

The Magic of Mandala Colouring on Response Inhibition and Interoceptive Awareness: A Scoping Review

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Abstract

Mandala colouring, an emerging psychological intervention, has attracted increasing attention across the field of psychology, counselling, mindfulness-based interventions and other human behavioural sciences. It has been considered as a novel approach due to its potential in stress reduction, emotional regulation, self-regulatory control and psychological well-being. Recent studies have investigated the relationship between meditative practices, cognitive and mindbody sensations. Mandala colouring is a non-pharmacological, low-cost intervention that enhances self-regulation across all age groups. Several recent studies highlight the role of Mandala colouring in various settings. However, emerging constructs like response inhibition and interoceptive awareness linked to self-regulation and executive functioning remain fragmented, with limited links to Mandala colouring. Nevertheless, this scoping review maps the landscape of existing evidence on its role in enhancing response inhibition and interoceptive awareness.

Objective: This scoping review aims to map and synthesize the existing literature investigating the relationship between mandala colouring, response inhibition and interoceptive awareness across diverse populations and settings.

Methods: The Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines were used to report the findings of this scoping review. To delve deeper into the existing studies and to identify knowledge gaps, this study used the following databases, PubMed, Web of Science, Scopus, Science Direct, Google Scholar, Jstore, Research Gate and Journal Sages, covering the entire duration from 2016 to 2026 using the PCC(Population-Concept-Context) criteria. The inclusion criteria are empirical studies with diverse populations and contexts, and interventions linking to mandala colouring. The exclusion criteria are the studies that lacked the psychological or cognitive outcomes, studies without full text, and articles published in languages other than English. After screening 814 records, 11 empirical studies met the study criteria.

Results: The findings indicated that Mandala Colouring was associated with improvements in executive functions related to inhibition, reduced reactivity to stress, increased body sensations, emotional regulation and increased attention. Most studies employed pre-post designs, small randomised trials, with limited mechanistic depth on the neural connection between response inhibition and interoceptive awareness.

Conclusion: Mandala Colouring primarily functions as a psychotherapeutic and psychological assessment tool in overall psychological wellbeing. Although it has been reported to enhance self-regulation and interoceptive awareness, direct empirical studies remain inadequate. However, further longitudinal, culturally grounded exploration is necessary for future research.

Keywords

Mandala colouring, Art therapy, response inhibition, interoceptive awareness, mindfulness, executive functioning.