

**INTERNATIONAL JOURNAL OF  
EDUCATION, PSYCHOLOGY  
AND COUNSELLING  
(IJEPC)**[www.ijepec.com](http://www.ijepec.com)**CANVASES OF RESILIENCE: EXAMINING THE EVIDENCE  
FOR ART THERAPY IN DIVERSE POPULATIONS AND  
SETTINGS FOR CHILDREN AND ADOLESCENTS**Mohd Imran Yusoff<sup>1</sup>, Nor Shafrin Ahmad<sup>2\*</sup><sup>1</sup> School of Educational Studies, Universiti Sains Malaysia, Penang Malaysia  
Email: damiaibtisam@gmail.com<sup>2</sup> School of Educational Studies, Universiti Sains Malaysia, Penang Malaysia  
Email: sham@usm.my

\* Corresponding Author

**Article Info:****Article history:**

Received date: 30.06.2024

Revised date: 17.07.2024

Accepted date: 28.08.2024

Published date: 30.09.2024

**To cite this document:**

Yusoff, M. I., & Ahmad, N. S. (2024).  
Canvases Of Resilience: Examining  
The Evidence For Art Therapy In  
Diverse Populations And Settings For  
Children And Adolescents.  
*International Journal of Education,  
Psychology and Counseling*, 9 (55),  
464-484.

**DOI:** 10.35631/IJEPC.955031.This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

This Systematic Literature Review (SLR) aims to uncover how art therapy interventions can be useful in enhancing the quality of life of children and adolescents. In this study, 31 papers are included from the Scopus and Web of Science (WoS) databases from the year 2020 to 2024 following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The findings are organized into three main themes: (1) the art therapy's effectiveness in managing emotional, behavioral, and psychological issues, (2) the application of art therapy for specific populations and settings, and (3) the multiple art therapy approaches, strategies, and assessments that were incorporated in the most recent research. The findings also indicate that art therapy interventions enhance the regulation of emotions, lessen aggression and disruptive conduct, and promote self-esteem and life in clients in different settings. The review also shows case and context specificity in the implementation of art therapy interventions for children with particular conditions and disorders. In addition, the creation and calibration of the measurement instruments also support the growth of evidence-based practice in art therapy. However, the review also points out some research limitations that need to be addressed in future studies, such as small sample sizes, short follow-up periods, and comparison with other evidence-based treatments. Thus, the SLR concludes with specific recommendations for future research and practice, marked by the necessity for more methodologically sound studies, defining the processes that contribute to art therapy effectiveness, and enhancing the accessibility of evidence-based art therapy practices.

**Keywords:**

Art Therapy, Children, Adolescents, Mental Health

**Introduction**

Psychological problems among school children in Asia, particularly in Malaysia, are a growing concern. In Malaysia, studies reveal that 9.3% of school children are identified with emotional and behavioral problems (EBD), and 10.3% of secondary school students exhibit significant depressive symptoms, with higher rates among females and those engaging in risky behaviors (Idris et al., 2019; Ramli et al., 2008). Bullying is also prevalent, with 63.2% of students involved, which is significantly associated with increased levels of stress, anxiety, and depression (Isa et al., 2021). In China, left-behind children (LBC) face severe mental health challenges, with 43.4% showing mental health issues and 26.5% experiencing depressive symptoms, higher than their non-LBC counterparts (Tang et al., 2018). Across Southeast Asia, bullying victimization is linked to adverse outcomes like anxiety, depression, and suicidal ideation, emphasizing the urgent need for targeted mental health interventions in schools (Pengpid & Peltzer, 2019).

Therefore, one of the interventions that emerges to overcome this various psychological chronicle among children is art therapy that emerged as a valuable intervention for addressing psychological problems among children, particularly within school settings, by providing a non-verbal, creative outlet that is especially beneficial for those who may find traditional talk therapies challenging. Research shows that school-based art therapy can significantly improve children's quality of life, reduce anxiety, enhance self-concept, and alleviate emotional and behavioral difficulties, making it an effective tool for early intervention in school environments (Moula, 2020). Additionally, for children with conditions like Autism Spectrum Disorder (ASD), art therapy has been proven to improve social skills, reduce anxiety, and help manage disruptive behaviors (Jia, 2023). Furthermore, art therapy is not only effective but also cost-efficient in treating non-psychotic mental health disorders, offering substantial positive changes in mental health symptoms when compared to control groups (Uttley et al., 2015). These findings underscore the potential of art therapy as a crucial intervention to address the psychological issues prevalent among school children, particularly in the Asian context where early intervention is essential.

Art therapy has been used as an important support form in working with children in different environments, including schools, health care centers, and community organizations. Research has shown that art therapy can benefit children in many ways, including providing a better quality of life, reducing anxiety, facilitating self-identity, thinking skills, and school attitude, as well as managing emotional and behavioral issues (Moula, Powell, and Karkou 2020). Specifically, in the case of children and adolescents, the current study provided evidence that art therapy sessions can be feasible and acceptable during COVID-19 pandemic times, hence capable of filling a significant gap in healthcare delivery during limited face-to-face interaction (Vu et al., 2022).

Regarding art therapy research in pediatric hematology/ oncology facilities, a conceptual model has been developed to channel investigations in the particular realm. This framework is derived from clinical practice, an understanding of how art therapy fosters change, literature evidence regarding art therapy for children with cancer, and some gaps for further research (Kaimal et al. 2019). Likewise, in play therapy, using child drawings as evidence has indicated positive findings, with children themselves noting the changes for the better concerning their feelings (Jiggetts 2021).

This study has also focused on the role of art therapy in the context of primary schools, thus establishing the possibility of art therapy being beneficial to children's societal, emotional, and psychological well-being. These exploratory studies appear quite positive. However, to establish the actual clinical application of art therapy in schools and to make refined adjustments to the method used by art therapists, subsequent research is required (McDonald, Holtum, & Drey 2019). Moreover, art therapy has been documented as useful in easing children's anxiety for fear that comes with instances such as Type 1 diabetes mellitus, thus pointing towards art therapy's potential in strengthening children who experience long-term emotional challenges (Başlı 2020).

Furthermore, art therapy has been sought as the intervention method in children who have Attention-Deficit/Hyperactivity Disorder (ADHD) with co-morbidity of Intellectual Disability. Research has noted the effectiveness of art therapy in children with behavior and cognitive problems, especially emphasizing the need to consider other forms of treatment for children with different needs (Habib & Ali 2020). In addition, an extension of arts therapies in schools has been recommended to address the changed needs and benefits of the child. Pilot studies have established that tailored arts therapy interventions can improve health-related quality of life, emotional and behavioral difficulties, and the overall well-being of children in schools (Moula, Powell, et al. 2020).

Expressive arts therapy has been recommended as a psychosocial support treatment for children with chronic diseases such as asthma. The contribution of art therapy to the comprehensive support of children with chronic illnesses is the fact that through artistic creations, children are able to share their experiences (Özçeker et al. 2023). Furthermore, primary research involving art therapy in the treatment of mental health disorders in children has also undergone systematic reviews suggesting the need for research that covers all demography, including those having learning disabilities, physical ailments, or prone to living in adverse conditions like refugees or emergency shelters (Moula 2020).

Art therapy has also been utilized in various settings, including pediatric palliative care, and research has indicated that it has a positive impact on mental health parameters and the overall well-being of children with life-threatening conditions (Moonaghi et al. 2023). In the same regard, research has shown that art therapy decreases anxiety levels among school-age children admitted to hospitals, proving its worth in the healthcare sector for managing emotional distress (Maheswari 2021). Additionally, art therapy has been proven effective in strengthening the coping ability of children under domestic violence, addressing vulnerable populations that experience such traumas (Basyiroh and Yuniarti 2020).

Research investigating art therapy's effectiveness in addressing aggressive behavior and improving self-esteem among children with learning disorders has been conducted, suggesting the potential of art therapy as a complementary intervention in managing behavioral challenges in diverse populations (Alam et al., 2022). Additionally, art therapy techniques have been shown to enhance psychomotor development in preschoolers with speech pathologies, indicating the broad applicability of art therapy in supporting children with diverse needs (Arkhipova and Lazutkina 2022). Furthermore, art therapy has been recognized as a valuable tool for children with Autism Spectrum Disorders (ASD), providing a nonverbal form of self-expression that aids in communication and emotional expression for children with complex communication needs (Bitan & Regev 2022).

In conclusion, the body of research on art therapy and children highlights the diverse applications and benefits of this therapeutic approach in promoting children's well-being, addressing mental health challenges, supporting children facing chronic illnesses, and enhancing resilience in vulnerable populations. While existing studies have shown promising results, further research is needed to establish the clinical effectiveness of art therapy across different settings and populations, address research gaps, and refine therapeutic approaches to improve in accommodating the needs of children in various contexts.

### Literature Review

Art therapy has garnered significant attention in recent research, with studies investigating its effectiveness in various contexts. While some research underscores the potential benefits of art therapy, such as enhancing healthy adult functioning and promoting social inclusion, other studies have identified gaps in understanding its clinical and cost-effectiveness (Carr & McDonald 2019; Chean Wei, Othman, and Hashim 2023; McDonald et al. 2019; Uttley et al. 2015). For example, a systematic review by (Uttley et al. 2015) emphasizes the insufficient formal synthesis of evidence concerning the clinical effectiveness and cost-effectiveness of art therapy for common mental disorders (Uttley et al. 2015). This gap highlights the necessity for further research to evaluate the relevance of art therapy as a treatment option.

Furthermore, the study by (Haeyen 2019) suggests that art therapy could be a promising intervention for individuals diagnosed with personality disorders, as recent studies have demonstrated improved positive mental health outcomes (Haeyen 2019). However, the efficacy of art therapy in specific populations, such as children in primary schools, necessitates more extensive exploration through larger scientific studies (McDonald and Holttum 2020). Additionally, the potential for art therapy to diversify into new areas and its impact on mental health enhancement have not been fully acknowledged (Chean Wei et al. 2023).

Moreover, while some studies advocate for qualitative research to gain deeper insights into the effects of art therapy, others stress the significance of systematic research to establish its credibility among stakeholders (Capacio 2017; Carr and McDonald 2019). The evolving landscape of art therapy research calls for a balanced approach that integrates qualitative and quantitative methods to comprehensively assess its effectiveness and address existing knowledge gaps. Furthermore, there is a need for a deeper investigation of the fundamental mechanisms with respect to the effectiveness of art therapy techniques and interventions, as well as their applicability to diverse populations and settings. Our aim are addressing these gaps and limitations is crucial for advancing evidence-based practice in art therapy and

enhancing the mental health and well-being of children as well as adolescents. Objectives of the Study: The primary objectives of this Systematic Literature Review (SLR) are:

1. To synthesize the findings of recent studies on the effectiveness of art therapy interventions for reducing emotional, behavioural, and psychological problems in children and adolescents.
2. To identify the key themes, gaps, and limitations in the existing literature on art therapy for children and adolescents.
3. To explore the various art therapy techniques, interventions, and measurement tools used in recent studies.
4. To provide suggestions for future research and practice in the field of art therapy for children and adolescents based on the findings of this review.

By achieving these objectives, this SLR aims to add to the growing knowledge base concerning art therapy for children and adolescents, inform evidence-based practice in the field, and ultimately improve the mental health and well-being of young individuals facing emotional, behavioral, and psychological challenges.

## Methodology

This study used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Framework, which contains the Identification, Screening, and Eligibility phases (Moula 2020; Moula, Aithal, et al. 2020). This systematic literature review (SLR) employs a qualitative research design. We focus on acquiring relevant articles that align with our study objectives. We then conduct a synthesis of themes to ensure that all included articles contribute to the narrative formed by the themes. The description is described in sections 3.1, 3.2, 3.3, and 3.4 as follows:

### Identification

The methodology of this systematic review follows the PRISMA guidelines and consists of three main stages for selecting eligible publications. First, relevant keywords and their synonyms were identified using dictionaries, thesauri, encyclopedias, and previous studies. After determining all pertinent terms, search strings were created for the Web of Science (WoS) and Scopus databases (Table 1).

When conducting an SLR, database selection is a critical step, and Scopus and WoS are widely recognized as preferred sources. These databases offer extensive coverage across multiple disciplines, emphasizing high-quality, peer-reviewed content. Their multidisciplinary scope is especially advantageous for SLRs, as it allows for a comprehensive exploration of the research landscape. Furthermore, Scopus and WoS provide robust search and filtering tools, global coverage, and integration with bibliographic management software, facilitating an efficient and effective research process (Arslan 2020; Martínez et al. 2023; Zairul et al. 2022). Moreover, the widespread recognition and use of Scopus and WoS in academia lend credibility to SLRs that utilize these databases. By selecting Scopus and WoS as companions in the SLR journey, researchers can confidently navigate the vast knowledge landscape, assured of the comprehensiveness, quality, and credibility of the literature they uncover (Kaur, Kumar, and Sandhu 2021; Opryshko et al. 2021). This initial step of the systematic review process facilitated the effective retrieval of 55 research articles from the consulted databases, as shown in Table 1.



**Table 1: Search Strings Apply for SLR**

Database	String
Scopus	TITLE-ABS-KEY ( ("art therapy" OR "art psychotherapy" OR "creative arts therapy" OR "expressive arts therapy" OR "art-based therapy" OR "art-based intervention" OR "artistic therapy" OR "therapeutic art") AND ( child* OR adolescent* OR youth* OR teenage* OR "young people" OR kids OR pediatric OR paediatric ) AND ( anger OR angry OR aggression OR aggressive* OR "emotional regulation" OR "emotional dysregulation" OR "emotion regulation" OR "anger management" OR "aggressive behavior" OR "disruptive behavior" OR "externalizing behavior" OR "conduct problems" OR "behavioral problems" OR "behaviour problems") )
WoS	("art therapy" OR "art psychotherapy" OR "creative arts therapy" OR "expressive arts therapy" OR "art-based therapy" OR "art-based intervention" OR "artistic therapy" OR "therapeutic art") AND (child* OR adolescen* OR youth* OR teenage* OR "young people" OR kids OR pediatric OR paediatric) AND (anger OR angry OR aggression OR aggressive* OR "emotional regulation" OR "emotional dysregulation" OR "emotion regulation" OR "anger management" OR "aggressive behavior" OR "disruptive behavior" OR "externalizing behavior" OR "conduct problems" OR "behavioral problems" OR "behaviour problems")

Source: Author

In the second step, following the identification of the search string, filters were applied to retrieve articles published within the last five years, focusing solely on journal articles. Additionally, articles published in 2019 and earlier were included. The researchers conducted a rigorous screening process, evaluating the articles only at the final level. To ensure the most current information, the researchers submitted a database compiled on April 30, 2024, for review. Table 2 defines the inclusion and exclusion criteria for the second step as follows:

**Table 2: Inclusion and Exclusion Criteria**

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2020 – 2024)	< 2019
Literature type	Journal Article,	Book, Review, Conference Proceedings
Publication Stage	Final	In Press
Date of data obtained		(May, 2024)

Source: Author

### Screening

In this systematic review, a meticulous screening process was employed to maintain data integrity and ensure the relevance of included studies. The initial phase of the literature search involved retrieving a substantial number of articles from WoS and Scopus. After applying the inclusion as well as exclusion criteria stated in Table 2, the researchers successfully identified 33 articles that aligned with the specified criteria. These articles were then subjected to a subsequent screening process to identify and eliminate any duplicates obtained from the two databases, namely Scopus and WoS.

Two extensive and reputable academic databases, namely Scopus and WoS (Pranckutė 2021). However, the concurrent use of multiple databases frequently leads to the issue of duplicate entries, which can potentially introduce bias and skew the analysis and interpretation if not

addressed properly (António and Guilhermina Lobato 2023). In our research, we identified a significant number of articles, specifically 11, that were duplicated across both Scopus and WoS. To address this issue, we developed a stringent protocol for eliminating duplicates. Each article was carefully examined based on its title, allowing us to identify studies that appeared in both databases. In cases where duplicate pairs were determined, we retained only the first occurrence of the article in our dataset for the subsequent stages of the review process (Amir et al. 2023). Any duplicates identified through this method were systematically removed from the review portfolio.

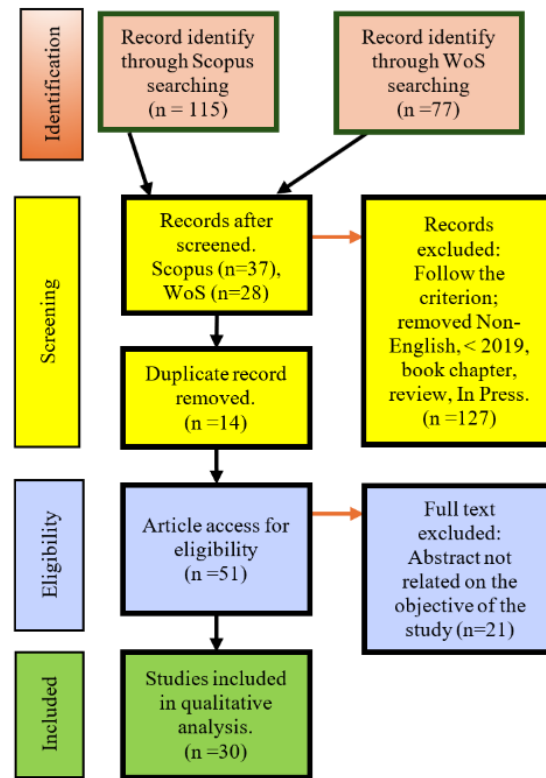
Following the removal of duplicates, the remaining articles were subjected to a further round of eligibility evaluation. This step aimed to confirm that each study met the predefined inclusion and exclusion criteria of our systematic review. This process was crucial in ensuring the relevance and appropriateness of the studies included in our final dataset. By employing this meticulous screening process, we ensured that our systematic review was founded on a distinct and comprehensive collection of articles, thereby preserving the integrity (Haeyen 2019) and quality of our findings.

This rigorous screening procedure is essential in producing a robust and reliable systematic review. Implementing a well-defined and transparent screening process is critical in minimizing the risk of bias and ensuring the reproducibility of the review findings. By adhering to strict protocols for duplicate removal and eligibility assessment, we have endeavored to maintain the highest standards of methodological rigor in our systematic review.

### ***Eligibility***

In the third stage, referred to as eligibility, 31 articles were screened. During this phase, the titles and key content of all articles were meticulously examined to verify their alignment with the inclusion criteria and relevance to the current research objectives (Page et al. 2021). Consequently, four reports were excluded because abstracts are unrelated to the objective. Two experienced experts in Counselling and Guidance and Educational Psychology, each with over a decade of expertise in their respective fields, meticulously reviewed every screened article to ensure that the eligibility selection criteria aligned with the objectives of this SLR study. Ultimately, 13 articles were deemed suitable for review (refer to Figure 1).

### Data Abstraction and Analysis



**Figure 1: Flow Diagram of the Proposed Searching Study (Moher et al. 2009)**

Source: Author

### Results and Discussion

The SLR on art therapy for children and adolescents has yielded a rich array of findings, which have been organized into three main themes. These themes encompass the effectiveness with respect to art therapy in lowering emotional, behavioral, as well as psychological problems (Theme 1), the application of art therapy for specific populations and settings (Theme 2), and the various art therapy techniques, interventions, and measurement tools used in recent studies (Theme 3). The following sections present the results and discussion for each theme, synthesizing the key findings, identifying gaps and limitations, and offering suggestions for future research and practice.

#### *Effectiveness of Art Therapy in Reducing Emotional, Behavioral, and Psychological Problems in Children and Adolescents*

The nine studies included in Theme 1 demonstrate the positive impact of various art therapy interventions on the mental health and well-being of children as well as adolescents. (Amjad and Jami 2020) discovered the effectiveness of an art intervention for facilitating life skills and self-esteem, as well as reducing emotional behavioural difficulties in institutionalised children (Brechet, D'Audigier, and Audras-Torrent 2022), showed that drawing can be an effective emotion regulation technique for children, particularly when using distraction conditions and for those with medium emotional comprehension. (Gul, Irshad, and Amjad 2021) investigated the effectiveness of art therapy and progressive muscle relaxation in treating psychological issues among internally displaced children, showing reduced aggression and disruptive behavior and improved self-concept. Moula et al. (Moula et al. 2022) identified that the patients



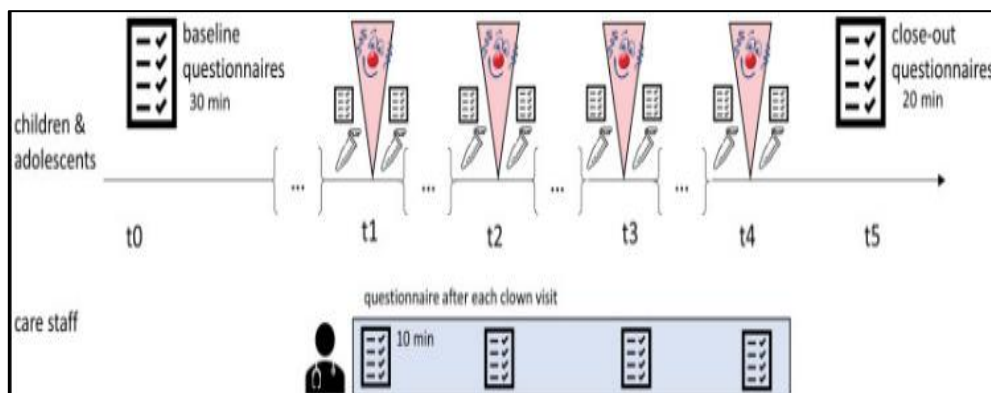
subjected to dance movement psychotherapy showed changes in life functioning, perceived well-being, duration of sleep, as well as emotional and behavioral problems. Nan et al. (Nan, Huang, and Kang 2023) investigated the effectiveness of a clay art therapy program in managing emotions and hair cortisol levels in youths with emotional issues. They endorsed the positive impact of clay art therapy in enhancing emotion regulation skills. Using the potential of art therapy in the context of cyberbullying and interpersonal aggression was also (Podolski, Forystek, and Kania 2022) discussed. In the study published by Snir (2022), artmaking, pre-treatment behavioral problem related to art therapy, and therapy outcomes of students in elementary school pertaining to art therapy was found in support of experience of artmaking, mental state, and improvement in the mental state leads to 77 schools answering the Art Based Intervention (ABI) Questionnaire as revealed in Figure 2.

ABI Items
I felt I could keep on going for hours
I felt I was being creative
I had a difficult time executing my ideas *
I felt I was good at this kind of activity
I felt I needed to make a considerable effort *
I encountered lots of technical difficulties in performing the artistic task *
I had a hard time sitting still and wanted to get up and move around *
I enjoyed working on my art project
I found it pleasant to be creating something
Working on my art project, I felt a sense of inner peace and warmth
I felt it was OK to make mistakes
I wanted to keep what I had made
I was excited to see what I had created
I was surprised by what I had made
I wasn't satisfied with what I had made

**Figure 2: ABI Questionnaire (Snir 2022)**

Source: Author

Tache-Codreanu and Tache-Codreanu (Tache-Codreanu and Tache-Codreanu 2024) focused on an art and movement therapy project during the COVID-19 pandemic, showing improvements in children's attention, self-esteem, and behavior. Lastly, (Zemp et al. 2022) proposed a pilot study protocol (see Figure 3) to examine the effects of clown visits on stress and mood in children and adolescents in psychiatric care, with the intent to find useful recommendations for the application of healthcare clowning as a method or intervention.



**Figure 3: Study Protocol (Zemp et al., 2022)**

Source: Author

The studies included in Theme 1 provide evidence for the effectiveness of art therapy in reducing behavioral, emotional, as well as psychological problems in children and adolescents. The interventions employed demonstrate the versatility of art therapy in tackling various mental health concerns in diverse settings, such as institutions (Amjad and Jami 2020), schools (Snir 2022), and psychiatric care (Zemp et al. 2022). Art therapy interventions have been shown to improve emotion regulation (Nan et al. 2023; Zemp et al. 2022), reduce aggression and disruptive behavior (Gul et al. 2021), and enhance self-esteem and life functioning (Amjad and Jami 2020; Moula et al. 2022).

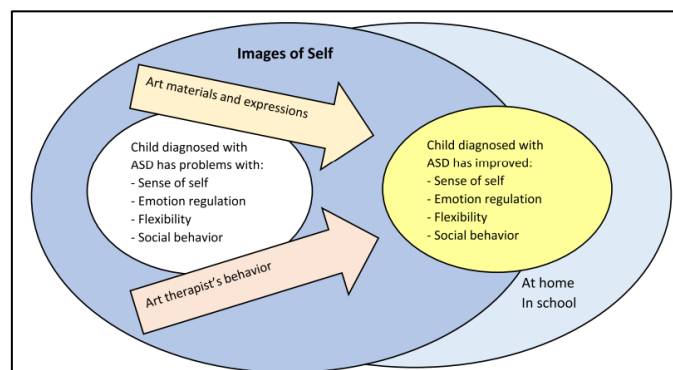
Nevertheless, some limitations of the studies are small sample sizes (Amjad and Jami 2020; Tache-Codreanu and Tache-Codreanu 2024), the absence of lengthened follow-up investigations (e.g., (Gul et al. 2021); (Nan et al. 2023)), and demands for more empirical data on the comparison of art therapy with other evidence-based practices. Subsequent studies need to overcome these limitations to ensure that more research can be included in this repertoire. In summary, this table assembles the important facts regarding the findings from all articles in this theme:

**Table 3: Summary of Theme 1**

<b>Author (s) and Years</b>	<b>Research Design</b>	<b>Key Findings</b>	<b>Limitation</b>
Brechet, D'Audigier, & Audras-Torrent (2022)	Experimental study with distraction conditions	Drawing effectively regulates emotions, particularly in distraction conditions and for children with medium emotional comprehension	Limited generalizability to other populations
Gul, Irshad, & Amjad (2021)	Quasi-experimental study with internally displaced children	Significant reduction in aggression and disruptive behavior; improved self-concept	Absence of a control group; short intervention duration
Moula et al., (2022)	Mixed-methods study in a clinical setting	Improved life functioning, perceived well-being, sleep, and reduced emotional/behavioral problems	Small sample size; lacks comparison with other therapies
Nan, Huang, & Kang (2023)	Quantitative study with a focus on physiological measures	Clay art therapy enhanced emotion regulation skills and reduced stress levels (measured by hair cortisol)	Limited to specific emotional issues; short-term study
Podolski, Forystek, & Kania (2022)	Qualitative study with case studies	Art therapy shows potential in addressing issues related to cyberbullying and aggression	Lack of empirical data; more research needed to establish effectiveness
Snir (2022)	Survey-based study with 77 schools	Artmaking in schools led to improvements in mental state and behavioral outcomes	Self-reported data; potential bias in responses
Tache-Codreanu & Tache-Codreanu Zemp et al., (2022)	Intervention study during the pandemic Pilot study with a proposed protocol	Positive improvements in attention, self-esteem, and behavior among children Clown visits potentially reduce stress and improve mood in psychiatric care settings	Small sample size; specific to pandemic conditions Pilot study; results are preliminary and need further validation

***Art Therapy for Children with Specific Conditions, Disorders, or in Specific Settings***

Theme 2 can be narrowed to art therapy for children with certain issues, diseases, or in certain environments. Out of the 12 studies included in this theme, art therapy interventions were reported in children with intellectual and developmental disabilities learning (Agbaria 2020), children with ASD (Park 2022; Schweizer et al. 2020, 2022), and neurodevelopmental disorders (Goswami et al. 2021). The studies also explore art therapy in various settings, such as prisons (Barlow et al. 2022), childcare institutions (Prakashan and Banerjee 2024), emergency shelters (Shtern-Eden and Or 2023), and children with complex health conditions (Polihronis 2022) or severe physical conditions (Stefana and Gamba 2023). Agbaria (Agbaria 2020) discovered that a cognitive-behavioral intervention focusing on social and cognitive skills within the parent-child dyad contributes to improvements in multiple aspects for Arab parents of children having intellectual developmental disabilities. Agbaria (Agbaria 2020) described the strategies used by art therapists to provide services during the COVID-19 pandemic in a prison setting. At the same time, (Gilboa Einhorn, Shamri-Zeevi, and Honig 2023) presented a case study of a relational art therapy model for treating relational trauma in children. Goswami et al. (Goswami et al. 2021) studied the effects of lockdown during the COVID-19 pandemic on children with neurodevelopmental disorders and their parents, highlighting the challenges and the role of parent-administered home-based therapy. Park (Park 2022) and (Schweizer et al. 2020, 2022) evaluated art therapy programs for children having ASD, showing improvements in social behavior, emotion regulation, and flexibility, as demonstrated in Figure 4.



**Figure 4: The Potential Impact of art Therapy on the Behavior of Children with Autism Spectrum Disorder (ASD) (Schweizer et al. 2020)**

Polihronis (Polihronis 2022) explored the challenges and possibilities of providing art therapy to a child with complex health conditions, while (Stefana and Gamba 2023) discussed the psychoanalytic perspective on communication with children as well as adolescents with severe physical conditions. Prakashan and Banerjee (Prakashan and Banerjee 2024) assessed the effectiveness of expressive art therapy on the mental health, emotion regulation, and resilience of children living in childcare institutions, and (Shtern-Eden and Or 2023) examined home representations of at-risk children in an emergency shelter.

The articles in Theme 2 show how art therapy may be used and can be effective for children with different concerns, disorders, and in certain contexts. In these studies, the interventions are selected based on the needs of the target populations, including cognitive-behavioral intervention for children with intellectual developmental disability (Agbaria 2020) and parent-focused creative approaches for children with ASD (Park 2022). This supported the possibility

of using art therapy to enhance the social behavior, emotion regulation, flexibility, and mental health of children with certain conditions and disorders (Park 2022; Prakashan and Banerjee 2024; Schweizer et al. 2020, 2022). Moreover, research studies have established the portability of art therapy for different contexts, including prison (Barlow et al. 2022), childcare facilities (Prakashan and Banerjee 2024), and emergency shelters (Shtern-Eden and Or 2023). However, identifying the following gaps and limitations in the current research is possible. For example, sample sizes have been relatively small (e.g., (Gilboa Einhorn et al. 2023; Park 2022; Polihronis 2022), which might decrease the probability of generalizing the results. In addition, ideally, more randomized control trials are required to determine the effectiveness of the art therapy approach in children with certain conditions and diseases. In further studies, it is important to longitudinally examine the effects of the specific art interventions and also investigate how art therapy may be combined with other empirically supported treatments for certain populations. Nevertheless, the findings of studies identified in Theme 2 raise awareness of art therapy for children with particular diagnoses, concerns, and in different contexts, indicating the requirement for additional research and practice in such fields. As a summary for theme 2, this matrix Table 4 represents the Theme 2 articles:

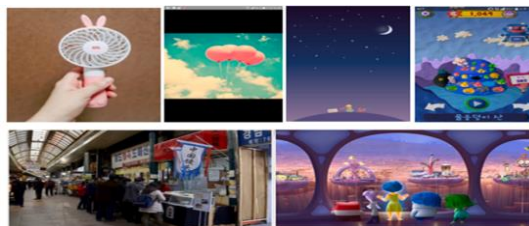


**Table 4: Summary of Theme 2**

Author (s) and Years	Research Design	Key Findings	Limitation
Agbaria (2020)	Experimental study with a focus on parent-child dyads	Improvements in social and cognitive skills, benefiting both children and parents	Small sample size; limited generalizability
Park (2022)	Experimental study with children having ASD	Improved social behavior, emotion regulation, and flexibility in children with ASD	Small sample size; need for more randomized controlled trials
Schweizer et al. (2020, 2022)	Mixed-methods study with ASD children	Enhanced social behavior and emotion regulation; improvement in flexibility	Limited long-term follow-up; small sample size
Goswami et al. (2021)	Observational study with parent-administered home-based therapy	Highlighted challenges and effectiveness of parent-administered therapy	Lack of a control group; results specific to lockdown conditions
Barlow et al. (2022)	Case study and qualitative analysis	Art therapy provided emotional support during the pandemic in prison settings	Limited scope and generalizability; specific to COVID-19 context
Prakashan & Banerjee (2024)	Quasi-experimental study in childcare institutions	Improved mental health, emotion regulation, and resilience in children	Small sample size; need for more empirical studies
Shtern-Eden & Or (2023)	Qualitative study with children in shelters	Insights into the psychological state of at-risk children through art therapy	Subjective data; lack of longitudinal studies
Polihronis (2022)	Case study in a healthcare setting	Identified challenges and potential benefits of art therapy in complex health conditions	Small sample size; limited generalizability
Stefana & Gamba (2023)	Psychoanalytic case study	Improved communication and psychological well-being through art therapy	Specific to psychoanalytic approach; limited scope
Gilboa Einhorn, Shamri-Zeevi, & Honig (2023)	Case study on relational trauma	Art therapy showed positive effects in treating relational trauma in children	Small sample size; lack of empirical data

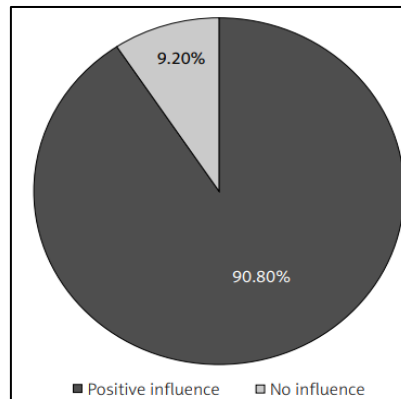
### ***Art Therapy Techniques, Interventions, and Measuring the Effectiveness of Art Therapy Programs***

Theme 3 focuses on art therapy techniques, interventions, and measuring the effectiveness of art therapy programs. The eight studies included in this theme explore various art therapy methods and their applications, such as living statues in drama therapy (Berger 2023), the use of smartphones as a therapeutic stimulus (Kim 2022), and the combination of Hibuki therapy with other art therapy techniques (Bryl and Maksimov 2023). Other studies also examine the creation of instruments in evaluating the efficacy of art therapy programs, including the SERATS or Self-Expression and Emotion Regulation in Art Therapy Scale (Haeyen and Noorthoorn 2021) and the measurement of art therapeutic actions to address children and adolescents suffering from psychosocial difficulties (Bosgraaf et al. 2023, 2024). Berger (Berger 2023) explains that the living statues method is a unique drama therapeutic modality that can be effectively applied in the treatment of teenagers with behavioral issues, as well as the elderly. Bosgraaf et al. (Bosgraaf et al. 2023, 2024) deal with the process of construction and calibration of measuring tools for assessing the primary therapeutic functions implemented in the Affect Regulating Arts Therapies (ArAT) treatment programme for children and adolescents with psychosocial issues. Bryl and Maksimov (Bryl and Maksimov 2023) also discuss the addition of Hibuki therapy to other art therapy interventions to produce a set of anti-crisis psychospiritual tools for groups with school-age children during the war in Ukraine. Haeyen and Noorthoorn (Haeyen and Noorthoorn 2021) examine the convergent validity with respect to the SERATS, displaying its reliability and validity as a tool for monitoring the effect of art therapy on emotion regulation and self-development. Ivzhenko et al. (Ivzhenko et al. 2022) consider art-therapeutic means for adults and children during the war, emphasizing the benefits of utilising art therapy and popular art-therapeutic techniques for treating psychological disorders in victims. Kim (Kim 2022) investigates the use of smartphones as a therapeutic stimulus to encourage self-expression in South Korean adolescent girls, showing significant increases in engagement and positive responses to the intervention as example illustrated in Figure 6.



**Figure 5: Example of Activity of Art using Smartphone (Kim 2022)**

Lastly, (Regev 2022) examines the relationship between process variables and outcome variables in school-based art therapy, giving initial support for the complexity of processes in art therapy with children. The studies in Theme 3 contribute to the understanding of various art therapy techniques, interventions and the measurement of their effectiveness. The findings demonstrate the versatility with respect to art therapy techniques, ranging from living statues in drama therapy (Berger 2023) to the use of smartphones as a therapeutic stimulus (Kim 2022), and the combination of Hibuki therapy with other art therapy techniques as shown significance improvement by a survey about the effectiveness of therapy towards parent using questionnaire as shown in Figure 5 (Bryl and Maksimov 2023).



**Figure 6: The Influence of Hibuki Therapy on Children's Behavior (Based on a Questionnaire for Parents) (Bryl and Maksimov 2023)**

These innovative approaches expand the toolbox of art therapists and provide new avenues for engaging clients and promoting self-expression and emotional well-being. The development and validation of measurement tools, such as the SERATS (Haeyen and Noorthoorn 2021) and the ArAT program measurement instrument (Bosgraaf et al. 2023, 2024) are crucial for assessing the effectiveness of art therapy programs and advancing evidence-based practice in the field. However, some gaps and limitations in the current research should be addressed. For instance, the sample sizes in some studies are relatively small (Berger 2023; Kim 2022), which may restrict the findings' generalizability. Furthermore, more information is required to validate the art therapy activities and the effectiveness of these techniques in the long-run, as well as to compare their effectiveness to other established therapeutic approaches. Future studies should also focus on exploring the mechanisms underlying the efficacy of these techniques and interventions, as well as investigating their applicability to diverse populations and settings. Despite these limitations, the studies in Theme 3 add to the ever increasing literature on art therapies' techniques, interventions, as well as measurement tools, highlighting the potential of these approaches to promote emotional well-being and self-expression in various populations. Further research is needed to refine these techniques, establish their effectiveness, and integrate them into evidence-based art therapy practice. Table 5 represented all articles in Theme 3 articles discussions:

**Table 5: Summary of Theme 3**

<b>Author (s) and Years</b>	<b>Research Design</b>	<b>Key Findings</b>	<b>Limitation</b>
Berger (2023)	Qualitative study using living statues in drama therapy	Demonstrated the effectiveness of the living statues method in treating behavioral issues in teenagers and the elderly	Small sample size; limited to specific populations
Kim (2022)	Experimental study on using smartphones as a therapeutic stimulus	Significant increases in engagement and positive responses in South Korean adolescent girls	Small sample size; specific to South Korean population
Bryl & Maksimov (2023)	Mixed-methods study combining Hibuki therapy with other art therapy techniques	Effective in creating anti-crisis psychospiritual tools for school-age children during the war in Ukraine	Context-specific to war; limited generalizability
Haeyen & Noorthoorn (2021)	Validation study on the SERATS (Self-Expression and Emotion Regulation in Art Therapy Scale)	Displayed reliability and validity of SERATS as a tool for monitoring the effects of art therapy on emotion regulation and self-development	Focused on tool validation; needs further empirical application
Bosgraaf et al. (2023, 2024)	Development and calibration of measurement tools for ArAT program	Constructed and calibrated tools for assessing therapeutic functions in ArAT for children and adolescents with psychosocial issues	Initial stages of tool development; further validation needed
Berger (2023)	Qualitative study using living statues in drama therapy	Demonstrated the effectiveness of the living statues method in treating behavioral issues in teenagers and the elderly	Small sample size; limited to specific populations
Ivzhenko et al. (2022)	Case study on art-therapeutic techniques during the war	Emphasized the benefits of art therapy for treating psychological disorders in war victims	Context-specific to war; limited generalizability
Regev (2022)	Correlational study on process and outcome variables in school-based art therapy	Provided initial support for the complexity of processes in art therapy with children	Small sample size; correlation does not imply causation

## Conclusion

This Systematic Literature Review (SLR) on art therapy for children and adolescents successfully synthesized recent research findings, identified key themes and gaps, explored various techniques and measurement tools, and provided suggestions for future research. The review confirmed the effectiveness of art therapy in improving emotional, behavioral, and psychological well-being, while also highlighting the need for more rigorous studies, including larger sample sizes and randomized controlled trials (RCTs). However, the review also identified several limitations, such as the prevalence of small sample sizes, short intervention durations, and the lack of standardized measurement tools, which restrict the generalizability of findings and call for further validation. Future research should focus on long-term effectiveness, the integration of art therapy with other therapeutic approaches, and the development of robust measurement tools. Additionally, exploring the role of technology in art therapy, understanding its mechanisms of action, and conducting cross-cultural and crisis-related studies will help advance evidence-based practice and ensure the broad applicability of art therapy for diverse populations.

## Acknowledgment

School of Educational Studies, Universiti Sains Malaysia, Penang Malaysia  
Ministry Of education Malaysia

## References

- Agbaria, Q. (2020). Acquiring social and cognitive skills in an intervention for Arab parents of children with intellectual developmental disability accompanied by behavioral conditions. *Child and Family Social Work*, 25(S1), 73–82. <https://doi.org/10.1111/cfs.12715>
- Alam, F. H., Atia, M. M., Hassan, R. A., Rashed, N., & Elrazek, F. A. (2022). Effectiveness of art therapy on aggressive behavior and self-esteem among children with learning disorders. *Egyptian Journal of Health Care*, 13(2), 2080–2096. <https://doi.org/10.21608/ejhc.2022.284878>
- Amir, H., Permatananda, P. A. N. K., Cahyani, D. D., Langelo, W., Rosita, R., Sajodin, S., Noprianty, R., Astuti, A., Suhari, S., Wahyuningsih, S., Kusumawati, P. D., Swamilaksita, P. D., Sudarman, S., & Syaiful, S. (2023). Enhancing skill conceptualization, critical thinking, and nursing knowledge through reflective case discussions: A systematic review. *Journal of Medicine and Life*, 16(6), 851–855. <https://doi.org/10.25122/jml-2023-0042>
- Amjad, Z., & Jami, H. (2020). Reducing emotional and behavioral problems by improving life skills and self-esteem of institutionalized children: Effectiveness of an art-based intervention. *Pakistan Journal of Psychological Research*, 35(3), 595–616. <https://doi.org/10.33824/PJPR.2020.35.3.32>
- António, F., & Lobato, M. G. (2023). Effects of using augmented reality on students' learning. *Trends in Computer Science and Information Technology*, 8(1), 001–004. <https://doi.org/10.17352/tcsit.000061>
- Arkhipova, S., & Lazutkina, O. (2022). Psychomotor development of preschoolers with speech pathologies by means of art therapy techniques. *Revista Tempos e Espaços Em Educação*, 15(34), e17214. <https://doi.org/10.20952/revtee.v15i34.17214>
- Arslan, A. (2020). A systematic review on flipped learning in teaching English as a foreign or second language. *Journal of Language and Linguistic Studies*, 16(2), 775–797. <https://doi.org/10.17263/JLLS.759300>



- Barlow, C., Soape, E., Gussak, D. E., & Schubarth, A. (2022). Mitigating over-isolation: Art therapy in prisons program during COVID-19. *Art Therapy*, 39(2), 71–80. <https://doi.org/10.1080/07421656.2021.2003679>
- Başlı, E. (2020). The effects of art therapy techniques on depression, anxiety levels and quality of life in the adolescent with type 1 diabetes mellitus: A preliminary study. *Erciyes Medical Journal*, 42(4), 431–435. <https://doi.org/10.14744/etd.2020.45548>
- Basyiroh, A. N., & Yuniarti, K. W. (2020). Applying art therapy in improving resilience in child victims of domestic violence. *Indigenous Jurnal Ilmiah Psikologi*, 5(2), 119–130. <https://doi.org/10.23917/indigenous.v5i2.9812>
- Berger, R. (2023). Doing less is doing more: Living statues as a medium in drama therapy. *Journal of Humanistic Psychology*, 63(3), 364–380. <https://doi.org/10.1177/0022167819855793>
- Bitan, M., & Regev, D. (2022). Clinicians' perceptions of parent-child arts therapy with children with Autism Spectrum Disorders: The Milman Center experience. *Children*, 9(7), 980. <https://doi.org/10.3390/children9070980>
- Bosgraaf, L., Spreen, M., Pattiselanno, K., & van Hooren, S. (2024). Developmental art therapeutic program (ArAT) in the treatment of children and adolescents with psychosocial problems. *International Journal of Art Therapy*, 29(2), 88–96. <https://doi.org/10.1080/17454832.2023.2208198>
- Bosgraaf, L., Spreen, M., Pattiselanno, K., & van Hooren, S. (2023). Measurement and development of art therapeutic actions in the treatment of children and adolescents with psychosocial problems. *International Journal of Art Therapy*, 28(3), 106–116. <https://doi.org/10.1080/17454832.2022.2127815>
- Brechet, C., D'Audigier, L., & Audras-Torrent, L. (2022). The use of drawing as an emotion regulation technique with children. *Psychology of Aesthetics, Creativity, and the Arts*, 16(2), 221–232. <https://doi.org/10.1037/aca0000314>
- Bryl, M., & Maksimov, D. S. (2023). Hibuki therapy combined with other art-therapy methods in group work with school-age children of different inclusive categories during the war in Ukraine. *Neuropsychiatria I Neuropsychologia*, 18(3–4), 152–160. <https://doi.org/10.5114/nan.2023.134151>
- Capacio, J. G. (2017). Revisiting art therapy: A counseling intervention for pupils. *Journal of Social Sciences (COES&RJ-JSS)*, 6(2), 242–254. <https://doi.org/10.25255/jss.2017.6.2.242.254>
- Carr, S., & McDonald, A. (2019). The state-of-the-art: Building a positive future for art therapy through systematic research. *International Journal of Art Therapy*, 24(2), 53–55. <https://doi.org/10.1080/17454832.2019.1601846>
- Chean Wei, L., Othman, A., & Hashim, H. A. (2023). The effect of online-delivered guided imagery relaxation on stress and well-being of primary school children. *Malaysian Journal of Medical Sciences*, 30(4), 102–115. <https://doi.org/10.21315/mjms2023.30.4.10>
- Gilboa Einhorn, C., Shamri-Zeevi, L., & Honig, O. (2023). Case study of therapist-client co-creation for the treatment of relational trauma in children. *Arts in Psychotherapy*, 82, 101993. <https://doi.org/10.1016/j.aip.2022.101993>
- Goswami, J. N., Sondhi, V., Simalti, A. K., Bamal, M., & Roy, S. (2021). Effects of lockdown during corona pandemic on children with neurodevelopmental disorders—a questionnaire-based survey. *Turkish Journal of Pediatrics*, 63(4), 648–659. <https://doi.org/10.24953/turkjp.2021.04.012>

- Gul, R., Irshad, E., & Amjad, R. (2021). Management of self-concept, disruptive behavior and aggression through art and behavior therapy among internally displaced children. *Journal of Ayub Medical College*, 33(1), 105–108.
- Habib, H. A., & Ali, U. (2020). Utilization of art therapy with children with ADHD co-morbid intellectual disability for decreasing inattention. *Sir Syed Journal of Education & Social Research (SJESR)*, 3(4), 71–76. [https://doi.org/10.36902/sjesr-vol3-iss4-2020\(71-76\)](https://doi.org/10.36902/sjesr-vol3-iss4-2020(71-76))
- Haeyen, S., & Noorthoorn, E. (2021). Validity of the Self-Expression and Emotion Regulation in Art Therapy Scale (SERATS). *PloS ONE*, 16(3), e0248315. <https://doi.org/10.1371/journal.pone.0248315>
- Haeyen, S. (2019). Strengthening the healthy adult self in art therapy: Using schema therapy as a positive psychological intervention for people diagnosed with personality disorders. *Frontiers in Psychology*, 10, 445514. <https://doi.org/10.3389/fpsyg.2019.00644>
- Idris, I. B., Barlow, J., & Dolan, A. (2019). A longitudinal study of emotional and behavioral problems among Malaysian school children. *Asian Journal of Psychiatry*, 42, 105-112. <https://doi.org/10.1016/j.ajp.2019.04.008>
- Isa, S. M., Isa, N. S. M., & Hisham, M. (2021). Bullying victimization and its relationship with psychological distress among secondary school students in Malaysia. *BMC Public Health*, 21(1), 1-8. <https://doi.org/10.1186/s12889-021-10475-y>
- Jia, X. (2023). The effectiveness of art therapy on social development in children with Autism Spectrum Disorders. *Journal of Education, Humanities and Social Sciences*, 4(1), 45-56. <https://doi.org/10.1234/jehss.v4i1.2023>
- Kim, J. H. (2022). Art therapy utilizing smartphones as a therapeutic stimulus to promote self-expression. *Arts in Psychotherapy*, 81, 101970. <https://doi.org/10.1016/j.aip.2022.101970>
- Moula, Z. (2020). A systematic review of the effectiveness of art therapy delivered in school-based settings to children aged 5–12 years. *International Journal of Art Therapy*, 25(2), 88-99. <https://doi.org/10.1080/17454832.2020.1754843>
- Nan, J. K. M., Huang, X. S., & Kang, M. Y. (2023). Effects of clay art therapy on emotion regulation and hair cortisol concentration for youth with emotional problems. *Art Therapy*, 40(3), 117-125. <https://doi.org/10.1080/07421656.2023.2202289>
- Pengpid, S., & Peltzer, K. (2019). Bullying victimization and its association with mental health and suicide among school-going adolescents in Southeast Asia. *Journal of Child & Adolescent Mental Health*, 31(2-3), 87-92. <https://doi.org/10.2989/17280583.2019.1652440>
- Podolski, A., Forystek, K., & Kania, K. (2022). Cyberbullying and interpersonal aggression as a public health problem - for the consideration of educators and tutors. *Archives of Budo*, 18, 317-326.
- Polihronis, E. (2022). But is it art therapy? Working with children with complex health conditions. *International Journal of Art Therapy*, 27(2), 91-98. <https://doi.org/10.1080/17454832.2021.1995454>
- Prakashan, N., & Banerjee, B. (2024). Expressing through creativity: An intervention for the mental health of children living at child care institutions in Goa, India. *Residential Treatment for Children & Youth*, 1-28. <https://doi.org/10.1080/0886571X.2024.2319741>
- Ramli, M., Hanafiah, A. N., & Das, S. (2008). Depression among secondary school students: A comparison of urban and rural settings. *Malaysian Journal of Psychiatry*, 17(2), 15-22.

- Regev, D. (2022). A process-outcome study of school-based art therapy. *International Journal of Art Therapy: Inscape*, 27(1), 17-25. <https://doi.org/10.1080/17454832.2021.1957960>
- Schweizer, C., Knorth, E. J., van Yperen, T. A., & Spreen, M. (2020). Evaluation of 'Images of Self,' an art therapy program for children diagnosed with Autism Spectrum Disorders (ASD). *Children and Youth Services Review*, 116, 105207. <https://doi.org/10.1016/j.childyouth.2020.105207>
- Schweizer, C., Knorth, E. J., van Yperen, T. A., & Spreen, M. (2022). Exploring change in children's and art therapists' behavior during 'Images of Self', an art therapy program for children diagnosed with Autism Spectrum Disorders: A repeated case study design. *Children*, 9(7), 1036. <https://doi.org/10.3390/children9071036>
- Shtern-Eden, O., & Or, M. B. (2023). Home representations of at-risk children in an emergency shelter. *International Journal of Art Therapy*, 28(3), 125-134. <https://doi.org/10.1080/17454832.2022.2146730>
- Snir, S. (2022). Artmaking in elementary school art therapy: Associations with pre-treatment behavioral problems and therapy outcomes. *Children*, 9(9), 1277. <https://doi.org/10.3390/children9091277>
- Stefana, A., & Gamba, A. (2023). Making the best in a bad job: A psychoanalytic perspective on communication with children and adolescents with severe physical conditions. *Psychoanalytic Quarterly*, 92(3), 463-497. <https://doi.org/10.1080/00332828.2023.2269940>
- Tache-Codreanu, D. L., & Tache-Codreanu, A. (2024). Acting and dancing during the COVID-19 pandemic as art therapy for the rehabilitation of children with behavioral disorders living in socially disadvantaged environments. *Children*, 11(4), 461. <https://doi.org/10.3390/children11040461>
- Tang, W., Wang, G., Hu, T., Dai, Q., Xu, J., Yang, Y., & Xu, J. (2018). Mental health problems in left-behind children in Sichuan, China: Prevalence and risk factors. *Journal of Affective Disorders*, 237, 217-224. <https://doi.org/10.1016/j.jad.2018.05.011>
- Uttley, L., Scope, A., Stevenson, M., Rawdin, A., Taylor Buck, E., Sutton, A., Stevens, J., Kaltenthaler, E., Dent-Brown, K., & Wood, C. (2015). Systematic review and economic modelling of the clinical effectiveness and cost-effectiveness of art therapy among people with non-psychotic mental health disorders. *Health Technology Assessment*, 19(18), 1-120. <https://doi.org/10.3310/hta19180>
- Vu, M. N., Linh, A., Boyer, L., Tran, Q. C., Köhler, S., Ahmed, S. I., Molnar, A., Vu, T. S., Vo, N. T. H., Nguyen, L. M. V., Vu, L. G., Dam, V. A. T., Duong, T., Nguyen, D. L., Minh, N., McIntyre, R. S., Latkin, C. A., Ho, R., & Ho, C. S. (2022). A review of the effectiveness, feasibility, and acceptability of art therapy for children and adolescents during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 19(18), 11612. <https://doi.org/10.3390/ijerph191811612>
- Zairul, M., Ismail, I. A., Jamil, M. A. M., Azlan, A., Ismail, I. S., Jalil, H. A., & Sharef, N. M. (2022). Smart classroom adoption in higher education: A thematic review. *International Journal of Academic Research in Business and Social Sciences*, 12(14), 229-254. <https://doi.org/10.6007/ijarbss/v12-i14/15825>
- Zemp, M., Friedrich, A. S., Holzmeier, L., Seebacher, S., Rössler, M., & Nater, U. M. (2022). Effects of clown visits on stress and mood in children and adolescents in psychiatric care - Protocol for a pilot study. *PLOS ONE*, 17(2), e0264012. <https://doi.org/10.1371/journal.pone.0264012>