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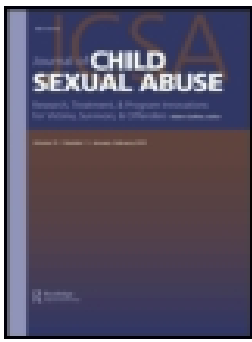
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## Assessing the Extent to Which Art Therapy Can Be Used with Victims of Childhood Sexual Abuse: A Thematic Analysis of Published Studies

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### ABSTRACT

In a 2015–2016 UK survey of 35, 248 adults, 7% reported experiencing sexual abuse as children. This review considers the value of Art Therapy (AT) in recognizing individual needs and experiences and supporting victims to manage the lasting impact of abuse. Three main bodies of research were identified: the use of AT in childhood sexual abuse (CSA) investigations; the use of art therapy in the treatment of the psychological sequelae of CSA victims in childhood and adulthood; and an assessment of how art therapy compares to other therapeutic approaches for CSA victims. The review highlights that AT particularly benefits rapport building between victim and therapist/investigator, and alleviates some psychological consequences of sexual abuse – particularly anxiety, post-traumatic stress, and dissociation. By engaging the limbic system, AT may also provide a communicative form, building a narrative where verbal communication is hindered. However, the analysis brings attention to several weaknesses in the current AT research: available studies tend to have small sample sizes and few quantitative findings. This review concludes by identifying the need for research which considers the clinical implications of AT in CSA cases for the future.

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Art therapy (at); house-tree-person drawings; childhood sexual abuse (CSA); child abuse; limbic system

## Introduction

The Office for National Statistics (ONS) (Flatley, 2016) reported that in 2015–2016, in England and Wales, 7% of adults aged 16–59 years had experienced child sexual abuse (CSA). Eleven percent of females in the population were CSA victims whilst 3% were male. These results are in line with Barth et al. (2013) global figures for CSA. According to the ONS survey, 73% of victims first experienced CSA by the age of 12 (Flatley, 2016).

CSA has significant consequences on psychological development and is an etiological factor in long-term mental health and social issues. Acute effects of CSA may present themselves as internalizing symptomology (i.e. emotional and behavioral problems) which correlates strongly with psychiatric disorders including depression, anxiety, suicidal ideation, and posttraumatic distress

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(Famularo et al., 1990). Studies have also provided a relationship between the physical symptomatology caused by child sexual abuses, such as the prevalence of neurological dysregulation, and chronic pain (Glod, 1993). In CSA, psychiatric symptoms can be present in adulthood, constituting long-term sequelae including unrestrained, aggressive behavior, which may feed the cycle of abuse. CSA can also contribute to difficulties with developing interpersonal relationships and CSA victims may find it hard to trust others or engage in intimacy whilst also having low self-esteem and confidence (Davis & Petretic-Jackson, 2000). Emerging work also recognizes the potential for post-traumatic growth (Hartley et al., 2016) and resilience (Kaye-Tzadok & Davidson-Arad, 2016). Commonly, psychological therapies, such as Exposure Therapy, Cognitive Behavioral Therapy, Psychodynamic Therapy, Eye Movement Desensitization and Reprocessing, Narrative Exposure Therapy and Stress Inoculation Therapy, have been used to treat children exposed to trauma. Individually, these therapies have varied levels of success in the treatment of CSA (Turner, 2019). This study assesses the impact of Art Therapy on both adult and child CSA victims.

Art Therapy (AT) is primarily used in relation with psychoanalytic theories to promote expression of self and healing, whilst pertaining to the client's individuality and needs (Eaton et al., 2007). AT incorporates an assortment of media and techniques and is prominently used when an individual struggles emotionally to articulate their feelings (Peterson et al., 1993).

The principles of AT, as described by D. Waller (2006) are:

- (1) Visual creation of images is an integral aspect of the learning process;
- (2) The creation of art in conjunction with an art therapist can allow for communication through a non-verbal medium;
- (3) Art can “encapsulate” strong emotion;
- (4) Art can provide a communicative link between child and therapist;
- (5) Art can be used to highlight the shift of emotion from one person to another.

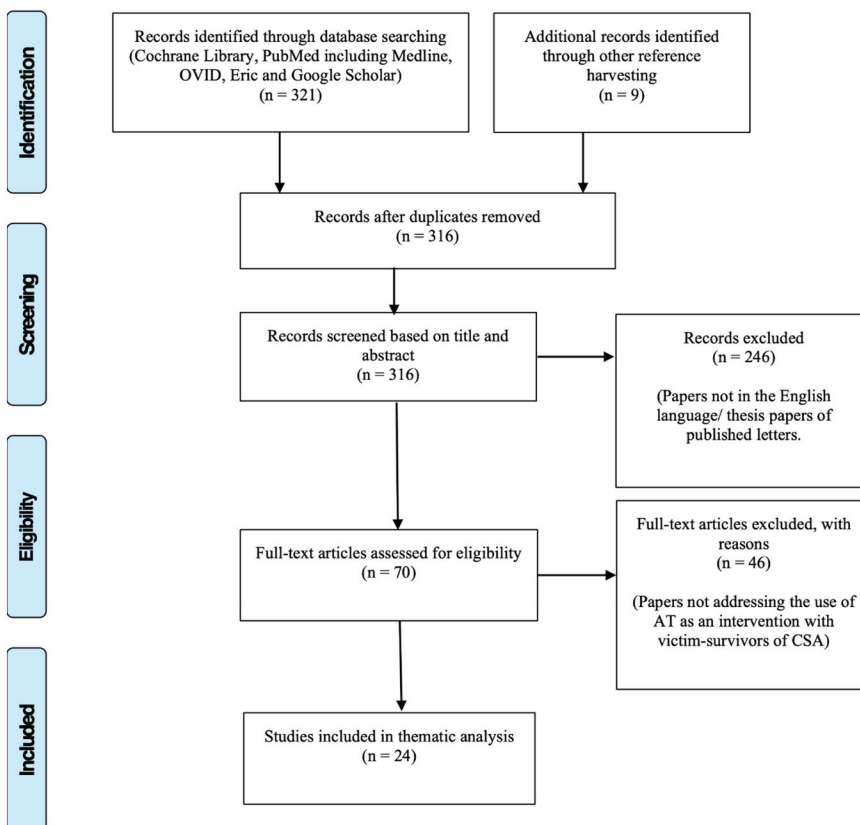
During the 1950s, American art therapist Edith Kramer wrote about her work with children and adolescents in Art Therapy in a Children's Community (Kramer, 1958). Kramer hypothesized that feelings of anger, aggression and other negative emotions could be contained within artwork and prevent these emotions being expressed physically (D. Waller, 2006). Therapeutic interventions commonly provided to support CSA victims can be split into two broad categories: talking therapies and creative therapies (Allnock & Hynes, 2011). AT sits within the second group. In this review, we define the “art” in “art” therapy as the production of visual design through a given medium (such as drawing, painting, sculpture or photography).

## Method

A systematic search was conducted of the Cochrane Library, PubMed including Medline, Ovid, Eric and Google Scholar databases. Databases were selected based on known specialty and because they would facilitate comprehensive yet efficient coverage. The year range of papers included in this study was from 1982 to 2019. Further manual searches were conducted in early 2021 prior to this article being submitted for publication, to ensure – as far as possible – that the most recent papers meeting the criteria have been included.

We established the population as “persons exposed to childhood sexual abuse;” the intervention as “art therapy”; and the outcome to what the studies aimed to evidence. The search terms used were: [“creative arts” or “creative art therapy” or “art” or “art intervention”] and [“childhood sexual abuse” or “sexual abuse”]. [Figure 1](#) illustrates a PRISMA flow diagram outlining our search.

Defining sexual abuse (SA) with uniform criteria is challenging due to the lack of clarity as to what corresponds to be of a “sexual nature” and what is considered “abuse” (Burke-Draucker, 1992). Vaginal, anal, and oral



**Figure 1.** PRISMA diagram of the inclusion and exclusion of studies in this review.

intercourse that is either attempted or completed is typically considered to be SA. Genital contact of either the victim or the offender, including fondling of the breasts, buttocks, and/or thighs, kissing in a sexual nature (Burke-Draucker, 1992), and “rubbing and touching outside of clothing” is also considered SA (DfE, 2018). SA can also take a non-contact form where the perpetrator may elicit the victim to engage in sexual activity by exposing their genitals to the victim (Wyatt & Peters, 1986); coercing the victim into exposing their genitals to the perpetrator, photographing or videoing the victim for sexual gratification or exploitation; or being forced to watch sexual acts between other individuals (Burke-Draucker, 1992). SA can also occur online (DfE, 2018). We defined childhood sexual abuse as sexual abuse which takes any of the above forms and has taken place between a perpetrator and victim aged from 0 to 18 years old. Furthermore, we have defined AT as traditional forms, such as drawing, painting, music and photography. Whereas play therapy, drama therapy, and writing therapy overlap with AT, these therapies are not exclusive to AT and thus were excluded from our search criteria.

### ***Approach to reviewing studies***

A thematic analysis (Braun & Clarke, 2006) was performed on all articles in the final set (Mason, 2002). Table A1, found in appendix 1, provides a summary of the reviewed studies. Coding was carried about by the first author and checked by the second. Throughout the analysis, disagreements or questions were discussed and interpretations were agreed between the authors (following Hudon et al., 2012). Initial codes were consolidated into three main themes: using AT as an investigative tool ( $n = 6$ ); using AT to address the psychological consequences of CSA ( $n = 15$ ); using AT in conjunction with other interventions ( $n = 3$ ).

## **Results**

The results are presented under the three main themes. In summary, they explore the extent of use of AT and its effectiveness.

### ***Using AT to achieve better long-term outcomes***

Six publications, mainly qualitative, demonstrated the use of art in investigations by professionals (e.g., police or social worker) into CSA claims. These studies explored how particularly the use of drawing could create positive emotions during and after the investigative process, influence memory recall, and provide evidence to determine whether a child has been sexually abused.

Katz et al. (2014) ran a controlled study investigating the perceptions of child victims in relation to a researcher interview exploring their CSA claim.

The participants were aged 4–14 years old and the sample contained 31 boys and 94 girls. The cohorts were randomly placed in a drawing intervention compared to a non-drawing, control group. After introduction, rapport building and interview stage in accordance with the National Institute of Child Health and Human Development (NICHD) protocol, the children in the intervention group were given 7–10 minutes to draw what had happened regarding the SA before the interview continued. The control group were given a 7–10 minute period of rest or play. During the interview phase, both the intervention and control group highlighted a more positive experience ( $SD = 0.80$ ) than negative ( $SD = 0.42$ ). Post interview, no overarching difference in positivity was found between intervention ( $SD = 0.50$ ) and control ( $SD = 0.48$ ). The results show that including drawing during a CSA investigation interview has positive effects though there was no overall benefit of drawing post-interview. However, we must be aware of limitations of the study: large standard deviations in the results, familial background, and nature of the abuse for all children were not consistent, and the interviewer also conducted the study, which may skew the results as children may want to direct feelings expressed to what the interviewer desires as an outcome (Katz et al., 2014).

Two further studies (Bhattacharyya et al., 2019; Poole & Dickinson, 2014) assessed whether the quality of testimony was influenced by drawing. Poole and Dickinson (2014) involved 219 children (83.9% of children were from the previous study sample, Poole and Dickinson (2011)) aged between 5 and 12 years old from the Midwest or New York Metropolitan region of US. Participants were randomly assigned to a drawing intervention or a non-drawing control group. The study concluded that during interview, comfort drawing did not impact the memory of the event under question, the quality of information disclosed or the number of cues from interviewers. Bhattacharyya et al. (2019) found that AT through drawing prior to giving a narrative account of the abuse they had been subjected to allowed the children a means to disclose detailed information. However, few children under six years old were included in either study, thus making inferences on how drawing affects preschool and atypically developing children (Poole & Dickinson, 2014) is difficult.

A systematic review by Allen and Tussey (2012) aimed to understand if projective techniques such as drawings could help professionals determine whether children have been sexually abused. The review found studies conducted in the late 1990s–2000s have mixed findings in supporting this hypothesis, compared to overall support for this technique in prior decades. Indicators employed to previously detect CSA included drawing of genitalia, the absence of hands, and failure to integrate the body in drawings. However, when further investigated, the review found that the indicators listed did not always support the hypothesis, which was possibly due to methodological

weaknesses, lack of replication and low reliability and validity of the studies (Allen & Tussey, 2012).

Individually assessing House-Tree-Person (H-T-P) drawings in CSA claims further supports the previous systematic review (Allen & Tussey, 2012) that drawings provide weak evidence in evaluating the history of CSA. H-T-P drawings aim to aid the clinician in gathering information on the “sensitivity, maturity, and integration of a subject’s personality” (Buck, 1948, p. 151) through drawing a house, tree and person. A controlled study (Palmer et al., 2000) assessed 47 sexually abused and 82 non-sexually abused children aged between 4 and 17 years and found efficacy of H-T-P is limited. This is potentially due to discrepancy between inter-scorer reliability and lack of consideration of confounding variables such as culture and race, parent’s education, and previous artistic capabilities. Also, children selected for the comparative group, who were not sexually abused, had a church affiliation that was chosen based on a “gross match in ethnicity, gender, and socioeconomic status demographics with that of the clinical sample” (Palmer et al., 2000, p. 171). However, the sample was not generalizable to the population largely due to the differences in the “structure and support they receive” (Palmer et al., 2000, p. 174).

Subsequently, Cohen-Liebman and Buck (1999) suggested that drawings can be used to promote rapport between interviewer and child through feelings of “control and mastery”, while providing a connector to elicit conversation about the alleged abuse. By considering the overall patterns of the artwork created, rather than individual determinants (Palmer et al., 2000), such as H-T-P drawings, a trained art therapist may be able to assess the level of development of the child while potentially extracting abuse-specific information.

Although the evidence is contradictory in supporting the hypothesis that art could be used to detect and improve the outlook of the investigative practice of CSA, these results suggest benefits in using art for its therapeutic and psychological implications.

### ***AT and psychological consequences of CSA***

As discussed in the introduction, CSA can result in a range of psychological sequelae; 15 papers suggest that AT can be used to bring benefit to these victims by acting as a psychotherapeutic tool (Read Johnson, 1987).

Five studies (Visser & Du Plessis, 2015; Backos & Pagon, 1999; Carozza & Heirsteiner, 1982; Brooke, 1995; Pretorius & Pfeifer, 2010) used a group therapy called AT intervention that aimed to decrease psychological sequelae in CSA victims. Visser and Du Plessis (2015) and Pretorius & Pfeifer (2000) utilized this concept in South Africa. Visser and Du Plessis (2015) found that in comparison to pre- and post-, 10 weeks, the AT intervention “improved



self-esteem and improved relationships,” using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) and the Interpersonal Closeness Scale as assessment tools. Pretorius & Pfeifer (2000) found that depression and anxiety decreased in the experimental group after 8 weeks of AT, measured using the Briere Trauma Symptom Checklist for Children (TSCC) (Briere, 1995). Pretest mean score for depression was 75, compared to a posttest score of 52.33, whereas anxiety had a mean pretest score of 2.5 compared to a posttest score of 1.17. Interestingly, low self-esteem remained consistent across the intervention and nonintervention groups. However, the study encompassed several limitations; there were inadequate therapeutic resources available which may have hindered the expanse of creativity, a lack of trained professionals to lead the AT, social and economic barriers to receiving AT, small sample size, along with assessment tools not being specific to the South African context, which may have skewed results (Pretorius & Pfeifer, 2000).

Both Backos and Pagon (1999) and Carozza and Heirsteiner (1982) used a case report to demonstrate how they implemented AT with CSA victims in the USA. Both studies demonstrated that AT gave victims empowerment either by challenging family members on the abuse they had suffered or by reducing isolation through being in a group setting with other CSA victims. In a study working with 20 female adult CSA victims, Brooke (1995) further investigated self-esteem, pre- and post-AT intervention, compared to a control group, which did not receive AT. The results displayed that after AT the experimental group had a “t score” of 1.77, which approached significance, in relation to gaining self-esteem.

Our review also identified a body of research into how AT can relieve symptoms of dissociation resulting from CSA. In a case report, Hatlevig (2006) found that drawing could be used as an associative tool to prompt discussion into the narrative of a CSA claim. Furthermore, Hirakata (2009) investigated how dissociation could be treated with “creative writing, guided imagery and expressive art” in adult CSA victims using the Dissociative Experiences Scale (Carlson & Putnam, 1993), and a 2–3 hour interview as assessment tools. It was found undertaking AT had positive impacts including reducing dissociation and assistance with expressing emotion, which survivors found difficult to express verbally. Pifalo (2002) quantitatively investigated the link between AT and dissociation. The results displayed a statistically significant Fisher t-value for overt-dissociation ( $t = 2.50$ ) when comparing pre- and post-, 10-week, AT programs, along with statistically significant Fisher t-values for reducing post-traumatic stress and anxiety. When assessing dissociation in general and dissociation-fantasy, the results were not statistically significant, possibly limited by small sample size and all-female participants (Pifalo, 2002). Therefore, the results are not generalizable to gender.

O'Brien (2004) hypothesized that “mess” created by the child in AT may be connected to the CSA, by acting out the trauma suffered. The mess created may be a way of expressing emotion to the therapist in response to anxiety and may act as a dissociative mechanism. Lev-Wiesel (2008) further commented that AT “can be a container or organizer that mirrors internal object relations and their associated defenses,” whilst Emunah (1990) hypothesized that AT may bridge the gap between imagination and reality, thus preventing dissociation by allowing the victim to imagine the future through a physical outlet.

In summary, AT appears to have a positive impact in the treatment of psychological sequelae, particularly regarding dissociation and eliciting positive emotion. However, the studies must increase external validity to build on these findings.

### ***Combining and comparing art therapy with other CSA interventions***

The results of the systematic search flagged three studies combining or comparing AT with another form of therapy in the treatment of CSA. In a follow-up study to Pifalo (2002), Pifalo (2006) extended her research to explore whether Cognitive Behavior Therapy (CBT) combined with AT could reduce symptomology of PTSD in victims of CSA. Pifalo's study included 13 female victims of CSA aged between 8 and 17 years old and utilized the TSCC (Briere, 1995) as an assessment tool. Pifalo found statistically significant *p*-values between pre- and posttest scores for under-response, anxiety, depression, anger, post-traumatic stress, dissociation, dissociation-overt, sexual concern, sexual preoccupation, and sexual distress (Pifalo, 2006, p. 182). Thus, AT and CBT combined showed statistically significant results for seven more variables compared to AT alone. Therefore, this casts doubt on whether AT has the potential to elicit greater effects when combined with CBT or that CBT is the driver behind the improvements and produces greater effects as a standalone therapy when treating CSA than AT.

In a study conducted by C. S. Waller (1992) with 15 adult female incest survivors, group AT (which comprised drawing, painting and verbal processing) was compared to both individual psychotherapy sessions and group therapy in the treatment of CSA. Catharsis (meaning release of emotions) and cohesion between group members of the AT intervention and insight into the abuse were assessed. The study concluded that AT significantly improved the variables investigated in conjunction with the talking and individual therapies; however, AT as a standalone therapy did not show overwhelming improvements in comparison to the talking therapy and individual therapy when each utilized as isolated therapies.

A further narrative publication by Pifalo (2007) assessed an intervention that combined CBT and AT to treat CSA victims. She believed that if the treatment outcomes of CBT were extracted, predominantly from the reduction

of post-traumatic stress symptomatology, an AT model could be designed to achieve them. Pifalo discusses how AT can bridge emotion and real life and how it can be used as another form of communication (as found in the studies discussed above) to make sense of the traumatic event. Pifalo (2007) suggests that AT can provide a coping tool for a child as well as “mapping the narrative” (p. 173) and “highlighting support” (p. 174). However, Pifalo’s discussion in this 2007 paper is hypothetical and an experimental assessment is needed to validate these points.

Concluding from these results, AT shows no overall advantage when used as a single therapy. It is suggested from the studies that AT may be more impactful when used in combination with other therapeutic interventions such as CBT. However, it is possible that the methodological design in these studies may positively recognize CBT as a viable intervention and fail to recognize the value that AT holds.

## Discussion

Regarding the use of AT in CSA investigations, Katz (2015) highlights the important balance when interviewing children who have been sexually abused between meeting the legal requirement of an accurate and strong testimony from the child to enhance the investigation, and thereby to provide justice, yet also maintaining the child’s wellbeing. Katz et al. (2014) state that the investigation should empower victims and ensure that it does not exacerbate “the child’s feelings of anxiety, stress, guilt and self-blame” (p. 859).

Whilst the results from the thematic analysis provide mixed evidence on the use of drawing to benefit the legal weight of the child’s testimony, AT has been proven to enhance the therapeutic aspect of the investigation. For example, in a model transferable to CSA victims, Pynoos and Eth (1986) proposed a three-stage interview process that encourages drawing to allow the therapist to assist the child in their trauma. The first stage involves projective drawing and storytelling to build rapport between therapist and client, which leads onto discussion of the trauma, followed by discussion of the sequelae for the victim. Each of the three steps incorporates drawing. Therefore, it may be better viewing art as an accessory tool to build rapport between investigator and victim whilst drawing out abuse-specific information in the context of the child’s development rather than focusing on using art as an investigative tool (Reynolds et al., 2000). Drawing allows the child to make sense of their outside world and connects it with their emotional perception in a way that is amended and governed by them (Longobardi et al., 2015). Thus, the power of AT may lie in its use as a complementary tool addressing the emotional needs of the child or its use for a specific function in isolations, such as its effects on overt dissociation.

In relation to trauma, the limbic system (hypothalamus, hippocampus, and amygdala) is important in relation to recovery from CSA due to its functioning in sensory memory (Malchiodi, 2003). Physiology and psychology are inextricably linked in trauma as the basis of trauma is on the body; to overcome trauma therefore, sensory memory must be considered (Schore, 1994). As AT is a sensory modality, AT has the potential to be advantageous as it accesses the limbic system's sensory properties, in a way that verbal interventions cannot (Lusebrink, 2004). AT can target the body's mitigating response, reducing anxiety, and allowing individuals to feel relaxed with the therapist, stimulating verbal expression, and boosting memory retrieval (Gross & Haynes, 1998). These results provide further evidence of the positive effects found in the results section to AT.

Utilizing positron emission tomography (PET) and functional magnetic resonance imaging fMRI studies, Frewen and Lanius (2006) found that dissociation in traumatized children could be caused by breaking of neural pathways that usually connect self-awareness to emotional perception of the body. Mollon (2001) hypothesized that trauma damages the right hemisphere of the brain, which usually regulates emotion and understands social interaction. Furthermore, Van Der Kolk (1996) found that during trauma the right hemisphere has a heightened response whilst the left hemisphere which encompasses Broca's area, responsible for language, is inactive. This highlights the need for an intervention that does not encompass speaking, such as AT. Tinnin (1990) and Gantt and Tinnin (2007) hypothesized that to recover from CSA, the right and left hemispheres must become "reconnected" in neural circuitry. This might be accomplished by the formation of a narrative, stimulated through verbal and non-verbal therapies such as AT, thereby restoring duality in the brain's hemispheres. Therefore, the role of AT in CSA cases is in stimulating verbal expression and preventing dissociation. Malchiodi (2003) considers that AT may be useful psychologically due to its links with explicit (facts, concepts, ideas) and implicit memory (senses, emotions, memory). Trauma causes disconnection between implicit and explicit memory, resulting in the context and the emotion surrounding the context becoming disjointed; this can be linked to a distorted perception of self (Malchiodi, 2003). However, AT may provide a narrative to explore and make sense of the memory, thus regaining a sense of self-actualization.

Evidence-Based Practice (EBP) is borne of the idea that clinical practice has relied on tradition rather than evidence of efficacy (Chaffin & Friedrich, 2004). EBP in relation to child abuse is defined as "the competent and high-fidelity implementation of practices that have been demonstrated safe and effective, usually in randomized controlled trials (RCTs)" (Chaffin & Friedrich, 2004, p. 1098). The UK government and other funding bodies are increasing the drive toward EBP, resulting in AT being in a compromising position, due to a lack of quantitative data used to support AT as a credible intervention. As AT

relies on the unique bond created by the characteristics of the art therapist and the individual client and their specific experience of CSA, it is hard to see how AT could comply with the level of prescriptiveness required by an EBP approach (Chaffin & Friedrich, 2004). Presently, AT manuals are in existence, for example, The Formal Element Art Therapy Scale (Gantt & Tabone, 2012) and Handbook of Art Therapy (Malchiodi, 2011). On one hand, these manuals provide a scaffolding for teaching and research; on the other, they may restrain the therapist's creativity, practice style, and the essence of individuality which constitutes the treatment style of AT (Buck & Dent-Brown, 2014).

Trauma-focused CBT (TF-CBT) has been suggested (evidenced in the results section) to be the most effective EBP in treating the sequelae of CSA. This has been further concluded when evaluating the evidence from randomized control trials (Chaffin & Friedrich, 2004). However, could this conclusion be inaccurate as other therapies have not been as widely and methodically researched in comparison? In measuring the effectiveness of AT in the treatment of traumatized children, Eaton et al. (2007) found that many studies investigating AT effects had weak methodological outline, failed to mention the specificity and content of AT, lacked experimental control, and held the belief that qualitative results (which many AT studies are based on) are empirically unattainable. The common use of case studies to present findings of AT also means that the results found are not generalizable to the population: they are exclusive to that participant. However, it could also be argued that using these qualitative case studies allows researchers to give context to the victim's testimony and to provide a richer and more nuanced evidence base for CSA in comparison to quantitative results (Eaton et al., 2007).

## Conclusion

This thematic analysis and discussion of the use of AT in working with CSA victims suggests that interventions are generally positive. Inferring from the studies, AT has a role in establishing a positive therapeutic relationship between client and therapist, relieving some psychological symptoms of sexual abuse, particularly post-traumatic stress, anxiety, overt-dissociation, and improving self-esteem (Cornman, 1997; Pifalo, 2002; Pretorius & Pfeifer, 2010; Visser & Du Plessis, 2015).

When utilizing art in CSA investigative practices, drawing has a limited place in the process of determining whether the child has been sexually abused or not; it has been shown that its strengths lie within helping the child to produce a narrative and developing a rapport with the investigator when being interviewed (Cohen-Liebman & Buck, 1999). Thus, AT's power lie within the psychosocial context. It is justified to say that past studies researching AT have somewhat lacked methodological clarity with respect to qualitative and quantitative findings. Improving methodological clarity has been suggested to

improve the efficacy of AT (Eaton et al., 2007). AT could have a firm place in effective therapeutic practice in CSA cases. This could be enabled by providing a template of AT interventions where there is evidence of effectiveness, which is in turn tailored to the needs and strengths of the individual and therapist.

## Declaration of Interest Statements

The authors declare that there is no conflict of interest.

## Notes on contributors

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## Appendix

Table A1.

| Author (year)                | Sample  | Study Design       | AT Outcomes  | Assessment Tools   | Relevant Findings   | Mediating Factors  |
|------------------------------|---|--------------------|--|--|---|--|
| Visser and Du Plessis (2015) | 6 female CSA victims aged 13–18 years   | Descriptive Study  | Developing positive self-esteem and positive relationships with others   | Group process notes, pre- and post-intervention individual interviews, pre- and post-intervention quantitative scales  | 'trust, commitment, self-disclosure and empathy unfolded.'<br>'improved self-esteem, improved relationships, value of group intervention for participants.'   | Limited resources and lack of trained professionals to carry out AT; social and economic barriers; small sample sizes; researcher was a co-facilitator and interviewer |
| Katz et al. (2014)           | 31 boys and 94 girls, aged 4–14 years, who had been sexually abused by someone other than a family member   | Experimental Study | To understand if drawing throughout investigative interview for CSA improved the overall experience for the children | Qualitatively assessed how children felt before, during and after they were investigated for CSA according to NICHD protocol   | Increased positive phrasing used to describe the drawing intervention, compared to the non-drawing group  | Interviewer for the investigation was the same person who conducted the study  |
| Poole and Dickinson (2014)   | 219 children aged 5–12 years old who had been sexually abused   | Experimental Study | To understand if 'comfort drawing' throughout the investigative process of CSA improved experience                   | Behavioral Inhibition Questionnaire for parents of younger children and children with inhibited temperament.<br>Qualitative assessment of older children.<br>Dissociative Experiences Scale (Carlson & Putnam, 1993) | 'Comfort drawing' did not significantly decrease or increase 'the amount of information they recalled, the accuracy of their answers, or even the extent to which interviewers needed to prompt for answers.' | Few children under 6 years old   |
| Hirakata (2009)              | 1 male and 6 females, aged 34–53 years who were sexually abused as children, engaged in some form of therapy from the point in time of sexual abuse to when the study was conducted and who demonstrated a middle to high range of dissociative behavior measured by the Dissociative Experiences Scale | Descriptive Study  | N/A  |  | Undertaking AT allowed the victims to 'remain present and expand the therapeutic window of tolerance,' 'express the inexpressible' and 'give voice to those parts of themselves that lacked verbal language.' | Small number of participants   |

(Continued)

Table A1. (Continued).

| Author (year)           | Sample   | Study Design      | AT Outcomes   | Assessment Tools  | Relevant Findings  | Mediating Factors  |
|-------------------------|--|-------------------|---|---|--|--|
| Hatlevig (2006)         | 5 female children aged 6–13 years interviewed within 3 years of being sexually abused  | Descriptive Study | N/A   | Qualified art therapist used to interpret the drawings                  | Drawing can be used as an associative tool and a prompt when verbal communication breaks down. An 'altered perception of self and a less developed use of symbols' was found in the children who were sexually abused. | All female participant and a small sample size   |
| Comman (1997)           | 11 children aged 12–17 years who were sexually abused and 11 adolescents who were not sexually abused. Participants were from Seattle, USA | Analytical study  | How projective drawings can be used to assess emotional disorders and somatic complaints  | Interview questions, self-report questionnaires and projective drawings | The subjects who were sexually abused had higher levels of anxiety, muscle tension and cognitive disorganization   | Small sample size; all female participant; participant were all from Seattle   |
| Allen and Tussey (2012) | Varying sample sizes of children who have been sexually abused based on a collation of studies   | Literature Review | The use and assessment of children's drawings to identify if they have been sexually abused   | No specific graphic assessment tool identified                          | Possibly the drawing of genitalia, sexually related features, body parts/organization, less ambiguous gender and use of faint lines are signs of abuse   | Lack of consistency of interpretation of drawings; quality of studies varied   |
| Palmer et al. (2000)    | 47 sexually abused children and 82 non-sexually abused children, aged between 4–17 years   | Controlled Study  | How House-Tree-Person drawings can be used to psychologically assess children who have been sexually abused, compared to those that have not been | House-Tree-Person drawings and questionnaires                           | Weak evidence that House-Tree-Person drawings can be used to evaluate the history of CSA and there may be more use of identifying 'interrelated patterns' of features across drawings' rather than 'individual sign'   | Interrater reliability was not standardized; confounding variables of culture and race, parents level of education and 'previous artistic instruction'; children selected for the study had a church affiliation |

(Continued)



Table A1. (Continued).

| Author (year)           | Sample   | Study Design   | AT Outcomes  | Assessment Tools  | Relevant Findings   | Mediating Factors                              |
|-------------------------|--|--|--|---|---|--|
| Pifalo (2002)           | 13 female children who were sexually abused aged 8–17 years old              | Descriptive Study  | To provide evidence that supports AT as an effective treatment of sexually abused children to reduce acute and long-term effects | Briere Trauma Symptom Checklist for Children conducted before and after the group AT intervention | There was 'reduced anxiety, posttraumatic stress, and dissociative symptomatology scores' after the art intervention in comparison to the scores registered before the intervention took place. There was also a decrease in 'depression, anger and sexual concerns.' | Small sample size; participant were all female |
| Pifalo (2006)           | This is a follow-up study to the study above, thus uses the same participant | Extended research, follow up study to the study detailed above | If CBT combined with AT could reduce symptomology of PTSD in victims of CSA  | Trauma Symptom Checklist for Children before and after the intervention was conducted             | The results suggested that CBT and AT combined could be beneficial for reducing symptoms of PTSD for victims of CSA   | Small sample size; participant were all female |
| Pifalo (2007)           | N/A  | Narrative review   | A review that assesses a treatment intervention that utilizes CBT and AT in CSA victims  | N/A   | AT: 'accomplishes goals of TF-CBT,' 'aids affect,' 'speeds affective processing,' 'facilitates coping skills,' 'maps trauma narrative,' and 'highlights support.'   | No evidence as this article was not a study    |
| Backos and Pagon (1999) | 3 females aged 13–17 years who were victims of CSA                           | Descriptive Study  | N/A  | Pre-intervention interview  | A number of themes emerges from undertaking the AT intervention: 'anger,' 'looking ahead,' 'beginning to heal,' 'empowerment and healing'   | Small sample group; no control group           |

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**Table A1.** (Continued).

| <b>Author (year)</b>        | <b>Sample</b>  | <b>Study Design</b> | <b>AT Outcomes</b>   | <b>Assessment Tools</b>  | <b>Relevant Findings</b>   | <b>Mediating Factors</b>   |
|-----------------------------|--|---------------------|--|--|--|--|
| Eaton et al. (2007)         | CSA victims aged between 4–18 years old  | Literature review   | A measurement of the efficacy of AT interventions on the psychological consequences of traumatized children  | Diagnostic and Statistical Manual of Mental Disorders (used to diagnose PTSD)                | AT may be most successful when used with the youngest victims of trauma and AT is effective in treating negative psychosocial consequences of childhood trauma   | Small sample size; lack of control group; some studies did not specify the AT intervention                             |
| Bhattacharyya et al. (2019) | 6 males and 9 females aged 12–16 years old who experienced childhood abuse, including CSA, and neglect | Descriptive Study   | The study explores 'thoughts, feelings, and how therapeutic interventions through narratives and drawings encourage disclosure'                          | Juvenile Victimization Questionnaire, Descriptive-Phenomenological-Psychological Perspective | Art therapy through drawing, prior to giving a narrative account of the abuse they had been subjected to, allowed the children a means to disclose detailed information  | 'no comparison between the quality and quantity of preintervention and postintervention narratives'; Small sample size |
| O'Brien (2004)              | 1 female, aged 7 years old, subjected to trauma including CSA  | Descriptive study   | Hypothesis: 'Artwork created during Art therapy may activate neurological structures of the brain enabling non-verbal early experience to become known.' | N/A  | 'mess' while undertaking AT could be used as a dissociative mechanism in response to anxiety and connected to early traumatic relationship experiences;  | Small sample size; no follow up study  |
| Gantt & Timmin (2009)       | N/A  | Descriptive study   | AT could help alleviate post-traumatic stress symptoms   | Imaging  | AT can allow the victim of trauma, including CSA, to develop a sequenced narrative that can be non-verbal and allows the expression of thoughts and feelings through another medium; more cost effective than traditional psychotherapy as an intervention | N/A  |

(Continued)

Table A1. (Continued).

| Author (year)                  | Sample  | Study Design      | AT Outcomes   | Assessment Tools  | Relevant Findings  | Mediating Factors  |
|--------------------------------|---|-------------------|---|---|--|--|
| Carozza and Heirsteiner (1982) | 36 females, aged 9–17 years old who had been subjected to CSA       | Descriptive study | The study was used to assess if AT could result in a reduction of isolation and anxiety and to model new behaviors and skills to increase self-esteem | N/A   | 'an increase in figure size of persons; addition of a body in posttests by girls who initially drew a floating head to represent a person, greater differentiation between male and female figures; fewer erasures; decreased pencil pressure, and improved quality of lines; less emphasis on clothing to conceal the body; more central placement of figures on the page; and more realistic representation of self' | No control group; small sample size; no follow-up study  |
| Lev-Wiesel (2008)              | Numerous studies with varying participant characteristics           | Literature Review | An assessment of the role of AT in alleviating symptoms of dissociation after CSA   | See individual studies for specific assessment tools        | AT can be used in helping alleviate the symptoms of dissociation after being subjected to CSA  | No follow up study   |
| Reynolds et al. (2000)         | Various participant characteristics based on the individual studies | Literature Review | Effectiveness of AT   | Individual assessment tools based on the individual studies | The literature review found that AT is usually effective but does not show overarching effectiveness compared to other traditional interventions; many studies combine AT with other interventions, making it difficult to show the true effect and benefit of AT alone  | Validity and heterogeneity issues incorporating age, gender, demographic background, number of therapy sessions, length of therapy sessions, differences in sample sizes |

(Continued)

**Table A1.** (Continued).

| <b>Author (year)</b>   | <b>Sample</b>   | <b>Study Design</b> | <b>AT Outcomes</b>  | <b>Assessment Tools</b>  | <b>Relevant Findings</b>  | <b>Mediating Factors</b>   |
|--|---|---------------------|---|--|---|--|
| Pretorius and Preifer (2010)   | 25 females aged 8–11 years old, who have been sexually abused | Quasi-              | experimental design with non-equivalent groups'   | How effective AT is in alleviating depression, anxiety sexual trauma and low self-esteem | Solomon four-group design, Trauma Symptom checklist for Children  | Experimental groups that involved AT had vast improvement compared to control groups in relation to anxiety and depression |
| Small sample size; nonrandom assignment of participants; groups are non-equivalent |   |                     |   |  |   |  |
| Cohen-Liebman and Buck (1999)  | N/A   | Review article      | The evaluation of drawing into the interview process of CSA   |  | It was concluded that drawings are beneficial to the therapeutic outlook and investigative measures of CSA, but should not be solely relied upon and should be interpreted by trained professionals |  |
| Read Johnson (1987)  | N/A   | Review article      | Understanding and evaluating how AT can be used as a treatment when working with victims of trauma, including CSA |  | AT has the potential to be a useful diagnostic and psychotherapeutic tool when used in patients with trauma   |  |

(Continued)

Table A1. (Continued).

| Author (year) | Sample  | Study Design     | AT Outcomes   | Assessment Tools | Relevant Findings   | Mediating Factors                      |
|---------------|---|------------------|---|------------------|---|--|
| Emunah (1990) | N/A   | Review article   | How AT can provide 'explosion, expression, containment and expansion' to victims of CSA | N/A              | There is heightened creativity in adolescence and AT can provide a physical outlet of emotion and allows the victim to imagine the future through a physical outlet of making art whilst bridging a gap between imagination and reality | N/A                                    |
| Brooke (1995) | Treatment group (art intervention): 6 women aged between 26–40 years old.<br>Control group: 5 women aged between 26–64 years. | Controlled study | If AT improves self-esteem in CSA victims   | Inventories      | The two groups had significantly different levels of self-esteem before the AT intervention. No statistically significant result was found between the AT intervention and general and social self-esteem categories                    | Small study sample; no follow-up study |