

## **Review of Emotional Regulation and Resilience in Depressed Adolescents through Yoga Interventions**

**Bhupnesh Kumar<sup>1</sup>, Dr. Sunita<sup>2</sup>**

<sup>1</sup>Research Scholar, Department of Yoga, Nims University Rajasthan, Jaipur

<sup>2</sup>Research Supervisor, Department of Yoga, Nims University Rajasthan, Jaipur

### **Abstract**

Adolescent depression poses significant challenges to mental health globally, necessitating effective interventions. This review examines the role of yoga interventions in enhancing emotional regulation and resilience among depressed adolescents. Yoga, a mind-body practice encompassing physical postures, breathing exercises, and meditation, has shown promise in improving mood and reducing symptoms of depression. The mechanisms underlying yoga's efficacy include stress reduction, modulation of the autonomic nervous system, and enhancement of mindfulness and emotional awareness. Studies reviewed demonstrate that yoga interventions lead to reduced depressive symptoms and improved emotional regulation skills such as impulse control and emotional expression. Moreover, these interventions enhance resilience by fostering adaptive coping strategies and improving self-esteem. Challenges in the implementation of yoga programs include adherence and cultural acceptance, but promising results suggest its potential as an adjunctive therapy in adolescent depression treatment. Future research should focus on larger randomized controlled trials with diverse populations to establish yoga's efficacy and optimize its integration into clinical practice. Overall, yoga emerges as a beneficial and holistic approach to promoting emotional well-being and resilience in depressed adolescents.

**Keywords:** Emotional Regulation, Yoga Interventions, psychological

### **1. Introduction**

In the modern landscape of adolescent mental health, depression stands as a significant challenge, affecting millions of young individuals worldwide. Adolescence, a critical developmental period marked by biological, psychological, and social changes, often becomes a breeding ground for the emergence of various mental health issues, with depression being one of the most prevalent and debilitating among them (Bazzano et al., 2022; Felver et al., 2020; Sanchez et al., 2022).

The impact of depression on adolescents extends far beyond mere mood disturbances; it permeates into every facet of their lives, impairing their ability to function effectively in school, relationships, and daily activities. Among the myriad of challenges faced by adolescents with depression, perhaps one of the most profound is the struggle to regulate their emotions and cultivate resilience in the face of adversity (Frank et al., 2017; Ramasubramanian, 2017). Emotional regulation, the ability to recognize, understand, and manage one's emotions in adaptive ways, plays a crucial role in navigating the tumultuous terrain of adolescence. However, for adolescents grappling with depression, this skill becomes elusive, leaving them vulnerable to intense emotional upheavals and maladaptive coping strategies (Karamacoska et al., 2023; Rathor et al., 2023).

Similarly, resilience, the capacity to bounce back from setbacks and thrive in the face of adversity, is a hallmark of psychological well-being. Yet, depression often erodes this innate resilience, leaving adolescents feeling overwhelmed and powerless in the face of life's challenges (Tiwari & Tripathi, 2022).

Amidst the complex interplay of biological, psychological, and environmental factors contributing to adolescent depression, the quest for effective interventions has led researchers and practitioners to explore novel approaches beyond traditional pharmacotherapy. In this endeavor, the ancient practice of yoga has emerged as a promising contender, offering a holistic pathway to healing that integrates physical postures, breathwork, mindfulness, and meditation.

The allure of yoga lies in its potential to address the multifaceted nature of depression by nurturing emotional regulation and bolstering resilience through mind-body practices. By harnessing the power of breath and movement, yoga empowers adolescents to cultivate greater self-awareness, regulate their emotions, and build inner strength in the face of adversity. Against this backdrop, this study seeks to delve deeper into the role of yoga interventions in enhancing emotional regulation and resilience among adolescents with depression. By rigorously examining the effects of yoga on these critical aspects of mental health, we aim to shed light on its potential as a valuable adjunctive therapy in the treatment of adolescent depression.

Through this exploration, we hope to not only expand our understanding of the mechanisms underlying yoga's therapeutic effects but also pave the way for the development of tailored interventions that resonate with the unique needs and experiences of adolescents grappling with depression. In doing so, we aspire to offer a beacon of hope for a generation navigating

the stormy seas of mental illness, guiding them towards a path of healing, growth, and resilience.

## **2. Background and rationale for the study**

The background and rationale for this study on the importance of emotional regulation, resilience, and depression in adolescents stem from the critical need to address mental health challenges during this pivotal developmental stage. Adolescence is marked by rapid physical, emotional, and cognitive changes, making it a period of heightened vulnerability to mental health issues. Depression, in particular, has emerged as a significant public health concern, with increasing prevalence rates worldwide. The World Health Organization (WHO) estimates that depression is one of the leading causes of illness and disability among adolescents. This study aims to explore the underlying factors contributing to adolescent depression, the role of emotional regulation and resilience in mitigating its effects, and the implications for intervention and prevention strategies.

The rationale for focusing on emotional regulation and resilience is based on their established importance in promoting mental well-being and reducing the risk of depression. Emotional regulation, the ability to manage and respond to emotional experiences effectively, is crucial for maintaining mental health. Adolescents who lack emotional regulation skills are more likely to experience persistent negative emotions, leading to increased susceptibility to depression. Resilience, the capacity to bounce back from adversity, is equally important. Resilient adolescents can cope better with stress and challenges, thereby reducing the impact of negative experiences on their mental health.

The increasing prevalence of depression among adolescents highlights the urgent need for effective preventive measures and interventions. Understanding the interplay between emotional regulation, resilience, and depression can inform the development of targeted strategies to support adolescents during this critical period. Schools, families, and communities play a vital role in fostering environments that promote emotional regulation and resilience. By identifying the factors that contribute to these skills and understanding their protective effects against depression, this study aims to provide valuable insights for policymakers, educators, and mental health professionals.

## **3. Literature Review**

### **Impact of Yoga Interventions on Emotional Regulation**

Numerous studies have explored the effects of yoga interventions on emotional regulation across various populations, including adolescents, adults, and individuals with mental health conditions such as depression and anxiety. Findings consistently suggest that engaging in regular yoga practice is associated with improvements in emotional regulation skills, including increased awareness of emotional states, enhanced ability to tolerate distress, and greater flexibility in responding to challenging situations. Yoga's emphasis on breath awareness, mindfulness, and body-mind integration appears to promote a more balanced and adaptive approach to managing emotions, thereby reducing the frequency and intensity of mood disturbances.

**Childs-Fegredo et al. (2023)** This study conducted a randomized controlled trial to investigate the effects of a yoga intervention on emotional regulation in adolescents. Participants were randomly assigned to either a yoga intervention group or a control group. The yoga intervention consisted of weekly yoga sessions over a period of 12 weeks, focusing on breath awareness, mindfulness, and relaxation techniques. Emotional regulation was assessed using standardized self-report measures before and after the intervention. Results indicated significant improvements in emotional regulation scores among participants in the yoga intervention group compared to the control group. These findings suggest that yoga interventions may be an effective approach for enhancing emotional regulation skills in adolescents.

**Chan et al. (2023)** This pilot study explored the feasibility and preliminary efficacy of a mindfulness-based yoga intervention for adolescents with depression. Participants were adolescents aged 13 to 18 years who were diagnosed with depression. The intervention consisted of weekly yoga sessions combined with mindfulness practices such as body scan and loving-kindness meditation. Emotional regulation was assessed using qualitative interviews and standardized self-report measures before, during, and after the intervention. Preliminary findings indicated improvements in emotional regulation skills, with participants reporting increased awareness of their emotions and greater ability to cope with stressors. These findings suggest that mindfulness-based yoga interventions may hold promise for addressing emotional dysregulation in adolescents with depression.

**Firera et al. (2023)** This longitudinal study examined the long-term effects of a yoga intervention on emotional regulation in college students. Participants were enrolled in a

semester-long yoga course that met twice weekly for 16 weeks. The intervention included physical postures, breathing exercises, and mindfulness practices. Emotional regulation was assessed using self-report measures administered at baseline, mid-semester, and end-of-semester time points. Results revealed significant improvements in emotional regulation skills over the course of the intervention, with participants demonstrating greater emotional awareness and regulation abilities. These findings suggest that sustained engagement in yoga practice may lead to lasting improvements in emotional regulation among college students.

**López-Ramón et al. (2023)** This meta-analysis synthesized findings from multiple studies investigating the impact of yoga interventions on emotional regulation in children aged 6 to 12 years. A comprehensive literature search identified relevant studies published in peer-reviewed journals. Effect sizes were calculated for outcomes related to emotional regulation, including measures of emotion recognition, emotion expression, and emotion regulation strategies. The meta-analysis revealed a significant overall effect of yoga interventions on improving emotional regulation in children. Subgroup analyses indicated that the effects were robust across different age groups, intervention durations, and intervention types. These findings provide strong evidence supporting the efficacy of yoga as a tool for enhancing emotional regulation skills in children.

**Aggarwal et al. (2023)** This qualitative study explored the subjective experiences and perceptions of adults participating in a yoga program focused on emotional regulation. Participants were adults aged 18 to 65 years who had completed a series of yoga sessions specifically designed to promote emotional well-being. Semi-structured interviews were conducted to elicit participants' perspectives on how yoga influenced their emotional regulation skills and overall mental health. Thematic analysis of the interview data revealed several key themes, including increased self-awareness, enhanced emotional resilience, and improved coping strategies. Participants reported that yoga provided them with practical tools and techniques for managing stress, regulating emotions, and cultivating a sense of inner calm. These findings offer valuable insights into the subjective benefits of yoga for emotional regulation among adults.

### **Impact of Yoga Interventions on Emotional Resilience**

Research examining the impact of yoga interventions on emotional resilience has similarly yielded promising results. By fostering a sense of connection to one's inner resources,

cultivating acceptance of life's inevitable ups and downs, and promoting adaptive coping strategies, yoga appears to enhance individuals' capacity to bounce back from adversity and thrive in the face of stress. Studies have documented improvements in resilience-related outcomes such as self-efficacy, perceived stress, coping skills, and overall psychological well-being following participation in yoga programs. These findings underscore yoga's potential as a holistic approach to bolstering emotional resilience and promoting thriving, even in the midst of challenging circumstances.

**Wendel et al. (2023)** This systematic review and meta-analysis synthesized findings from various studies examining the impact of yoga interventions on emotional resilience across different populations. A comprehensive search of electronic databases identified relevant studies published in peer-reviewed journals. Studies were included if they assessed resilience-related outcomes before and after participation in a yoga intervention. The meta-analysis pooled effect sizes to quantify the overall impact of yoga on resilience. Results indicated a significant positive effect of yoga interventions on enhancing emotional resilience, with participants demonstrating improvements in coping skills, stress management, and overall psychological well-being. Subgroup analyses revealed that the effects were consistent across diverse populations, including adults, adolescents, and individuals with mental health conditions. These findings provide robust evidence supporting the efficacy of yoga as a tool for promoting emotional resilience in various contexts.

**Llistosella et al. (2023)** This mixed-methods study investigated the effects of a mindfulness-based yoga intervention on emotional resilience among healthcare workers. Participants were healthcare professionals experiencing high levels of stress and burnout. The intervention consisted of weekly yoga sessions combined with mindfulness practices such as meditation and reflective journaling. Emotional resilience was assessed using a combination of quantitative measures and qualitative interviews before and after the intervention. Quantitative analysis revealed significant improvements in resilience scores, with participants reporting greater emotional balance, adaptability, and coping abilities. Qualitative interviews provided rich insights into participants' experiences, highlighting the role of yoga in promoting self-care, stress reduction, and emotional regulation. These findings underscore the potential of mindfulness-based yoga interventions as a targeted approach for enhancing emotional resilience among healthcare workers facing occupational stressors.

**Hagen et al. (2023)** This pilot study examined the feasibility and preliminary efficacy of a yoga intervention for enhancing emotional resilience in adolescents. Participants were high school students experiencing academic stress and anxiety. The intervention consisted of weekly yoga sessions focused on breath awareness, relaxation techniques, and mindfulness practices. Emotional resilience was assessed using standardized self-report measures before and after the intervention. Preliminary findings indicated improvements in resilience scores among participants, with reductions in stress levels and increased feelings of self-efficacy and optimism. Qualitative feedback from participants highlighted the positive impact of yoga on their ability to manage stress, regulate emotions, and maintain a sense of well-being. These findings suggest that yoga interventions may offer a promising approach for building emotional resilience in adolescents navigating the challenges of adolescence.

**Lakshmi et al. (2023)** This longitudinal study investigated the long-term effects of a yoga intervention on emotional resilience in older adults. Participants were older adults aged 65 years and above who were experiencing age-related stressors and health challenges. The intervention consisted of weekly yoga classes focused on gentle movements, breathing exercises, and relaxation techniques. Emotional resilience was assessed using self-report measures administered at baseline, mid-intervention, and post-intervention time points. Results revealed significant improvements in resilience scores over the course of the intervention, with participants reporting greater adaptability, optimism, and psychological well-being. These findings highlight the potential of yoga as a holistic approach for enhancing emotional resilience and promoting healthy aging in older adults.

### **Self-awareness and Mindfulness as Mediators**

Emerging research suggests that self-awareness and mindfulness may serve as key mediators in the relationship between yoga interventions and improvements in emotional regulation and resilience. By cultivating greater self-awareness, yoga helps individuals develop a deeper understanding of their emotional experiences, patterns of thinking, and behavioural tendencies, which in turn enhances their ability to regulate emotions more effectively. Similarly, mindfulness practices inherent in yoga, such as focused attention on the breath and non-judgmental awareness of present-moment experience, promote heightened self-awareness and acceptance, facilitating a more adaptive response to stressors and fostering resilience in the face of adversity.

**Davis & Aylward (2023)** This longitudinal study investigated the mediating role of self-awareness in the relationship between yoga interventions and emotional regulation. Participants were adults enrolled in a yoga program designed to promote emotional well-being. Self-awareness was assessed using standardized self-report measures at multiple time points throughout the intervention period. Structural equation modeling (SEM) was employed to analyse the longitudinal data and test the hypothesized mediation model. Results revealed that changes in self-awareness significantly mediated the relationship between participation in yoga interventions and improvements in emotional regulation over time. Specifically, individuals who experienced greater increases in self-awareness through yoga practice demonstrated more significant improvements in their ability to recognize, understand, and manage their emotions effectively. These findings highlight the importance of self-awareness as a key mechanism through which yoga interventions exert their therapeutic effects on emotional regulation.

**Yu et al. (2022)** This cross-sectional study examined the mediating role of mindfulness in the relationship between yoga practice and stress reduction among adults. Participants were individuals enrolled in a community-based yoga program aimed at promoting well-being and stress management. Mindfulness was assessed using validated self-report measures, while stress levels were measured using standardized scales. Mediation analysis was conducted to explore whether mindfulness mediated the relationship between frequency of yoga practice and perceived stress levels. Results indicated that mindfulness significantly mediated the relationship between yoga practice frequency and stress reduction, suggesting that individuals who engaged in regular yoga practice were more likely to cultivate mindfulness skills, which, in turn, contributed to lower levels of perceived stress. These findings underscore the importance of mindfulness as a potential mechanism through which yoga practice confers its stress-relieving benefits.

**Oguntuase & Sun (2022)** This randomized controlled trial examined the mediating role of mindfulness in the relationship between yoga interventions and psychological well-being among adults with anxiety disorders. Participants were randomly assigned to either a yoga intervention group or a waitlist control group. Mindfulness was assessed using self-report measures, while psychological well-being was measured using validated scales. Mediation analysis was conducted to determine whether changes in mindfulness mediated the effects of yoga interventions on psychological well-being outcomes. Results indicated that increases in



mindfulness significantly mediated the relationship between participation in yoga interventions and improvements in psychological well-being. Specifically, individuals who experienced greater increases in mindfulness through yoga practice demonstrated greater improvements in their overall mental health and well-being. These findings highlight mindfulness as a potential mechanism through which yoga interventions contribute to psychological well-being outcomes in clinical populations.

**Wac (2022)** This mixed-methods study examined the mediating roles of self-awareness and mindfulness in the relationship between yoga practice and resilience in college students. Participants were undergraduate students enrolled in a semester-long yoga course. Self-awareness and mindfulness were assessed using validated self-report measures, while resilience was measured using standardized scales. Quantitative mediation analysis and qualitative thematic analysis were conducted to explore the mediating pathways underlying the effects of yoga practice on resilience. Results indicated that both self-awareness and mindfulness significantly mediated the relationship between yoga practice and resilience, with students reporting greater self-awareness, mindfulness, and resilience following participation in the yoga course. These findings highlight the intertwined roles of self-awareness and mindfulness as key mechanisms through which yoga practice promotes resilience in college students.

#### **4. Yoga interventions in mental health treatment for adolescents**

Yoga interventions have emerged as a valuable component in mental health treatments for adolescents, offering a holistic approach to addressing various psychological challenges. As a mind-body practice, yoga combines physical postures, controlled breathing techniques, and meditation, aiming to integrate mental and physical well-being. In the context of adolescent mental health, yoga has been studied for its therapeutic benefits, including stress reduction, improved mood regulation, and enhanced resilience.

Adolescents facing mental health issues such as depression, anxiety, and stress often experience difficulties in emotional regulation and coping mechanisms. Yoga interventions provide adolescents with tools to manage these challenges effectively. By promoting relaxation and reducing physiological arousal, yoga helps mitigate symptoms of anxiety and

depression. Moreover, the practice of yoga enhances emotional awareness and mindfulness, fostering adaptive coping strategies and emotional resilience.

Research has shown promising outcomes of yoga interventions in clinical settings. Studies indicate that regular yoga practice correlates with decreased levels of cortisol, the stress hormone, and improvements in mood and emotional stability among adolescents. Furthermore, participation in yoga programs has been associated with increased self-esteem and overall well-being, contributing to a positive therapeutic outcome in mental health treatment.

Despite these benefits, challenges remain in integrating yoga into adolescent mental health care. Issues such as accessibility, cultural relevance, and adherence to practice require attention to maximize the effectiveness of yoga interventions. Future research should focus on rigorous clinical trials to establish evidence-based guidelines for incorporating yoga into comprehensive treatment plans for adolescent mental health. Overall, yoga represents a promising adjunctive therapy that addresses the multifaceted nature of mental health issues in adolescents, offering a pathway to improved emotional well-being and resilience.

## **5. Conclusion**

Yoga interventions emerge as a promising and holistic approach to enhancing emotional regulation and resilience in depressed adolescents. Through practices like physical postures, controlled breathing, and meditation, yoga equips adolescents with valuable tools to manage emotions and reduce symptoms of depression. It fosters emotional awareness, mindfulness, and relaxation, crucial for improving mood stability and developing adaptive coping strategies. Despite challenges in implementation such as adherence and cultural acceptance, research consistently highlights yoga's benefits in reducing anxiety, depression, and enhancing overall well-being. Future studies should focus on rigorous methodologies to further validate these findings and optimize integration into mental health treatments for adolescents. Overall, yoga offers a transformative pathway towards empowering adolescents with effective self-care practices that support long-term emotional health and resilience.

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