

A literature review addressing the relationship between mindfulness and stress-level

Yiheng Fang

University of Rochester

Abstract

This review explores the effectiveness of mindfulness interventions, particularly Mindfulness-Based Stress Reduction (MBSR), in reducing stress. Existing research supports the positive impact of mindfulness-based therapy on stress, anxiety, and depression. Despite promising outcomes, the limited number of high-quality studies underscores the need for more comprehensive research. Highlighted studies include an 8-week mindfulness program for medical students, demonstrating significant reductions in stress and anxiety, and a pilot study investigating the impact of MBSR on individuals in substance abuse treatment. In the educational context, mindfulness interventions can improve students' well-being and attention. A study in Granada, Spain, reports positive outcomes in health, school, and family variables post-intervention. In conclusion, while literature supports the positive impact of mindfulness on stress reduction, further robust research, especially in educational settings, is essential to establish effectiveness and guide future interventions.

Keywords: Anxiety disorder; stress level; mindfulness; MBSR

Introduction

Mindfulness is a type of meditation where people concentrate on being acutely conscious of the current moment and everything, including their sensations and emotions, without judgment. Modern research has provided enormous evidence showing that mindfulness-based therapy is especially effective for reducing stress, anxiety, and depression. Mindfulness theory states that pain has always been, but suffering is avoidable based on personal choice. In modern society, with high education and technology, people's expectations increase, and they face enormous amounts of pressure and stress from different aspects. Overwhelming stress can cause psychological distress and impairment, which impacts the overall psychological health of a person, and the world needs a better plan. People need more effective strategies and interventions for managing stress.

Mindfulness-based stress reduction (MBSR)

Mindfulness-based stress reduction (MBSR) therapy has been proven effective for reducing stress. It was initially designed for stress management, but later, it was expanded to cure depression, anxiety, chronic pain, cancer, diabetes mellitus, hypertension, and skin and immune disorders. MBSR is a structured program designed to cultivate mindfulness as a powerful tool for managing stress and enhancing overall well-being. Developed by Dr. Jon

Kabat-Zinn in the late 1970s, MBSR integrates ancient mindfulness meditation practices with contemporary psychological insights. The core philosophy revolves around fostering a heightened awareness of the present moment, enabling individuals to respond to life's challenges with greater clarity and resilience. Through guided mindfulness meditation, gentle yoga, and exploration of present-moment experiences, MBSR empowers participants to develop a more mindful approach to daily living. This evidence-based program has gained widespread recognition for its effectiveness in reducing stress, improving emotional regulation, and promoting balance and calm amid life's demands.

However, despite the efficacy, there's a limited number of studies testing this approach. In a meta-analysis of 64 studies on MBSR (Grossman et al., 2004), only 20 met the criteria for quality and relevance. Exclusion criteria involved issues like insufficient intervention information or poor statistical analysis. The accepted studies covered diverse clinical and nonclinical populations, showing consistent effect sizes (approximately 0.5, $P < .0001$) in controlled and uncontrolled settings. The results suggest that MBSR may effectively help individuals cope with clinical and nonclinical problems despite the limited number of studies in the analysis.

Mindfulness practice in reducing stress levels

Other studies support the efficacy of mindfulness practice

in dealing with stress. A study published in 2011 (Warnecke et al., 2011) employed a multicentre, single-blinded, randomized controlled trial (RCT) with an intention-to-treat analysis. The participants were final-year medical students recruited from three clinical schools. Exclusion criteria were applied based on psychological distress screening using the K10 questionnaire. The intervention involved an 8-week mindfulness practice using a guided audio CD. Outcome measures included the Perceived Stress Scale (PSS) and the Depression, Anxiety, and Stress Scale (DASS). Results, analyzed on an intention-to-treat basis, indicated a significant decrease in PSS and DASS anxiety scores for participants in the intervention group. Follow-up data collected eight weeks after the intervention showed sustained effects. Adherence to the intervention was recorded, with 64% completing the practice record. No adverse effects were reported. The study suggests that mindfulness practice may effectively reduce stress and anxiety in senior medical students, with the effects persisting post-intervention.

Another pilot study (Marcus et al., 2003) aimed to investigate the impact of a Mindfulness-Based Stress Reduction (MBSR) intervention on the psychological and physiological stress response of individuals undergoing substance abuse treatment in a therapeutic community. Twenty-one participants received training in five mindfulness practices, and stress response was evaluated using awakening salivary cortisol and the Perceived Stress Scale (PSS) before and after the intervention. The results showed a significant decrease in awakening salivary cortisol levels ($P < 0.0001$) post-intervention. While there was a reduction in self-reported stress, the change in PSS was not statistically significant ($P = 0.65$). These findings suggest that MBSR may impact the physiological response to stress in individuals within a therapeutic community, supporting the use of salivary cortisol as an indicator of stress response. Further research is needed to determine the intervention's potential value as an adjunct to therapeutic community treatment.

Students' stress and negative emotions are prevalent due to academic pressures and personal developmental needs. Mindfulness is introduced as a potential solution to alleviate these issues, focusing on emotional self-regulation and improved learning. Proper interventions are crucial during childhood and adolescence, which are crucial for developing coping mechanisms. Mindfulness is defined as attentional self-regulation, cultivating awareness of the present moment. A specific study explores the impact of MBSR intervention on school students' attention, stress levels, and well-being. (Baena-Extremera, et al., 2021) The paper discusses the lack of an exact equivalent term in Western culture and the various educational interventions, including MBSR, Mindfulness-Based Cognitive

Therapy, Dialectic Behavior Therapy, and Acceptance and Commitment Therapy. The benefits of mindfulness techniques are explored, particularly in the transition from primary to secondary education. The study discusses the limited research on mindfulness interventions in compulsory education and highlights the need for techniques promoting awareness in the school environment. The study aims to examine the effects of a mindfulness program on students' attention and stress levels, considering gender, age, and educational center differences. The participants include 343 students from four schools in Granada, Spain. The analysis reveals improvements in health, school, and family variables post-intervention. The d2 questionnaire shows increased attention/concentration levels after the program. The study concludes that mindfulness interventions can positively impact students' attention and stress levels, providing valuable insights for future research.

Conclusion

In summary, the literature strongly supports the efficacy of mindfulness-based interventions, particularly Mindfulness-Based Stress Reduction (MBSR), in reducing stress and anxiety. Research demonstrates consistent positive outcomes in diverse populations, indicating the potential of mindfulness practices to address psychological distress. Despite the proven benefits, a limited number of high-quality studies emphasize the need for more comprehensive research. Specific studies highlight the effectiveness of mindfulness interventions, such as an 8-week program for medical students and a pilot study in substance abuse treatment, showing significant reductions in stress indicators. The literature also explores mindfulness in educational settings, emphasizing its positive impact on students' well-being and attention levels. A specific study in this context reveals improvements in health, school, and family variables post-intervention.

In conclusion, while mindfulness shows promise in stress reduction, further robust research is needed, especially in educational contexts, to establish its effectiveness and guide future interventions.

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