94, which suggests that the internal consistency of the test is high and the test is suitable to be administered on the Indian population.

3.6.2 The Mindful Attention Awareness Scale (MAAS): The trait MAAS is a 15-item scale designed by Carlson and Brown (2005) to assess a core characteristic of mindfulness, namely, a receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place. The MAAS was developed by Brown & Ryan (2003) to measure a core characteristic of mindfulness, the frequency of open, receptive attention to and awareness of present-moment experiences. It is one of the most widely used self-report tools for mindfulness research.

Reliability*: Internal Consistency*: Cronbach's alpha in the original development study (Brown & Ryan, 2003):α = .82 to .87 across samples (college students, adults, and cancer patients). Carlson & Brown (2005) confirmed this with a cancer population, reporting:α = .87, indicating high internal consistency. Test–Retest Reliability: Brown & Ryan (2003) found good test–retest reliability over a 4-week interval: r = .81, showing that mindfulness levels remain stable over time when no intervention is introduced

Validity**:** *Construct Validity*: The MAAS has shown strong construct validity as it correlates in theoretically expected directions: Negatively correlated with neuroticism, anxiety, rumination, and self-consciousness. Positively correlated with openness to experience, self-determination, and well-being. Factor analyses (Brown & Ryan, 2003; Carlson & Brown, 2005) confirmed that the MAAS is unidimensional, measuring a single mindfulness factor. Convergent Validity: Significant correlations with related constructs such as: Self-awareness, emotion regulation, and psychological well-being. In cancer patients (Carlson & Brown, 2005), higher

MAAS scores were associated with: Lower mood disturbance, lower stress, and better quality of life. Discriminant Validity: The MAAS distinguishes mindfulness from unrelated constructs such as intelligence or social desirability (Brown & Ryan, 2003).

4. Statistical Analysis

All analyses were conducted using standard statistical software. Paired samples t-tests were used to compare mean scores between pre-test and post-test conditions. The Shapiro–Wilk test was performed to assess normality. Since the normality assumption was partially violated ($p < .05$), nonparametric Wilcoxon Signed-Rank tests were also conducted to confirm the robustness of results.

Results

Table 1: *Descriptives*

	P1	P2	M2	M1
N	50	50	50	50
Missing	0	0	0	0
Mean	74.2	60.7	74.0	61.8
Median	73.0	64.5	73.5	65.0
Standard deviation	17.5	16.7	21.0	16.8
Variance	307	278	442	283
Minimum	44	8	26	31
Maximum	130	86	148	89
Shapiro-Wilk W	0.969	0.950	0.950	0.946
Shapiro-Wilk p	0.219	0.034	0.033	0.024

Descriptive Statistics

Procrastination (Pre): M = 74.2, SD = 17.5; Procrastination (Post): M = 60.7, SD = 16.7; Mindfulness (Pre): M = 74.0, SD = 21.0; Mindfulness (Post): M = 61.8, SD = 16.8

Table 2: *Paired Samples T-Test*

	Statistic	df	p	Mean difference	SE difference
Student's t	7.78	49.0	<.001	13.5	1.73
Wilcoxon W	1275		<.001	11.5	1.73
Student's t	8.75	49.0	<.001	12.2	1.40
Wilcoxon W	1260		<.001	11.0	1.40

Note. H_a $\mu_{Measure\ 1 - Measure\ 2} > 0$

Inferential Statistics

For procrastination, the paired samples t-test indicated a significant reduction after therapy, $t(49) = 7.78$, $p < .001$, with a mean difference of 13.5 (SE = 1.73). Similarly, mindfulness scores improved significantly after therapy, $t(49) = 8.75$, $p < .001$, with a mean difference of 12.2 (SE = 1.40). The Shapiro–Wilk test suggested a violation of the normality assumption ($p < .05$), but the Wilcoxon Signed-Rank test confirmed the results ($W = 1275$, $p < .001$ for procrastination; $W = 1260$, $p < .001$ for mindfulness).

5. Discussion

The results indicate that mindfulness-based therapy significantly reduced procrastination and enhanced mindfulness among participants. These findings support the hypothesis that there will be a significant decrease in procrastination scores among students after mindfulness-based therapy, $t (49) = 7.78$, $p < .001$, with a mean difference of 13.5 (SE = 1.73). There will be a significant increase in mindfulness scores among students after mindfulness-based therapy, $t (49) = 8.75$, $p < .001$, with a mean difference of 12.2 (SE = 1.40).

Procrastination is widely understood as a self-regulatory failure in which short-term mood regulation and avoidance of aversive cognitive-affective states (e.g., task-related anxiety, fear of failure, boredom) drive the unnecessary postponement of goal-directed actions. Meta-analytic and theoretical work positions procrastination as an emotion-regulation problem as much as a time-management problem, which explains why purely behavioural strategies often show limited effects.

Mindfulness, operationalized as present-moment, nonjudgmental awareness, targets precisely the emotion-regulation and attentional processes implicated in procrastination. Trait and intervention models of mindfulness propose that greater mindful attention reduces reactivity to

uncomfortable thoughts and feelings and increases tolerance for distress, enabling individuals to act in accordance with long-term goals rather than short-term affective impulses. Foundational psychometric and theoretical work on the construct emphasizes mindfulness's role in psychological well-being and self-regulatory capacities. Converging correlational evidence links higher dispositional mindfulness with lower procrastination. Sirois and Tosti (2012) found that mindfulness was negatively associated with procrastinatory tendencies and that facets of mindfulness helped explain individual differences in procrastination and well-being. These correlational results provide construct validity for the theoretical claim that increasing mindfulness should reduce procrastination.

Intervention evidence is consistent with these theoretical and correlational links. Randomized and quasi-experimental studies, including pilot trials of acceptance/mindfulness group interventions among university students, report reductions in self-reported procrastination and improvements in task engagement following brief mindfulness/acceptance interventions. More recent randomized trials of mindfulness training specifically targeting academic populations also report beneficial effects on procrastination and related self-regulatory outcomes, suggesting that mindfulness-based therapy can produce measurable change in procrastinatory behavior.

Meta-analytic evidence supports the general effectiveness of mindfulness-based therapies for affective and self-regulatory problems that are upstream drivers of procrastination. Khoury et al.'s comprehensive meta-analysis found moderate-to-large pre–post effects for MBIs on anxiety, depression, and stress and overall positive effects on functioning — outcomes theoretically positioned to reduce avoidance-based procrastination when targeted by therapy. Taken together with domain-specific trials, the meta-analytic picture strengthens the plausibility that MBIs reduce procrastination by ameliorating the affective triggers that sustain delay.

Mechanistically, the literature identifies three proximal processes through which mindfulness likely reduces procrastination: (1) improved attentional control (reducing distractibility and enhancing sustained task focus), (2) reduced cognitive fusion and rumination (weakening the control of negative thoughts over behaviour), and (3) increased distress tolerance/acceptance (making it easier to approach aversive tasks). Empirical mediation analyses from several studies support at least partial mediation by reductions in negative affect and increases in present-moment awareness.

Remaining gaps and caveats: although evidence is convergent, limitations persist. Several trials are small or pilot in nature, and not all studies use active control groups, leaving room for expectancy or non-specific group effects. There is also heterogeneity in intervention formats (brief workshops, 8-week MBCT/MBSR, online modules), making it important to specify which format drives effects. Finally, longer-term follow-ups are relatively sparse, so durability of change in procrastination needs clearer documentation. These limitations point to the need for larger randomized controlled trials with active controls and long-term follow-up to confirm causal claims and clarify dose–response relationships.

Theoretical models, cross-sectional associations, intervention pilot data, randomized trials, and a broad meta-analytic literature on MBIs together build a coherent case that mindfulness-based therapy should reduce procrastination in student samples. Given that mindfulness targets core cognitive–emotional processes that sustain procrastination, the pretest–posttest finding of a statistically significant decrease in procrastination scores after mindfulness therapy is well supported by the extant literature, while acknowledging the need for more large, well-controlled, and longer-term trials.

The reduction in procrastination may result from increased metacognitive awareness and emotional regulation, core aspects of mindfulness practice. As individuals learn to observe thoughts and emotions nonjudgmentally, they are less likely to be overwhelmed by negative feelings such as anxiety or self-doubt, which often lead to procrastination.

Although the assumption of normality was not fully met, the consistency between t-test and Wilcoxon results reinforces the robustness of the findings. These results are consistent with previous studies demonstrating that mindfulness interventions effectively reduce procrastination and improve psychological well-being (Sirois & Tosti, 2012; Shapiro et al., 2018).

6. Conclusion

The findings of this study provide strong evidence for the effectiveness of mindfulness-based therapy in reducing procrastination and increasing mindfulness levels. Participants demonstrated significant improvements after therapy, suggesting that mindfulness can be a valuable intervention for promoting self-regulation, focus, and productivity. Incorporating mindfulness practices into educational, clinical, and organizational contexts may contribute to improved task performance and psychological well-being.

6.1 *Implications and Recommendations*

a) ***Clinical Implications***: Mental health professionals can incorporate mindfulness-based strategies into therapeutic interventions to help clients overcome procrastination and improve emotional regulation.

b) ***Educational Implications***: Institutions should consider integrating mindfulness programs into student development curricula to reduce academic procrastination and enhance concentration.

c) ***Organizational Implications***: Workplaces can adopt mindfulness-based workshops to improve time management, reduce stress, and enhance productivity among employees.

d) ***Research Recommendations***: Future research should replicate this study using a larger sample size and include a control group to validate the causal relationship between mindfulness training and procrastination reduction.

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