

**Research Article****STRUCTURED CREATIVE INTERVENTION IN THE FUNCTION OF EMOTIONAL REGULATION
IN MOTHERS OF YOUNG CHILDREN: A PILOT STUDY****¹Dina Balić, ²Martina Kosec and ^{3,*}Maja Žmukić**¹Revitalum - Center for personal growth, Zagreb, Croatia²Center for Development through Art, Zagreb, Croatia³Faculty of Educational Sciences Sarajevo, University of Sarajevo, Bosnia and Herzegovina**Received 16th June 2026; Accepted 25th July 2026; Published online 30th August 2026**

Abstract

Motherhood of early and preschool-aged children represents a developmentally demanding period characterized by increased emotional, cognitive, and organizational burden. In such a context, there is a growing need for accessible and time-efficient interventions that can contribute to emotional stabilization and reduction of the subjective experience of stress. The aim of this study was to examine the effects of a short online creative intervention based on the fractal drawing method on emotional regulation and the experience of stress in mothers of children aged 0 to 7 years. The research was conducted as a pilot pretest–posttest study with a single sample (N = 9). The intervention lasted seven days and included daily fractal drawing for 15–20 minutes. The assessment of changes was conducted using an initial and a final questionnaire. The results indicate a reduction in frustration and feelings of overwhelm in 88.9% of participants, a reduction in anxiety in 66.7%, stabilization of mood in all participants, and improvement in cognitive clarity and perception of creativity. The most pronounced changes were observed in participants who consistently participated throughout the entire program. The results suggest that structured creative activities may have potential as short and accessible interventions for supporting emotional self-regulation in mothers. However, due to methodological limitations, the results should be interpreted as preliminary.

Keywords: Emotional regulation, Motherhood, Stress, Creative interventions, Fractal drawing.**INTRODUCTION**

Motherhood of early and preschool-aged children represents one of the most developmentally intensive periods in a woman's life. In addition to a strong sense of meaning and connection, it often includes increased emotional reactivity, continuous redirection of attention, fragmentation of daily activities, and a sense of overwhelm. The contemporary social context further intensifies this pressure through high expectations related to parental competence, professional achievement, and personal fulfillment. According to data from the World Health Organization, a significant number of women in the perinatal and early parenting period develop symptoms of depression and anxiety, which represents an important public health challenge (WHO, 2022). At the same time, recent research indicates that parental stress is associated with reduced subjective well-being and emotional exhaustion (Rusu *et al.*, 2025). At the center of these processes is emotional regulation. Systematic reviews indicate that the ability to regulate emotions is key to understanding psychological adjustment in the perinatal period, with rumination and emotional overload associated with unfavorable outcomes (Aldao *et al.*, 2010), while adaptive strategies contribute to stability and resilience (Zitzmann *et al.*, 2024). In this context, there is increasing interest in short, accessible, and low-burden interventions that can be integrated into everyday life. Creative activities and artistic expression are associated with improvements in emotional regulation, increased cognitive flexibility, and subjective well-being (Barnett & Vasiliu, 2024; Fancourt & Finn, 2019; Kaimal *et al.*, 2016).

Participation in artistic and craft activities is also associated with higher levels of subjective well-being (Keyes *et al.*, 2024). The method of fractal drawing represents a structured creative activity that combines spontaneous line and conscious coloring. Such a process can function as a form of attentional focus, reduction of rumination, and stabilization of internal experience. The aim of this study was to examine the effects of a seven-day online intervention based on this method in mothers of children aged 0 to 7 years. In the last decade, an increasing number of studies have focused on so-called micro-interventions that are short in duration but effective in regulating stress and emotional responses, particularly in populations with limited time resources (Howell & Kroska, 2021). Such interventions demonstrate a high level of acceptability and sustainability precisely because of their simplicity and the possibility of integration into daily routines. Empirical results indicate that creative activities such as drawing and coloring can significantly reduce cortisol levels and contribute to a subjective sense of calm (Kaimal *et al.*, 2016). Furthermore, systematic reviews confirm that artistic activities operate through mechanisms of attentional focus, sensorimotor integration, and symbolic processing of experience, thereby directly contributing to emotional regulation (Fancourt & Finn, 2019). Within contemporary approaches to art therapy, structured creative activities are recognized as a safe and accessible framework for expressing and regulating emotions, even among individuals without prior artistic experience (Malchiodi, 2020). It is important to emphasize that in this study these activities are not considered as a psychotherapeutic process, but rather as a form of support for emotional self-regulation and subjective well-being. The method of fractal drawing can be understood as a form of rhythmic and repetitive visual activity that involves focused attention, which is associated with a reduction in rumination

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and the induction of a state similar to mindfulness (Belkofer & Konopka, 2008). Such processes can contribute to the stabilization of internal experience and an increased sense of mental clarity. Neuroaesthetic research further confirms that engagement in visual production activates neural networks associated with reward, attention, and emotional processing, which may explain subjective experiences of improved mood and clarity following creative activities (Bolwerk *et al.*, 2014). Contemporary global trends, characterized by increasing levels of stress and anxiety, point to the need for innovative approaches in education, particularly in art education and therapy. Numerous studies confirm the therapeutic potential of artistic activities, emphasizing their contribution to stress reduction, stimulation of creativity, and improvement of emotional and cognitive abilities. Artistic expression is increasingly recognized as a contemporary and effective tool for strengthening emotional stability, introspective insight, and cognitive development of the individual. Contemporary approaches in education increasingly include interdisciplinary methods, opening space for the integration of artistic and pedagogical practices in the holistic development of personality. In this context, art is not reduced to the role of a supportive tool for other disciplines but is affirmed as a source of general well-being, with its own potential to create inner balance, stimulate personal growth, and contribute to social progress (Žmukić, Kosec, Bajraktarević & Gurović, 2025).

METHODS

Research Design

The research was conducted as a pilot pretest–posttest study with a single sample. This design enables an initial assessment of intervention effects in real-life conditions and is often used in the early phases of research (Opie *et al.*, 2024).

Participants

The study included 9 mothers of children aged 0 to 7 years who completed both the initial and final questionnaire. Six participants completed all seven days of the program, while the others participated partially.

Intervention

The program “Mother in Balance” lasted seven days. Participants engaged in daily fractal drawing for 15–20 minutes. The program included instructions, short theoretical content, and reflective questions.

Instruments

Initial and final questionnaires with Likert scales and open-ended questions were used. The following variables were assessed: stress, frustration, overwhelm, mood, focus, inner peace, and perception of creativity.

Results

The results indicate a consistent positive trend of changes. A summary of the findings is presented in Table 1. As can be seen, the most pronounced changes were observed in the area of emotional stability and cognitive clarity. All participants reported a reduction in mood fluctuations, while the majority

reported a reduction in frustration and feelings of overwhelm. The perception of creativity increased from $M = 3.00$ to $M = 3.67$. Participants described the changes through increased clarity of thought and a sense of internal organization. Given the small sample size and the ordinal nature of the data, a Wilcoxon signed-rank test would be appropriate for inferential analysis. However, due to the pilot nature of the study, a descriptive analysis was conducted, indicating a consistent trend of improvement.

Table 1. Summary of Results

Variable	Before	After	Change
Creativity (M)	3.00	3.67	↑
Frustration	present	88.9% less frequent	↓
Overwhelm	high	88.9% less frequent	↓
Anxiety	present	66.7% less frequent	↓
Mood	unstable	100% more stable	↓
Focus/thoughts	scattered	100% improvement	

DISCUSSION

The obtained results suggest that a short creative intervention may be associated with improvements in emotional and cognitive stability. The reduction of feelings of overwhelm and the stabilization of mood are particularly significant in the context of parental stress (Rusu *et al.*, 2025). Cognitive changes can be associated with the regulation of attention. Creative activities that require focus and repetition may reduce rumination and contribute to mental clarity (Barnett & Vasiliu, 2024). These results are consistent with studies showing that even short-term artistic activities can lead to a significant reduction in stress after just one session (Kaimal *et al.*, 2016). Activities that involve repetition and structured visual engagement are particularly effective. Mood stabilization can be further explained by the concept of attentional anchoring, where focus on a visual task reduces cognitive overload and interrupts ruminative patterns of thinking (Fancourt & Finn, 2019). The results are also consistent with research indicating that participation in creative and craft activities contributes to a sense of control, subjective well-being, and emotional stability (Reynolds, 2010). The obtained findings can be further interpreted in the context of contemporary integrative reviews indicating that visually based art interventions in the perinatal period contribute to emotional support, a sense of connection, and subjective well-being, especially when they are time-accessible and adapted to the daily responsibilities of mothers of young children (Harris *et al.*, 2024). Furthermore, systematic reviews emphasize that difficulties in emotional regulation represent a key transdiagnostic factor in perinatal depression and anxiety, which further supports the interpretation that even short, structured creative interventions may have a significant effect on emotional stabilization (Verhelst *et al.*, 2024). From the perspective of contemporary theoretical models of art therapy, visual creation enables the processing of emotions through symbolic and sensorimotor processing, which can facilitate the organization of internal experience and lead to increased clarity and integration of experience (Weinfeld-Yehoudayan *et al.*, 2024). The practical value of the intervention lies in its accessibility and simplicity. The online format enables its application in the everyday context of mothers (Opie *et al.*, 2024). However, for a deeper understanding of the effects of such interventions, it is necessary to include larger samples and experimental designs, as well as longitudinal studies that would provide insight into the durability of the effects (Fancourt *et al.*, 2021).

Conclusion

The results of this study indicate a clearly observable and consistent pattern of positive changes in the emotional and cognitive functioning of participants following the implementation of the seven-day intervention. In line with the aim of the study, it has been confirmed that a short, structured creative activity may be associated with a reduction in the subjective experience of stress, a decrease in feelings of overwhelm and frustration, as well as stabilization of mood and an increase in cognitive clarity. It is particularly significant that all participants reported improvement in the area of focus and organization of thoughts, while the majority also reported pronounced changes at the emotional level. The obtained results are highly consistent with the defined research aim and the initial assumption that structured creative interventions can function as a tool for supporting emotional self-regulation. In this sense, the study provides empirically grounded preliminary evidence that the fractal drawing method, as a form of directed and rhythmic creative activity, may contribute to the stabilization of internal experience and the reduction of mental fragmentation in the context of everyday demands of motherhood. An important value of this study is also reflected in its applicability. The intervention is short in duration, methodologically simple, and accessible, which makes it particularly relevant for the population of mothers of young children, who often face limited time and increased burden. This very combination of accessibility and observed positive changes represents a significant contribution to the development of practically applicable models of support in the field of mental health and parenting. At the same time, it is important to emphasize that the obtained results refer to a pilot sample and are based on descriptive analysis, and should therefore be interpreted as initial, but methodologically grounded findings. Despite these limitations, the consistency of observed changes across multiple variables indicates a stable trend that justifies further research.

In conclusion, this study not only confirms the defined aims within the observed sample but also opens an important research and practical space for further development and empirical validation of creative interventions in work with mothers of early and preschool-aged children. In this sense, the fractal drawing method shows potential to be recognized not only as a creative technique but also as a structured tool for supporting emotional regulation and strengthening internal resources in the contemporary parenting context. In the broader context of contemporary literature, the obtained results further support the view that short, visually based creative interventions may represent a feasible and accessible form of support for emotional regulation and subjective well-being in the everyday life of mothers of young children (Harris *et al.*, 2024). Future research should more precisely examine the mechanisms through which structured art-making experiences contribute to stress reduction, emotional processing, and the strengthening of internal resources, using more rigorous methodological approaches and larger samples (Weinfeld-Yehoudayan *et al.*, 2024).

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