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# Primary-school-based Art Therapy: A Review of Controlled Studies

1st author:

Alex McDonald, SRA'sT (Art), MRes Clinical Research, has worked as an art therapist with children, young people and families since 2005. She now also enjoys supervising, teaching and researching art therapy. Alex is currently social media officer and tutor at the British Association of Art Therapists.

Contact: alexmcdonald.arttherapy@gmail.com

2nd author:

Nicholas J Drey, PhD, is a senior lecturer in Health Services Research at Centre for Health Services Research, School of Health Sciences, City University of London, focusing on quantitative methods and research ethics. Previously he worked in academic roles in the Department of Midwifery (City University London) and the Department of Public Health Medicine, School of Medicine, University of Southampton. He has also worked in the NHS in the Public Health Department of Wessex Regional Health Authority.

## **ABSTRACT**

**Aim:** This study aims to review controlled studies on the effectiveness of primary-school-based art therapy to assess quality, synthesise findings, and make informed suggestions for future research.

**Methods:** A systematic review was undertaken using database/hand searches, PICOS inclusion/exclusion criteria, and the Downs and Black Checklist for Measuring Study Quality. A descriptive synthesis was used to present findings.

**Results:** Out of 201 found, only 4 papers met the inclusion criteria. Art therapy was reported as having a significant positive impact on some outcomes; Classroom behaviour; Oppositional Defiant Disorder; Separation Anxiety Disorder. And non-significant greater gains towards Locus of Control.

1 paper reported no significant impact on outcomes but maintained scores for Self-concept compared to a significant decrease for no-intervention.

Quality of studies was assessed to be between the 3<sup>rd</sup> and 5<sup>th</sup> quintile of possible scores on the Downs and Black Checklist.

**Conclusion:** The studies provided important evidence of some positive effects and no negative effects. Benefits were reported for children struggling with Classroom behaviour, Oppositional Defiant Disorder, Separation Anxiety Disorder, Locus of Control, and Self-concept. The lack of harm reported is also an important finding. However, to evidence clinical effectiveness, there is an urgent need for further robust research.

Keywords: art therapy; primary-school-based; schools; school-based; education; children; outcome-based; research; evidence-based

## **BACKGROUND**

One in ten primary school children suffer from a diagnosable mental health disorder; which equates to circa three children in every class (ONS, 2005). Failure to prevent and treat children's mental health problems can have significant negative effects on the wellbeing of the children and their families, as well as a considerable impact on society in general due to increased future costs (Department of Health, 2015). Children's social and emotional wellbeing also affects their physical health and can determine how well they do at school (NICE, 2008).

The Children's Commissioner has reported that in England, although almost a quarter of a million children and young people are receiving help from children and adolescent mental health services (CAMHS), 28% of referrals are turned away, waiting lists are up to 200 days, and children and young people themselves are asking for an enhanced role for schools in identifying early symptoms of mental ill health (Children's Commissioner, 2016). This review responds to the requests made by children and young people for schools to have an enhanced role in early intervention by focusing specifically on primary-school-based art therapy services.

In order to encourage better use of school counsellors, the Department for Education (DfE) is leading work to develop an evidence-based schools counselling strategy (DoH, 2015). This illustrates the urgent need for robust, high quality, outcome-based research on the clinical effectiveness of primary-school-based art therapy, if it is to be recommended as an intervention within primary schools.

## **STUDY RATIONALE**

In order to produce robust outcome-based research on the clinical effectiveness of primary-school-based art therapy, it is essential that we review the studies undertaken so far. This review includes controlled before-and-after studies and randomised studies in order to fulfil three main aims: Assess the methodological strengths and weaknesses of the studies; Synthesise the findings; Make informed recommendations for future research.

Thus far there have been three major reviews of the evidence for the clinical effectiveness of art therapy (Reynolds, Nabors, & Quinlan, 2000; Slayton, D'Archer, & Kaplan, 2011; Uttley et al., 2015). However, none include all of the studies on primary-school-based art therapy for various reasons.

The authors of this review used the SIGN Methodology Checklist for Systematic Reviews (2015) to assess the three previous reviews. Both authors assessed each review, checking for the following methodological strengths and weaknesses: Clearly defined research questions and inclusion/exclusion

criteria; Comprehensive literature search; At least two people selecting studies; Status of publications not used as inclusion criteria; Scientific quality of the included studies assessed and reported; The scientific quality of the included studies used appropriately; Likelihood of publication bias; Conflicts of interest declared. Although the recent Uttley et al review (2015) was the only one of the three to gain a high score on the SIGN Checklist (2015), it did not include any primary-school-based studies. This review focuses solely on primary-school-based studies in order to fill the gap.

The previous 2 reviews, one (Slayton et al., 2011) an update of the other (Reynolds et al., 2000), were completed over 4 years before the searches for this review. This review includes more recent studies.

## **OBJECTIVES**

This review will evaluate the evidence for the clinical effectiveness of primary-school-based art therapy for improving children's social, emotional, or mental health. The review also has a particular focus on the methodological quality of studies in order to make informed recommendations for future outcome-based research on primary-school-based art therapy.

The findings of this review will be presented clearly using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist and flow diagram. The systematic methods which were used to identify, select, and critically appraise relevant research will be described. The findings collected from the studies will then be presented along with conclusions concerning gaps in the literature, and suggestions for further research.

## **ART THERAPY AS A CLINICAL INTERVENTION: DEFINITION**

Art therapy is a state registered form of psychological therapy in UK, US and Canada. There is no single approach in art therapy and it may vary in definition. The British Association of Art Therapists

(BAAT) defines art therapy as a form of psychotherapy that uses art media as its primary mode of expression and communication (BAAT, 2016).

Clients referred to primary-school-based art therapy may have a wide range of difficulties, disabilities or diagnoses. These may include social, emotional, behavioural or mental health problems, learning or physical disabilities, life-limiting conditions, neurological conditions and physical illnesses. Art therapy is provided in groups or individually, depending on clients' needs.

### **Definition of primary-school-based art therapy in this review**

It is important first to distinguish art therapy from 'art as therapy', 'therapeutic art making' or 'arts for health' approaches. These terms are all used to describe art making which may be beneficial to a person's wellbeing but does not necessitate a therapeutic relationship with an art therapist. The definition for art therapy used for inclusion in this review is as follows: Art therapy includes establishing therapeutic boundaries appropriate for the intervention and context. The client gives informed consent to begin art therapy and is clearly informed of when the intervention will begin and end, and how long and frequent sessions will be. Art therapist and client are both present during sessions and an appropriate therapeutic relationship is established. Art therapy includes the therapeutic use of art materials. This definition echoes that of a previous review (Uttley et al., 2015). In addition, for inclusion in this review, the art therapy must take place within a primary school.

## **REVIEW METHODS**

The protocol for this review was designed by the research team which consisted of author 1, a state registered art therapist and author 2, a health researcher.

## **Eligibility criteria**

The inclusion and exclusion criteria for Population, Intervention, Comparator, Outcome, and Studies (PICOS) can be seen in Table 1 below. Only English or already-translated studies were included. The status of publications was not used as an inclusion criterion and the searches included grey literature.

[Table 1 near here]

## **Information sources**

Specific searches were conducted using Ovid Online and Ebscohost platforms to access the electronic databases Embase, AMed, Ovid Medline, Social Policy and Practice, Academic Search Complete, Cinahl, E-Journals, Psycarticles, and Psychinfo. Databases were searched from inception to present and included grey literature. Searches were conducted during the period 9<sup>th</sup> to 13<sup>th</sup> October 2015.

In order to check whether the specific searches on the databases had missed any eligible studies, a hand search of the Taylor and Francis and Science Direct search facilities was conducted.

In addition, reference lists of the three systematic reviews (Reynolds et al., 2000; Slayton et al., 2011; Uttley et al., 2015) and included articles were searched. A hand search was also conducted of the British Association of Art Therapists (BAAT) online research library, Art Therapy Online, and pre-electronic issues of The International Journal of Art Therapy: Inscape. A further search was conducted through communications with the BAAT Art Therapy Practice Research Network and Art Therapy in Education Special Interest Group.

## **Search**

The key word search terms used for the electronic database searches can be seen in Figure 1. These were Art Therapy/Art Therapist (Art Therap\*), Art Psychotherapy/Art Psychotherapist (Art

Psychotherap\*), Primary Schools, and Elementary Schools with an additional limit set for the primary-school-age group.

[Figure 1 near here]

## Study selection

The search strategy is illustrated using the PRISMA flow diagram in **Error! Reference source not found.**2 below. After removing duplicates, the titles of all records generated from the searches were scrutinised by author 1 and checked by author 2 (n=201). Screening of the titles and abstracts allowed the researchers to conduct an initial sort and exclude studies which clearly did not conform to the review eligibility criteria (PICOS) (n=178). The grey literature identified was also excluded, due either to using non-standardised outcomes measures or having no control groups (n=7).

All studies identified for possible inclusion were then obtained in full text (n=23). Two authors were contacted to gain further information relating to the eligibility of their studies but only one author replied. The missing information is taken into account in the results of the review. The full text studies were then reviewed again by both authors using the PICOS criteria for this review. Studies which were not eligible were excluded (n=19). Eligible controlled studies were then included in the review for further appraisal (n=4). Two of the included studies were journal papers from a conference published in a special issue and were identified through the hand search using Science Direct rather than the initial database searches.

[Figure 2 near here]



## **Data collection process**

The key findings from each paper were extracted from the reports by author 1 and checked by author 2. Where studies diverged the quality of the paper was taken into account and described along with the key findings.

## **Data items**

Due to the fact that the studies were measuring different outcomes, no raw data were sought and no meta-analysis was conducted.

## **Risk of bias in individual studies**

The quality of the studies was assessed using the Downs and Black Checklist for Measuring Study Quality (1998) and reported in the findings of the review. The Downs and Black Checklist (1998) is appropriate for assessing randomised and non-randomised controlled studies, providing an overall score for study quality and individual scores for quality of reporting, internal validity (bias and confounding), power, and external validity.

## **Synthesis of results**

The synthesis of the results is descriptive, as the review includes studies using different outcome measures. Meta-analysis was not possible due to this heterogeneity.

## **REVIEW RESULTS**

## **Study selection**

The total number of records yielded from the databases search was 37. An additional 164 records were identified from the supplementary hand searches resulting in 201 records (see Figure 2). The researchers ensured that the review covered all of the literature by performing sensitive searches until no new papers were found.

178 papers were excluded at title/abstract screening. Common reasons for exclusion at title/abstract screening were that the intervention was not art therapy (n=52), not outcomes-based (n=68), not school-based (n=23), participants were not primary-aged children (n=18), no standardised measures used (n=10), no control group (n=6) or not peer reviewed (n=1). Examples of the main reasons for exclusion can be found below in Table 2 below.

[Table 2 near here]

19 papers were excluded at full text. The main reasons for exclusion at the full text stage of the review were that the intervention was not art therapy (n=1), not school-based (n=4), participants were not primary-aged children (n=2), not outcomes based (n=3), standardised measures not used (n=1), or lack of control group (n=8). The reasons for exclusion of each of the 19 full text studies can be found in the appendix.

## **Study characteristics**

4 papers were identified for inclusion in this review. The studies included were scrutinised to extract information relating to the methodology, date of the paper, sample size, study population, intervention

and control groups, amount of therapy and findings. This information can be seen in Table 3 below and is described in more detail in the following sections.

[Table 3 near here]

## **Introducing the 4 papers included in this review**

This section gives a general introduction and overview of the studies included in this review. More detailed descriptions of participants, art therapy interventions, comparators, outcome measures, quality appraisal, and findings are reported in the following sections.

The included papers were published between 1993 and 2013 and conducted in the US, Iran, and Israel. There were no UK studies which met the criteria for the review.

### ***Paper 1: Changes in Locus of Control in Behavior Disordered Children by Rosal, published in the Arts in Psychotherapy, 1993***

The Rosal paper appears to have been conducted in the US and was published in 1993. Although Rosal describes the study as a Pre-test/Post-test study, within the paper it is stated that the 36 participants (17 boys, 19 girls) were randomly assigned to one of three experimental conditions: (a) a cognitive-behavioural art therapy group, (b) an “art as therapy” art therapy group, or (c) a control group. This paper is included as a randomized controlled trial in the Reynolds et al review (2000). In the Uttley et al review, the Pre-test/Post-test design is stated as the reason for exclusion (Uttley et al., 2015). In this review, the Rosal paper is included as a randomised controlled trial as the participants were randomly assigned to the three groups, including a control group.

The Rosal paper aimed to examine the effects of art therapy on primary-school children with ‘behaviour disorders’ using standardised measures for Locus of Control (LOC) and adaptive classroom behaviour (Rosal, 1993). The study used three groups, two of which were art therapy

groups and the other a control group. The two art therapy groups used different approaches to art therapy but they were both art therapy interventions nonetheless.

It is presumed that the children in the control group received no intervention in relation to the study but this is not clearly stated in the report, nor whether these children received any other interventions from elsewhere.

***Paper 2: The Psychological Benefits of Artwork: The Case of Children with Learning Disorders by Regev & Guttman, published in the Arts in Psychotherapy, 2005***

The Regev & Guttman paper reports on a study which was conducted in Israel and published in 2005. This study was included as a randomized controlled trial in the Slayton et al review (2011). There was no mention of this paper in the Uttley et al review (2015). This may be due to the art therapy group only being reported as a control group within the study rather than being the main experimental group, but no reason for exclusion is given. In this review, the Regev & Guttman study (2005) is included as a randomised controlled trial.

The Regev & Guttman study (2005) aimed to examine the effects of engaging in artwork on 4 emotional-social traits within 109 primary-school children, who had 'learning disorders': Self-concept; Locus of Control; Coherence; and Social Loneliness (Regev & Guttman, 2005).

The study used 4 groups; an art group (the experimental group), a games group; an art therapy group, and a no-intervention group.

***Paper 3: The effect of art therapy based on painting therapy in reducing symptoms of oppositional defiant disorder (ODD) in elementary School Boys by Khadar et al, published in Procedia - Social and Behavioral Science, 2013***

There are 2 papers, published in 2013, of a study conducted in Iran by Khadar et al (Khadar, Babapour, & Sabourimoghaddam, 2013a, 2013b). The first reports on the study's findings in relation

to the effects of art therapy on reducing symptoms of Oppositional Defiant Disorder (ODD) in 30 elementary school boys, aged 7-12 years old, who scored higher than cut-off on the Child Symptom Inventory-4 (CSI-4).

The paper describes the study design as an ‘experimental and a pre-test-post-test control group design’ (Khadar et al., 2013a). The study was not included in the Uttley et al review (2015) and no reason for exclusion was stated. This may be because the searches for the Uttley et al review (2015) were conducted in 2013, the same year the Khadar et al papers (2013a; 2013b) were published.

It is presumed that the children in the control group received no-intervention in relation to the study but this is not clearly stated in the paper. Neither does the paper state whether the children participating in the study were receiving any other interventions elsewhere.

***Paper 4: The effect of art therapy based on painting therapy in reducing symptoms of separation anxiety disorder (SAD) in elementary School Boys by Khadar et al, published in Procedia - Social and Behavioral Science, 2013***

The second Khadar et al paper (2013b) reports on the study’s findings in relation to the effects of art therapy on reducing symptoms of Separation Anxiety Disorder (SAD) in what appear to be the same 30 elementary school boys as in the first paper. The boys were aged 7-12 years old and had scored higher than cut-off for SAD on the Child Symptom Inventory-4 (CSI-4).

As with the first paper, the second describes the study design as an ‘experimental and a pre-test-post-test control group design’ and was not included in the Uttley et al review (2015).

Both papers appear to describe the same ‘art therapy based on painting therapy’ intervention group and it is presumed that the children in the control group received no-intervention.

## **Participants**

This section provides more detail about the participants of the studies. The included studies examined varied study populations with ages ranging from 7 to 13 years old with sample sizes ranging from 30 to 109 participants:

### ***Paper 1: 36 children assessed as having ‘behaviour problems’***

The Rosal study (1993) included 36 primary-school children with moderate to severe ‘behaviour problems’, aged 8–11 years old. The Rosal study (1993) used the Conners Teacher Rating Scale (TRS) (Conners, 1969) to assess the classroom behaviour of 119 pupils from an inner-city primary school in the US. 48 children (25 boys and 23 girls) were identified as having moderate to severe ‘behaviour problems’, of which 36 (17 boys, 19 girls) participated in the study (Rosal, 1993).

### ***Paper 2: 109 children assessed as have ‘learning disorders’***

The Regev & Guttman study (2005) included 109 primary-school children (58 boys, 51 girls) with ‘learning disorders’, aged 8-13 years old. The children all came from three schools in the northern part of Israel. The 109 children were randomly chosen from these schools’ populations of children who had ‘learning disorders’. 86 of the 109 children had been formally diagnosed and the remaining 23, although not yet diagnosed, required and received special help in school. Of the 109 students, 41 had ‘reading disability’, 10 had ‘writing disability’, 10 had ‘math disability’, and 48 had ‘multiple disabilities’. In this study ‘learning disorder’ is described as a ‘soft’ emotional diagnosis with the main features being functional rather than emotional difficulties (Regev & Guttman, 2005).

### ***Paper 3: 30 boys assessed as having *Oppositional Defiant Disorder (ODD)****

The first Khadar et al paper (2013a) describes selecting participants from boys aged 7-12 years old who had scored higher than cut-off on the Child Symptom Inventory-4 (CSI-4) for Oppositional

Defiant Disorder (ODD). The boys were then invited to attend a Structured Diagnostic Interview, based on the DSM-IV-TR criteria. 30 elementary School Boys with symptom of ODD were then selected for the study. The paper does not state where the participants were from, so it is presumed that they were living in Iran, as the study was conducted within the Department of Psychology at the University of Tabriz, Iran.

***Paper 4: 30 boys assessed as having Separation Anxiety Disorder (SAD)***

The second Khadar et al paper (2013b) included what appears to describe the same 30 elementary School Boys as the first Khadar et al paper (2013a). The 30 boys aged 7-12-year-old had been diagnosed with Separation Anxiety Disorder using the same process as described in the first Khadar et al paper (2013a); Children who scored higher than cut-off for SAD on the Child Symptom Inventory-4 (CSI-4) were then invited to attend a Structured Diagnostic Interview, based on the DSM-IV-TR criteria, for final selection. Again, the paper does not state where the participants were from.

## **The art therapy interventions**

There will be cultural differences between schools within and between countries due to regional cultural traditions, social norms and economic factors. There are also differences in approaches to art therapy practices between individual art therapists and schools of practice. For these reasons the following section describes the art therapy interventions with as much detail as provided by the 4 study reports.

All 4 studies examined group art therapy interventions rather than one-to-one art therapy. It appears that there were 4 different approaches to primary-school-based art therapy group interventions included within the 4 studies; ‘Cognitive-behavioural art therapy’ (Rosal, 1993); ‘Traditional art therapy’ (Rosal, 1993); ‘Nondirective art therapy’ (Regev & Guttman, 2005); ‘Art therapy based on

painting therapy' (Khadar et al., 2013a, 2013b). The interventions are described with varying degrees of detail.

The duration of the interventions ranged between 12 to 25 sessions; 10 weeks, twice weekly for 50 minutes (Rosal, 1993); 25 weeks, weekly for 45 minutes (Regev & Guttman, 2005); 12 sessions, twice weekly for 40 minutes (Khadar et al., 2013a, 2013b).

***Paper 1: 'Cognitive-behavioural art therapy' and 'Traditional art therapy'***

The Rosal paper (1993) includes two different art therapy groups. One is described as a 'cognitive-behavioural approach to art therapy' and the other a more 'traditional or psychoanalytic approach to group art therapy' (Rosal, 1993). It is misleading that the traditional art therapy group was called 'art as therapy' in the report of the study. In this review, and more generally nowadays, the term 'art as therapy' is taken to mean therapeutic art-making without the presence of an art therapist. Therefore, for the purposes of clarity, this group will be referred to as the 'traditional art therapy' group within this review.

Both art therapy intervention group sessions were conducted over 10 weeks, twice weekly for 50 minutes. Both were delivered in small group sessions; 6 children in each group; two small groups of 6 children per intervention; 12 children receiving cognitive-behavioural art therapy; 12 children receiving traditional art therapy.

***Paper 2: 'Non-directive art therapy'***

The Regev & Guttman study (2005) describes the art therapy group as nondirective artmaking followed by group reflection led by the art therapist. For the purposes of clarity in this review this art therapy group approach will be referred to as 'nondirective art therapy'. All the intervention groups were delivered over 25 weeks, weekly for 45 minutes. Each of the intervention groups was divided into small groups of 4 to 6 children with a total of 25 children in each intervention group other than the art therapy group which totalled 29.



### ***Papers 3 and 4: 'Art therapy based on painting therapy'***

Both Khadar et al papers (2013a, 2013b) describe the art therapy group intervention as 'art therapy based on painting therapy' and state that children made art in the presence of their peers with no interpretations imposed on the images by the art therapist. The children were encouraged to explore and experiment within clear boundaries and the art therapist worked with the children to discover the meaning of the artwork for that individual (Khadar et al., 2013a, 2013b). In this review, this art therapy group will be referred to as 'art therapy based on painting therapy'. The art therapy intervention was delivered over 12 sessions, twice per week, each lasting 40 minutes.

### **Comparators**

The 4 papers reported on controlled studies which used various comparators; Art instruction and games groups (Regev & Guttman, 2005); Other art therapy approaches (Rosal, 1993); No-intervention control groups (Khadar et al., 2013a, 2013b; Regev & Guttman, 2005; Rosal, 1993).

### **Outcome Measures**

All 4 papers reported on studies which each used a variety of standardised outcome measures; The Children's Nowicks-Strickland Internal-External Locus of Control and Connors Teacher Rating Scale for classroom behaviour (Rosal, 1993); Piers-Harris Children's Self-Concept Scale for self-esteem, Intellectual Achievement Responsibility Questionnaire for Locus of Control, Children's Sense of Coherence Scale for Sense of Coherence, and Loneliness and Social Dissatisfaction Questionnaire for Social Loneliness (Regev & Guttman, 2005); Child Symptom Inventory-4 (CSI-4) (Khadar et al., 2013a, 2013b).

## **Quality appraisal**

The scientific quality of the included studies was assessed using the Downs and Black Checklist for Measuring Study Quality (1998). The results are presented below and included in Table 3 above. Both authors of this review assessed each study for reporting, power, external validity, internal validity, bias and confounding (selection bias). The scores for each study varied with a range between 16-26 out of a possible 32:

The Rosal study (1993) scored the highest at 26 out of 32 which is in the 5<sup>th</sup> Quintile. This is due to the study design being assessed as reasonably robust but lacking adequate reporting on elements such as potential confounding factors.

The Regev & Guttman study (2005) scored 24 out of 32 which is in the 4<sup>th</sup> Quintile. This is due to the study design being assessed as reasonably robust but lacking adequate reporting on methods such as the analysis of the data.

The Khadar et al study (2013a; 2013b) appears to have been reported upon in two papers using the same format to report on the findings in relation to two different outcomes. There is a notable lack of reporting on the remaining 9 out of the 13 emotional and behavioural disorders which the measure used is intended to assess. It is not reported if any of the outcomes showed no change or scored worse at the end of the study than at the beginning. The authors of this study were emailed several times throughout the duration of this systematic review but no reply was received. The description of the methods used to operationalise this study is very sparse, leaving unanswered questions about the ways in which the data was collected, analysed and reported. For these reasons, both Khadar papers scored 16 out of 32 for quality which is in the 3<sup>rd</sup> Quintile.

## **Findings from included studies**

The studies presented a range of results. This review reports on the findings from the analysis of the data gathered using the standardised outcome measures only.

Table 4 below shows the findings from the studies which identified art therapy as beneficial or otherwise for a selection of target symptoms. It can clearly be seen that most findings suggest that art therapy may be beneficial. Only the Regev & Guttman study (2005) found no benefit, other than a prevention of a decrease in scores compared to the control group. It is also important that no negative effects were identified by any of the studies.

[Table 4 near here]

### ***Locus of Control***

Locus of control (LOC), a psychological construct developed by Rotter, is a way of describing the degree to which the child assumes responsibility for his/her successes and failures. To determine Locus of Control the child will be assessed on how much they perceive rewards to be a result of their own behaviours, actions, efforts and skills or the actions of others, luck, fate or chance (Rotter, 1966).

The Rosal study (1993) used the Children's Nowicks-Strickland Internal-External Locus of Control (CNS-IE) to measure the children's perception of reinforcements or rewards. This measure is commonly used as an indicator of general adaptive behaviour (Rosal, 1993). Rosal reports no significant differences between groups. However, subjects in both art therapy intervention groups made non-significant greater gains toward locus of control norms than the control group. This suggests that art therapy may have been having a positive effect on Locus of Control compared to no intervention but a bigger sample and longer follow-up would be needed to sufficiently power such an analysis.

The Regev & Guttman study (2005) used the Intellectual Achievement Responsibility Questionnaire (IARQ) to measure Locus of Control. In this study there were no significant change in scores reported for any of the groups.

### ***Classroom Behaviour***

The Rosal study (1993) used the Conners Teacher Rating Scale (TRS) to measure classroom behaviour. Rosal reported significant differences among the three treatment conditions in change of diagnosis. The two art therapy treatment conditions were significantly more effective than the control group in helping the children with 'behaviour disorders' to improve. The two art therapy treatment conditions did not differ significantly from each other. This suggests that varied approaches to art therapy may have significantly more positive effects on classroom behaviour than no intervention.

### ***Loneliness***

The Regev & Guttman study (2005) reported no significant change in Loneliness and Social Dissatisfaction Questionnaire scores for any of the groups.

### ***Self-concept and Coherence***

The Regev & Guttman study (2005) reported a significant increase in the Children's Sense of Coherence Scale scores for the art group only, and a significant decrease in scores for the no-intervention group. This may suggest that a decrease in scores may have been prevented for the participants of the art therapy and games groups.

### ***Self-esteem***

The Regev & Guttman study (2005) found a significant increase in the Piers-Harris Children's Self-Concept Scale scores for the games group only. No significant change was reported for the art therapy group.

## **REVIEW DISCUSSION**

## Summary of findings

Art therapy was reported to have had a significant positive impact on symptoms of 3 outcomes measured; Classroom behaviour (Rosal, 1993); Oppositional Defiant Disorder (ODD) (Khadar et al., 2013a); Separation Anxiety Disorder (SAD) (Khadar et al., 2013b). Participants in two art therapy intervention groups were also found to have made non-significant greater gains towards Locus of Control compared to the control group (Rosal, 1993).

Only 1 out of the 4 papers reported that art therapy had no significant impact on outcomes; Locus of Control, Loneliness and Self-esteem (Regev & Guttman, 2005). However, that paper did report that scores were maintained for Self-concept compared to a significant decrease in scores for the no-intervention control group.

**Despite the heterogeneity of the study participants and outcome measures, none of the studies reported a negative treatment effect from the art therapy intervention groups. However, it is important to bear in mind the lack of adequate reporting on some of the studies. The Downs and Black Checklist for Measuring Study Quality scores varied between the 3<sup>rd</sup> and 5<sup>th</sup> quintile for the 4 papers (16-26/32) and the numbers of participants who experienced the art therapy interventions were very small (n=5-15). Strengths and limitations of review**

The researchers were thorough and systematic in the searches and are therefore confident that all relevant literature was reviewed. However, there was no exclusion criteria based on quality due to the literature being small and disparate.

The heterogeneity of the study populations and outcome measures inhibited any meta-analysis and there were insufficient studies included to complete a funnel plot, thus preventing an assessment of

publication bias. However, the inclusion of grey literature in the searches suggests publication bias is unlikely. Conflicts of interest are also clearly declared for this review.

## **Suggested future directions**

This review has identified a need for further high-quality research on the clinical effectiveness of primary-school-based art therapy. More research capacity amongst the profession is needed if art therapy is to be taken seriously as a health intervention alongside other therapies. This requires centres of excellence, funding and research capacity within art therapy services.

Given that funding is limited, making use of existing (audit) data is essential and ethical at this stage. Art therapists and researchers should make the most of routine data by producing high-quality, methodologically-sound audits and evaluations of the art therapy services provided within primary schools. High-quality audits can: Provide intervention descriptions and manuals; Provide qualitative data on the experiences of children, parents, school staff, art therapists, and other professionals; Provide some quantitative data using standardised outcome measures. This data can then help inform further exploratory studies and in turn, high-quality experimental research studies. The production of detailed descriptions of art therapy interventions in the form of manuals is key here. Manuals will enable larger research studies to produce findings which have external validity and thus can be generalized to other situations (schools) and to other people (children and art therapists).

Producing robust research on complex interventions such as art therapy requires exploratory studies in order to scope out effect size, calculate necessary sample size, and assess the feasibility of future experimental studies. The extant quality guidelines for the development and research of complex interventions highly recommend thorough piloting in the development-evaluation-implementation process (MRC, 2008).

In order to establish the clinical effectiveness of primary-school-based art therapy robust research studies can then follow which; clearly define the study population and intervention, include an

appropriate and ethical control group; report on long term follow-up of outcome measures; and demonstrate sufficient study power.

## Conclusions of Review

The 4 papers included in the review provided some important evidence of some positive effects and no negative effects of primary-school-based art therapy on various outcomes for children in various cultural contexts. The studies suggest that primary-school-based art therapy may have benefits for children struggling with Classroom behaviour, Oppositional Defiant Disorder (ODD), Separation Anxiety Disorder (SAD), Locus of Control, and Self-concept. The lack of harm reported is also an important finding of this review.

However, in order to provide evidence of the clinical effectiveness of primary-school-based art therapy, there is a need for more robust research in this area.

Further high-quality research on clinical effectiveness is essential if art therapy is to be recommended as a mental health intervention within UK primary schools, in line with the evidence-based school counselling strategy (DoH, 2015).

Taking into account the current crisis in children's mental health, with around 3 children in every class in the UK suffering from a diagnosable mental health disorder (ONS, 2005), it is imperative that this gap in the literature is urgently addressed.

## References

- BAAT. (2016). What is Art Therapy? Retrieved August 9, 2016, from <http://www.baat.org/About-Art-Therapy>
- Children's Commissioner. (2016). *Access to Child and Adolescent Mental Health Services. Children's Commissioner Report* (Vol. 1). Retrieved from [https://www.childrenscommissioner.gov.uk/sites/default/files/publications/Children's Commissioner's Mental Health Lightning Review.pdf](https://www.childrenscommissioner.gov.uk/sites/default/files/publications/Children's%20Commissioner's%20Mental%20Health%20Lightning%20Review.pdf)
- Conners, C. K. (1969). A teacher rating scale for use in drug studies with children. *American Journal of Psychiatry*, 126, 884–888.
- Department of Health. (2015). Future in mind: Promoting, protecting and improving our children and

- young people's mental health and wellbeing. Retrieved August 26, 2015, from [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/414024/Childrens\\_Mental\\_Health.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414024/Childrens_Mental_Health.pdf)
- Downs, S., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of Epidemiology and Community Health, 52*(6), 377–384. <http://doi.org/10.1136/jech.52.6.377>
- Khadar, M. G., Babapour, J., & Sabourimoghaddam, H. (2013a). The effect of art therapy based on painting therapy in reducing symptoms of oppositional defiant disorder (ODD) in elementary school boys. *Procedia - Social and Behavioral Sciences, 84*, 1872–1878. <http://doi.org/10.1016/j.sbspro.2013.07.051>
- Khadar, M. G., Babapour, J., & Sabourimoghaddam, H. (2013b). The Effect of Art Therapy Based on Painting Therapy in Reducing Symptoms of Separation Anxiety Disorder (SAD) in Elementary School Boys. *Procedia - Social and Behavioral Sciences, 84*, 1697–1703. <http://doi.org/10.1016/j.sbspro.2013.07.016>
- MRC. (2008). MRC Complex Interventions Guidance. Retrieved December 24, 2014, from <http://www.mrc.ac.uk/documents/pdf/complex-interventions-guidance/>
- NICE. (2008). *Social and emotional wellbeing in primary education*. NICE. Retrieved from <https://www.nice.org.uk/guidance/ph12/chapter/1-Recommendations>
- ONS. (2005). *Mental health of children and young people in Great Britain*.
- Regev, D., & Guttman, J. (2005). The psychological benefits of artwork: The case of children with learning disorders. *Arts in Psychotherapy, 32*(4), 302–312. <http://doi.org/10.1016/j.aip.2005.02.001>
- Reynolds, M., Nabors, L., & Quinlan, A. (2000). The Effectiveness of Art Therapy: Does it Work? Retrieved August 8, 2015, from <http://0-www.tandfonline.com.wam.city.ac.uk/doi/pdf/10.1080/07421656.2000.10129706>
- Rosal, M. L. (1993). Comparative Group Art Therapy Research To Evaluate Changes in Locus of Control in Behaviour Disordered Children. *The Arts in Psychotherapy, 20*, 231–241.
- Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychol Monogr., 80*(1), 1–28.
- SIGN. (2015). Critical Appraisal: Notes and checklists. Retrieved January 30, 2016, from <http://www.sign.ac.uk/methodology/checklists.html>
- Slayton, S., D'Archer, J., & Kaplan, F. (2011, April 22). Outcome Studies on the Efficacy of Art Therapy: A Review of Findings. Retrieved January 6, 2015, from <http://0-www.tandfonline.com.wam.city.ac.uk/doi/pdf/10.1080/07421656.2010.10129660>
- Uttley, L., Scope, A., Stevenson, M., Rawdin, A., Taylor Buck, E., Sutton, A., ... 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. <http://doi.org/10.3310/hta19180>



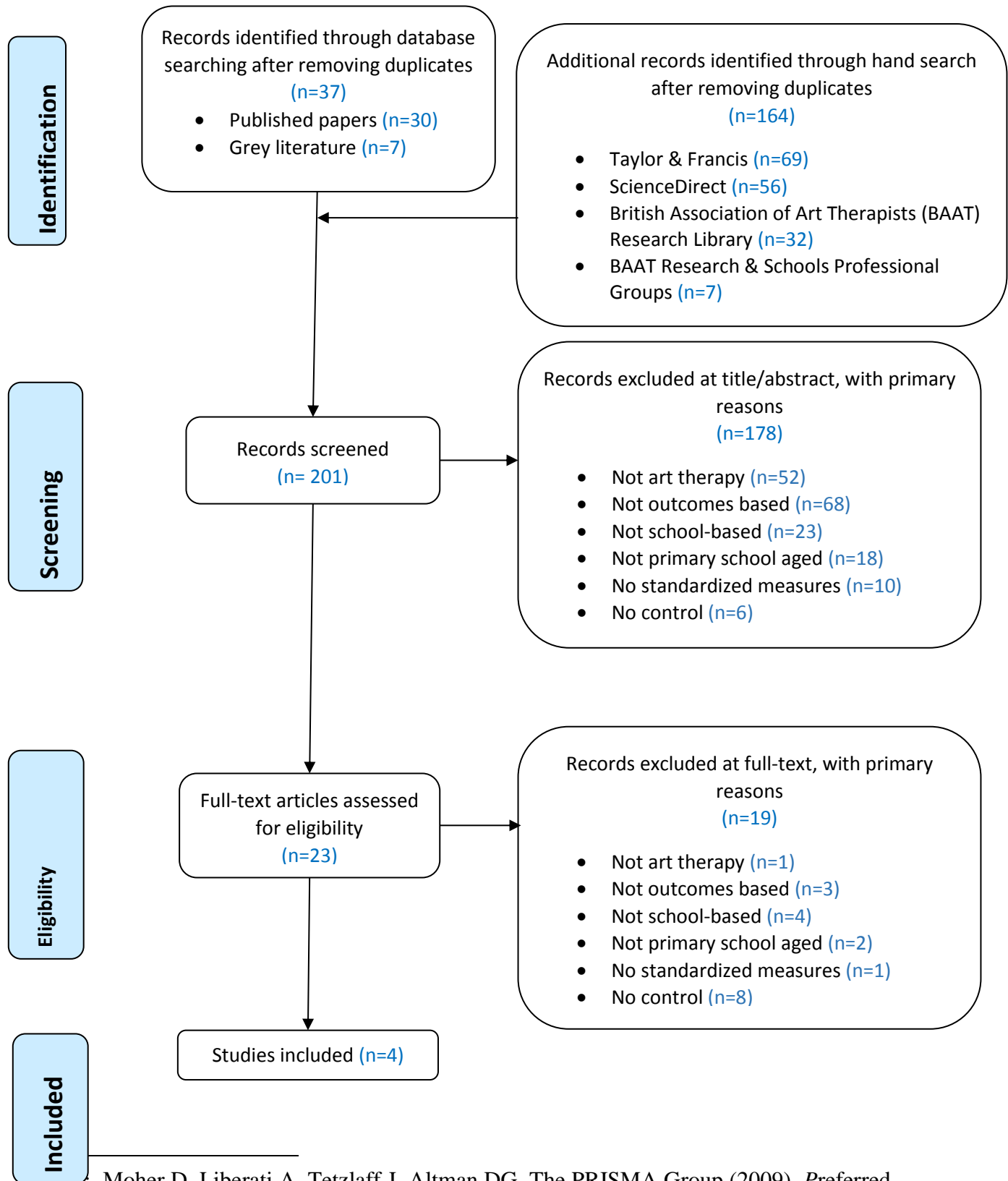
# Figure1

## Search History/Alerts

[Print Search History](#) | 
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<input type="checkbox"/> Select / deselect all		Search with AND	Search with OR	Delete Searches	Refresh Search Results
Search ID#	Search Terms	Search Options	Actions		
<input type="checkbox"/> S7	S3 and S6	Search modes - Boolean/Phrase	<a href="#">View Results (4)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S6	S4 or S5	Search modes - Boolean/Phrase	<a href="#">View Results (9,537)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S5	AB "Elementary Schools" OR AB "primary schools"	Search modes - Boolean/Phrase	<a href="#">View Results (6,589)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S4	MM "Elementary Schools"	Search modes - Boolean/Phrase	<a href="#">View Results (4,217)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S3	S1 or S2	Search modes - Boolean/Phrase	<a href="#">View Results (4,199)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S2	AB "Art Therap*" OR AB "art psychotherap**"	Search modes - Boolean/Phrase	<a href="#">View Results (3,113)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>
<input type="checkbox"/> S1	MM "Art Therapy"	Search modes - Boolean/Phrase	<a href="#">View Results (3,526)</a>	<a href="#">View Details</a>	<a href="#">Edit</a>

**Figure 2 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)<sup>1</sup>**



Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

**Table 1 - PICOS**

	<b>Included</b>	<b>Excluded</b>
<b>P</b> Population	Primary-school-aged children experiencing various issues (3 to 11 years old).	Infants, adolescents, adults.
<b>I</b> Intervention	Primary-school-based art therapy.	Art therapy not school-based, art making, other arts therapies, art as therapy, art counselling, other interventions
<b>C</b> Comparator	Any including: treatment as usual; other interventions; art making; waiting list.	No control.
<b>O</b> Outcome	Treatment effectiveness; response as determined by standardised rating scales; related clinical, educational or quality of life outcomes.	Outcomes related to art work or non-standardised measures.
<b>S</b> Studies	Controlled before-and-after studies, randomized controlled trials.	Any studies without standardised outcome measures, without a control group, or not peer reviewed.

**Table 2 - Common reasons for exclusion**

Common reasons for exclusion	Examples
Not art therapy (n=52)	Art making, other arts therapies, art as therapy, art counselling, other interventions
Not outcome-based (n=68)	Descriptive case studies, proposed models for practice
Not school-based (n=23)	Art therapy for school-aged children delivered outside of school e.g. in a centre, clinic or hospital
Not primary-school-aged (n=18)	Age 0-3, adolescents or adults
No standardised measures (n=10)	Using non standardised measures or artwork to assess effect
No control (n=6)	Studies where participants all received art therapy so effect of the intervention couldn't be measured
Not peer reviewed (n=1)	Chapter of a book

**Table 3 - Studies included in the review**

N	Participants	Intervention & Controls	Amount of Therapy	Outcomes Measured	Results and quality assessment of the study
<b>Controlled (nonrandomized) studies</b>					
30 (15/15)	7-12-year-old primary-school-boys with <b>Oppositional Defiant Disorder (ODD)</b>	<b>Art therapy based on painting therapy.</b>  Control group.	12 sessions, twice weekly	Child Symptom Inventory-4 (CSI-4)	Art therapy group had a significant decrease in the symptoms of ODD and control group showed no significant difference.  (Downs & Black quality check: <b>Scored 16/32 = 3rd Quintile</b> )
30 (15/15)	7-12-year-old primary school boys with <b>Separation Anxiety Disorder (SAD)</b>	<b>Art therapy based on painting therapy.</b>  Control group.	12 sessions, twice weekly	Child Symptom Inventory-4 (CSI-4)	Significant decrease in symptoms of SAD and improvement in adaptive behaviours, emotion and communication in art therapy group only.  (Downs & Black quality check: <b>Scored 16/32 = 3rd Quintile</b> )
<b>Randomized controlled studies</b>					

36 (12/12/ 12)	8–11-year-old primary school children with 'moderate to severe behaviour problems'.	<b>Cognitive-behavioural art therapy.</b>  <b>Traditional art therapy.</b>  Control group.	10 weeks, twice weekly for 50 minutes	The Children's Nowicks-Strickland Internal-External.  Locus of Control (CNS-IE).  Conners Teacher Rating Scale (TRS).	CNS-IE: No significant differences between group Art therapy groups made non-significant greater gains toward locus of control norms than control.  TRS: Significant differences among groups. Art therapy groups more effective than control. Art therapy groups did not differ significantly.  (Downs & Black quality check: <b>Scored 26/32 = 5<sup>th</sup> Quintile</b> )
109 (25/25/ 29/25)	Primary school children with 'learning disorders'.	<b>Non-directive art therapy.</b>  Art instruction.  Games group.  No intervention.	25 week, weekly sessions for 45 minutes (apart from on holidays)	Piers-Harris Children's Self-Concept Scale (CSCS)  Intellectual Achievement Responsibility Questionnaire (IARQ)  Children's Sense of Coherence Scale (CS)  Loneliness and Social Dissatisfaction Questionnaire (LSDQ)	CSCS (self-esteem): Significant increase in games group only.  IARQ (locus of control): No significant change in scores reported.  CS (coherence): Significant increase in art group only, significant decrease in no intervention.  LSDQ (socially lonely): No significant change in scores reported.  (Downs & Black: <b>Scored 24/32 = 4<sup>th</sup> Quintile</b> )

**Table 4 – Summary of findings**

Symptom / variable	Significant positive treatment effect vs control	Non-significant greater gains than control group	No improvement for art therapy (but significant negative effect for no-intervention)	No improvement for art therapy	Significant negative treatment effect vs control
Classroom behaviour	2 art therapy groups (Rosal 1993)				
Oppositional Defiant Disorder (ODD)	1 art therapy group (Khadar et al. 2013a)				
Separation Anxiety Disorder (SAD)	1 art therapy group (Khadar et al. 2013b)				
Locus of control		2 art therapy groups (Rosal 1993)		1 art therapy group (Regev & Guttman 2005)	

Loneliness				1 art therapy group (Regev & Guttman 2005)	
Self-concept			1 art therapy group (Regev & Guttman 2005)		
Self-esteem				1 art therapy group (Regev & Guttman 2005)	

## Appendix

Studies excluded at full text		Reasons for exclusion
1	Alavinezhad, R., Mousavi, M. & Sohrabi, N., 2014. Effects of Art Therapy on Anger and Self-esteem in Aggressive Children. <i>Procedia - Social and Behavioral Sciences</i> , 113, pp.111–117.	Not school-based
2	Cortina, M.A. & Fazel, M., 2015. The Art Room: An evaluation of a targeted school-based group intervention for students with emotional and behavioural difficulties. <i>The Arts in Psychotherapy</i> , 42, pp.35–40.	Not art therapy
3	Eaton, L.G., Doherty, K.L. & Widrick, R.M., 2007. A review of research and methods used to establish art therapy as an effective treatment method for traumatized children. <i>The Arts in Psychotherapy</i> , 34(3), pp.256–262.	Not school-based
4	Epp, K.M., 2008. Outcome-Based Evaluation of a Social Skills Program Using Art Therapy and Group Therapy for Children on the Autism Spectrum. <i>Children &amp; Schools</i> , 30(1), pp.27–37.	Not primary school age
5	Fehlner, J.D., 1994. Art Therapy with Learning-Blocked, Depressed Children. <i>Canadian Art Therapy Association Journal</i> , 8(2), pp.1–12.	No control
6	Forest, M., 2006. Children Who Bully: School-based Intervention.	No control
7	Freilich, R. & Shechtman, Z., 2010. The contribution of art therapy to the social, emotional, and academic adjustment of children with learning disabilities. <i>The Arts in Psychotherapy</i> , 37(2), pp.97–105.	Not school-based
8	Gersch, I. & Sao Joao Goncalves, S., 2006. Creative arts therapies and educational psychology: Let's get together. <i>International Journal of Art Therapy</i> , 11(1), pp.22–32	No control
9	Kearns, D., 2004. Art Therapy with a Child Experiencing Sensory Integration Difficulty. <i>Art Therapy</i> , 21(2), pp.95–101.	No control
10	Markland, F., 2011. Effectiveness Of School Based Art Therapy For Children Who Have Experienced Psychological Trauma.	No control
11	Nissimov-Nahum, E., 2008. A model for art therapy in educational settings with children who behave aggressively. <i>The Arts in Psychotherapy</i> , 35(5), pp.341–348.	Not outcome based
12	Odell, D., 2010. A Pre-Post Study of Art Therapy for Elementary School-aged Children with Trauma Histories. <i>ProQuest Doctor of Psychology Dissertation, Widener University</i> , (November).	No control
13	Ottarsdottir, U., 2010. Writing-Images. <i>Art Therapy</i> , 27(1), pp.32–39.	Not primary school age
14	Pleasant-Metcalf, A.M. & Rosal, M.L., 1996. The Use of Art Therapy to Improve Academic Performance. <i>Art Therapy: Journal of the American Art Therapy Association</i> , 14(1), pp.23–29.	No control
15	Pond, S., 1998. The promotion of acceptance and belonging within group art therapy: a study of two lonely third grade students	No control
16	Saunders, E. & Saunders, J., 2000. Evaluating the effectiveness of art therapy through a quantitative, outcomes-focused study. <i>The Arts in Psychotherapy</i> , Volume 27(Issue 2), p.Pages 99–106.	Not school-based
17	Sutherland, J., Waldman, G. & Collins, C., 2010. Art Therapy Connection: Encouraging Troubled Youth to Stay in School and Succeed. <i>Art Therapy</i> , 27(2), pp.69–74.	Not outcome based



18	Welsby, C., 1998. A part of the whole art therapy in a girls comprehensive school. <i>Inscape</i> , 3(1), pp.33–40.	No standardised measure
19	Wengrower, H., 2001. Arts therapies in educational settings: An intercultural encounter. <i>The Arts in Psychotherapy</i> , 28(2), pp.109–115.	Not outcome based