

Effects of painting therapy on psychological rehabilitation in children with autism spectrum disorder

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Abstract. Painting therapy plays an important role in the psychological rehabilitation of autistic children. Through an extensive review of the literature and relevant investigations, this research provides a comprehensive elucidation of the principles and characteristics underlying painting therapy. The findings suggest that painting therapy exhibits the potential to enhance self-expression, emotional communication, and communicative abilities while also contributing to advancements in social adaptation and emotional regulation among individuals with ASD. Utilizing this information is crucial for enhancing the caliber and efficacy of psychological intervention approaches tailored for children with autism, given the numerous challenges inherent in diagnosing and treating psychological issues in individuals with autism spectrum disorders. Nevertheless, this study acknowledges substantial limitations that necessitate further exploration and scrutiny in future research endeavors.

1 Introduction

1.1 Painting therapy and its theoretical foundations

According to the British Association of Art Therapists, painting therapy is a form of psychological intervention that utilizes the process of artistic creation and the interpretation of artworks to facilitate individuals' mental health and emotional expression. This therapeutic approach focuses on using painting and the act of painting to help individuals explore emotions, develop insight, and foster psychological growth. The method is primarily grounded in two theoretical frameworks: the theory of psychological projection and the theory of brain lateralization.

The theory of psychological projection constitutes a fundamental basis for painting therapy. Projection is a psychological defense mechanism wherein individuals attribute their faults or socially unacceptable desires to others, also known as denial projection. It is

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considered an unconscious, actively expressed activity that reflects one's inner workings, manifesting not only in artistic forms but also in dreams, hallucinations, and delusions. Painting psychology posits that painting is a natural tool for self-expression, employing non-verbal symbolic tools to convey subconscious content. Thus, painting can be regarded as a technique for psychological projection.

The theory of brain lateralization is also a crucial theoretical foundation for painting therapy. The brain's two hemispheres exhibit specialized functions, with the left hemisphere handling abstract thinking, symbolic relationships, and logical analysis of details. In contrast, the right hemisphere, responsible for psychological functions like painting and emotions, relies on visual perception. Engaging in artistic activities, particularly painting can influence and treat emotional disorders by involving the right hemisphere

In the context of painting therapy, individuals, through the process of creating a painting, externalize repressed emotions and conflicts from the subconscious. The act of creation facilitates the release of negative energy, stress relief, emotional catharsis, adjustment of emotions and perspectives, healing of psychological trauma, and filling the voids within one's inner world. This, in turn, provides therapists with substantial authentic information for analysis and treatment.

Painting therapy is not age-restricted, as both adults and children can benefit from this approach to meet various psychological needs. Additionally, painting therapy is applicable in diverse situations, including mental health recovery and the treatment of emotional disorders.

2 Research methodologies and questions

This paper aims to synthesize current literature and investigate the following inquiries: Does art therapy help children on the autism spectrum with their mental health? How specifically does it get better? This question guided the selection of the primary literature search technique, which involved a three-step keyword search approach. Initially, 78 articles were found by searching for the terms "autism" and "drawing." Subsequently, the articles were further filtered using the keywords "art therapy" and "mental health." This yielded 59 articles about the application of painting therapy to improve the mental health of children with autism.

In the third step, each article was reviewed for the following article selection criteria: (a) dealing with a sample of individuals who have autism; (b) concerning individuals who have been formally diagnosed with autism; (c) explaining specific painting therapy or theories; and (d) involving the psychological rehabilitation of children with autism. Articles were excluded if they explored painting-based critiques or painting-making tasks rather than specific approaches.

Following the previously mentioned criteria, 39 articles were retrieved. Figure 1 shows how the search was conducted.

3 Research on drawing psychotherapy in the field of psychological rehabilitation of autistic children

Numerous studies have confirmed that painting therapy has a significant effect on the improvement of autistic children's abilities in the following three areas: social skills, artistic imagination, and emotionality. This paper will discuss these effects accordingly.

3.1 Painting therapy helps autistic children with their social skills.

Communication and social interaction issues, as well as a propensity for repetitive behaviors, are hallmarks of autism spectrum disorders (ASD). On the other hand, painting therapy is a form of expression that necessitates little to no verbal interaction and can lower the threshold for communication. Children with autism can develop a wide range of skills in a way that is more comfortable than verbal language through painting therapy, which gives therapists the chance to speak with patients one-on-one.

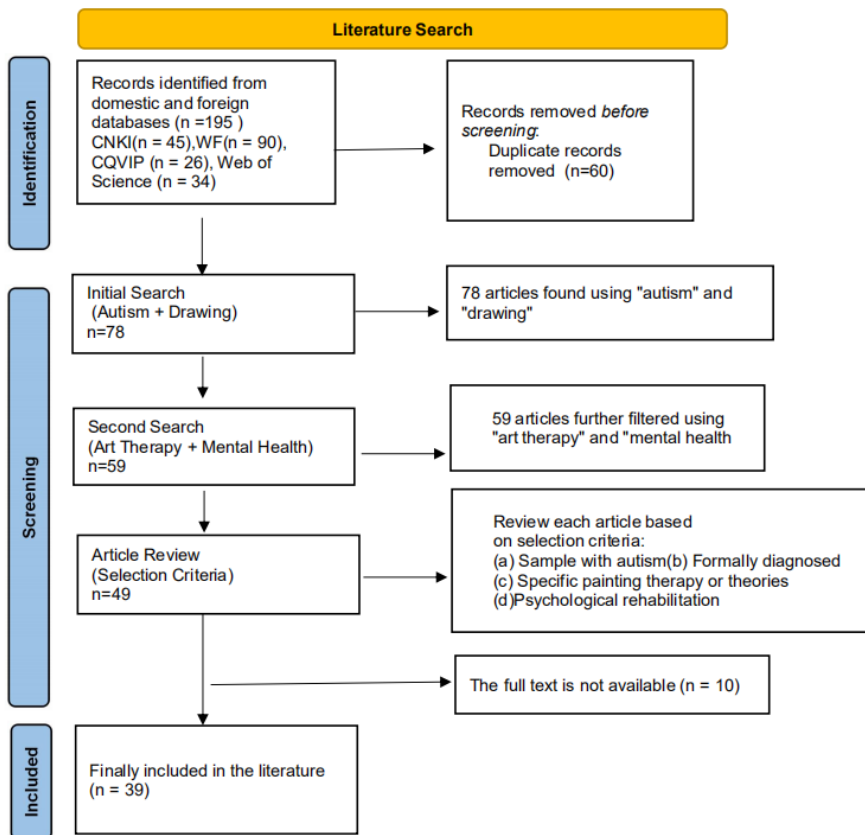


Fig. 1. Literature retrieval process.

In a study conducted by Moghaddam et al. (2019), 20 children aged 6-11 with Autism Spectrum Disorder (ASD) underwent a 15-session family-centered painting therapy intervention. Following systematic training, the application of family-centered painting therapy demonstrates effective and enduring outcomes in ameliorating social interactions and stereotypical behaviors in children with Autism Spectrum Disorder. This research highlights the potential benefits of family-centered painting therapy in enhancing social interactions and mitigating stereotypical behaviors in children with ASD.

Zeinab Jalambadani (2020) conducted painting therapy with autistic children aged 6 to 12 living in Tehran, Iran in 2017-2018 to explore its effect on the psychological and social interactions of Iranian children with high-functioning autism. The subjects displayed more adaptable behaviors and emotions after 12 sessions of painting therapy. They also had a stronger tendency to express their emotions. Social interactions also saw a significant improvement. The findings supported the notion that many autistic kids have a remarkable

capacity for "thinking in pictures." They can put this ability to good use in processing memories, recording images and visual information, as well as expressing ideas through drawing or other artistic mediums.

Two female ASD patients were chosen by Harris et al. (2015) from an autism center at a major university in the Southeast United States to take portrait painting in six weekly painting therapy sessions. Participants were instructed to sketch a self-portrait before painting the researcher's portrait. Next, the participants with ASD were joined by neurologically normal peers for portrait painting. Many results showed the effectiveness of portrait painting as a painting therapy on social interactions for adults with autism spectrum disorders (ASD) to improve their communication and social skills and increase their understanding of facial expressions and social cues.

In essence, drawing is a form of self-expression for kids with autism. They still want to communicate with others even though they are afraid to do so, but this type of expression is not the usual "mutual communication and expression," but rather pure self-expression. Painting therapy has been shown to improve autistic children's communication and language expression skills, as well as their ability to communicate and recover from their condition.

3.2 Painting therapy stimulates autistic children's imaginations

Autism manifests a triad of impairments, with current scholars both domestically and internationally dedicating considerable research efforts to address two challenging facets: social difficulties and communication barriers. However, the third component of this triad—limited imagination and restricted interests—remains somewhat overlooked. Substantial evidence suggests that painting therapy can enhance the imaginative capacities of children with autism. Through the use of symbols, lines, colors, and metaphors, these children can express themselves, unfold their imaginations, and depict the dreams and aspirations within their hearts.

Using a drawing exercise, Craig et al. (2001) examined imagination using drawing tasks in 15 children with autism and 15 children with Asperger Syndrome, as well as verbal mental age-matched normal children and children with moderate learning difficulties (MLD). Research has shown that 21 children with autism have distinct deficiencies in their capacity to comprehend non-realistic images. Drawing is a crucial therapeutic technique to assist children with autism develop their imaginations, which helps alleviate such deficits.

The purpose of Kala et al.'s drawing task (2019) with autistic children was to investigate whether children with and without autism differed in how their cognitive processes and imagination interacted. According to the study's findings, children with autism experienced early developmental changes in the cognitive processes involved in imagination. When drawing imaginatively, autistic children use particular cognitive techniques. Drawings made by autistic people are therefore like a hidden treasure that has not yet been fully discovered. They contain a wealth of knowledge that may reflect particular traits or deficits associated with autism and can support future efforts at autism screening and treatment.

In a different study, the cognitive foundations of spontaneous imagination in children with ASD were investigated (Low et al., 2009). The results indicated that children with ASD lack imagination, generative ability, planning ability, and consistent drawing style. Nonetheless, drawing allows autistic kids to use a special cognitive strategy called imaginative drawing, which fosters imagination.

In conclusion, painting therapy offers autistic children a chance to develop their creative imagination skills. Children can express themselves, depict their innermost desires and dreams, and comprehend the indescribable psychological world of autistic children by using symbols, lines, colors, and borrowed metaphors.

3.3 Painting therapy mitigates children's bad moods

Children who need emotional support can benefit from painting therapy, according to research. With the aid of symbols, lines, and colors, autistic children can use their artistic talents to express happiness, vent anger, and experience emotional catharsis.

The research conducted by Kutzner Alexia (2020) comprehensively explores the role of painting therapy in improving the emotional well-being of children with autism spectrum disorder (ASD). Through engaging in creative therapeutic interventions, along with community involvement and artistic activities, the study reveals that painting therapy enhances sensory integration, thereby positively impacting the emotions of individuals with ASD.

In a study conducted in 2009 by Nicole Martin, the focus was on the impact of painting therapy on emotional regulation in children with autism. The research findings indicate that painting can help autistic kids release and express their negative emotions, which can lead to positive emotional experiences and increase their self-awareness.

Yufan Wang (2023) investigated the effects of painting therapy on anxiety and depressive symptoms in children with autism. The results demonstrate that painting therapy significantly alleviates anxiety and depressive emotions in children, providing an effective means for emotional management.

Depression-stricken ASD individuals may benefit therapeutically from art therapy. According to Blomdahl et al (2013), art therapy can facilitate psychological healing processes by improving eight multifaceted positive goals and abilities, including creativity, abstract thought, communication, and sensory stimulation.

All in all, the painting-making process helps autistic children release their hearts and regulate their emotions. The autistic children's complete focus on their paintings, which is a way for them to express their emotions, suggests that painting therapy can touch autistic children's hearts, lift their spirits, and give them a sense of pleasure and fulfillment.

4 Limitations of previous research

Despite the widespread application of traditional painting therapy to enhance the psychological well-being of children with autism, there remains a notable dearth of research in the integration of modern high-tech artistic techniques.

Firstly, there is a lack of comprehensive evaluation regarding the actual effects of incorporating these technological methods. Large-scale, long-term clinical trials, and comparative studies are needed to establish whether the integration genuinely provides more effective support for the mental health of children with autism. Secondly, the research on personalized technological applications in painting therapy is still in its early stages. While personalized learning experiences are acknowledged, there is a need for in-depth exploration of customizing therapy applications to cater to the unique needs of each child. This involves a deeper understanding of children's cognitive levels, interests, and learning styles to ensure that technological tools effectively complement traditional methods. Lastly, the current body of research lacks extensive studies on the long-term impact and sustainability of integrating modern high-tech artistic techniques into mental health support for children with autism.

In conclusion, while traditional painting therapy has achieved some success in improving the psychological well-being of children with autism, there is a pressing need for more in-depth research into the actual effects and potential challenges of integrating modern high-tech artistic techniques into therapy. Addressing these inadequacies in research is essential for advancing the understanding and implementation of technology-enhanced painting therapy for children with autism.

5 Research to be explored

Painting therapy and modern educational technology are expected to be combined in the future in a way that will likely offer more comprehensive support for enhancing the mental health of kids with autism spectrum disorders (ASD).

This includes using tech-driven art therapy apps for personalized learning tailored to each child's needs. Virtual reality or online platforms create remote virtual art workshops, fostering social skill development. Data-driven assessments deepen understanding, collecting and analyzing therapy data for precise effectiveness assessment and individualized plans. Online platforms extend therapy to homes, providing remote family support for improved effectiveness and parental understanding. Specialized social media allows children with autism to share art, promoting social connections, self-esteem, and belonging. This new channel enhances psychological well-being and social integration.

In summary, the fusion of painting therapy and modern educational information technology offers a more flexible, accessible, and personalized learning environment for children with ASD, with the potential to positively impact their mental health and development. However, it is crucial to pay attention to privacy protection, ensure security, and conduct scientific evaluations to validate the effectiveness of this integrated approach.

6 Conclusion

In conclusion, based on a systematic review of literature across multiple domains and an in-depth exploration of individual case studies, research from various fields such as neuroscience, psychology, and education consistently indicate the significant efficacy of painting therapy in psycho-social interventions for children with ASD. These experiments confirmed that painting therapy can help autistic children with their psychological health, as well as their social and cognitive abilities and the development of their emotional and cognitive aspects. Despite its exploratory nature, this study offers some insight into the psychological rehabilitation of autistic children

To address the special needs of kids with ASD, however, more extensive research and the incorporation of contemporary, high-tech artistic techniques into therapy are essential. By using technology in a comprehensive way to improve the mental health of children with autism, such research endeavors will help to provide deeper insights into this field.

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