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Art Therapy for Children Diagnosed with Autism Spectrum Disorders: Development and First Evaluation of a Treatment Programme

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Art Therapy for Children
Diagnosed with Autism Spectrum Disorders

Development and First Evaluation
of a Treatment Programme

Rebecca Celine Schweizer

Colofon

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The image on the cover is from a painting created by one of the participants in the treatment evaluation of this study. The boy (age 10) painted his favourite stuffed animal: his 'worry eater'. While he was painting he talked with the art therapist about how he shared his worries with his little friend.

All photo's in this dissertation are from created works made by children who participated in several studies of this dissertation.

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Art Therapy for Children
Diagnosed with Autism Spectrum Disorders:
Development and First Evaluation
of a Treatment Programme

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General introduction

Introduction

“What makes creating art so beautiful is that it gives these children ‘a language’ through which to express themselves.”

This statement is from one of the art therapists who was interviewed for a pilot study that focused on exploring ‘what works’ in art therapy with children diagnosed with Autism Spectrum Disorders (ASD) (Schweizer, Spreen, & Knorth, 2017). The statement mirrors a dedication to art therapy as a profession and to offering these children ‘a language’ to express themselves. It also indicates a challenge for this thesis: to find the language, using a scientific approach, to describe and measure core characteristics of art therapy with children diagnosed with ASD.

The thesis is aimed at identification, development and evaluation of theory- and practice-based elements in art therapy (AT) with children with autism which promote positive outcomes. It serves to reach a deeper insight into art therapy processes and results, and to contribute to evidence-based practice (EBP) of AT. The main research question is:

Which typical elements in art therapy can be identified that are assumed to contribute to positive treatment outcomes for children diagnosed with ASD, and which outcomes can actually be achieved if an art therapy programme – designed in accordance with these elements – is applied in practice?

My first experiences as an art therapist treating children with autism were in the early 90s in the previous century. I was working in a well-equipped art studio in a child psychiatric residential care setting. Children with all kind of problems came to art therapy. The children with autism fascinated me because they communicated differently from other children and also because their way of making art was different. It took me some time to understand how to build a therapeutic relationship with these children and how to support their art making processes (Schweizer, 1997).

The choice for art therapy and children with autism as the subject for this PhD is based on several reasons. The first is my dedication to a profession, which is characterized by helping people to express themselves with art materials in nonverbal and experiential processes. Secondly, there is a need to describe, study and understand core elements of AT

and its results in a language that is understood by art therapists, and by other professionals and policy makers. A third reason is that AT with children diagnosed with ASD is different from art therapy in general. At the same time it contains basic art therapy elements. This study aims at contributing to a clearer understanding of art therapy with children diagnosed with ASD.

Children with problems related to autism are often referred to art therapy provided in schools, private practices, and psychological and psychiatric institutes for child and youth care (Schweizer, 2016; Schweizer, Knorth, & Spreen, 2014). Nevertheless, there is a lack of empirical evidence about the treatment. Many questions need to be clarified, like for instance: For what reasons or problems are children diagnosed with ASD referred to art therapy? What might be seen as typical elements of the therapeutic process during AT these children go through? What is the art therapist doing during AT? What are necessary or stimulating conditions promoting positive change in children? And what are the outcomes of the treatment?

In this general introduction, first the main characteristics and prevalence of children diagnosed with ASD will be described. Secondly, it will be defined what art therapy implies; some general characteristics of art therapy with children diagnosed with ASD will be outlined. Thirdly, the importance of an empirically supported or evidence-based practice for art therapy shall be argued. As a fourth issue a first impression of the AT-programme 'Images of Self' will be provided. This programme was designed, articulated and investigated in terms of characteristic elements and outcomes with the help of the studies to be reported on in this thesis. Finally, an overview of these studies follows, including research aims, applied methods, and participants.

Children diagnosed with Autism Spectrum Disorders (ASD)

The word 'autism' derives from the Greek word 'autos', which means 'self'. It refers to people who are isolated in their own world. Eugen Bleuler, a Swiss psychiatrist, was the first person who used the term around 1911 (Feinstein, 2010). Since then knowledge about autism has developed towards the current concepts.

In the 1940s, researchers in the United States and Europe began to use the word 'autism' to describe children with emotional and/or social problems (Feinstein, 2010). Actual

directions about the neurodevelopmental condition ASD are given by classifications in the DSM-5 (American Psychiatric Association, 2012) or the ICD-11 (World Health Organization, 2012). The main problem areas are social-communicative deficits and repetitive/restricted behaviors and interests. These problem areas appear in more than 30 variations and interact to form as-yet-not-understood combinations and patterns. Insights into ASD as a neurodevelopmental condition are diverse and are developing fast (Lord & Jones, 2012).

Prevalence of Autism Spectrum Disorders (ASD) is uncertain. In several studies in the US, United Kingdom and the Netherlands prevalence of ASD in children is reported with numbers from 1% to 3% (Baio et al., 2018; Houben-Van Herten, Knoops, & Voorrips, 2014; Kogan et al., 2016). Ratio of boys and girls diagnosed with ASD is 3 or 4:1. Females have some different characteristics compared to the profile usually associated with males for example preparing jokes or phrases ahead of time to use in conversation, mimicking the social behavior of others, imitating expressions and gestures. Also they may show greater externalizing problems relative to males. This is particularly common among females at the high-functioning end of the autism spectrum (Frazier, Georgiades, Bishop & Hardan, 2015; Loomes, Hull & Mandy, 2017). Regarding children with an ASD diagnosis it is reported that 44 -70% are also treated for mental health problems. In addition, the making of a diagnosis is ethnically sensitive in the USA: ASD is diagnosed 1-2 years later in Black and Latino children which may have impact on the developmental delay of children (Baio et al., 2018; Houben-Van Herten, Knoops, & Voorrips, 2014; Kogan et al., 2016).

Quite a high amount of people with ASD have intellectual disabilities (ID); 50 – 70% have IQs < 70 (Centers for Disease Control and Prevention, 2006; Fombonne, 2003). Besides ID, people with ASD often have also psychiatric disorders (70%), such as an Attention Deficit Hyperactivity Disorder, an Anxiety Disorder or an Opposite Defiant Disorder (Dekker & Koot, 2003; Leyfer et al., 2006).

Although the ‘diagnosis’ indicates the selection of the target group being studied, in our study is found consensus among art therapists and referrers about the importance of working with or adapting to the *individual* child and his/her behavior and not with its ‘diagnosis’ (Schweizer, Knorth, Van Yperen, & Spreen, 2019a). The children being studied in this thesis have normal or high intelligence profiles and are aged between 6-12 years.

Art therapy

In the 19th century psychiatrists in Europe stimulated and studied expressions of art created by people with mental illness. From that time publications are found about art as an approach to express and relieve oneself from mental problems. Art therapy was originally developed in Austria in the 1930s by Margaret Naumburg and Friedl Dicker, and was further founded in the 1950s in the United States of America, by Florence Cane, Edith Kramer and (again) Margareth Naumburg. In their work with children they combined art making with psycho-analytic insights. In the Netherlands art therapy (creative therapy) became a profession at the end of the 1950s (Visser, 2009).

Nowadays art therapy is (inter)nationally defined as a mental health profession that is also applied in social, educational and medical fields. Art making is used to enhance the physical, mental and emotional wellbeing of individuals of all ages. Artistic self-expressions are assumed to help people to resolve problems and conflicts, to manage behavior, to reduce stress, to increase self-esteem and self-awareness, to achieve insights, and to develop interpersonal skills (American Art Therapy Association, 2019; European Federation of Art Therapists, 2019; Gussak & Rosal, 2016; Schweizer et al., 2009).

The first publications about experiential programmes with play, music and drama to stimulate social skills for children with autistic behaviors were developed by an Austrian nurse, Viktorine Zak, in the 1940s (Feinstein, 2010). Working with art materials allows a focus on sensorimotor experiences and personal expression. It was thus thought, that for children with communication problems this mainly nonverbal treatment may offer opportunities to develop and train new skills and behaviors (Bergs-Lusebrink, 2013; Hinz, 2009). Art as a tool in a triangular relationship between child and therapist offers opportunities for communication. The art (making) can enable a focus on shared attention and interest (Richardson, 2016).

In the literature and in AT practices it has appeared that the art created by children diagnosed with ASD is different from art made by other children. For example, the art work tends to have a lack of appropriate emotional expressions, is often more focused on details, shows more objects than human figures, and lacks diversity compared to art work created by vulnerable children of a similar age (Jolley, O'Kelly, Barlow, & Jarrold; Koo & Thomas, 2019; Lee & Hobson, 2006). The mainly nonreciprocal relationship between therapist and

child asks for a specific active, structuring and supportive attitude from the art therapist (Geretsegger et al., 2015; Schweizer et al., 2019a).

Empirical base of art therapy with children diagnosed with ASD

In child and youth care policy and with insurance companies in the Netherlands the need for transparency, evidence and effectiveness of psychosocial interventions is increasingly being emphasized (Van Yperen, Veerman, & Bijl, 2017). Art therapy in the Netherlands is represented by a relatively small professional group with around 700 members, united in the 'Nederlandse Vereniging voor Beeldend Therapeuten' (NVBT, Dutch Society for Art Therapists). Professionals have a strong practice-based orientation. In recent years, a need for research to improve evidence regarding professional practices has been strongly felt. This has resulted, for instance in a national research agenda (Federatie Vaktherapeutische Beroepen, 2019) and in a collaboration of educational programmes on art therapy with respect to a shared research plan (Van Hooren et al., 2019). Also, in the UK and USA research into the field of art therapy is developing (British Association for Art Therapists, 2019; Elkins & Deaver, 2013).

In (inter)national art therapy literature development of EBP is described as a tendency to adjust practices to the latest findings from research (Van Lith, 2016; Wood, 2011). EBP enhances a clear understanding of the profession and encourages professionals to use the same assessment criteria (for inclusion of clients, for evaluation of their progress, for the use of art materials, etc.) in their work.

In the Netherlands, art therapy is recognized as a general intervention. The importance of experiential learning for people with ASD as enabled in art therapy is confirmed by the 'Zorgstandaard Autisme' (AKWA-GGZ, 2018). But there is still hardly any evidence regarding AT and its results for children diagnosed with ASD (Begeer, Poortland, Mataw, & Begeer, 2019). We expect systematic observation of AT processes, testing and applying relevant instruments, and transfer of knowledge to the field to support the development of a broader evidence base for art therapy with children diagnosed with ASD (Foolen, Van der Steege, & De Lange, 2011).

The development of evidence in this thesis is visualized and structured according to the so-called 'stages of evidence' (see figure 1), representing ascending levels of evidence

regarding the effectiveness of psychosocial interventions (cf. Van Yperen, Veerman & Bijl, 2017, p. 138). As will be further explained below (par. 1.6), the research in this dissertation is partly situated at level 1 and 2 (descriptive and theoretical studies) and partly at level 3 (first empirical evidence). Research at these ‘low’ levels is indicated if the body of empirical knowledge on a phenomenon has barely been developed – something that was the reality when we started our research on AT with children diagnosed with ASD.

Figure 1. Overview of stages with ascending levels of evidence on the effectiveness of interventions

To answer the general question of this dissertation three methodological choices were made in our work: 1. a mixed-methods design, 2. a multiple perspectives approach, and 3. the implementation of repeated single case studies.

Ad 1. The mixed-methods design implies collecting and analyzing quantitative and qualitative data. The complementary results gained by mixing both types of data have the potential of leading to a deeper understanding of (patterns in) clients’ and therapists’ behaviors, including the characteristics of the applied intervention (Creswell, 2015; Tashakkori & Teddlie, 2010). Mixed-methods research as an approach for integrating multiple ways of knowing and types of evidence is recognized as ‘the best promise’ (Bradt, Burns, & Creswell, 2013; Holmqvist & Persson, 2012; Kaiser & Deaver, 2013; Van Lith, Schofield, & Fenner, 2013).

Ad 2. The multiple perspectives approach is applied by collecting information from experienced professionals, students, referrers, parents and teachers and with varied sources such as knowledge from experts, literature, comments by people involved, and data from tests. The goal of this approach is to obtain diverse perspectives and thereby to contribute to getting new insights (Miles & Huberman, 1994).

Ad 3. A single case study research methodology enabled us to investigate individual processes and differences in low incidence issues, such as AT with children diagnosed with ASD (Horner et al., 2005). Each case study contributes to clarifying information about the development of the child on a detailed level (Reeves, Deeks, Higgins, & Wells, 2008). Differences in problematic behaviors and developmental opportunities of the children can be explored and mapped (Fein, 2011; Kern Koegel & Brown, 2007; Snir & Regev, 2013).

A systemic series of single case studies refers to repeated case studies involving evaluation during treatment and in a daily context: children with ASD related problems are followed during AT, at home, and in school. Involved are the child, the parents, the teacher, and the art therapist as sources of data. Such an approach offers ample opportunities to explore, develop and map insights into the process and results of AT and its specific elements (Aalbers, Spreen, Bosveld-Van Haandel, & Bogaerts, 2017).

The AT-programme ‘Images of Self’

The AT-programme being studied, *‘Images of Self’*, has several meanings. The word ‘autism’ is derived from the Greek word for ‘self’ (see par. 1.2). In art therapy people are presumed to visualize their expressions with ‘images’ as a result. Individuals with ASD generally have limited awareness of the ‘self’. They are relatively weak in their ability to engage in self-perception (Huang et al., 2017). In AT with children diagnosed with ASD, there seems to be a certain connection between (the treatment of) sense-of-self problems and the problem areas of ‘emotion regulation’, ‘flexibility’ and ‘social behavior’. It is presumed that improvement of ‘emotion regulation’ may lead to more socially adapted behavior, which in turn may improve the self-esteem of a child diagnosed with ASD (Weiss, Thomson, & Chan, 2014; Schweizer et al., 2020).

The word ‘images’ in the title of the programme refers to the process of image making in art therapy, and to the tangible and visual results of the treatment. The pictures on the cover and inside this book are all images of children who participated in this research. Another explanation of the word ‘images’ refers to the diversity in the ‘self’ of children diagnosed with ASD and also to the changes in (sense of) ‘self’, as a purpose of the treatment.

As explained before, at the start of this PhD-trajectory AT for children with ASD was ill-described and not supported by a theoretical rationale. This led to three studies with the help of which the programme and its presumed working elements were explored, illuminated and theoretically rooted. So the rationale and outline of the AT-programme 'Images of Self' is based on these first three studies.

The 'Images of Self programme' is developed, executed and evaluated based on the theory of intervention mapping strategies (Bartholomev, Parcel, Kok & Gottlieb, 2001). This implies the following steps: 1) The creation of programme objectives; 2) Selection of theory based methods; 3) Translating the identified methods into a programme; 4) Integrating an implementation strategy; and 5) Generating an evaluation plan. The first two steps were realized in study 1, 2 and 3. Step 3, 4 and 5 were described in the extended programme evaluation proposal. An outline of the programme can be found in the appendix of this thesis.

Our research on 'Images of Self' has been approved by the 'Medisch Ethische Toets Commissie' (METC, Medical-Ethical Review Committee).

Research questions and outline of the thesis

The thesis investigates five sub-questions that contribute to answering the main research question:

Which elements in art therapy can be identified that are assumed to contribute to positive treatment outcomes for children diagnosed with ASD, and which outcomes can actually be achieved if an art therapy programme – designed in accordance with these elements – is applied in practice?

Descriptive and theoretical evidence

Knowledge of art therapists and current literature have been investigated in two separate studies. Evidence of the results can be placed at the levels 1 and 2 in the overview of stages with ascending levels of evidence on the effectiveness of interventions (Van Yperen, Veerman, & Bijl, 2017).

Research sub-question 1. *Which typical elements of art therapy for children diagnosed with ASD can be identified that contribute to positive treatment outcomes, based on (tacit) knowledge of experienced art therapists?*

The first study in this dissertation concerns an exploration of art therapist's experiences and ideas about AT elements that are relevant to treat the problems of children diagnosed with ASD. Art therapists who were well-experienced in treating these children were interviewed. A bottom-up analysis of transcriptions from these interviews lead to an outline of the main areas for attention, represented in the so-called COAT model: **C**ontext and **O**utcomes of **A**rt **T**herapy with a child diagnosed with autism (see Figure 2). The content of the interviews, organized according to the COAT model, provided a systematic description of promising components of AT with children diagnosed with ASD; this from the perspective of art therapists.

Figure 2. COAT model

Placed at the core of the model are components related to **AT**: art materials and forms of expressions by the child. Situated in the first circle around the core is the art **T**herapist's behavior. **C**ontextual aspects such as the organization where the child is treated, the involvement of parents but also the working conditions and structuring of AT are placed in

the third circle. The outer circle frames the treatment Outcomes. The COAT-model and the descriptive results were used as building blocks in further studies.

Research sub-question 2. *Based on the literature, which typical elements in art therapy for children diagnosed with ASD can be identified that contribute to positive treatment outcomes?*

Children diagnosed with ASD are often referred to AT. The therapy seems promising for helping them with problems in the areas of social behavior, learning skills, and focusing attention (Schweizer, 2014; Teeuw, 2011). Also, there are some indications that improvements are generalized at home and in the classroom (Pioch, 2010). In this second study we systematically explored what evidence could be found in the research literature for 'working' elements of AT for children diagnosed with ASD.

A search for intervention studies published between 1995-2012 was executed with relevant keywords (art, art therapy, Autism Spectrum Disorder, child, effect, outcome) using well-known databases: Cochrane, ERIC, MEDLINE, PubMed, psychINFO, ERIC, and Google. Assessment studies were excluded. The search did not find any intervention study that matched the criteria, also meaning that no systematic reviews, meta-analyses or RCTs could be identified. What we did find was a number of well-documented publications concerning art therapy for individual children diagnosed with ASD in the form of case descriptions that enabled a thorough content analysis. This analysis was structured according to the four categories of the COAT-model and resulted in a second description of promising elements of art therapy with children diagnosed with ASD.

As a result of study 1 and 2 a substantial number of typical elements was identified. Our next aim was to compute the degree of consensus in a sample of art therapists and referrers regarding the relevance and applicability of these elements in daily practice.

From the resulting list of consensus-based items two measuring instruments were developed for respectively observing the child's and the therapist's behavior during AT. This was because there was no instrument that could be used to monitor the behaviors of the main people involved in AT: the child and the therapist.

Research sub-question 3. *To what extent is there consensus among art therapists and referrers regarding the relevance and applicability in daily practice of typical elements of art therapy with children diagnosed ASD, identified in studies 1 and 2?*

The scope of the third study was to determine the degree of consensus among experienced art therapists and referrers about the relevance and applicability of typical elements of art therapy with children diagnosed ASD. The input was the 'longlist' of elements (items) obtained from studies 1 and 2. For this third study the Delphi methodology was applied using a mixed-methods design. Additionally, a Focus group session was conducted to clarify some contradictory results from the Delphi study. The result was a 'shortlist' of elements with face validity that - in a next step - could be transformed into items for (self)evaluation of children's and therapist's behaviour during AT.

First empirical evidence

Research sub-question 4. *What is the interrater reliability of two observation instruments that have been developed from study 3 to monitor child's and therapist's behaviour: the OAT-A (for Observing the child's behaviour during AT) and the EAT-A (for Evaluating the therapist's behavior during AT)?*

The fourth study concerned the development and testing the interrater reliability of two measuring instruments that could support treatment evaluation: the OAT-A (Observation in AT of a child diagnosed ASD) and the EAT-A (Evaluation of the Art Therapist's behaviour working with a child diagnosed with ASD). The items in these measuring instruments were based on the 'shortlist' of consensus-based items identified in study 3.

After having identified core elements of AT with children with ASD and having tested two instruments to measure some of these elements, a next step was to implement the well-articulated AT-programme 'Images of Self: Art therapy for children diagnosed with ASD' in practice. An outline of this programme can be found in the Addendum of this thesis. In the final study we report the evaluation and outcomes that could be reached with this programme.

Research sub-question 5. *What outcomes can be achieved by implementing 'Images of Self', an art therapy programme for children diagnosed with ASD?*

Based on the previous studies the intervention 'Images of Self, an art therapy programme for children diagnosed with ASD', was further developed and evaluated in a multiple systemic single case study with active involvement of children, parents, teachers and art therapists as respondents. The study was performed in a mixed-methods pre-test – post-test

design, with regular assessments during and after treatment. Change in children's behaviour was expected in the following outcomes: 'sense of self', 'emotion regulation', 'flexibility' and 'social behaviour'.

Table 1 gives an overview of the five studies including aims, methods and participants.

Table 1. Overview of studies

Evidence level 1 & 2: Descriptive and theoretical evidence			Evidence level 3: First empirical evidence	
1. Tacit Knowledge of art therapist	2. Review of literature	3. Consensus-based elements	4. Two measuring instruments	5. Treatment evaluation
Aim Identification of typical elements in art therapy with children diagnosed with ASD by mapping practice experiences.	Aim Identification of elements in art therapy with children diagnosed with ASD, including building a theoretical framework.	Aim Defining (the role of) typical elements in art therapy with children diagnosed with ASD.	Aim Enabling systematic observation of children's and therapists' behavior in art therapy with children diagnosed with ASD.	Aim Measuring and evaluating treatment results of 'Images of Self', an art therapy programme based on the previous studies.
Method Pilot study, based on grounded theory principles.	Method Content analysis of 18 descriptive case studies.	Method Delphi study and Focus group; mixed- methods design.	Method Testing interrater reliability in a mixed- methods design.	Method Multiple systemic n=1 studies in a mixed- method design.
Participants 8 art therapists	Included publications 18 well-described and well-documented cases	Participants Delphi: n=29 Focus: n=7	Participants n=73	Participants n=12 children and their networks

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Exploring what works in art therapy with children with autism: Tacit knowledge of art therapists

Based on:

Schweizer, C., Knorth, E. J., & Spreen, M. (2017). Exploring what works in art therapy with children with autism: Tacit knowledge of art therapists. *Art Therapy*, 34(4), 183-191.
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Abstract

Children with Autism Spectrum Disorders (ASD) are often referred to art therapy. To investigate what works in art therapy with these children tacit knowledge of eight experienced art therapists was explored. Promising components were arranged into the Context and Outcomes of Art Therapy (COAT) model. According to the respondents art therapy contributes with children with ASD to become more flexible and expressive, more relaxed, and more able to talk about their problems in the therapeutic setting as well as in their home situation. Considering the type of evidence in this study, further empirical research into the process and outcomes of art therapy with ASD children is strongly recommended.

Keywords: art therapy; children; autism; tacit knowledge

Introduction

Children diagnosed with ASD have qualitative limitations in social communicative skills and often exhibit stereotypic and repetitive patterns in behavior, interests, and activities (American Psychiatric Association, 2013; De Bildt et al., 2007; Doreleijers et al., 2006; Rozga, Andersson, & Robins, 2011). These children have atypical ways of information processing. Three concepts of information processing are often described as characteristic of the problems of children diagnosed with ASD (Swaab, 2007). The first concept, Theory of Mind, refers to difficulties in understanding feelings, thoughts, ideas, and intentions of themselves and others (Baron-Cohen, 2000; Lucangeli, 2007). The second concept relates to deficits in executive functioning, which implies that children with ASD have problems with planning and cognitive flexibility (Ozonoff, Pennington, & Rogers, 1991; Rozga et al., 2011). The last concept refers to a weak central coherence: the inability to interpret details as part of a broader context or system. Atypical sensory-processing is a core feature and appears as children's high or low sensitivity to environmental stimuli (Happé & Frith, 2006; Kenet, 2011; Mottron et al., 2006; Rozga et al., 2011).

In a Delphi study on art therapy research, experts placed the importance of research with individuals with ASD as the third in importance (Kaiser & Deaver, 2013). In a recent review, Schweizer, Knorth and Spreen (2014) found no experimental study testing outcomes or effects of art therapeutic interventions for children with autism. The authors only found a small number of well-documented case descriptions. This lack of evidence can probably be explained by the traditional emphasis on tacit knowledge that art therapists claim to have at their disposal (Korthagen et al., 2001; Polanyi, 1967; Smeijsters & Cleven, 2006). Indeed, nonverbal or art-based expressions and attunement to clients refer to processes that largely depend on personal orientations of therapists which are presumed difficult to measure quantitatively. Also, subjectivity in therapeutic measurements may be an issue that has contributed to the lack of investigation and measurement of art therapy processes (Veerman & Van Yperen, 2007). Despite these factors it remains important to know whether art therapy contributes to successful treatment of children with ASD.

The purpose of our study was to find and define promising practice-based elements or components that could contribute to practice-based evidence of art therapy with children with autism. Information was obtained from experienced art therapists who treated children with ASD.

Research on treatment for children with autism is scant (Boendermaker et al., 2007; Schothorst et al., 2007; Schweizer et al. 2014; Slayton, D'Archer, & Kaplan, 2010). Only one experimental study (N = 19) was found about art therapy used for stimulating recognition of emotions in facial expressions (Richard, More, & Joy, 2015).

Children with autism are regularly referred to art therapy (Martin, 2009; Teeuw, 2011) with the aim to cope with their communication problems, behavioral problems, and low self-esteem (Schweizer et al., 2014). Martin (2009) indicated that art is an expressive means used by different professionals working with children with ASD. She stated that there are many interesting publications on successful treatment stories but systematic research is lacking; this research is needed to specify and underpin the contribution of art therapy with children with ASD.

Children with ASD are expected to benefit from a nonverbal treatment such as art therapy because experiences involving touching, looking at, and shaping art materials enable self expression (Malchiodi, 2003; Rubin, 2001). This may stimulate development and reduce some problem behaviors Gilroy (2006) argued that art therapy can move children with autism beyond stereotypical behaviors and encourage sensory, perceptual, and cognitive development.

In a small-scale Dutch quasi-experimental study some evidence was found that the art therapies (music therapy, drama therapy, and art therapy, as well as psychomotor therapy) might contribute to positive changes in social behavior, attention span, and relaxation (Pioch, 2010). A pre- and post-test design was conducted with 28 children in the experimental condition and six in a wait-list control group; all were diagnosed with Autism Spectrum Disorders in a school for special education. Teachers and arts therapists completed a range of standardized tests. Since the experimental condition in this study contained a mix of drama therapy, music therapy, art therapy and psychomotor therapy, it is difficult to unravel the effects of the different therapies.

In another small study Teeuw (2011) surveyed treatment aims and outcomes among members of the Dutch Organization of Art Therapists (Nederlandse Vereniging Beeldend Therapeuten, NVBT). Twenty-eight art therapists working with children with ASD responded to Teeuw's survey and results revealed that the main reasons children with ASD were referred to art therapy were: social problems, lack of awareness of their own (problematic) behavior, difficulties with expressing themselves, stress, problems with focusing attention,

low frustration tolerance, rigid behavior, and problems with planning and reality testing. Often these children were unhappy and had low self-esteem. The art therapy treatment goals identified were: the development of possibilities as well as an increasing ability to deal with disappointments, the development of self-image and self-esteem, learning to look at and listen to others, learning to ask for help and to develop a cooperative attitude, learning to set limitations, developing problem solving capacities, expressing emotions, better distinguishing reality from fantasy, having a bigger attention span, having less fears, and showing better frustration tolerance and more flexible behavior.

Children with autism experience problems that are often related to information processing, which has far reaching consequences for their understanding of themselves and the world around them. There are some indications that art therapy may provide a pathway for these children to cope with some of their problems.

Because of a lack of empirical knowledge on art therapy with children diagnosed with ASD, one of the initial steps that might be taken to gain more insight in what this treatment actually implies, is to take a closer look at the experiences of art therapy practitioners to discover their experiences as close as possible. Art therapists partly work by intuition (Smeijsters & Cleven, 2006). Reproduction of and reflection on their actions in therapy generates valuable information that could be described as articulating tacit knowledge (Polanyi, 1967). Our study is a first step in exploring promising components of art therapeutic treatment with children with ASD in order to develop an evidence-based protocol in the next stage of building evidence. Therefore we explore the tacit knowledge of art therapists concerning what they consider relevant elements or components in art therapy with children with ASD. More specifically, the following topics were addressed: the opportunities these children may encounter to express themselves in art therapy; the appearance of these children's problems while using art materials; the repertoire of actions the art therapist uses in the treatment; the context and conditions of treatment that may stimulate behavioral change for these children; and the typical personal and behavioral characteristics of these children that are sensitive to change by art therapeutic interventions.

Method

This study was conducted in accordance with a qualitative, practice-based research methodology based on grounded theory (Charmaz, 2006; Linesch et al., 2012; Metzl, 2015; Penzes et al., 2014; Strauss & Corbin, 1998). With a bottom-up approach a theoretical frame about working elements in art therapy with children diagnosed with ASD will be elaborated.

Participants

Eight art therapists were selected from the professional network of the first author using convenience sampling (Babbie, 2001). The main criterion for inclusion was having at least two years of experience as an art therapist with the target group, children diagnosed with ASD who were 8-12 years old with normal or high intelligence. The children varied in terms of specific behaviors, interests, and intellectual potential. To ensure a diversity of settings three different work venues were selected: two were schools for students receiving special education, three were private practices, and three were day treatment clinical settings in the four northern regions of the Netherlands. All therapists were (associated) registered members of the national professional art therapy organization (they had a state recognized certificate, at least two years of - supervised - experience) and were female (there are few male art therapists in the country).

Procedure

This study was exempt from institutional review because it used anonymous examples from anonymous participants. Data were collected from November to December 2011. Therapists participated in a 90 minutes semi-structured in-depth interview (Charmaz, 2006) during which they were asked for their opinions and experiences with working with children with ASD. Each interview started with a general question: What are typical characteristics of the art of children with ASD in art therapy? Subsequently, the following topics were explored: reasons why these children were referred to art therapy, including their context; conditions of treatment, including duration and phasing; methods being used; therapists' behavior and activities; and treatment results. Special attention was given to typical examples of sensory experiences with art materials, planning skills, and collaboration skills. Furthermore each respondent was specifically asked what makes art therapy appropriate or inappropriate for children with ASD. Finally, the respondents were stimulated to support and clarify their stories by showing art therapeutic products of the children concerned. All interviews were audio-recorded.

Data Analysis

Interviews were transcribed verbatim and analyzed with an inductive strategy in different stages (Charmaz, 2006; Strauss & Corbin, 1998). First, significant statements and meanings of the respondents were identified, defined and interpreted by repeatedly reading the transcripts. Codes and categories emerged by comparing texts, research topics, and the codes and categories (Bryant & Charmaz, 2007). During this first stage of open coding initially each of the eight interviews resulted in a list with 50 to 80 codes. Third, in a process of constant comparison (Charmaz, 2006) codes were compared and adapted, guided by an analysis of content, and (re)labelled anew with names such as, success experiences, themes, symbols, fantasies in art work, and structuring and/or supportive interventions. As a final fourth step coded text fragments were related to each other and organized in a hierarchy of main and subcategories (i.e., axial coding).

During data gathering and analysis considerations for coding and categorizing were secured in memos were stored digitally as well as on paper. To ensure reliability of data processing and interpretation the transcripts and coded texts were controlled by the respondents (i.e., member checks) and by various rounds of peer reviews (i.e., other researchers critically read the coded texts).

Continuous sorting of data led to a hierarchy of categories that we shaped in a circular scheme or model, which will be further explained in the results section. The model clarifies the relations between categories, and appears as a possible theory (Charmaz, 2006).

Results

The data were grouped according to a scheme with four main categories. The first category that emerged in the data analysis was: art materials and expressions of the child with autism. The second category that emerged was therapeutic behavior: what strategies the art therapist used to invite the child to express visually. The third category was the influence of the context of the art therapeutic treatment of ASD children: referral, contact with parents, art therapy space, and art materials. Finally, the outer ring refers to the outcomes of the therapy, which, according to the respondents, are dependent on the three other main categories in the model. Categories and subcategories in this scheme are based on a varied set of practice examples from the art therapists we interviewed. In this article only a small selection of these examples will be presented. The four main categories will be used as a

frame for presenting our results, and are presented in Tables 1, 2, 3, and 4. We titled this the COAT model for Context and Outcomes of Art Therapy with children with ASD (see Figure 1). This model is also mentioned in chapter 1 and 3 of this thesis.

Figure 1. COAT model

Art Therapeutic Means and Expressions

Respondents were asked in what way ASD children behaved in art therapy sessions with respect to their preferences for specific materials, techniques, symbols or art forms, and what these expressions look like. Table 1 shows crucial elements according to all participants. This table is divided into two sections: the art-related expressions and the problem-related expressions. One of the responding therapists gave an example of making art as an opportunity to express emotions when frustrated: *“Most ASD children have already determined what they want to create. When not easily realized, the child may react with frustration: materials and tools are bad, they need exactly a specific kind of saw as their father has at home and I don't have that kind of tool: ‘you never have the tools I need’.”*

Table 1 Art therapeutic means and expressions

Main category	
Key phrases	Statement with number of interviewees
Enjoyment; taking care of product	ASD children enjoy creating and take care of the art (n = 8).
Sensory elements stimulate change	Sensory elements, especially visual and tactile, stimulate change in rigidity (n = 8).
Product offers opportunities to talk	The product remains after creation giving concrete opportunities to talk about positive experiences and difficulties (n = 8).
Improvement of communication	Communication between art therapist and child improves during art making (n = 8).

Subcategory Learning from experiences with art materials		Subcategory Art making aids behavior change	
Key phrases	Statement with number of interviewees	Key phrases	Statement with number of interviewees
Sensory experiences through art	Extreme responses to materials (total absorption or resistance) is a restricted behavior pattern that improves (n = 8).	Development of flexibility	Making art helps child experience more adaptive behavior (n = 8).
Variation in shapes is stimulated	Making more variable shapes is stimulated (n = 8).	Development of coping	When frustrated therapist promotes coping behaviors during art making (n = 7).
Use of stereotyped images	Child often visualizes a specific stereotypical image (n = 8).	Development of self-esteem	Success with art contributes to self-esteem and to engaging in more complex activities (n = 6).
		Better focus of attention	Looking at art, touching materials, and creating art helps focus attention (n = 5).
		Development of planning and choice making	Completing art in time using task sequencing helps develop planning (n = 5). By providing choices from a selection of colors or materials choice making improves (n = 4).

always a problem or an impediment. Often something unexpected happens with the material. And because this is not happening in a social relationship, it is not such a burden to talk about it. Giving words to experiences is enabled by the material experiences.”

Another therapist explained: *“At a certain moment I told him: ‘You blame the crayon, you blame the paper, and it fits with having PDD-NOS, to blame everything around you. You are right; the material is not easy to use. But now you are twelve years old, and close to puberty and high school. So now you should start looking at your own part and what your influence could be for a positive change in this situation.”*

Table 2 Behavior of art therapist

Main category Behavior of Art Therapist	
Keywords	Statement and number of interviewees
Active attunement	Directive and supportive attitude responds to perceptions and non-verbal language of the child; Verbal and non-verbal attunement during session creates a safe and stimulating environment (n = 8).
Structuring activities and time	Time and activities are structured so the child focuses on art making. Offered materials and themes should be connecting to the inner world of the child with the aim to stimulate varied experiences and expressions. Most art therapists make a schedule together with the child, about something the child wishes to make. This supports understanding whether the child can create what is in his mind (n = 8).
Sharing experiences	This varies from looking together at the art and at each other to stimulating the child to ask for support when needed (n = 8).
Connecting words to experiences	Supporting the child to give words to experiences and offering psycho-education about ASD stimulates self-acceptance (n = 6).

Context

Table 3 provides information about the third circle in Figure 1, reasons for the child’s referral and the source of the referral. Respondents were asked about specific indications for art therapy to help these children and about specific behaviors of the child to decide that art therapy might help with behavioral change. No respondents mentioned specific indications for art therapy treatment. As one explained: *“We mainly work with referrals about the behavior of the child, such as: the child has problems with reciprocity, attunement, emotion-regulation.”*

Another respondent told: *“When a child has a preference for making art it may be referred to art therapy.”*

Table 3 Contextual aspects of art therapy

Main category Context of art therapy	
Keywords	Statement with number of interviewees
Referral procedure	A clear referral procedure with explicit entry criteria is not mentioned. A child brings a letter from the teacher to the art therapist; a school or a social worker refers to a private practice; a social worker refers to art therapy (n = 8).
Reasons for referral	Problem behaviors at home, negative self-image, difficulties understanding social situations, difficulties with focusing, insecurity (n = 8).
Treatment aims	Expressing feelings, improving flexibility, improving self-esteem, improving planning skills, and empowerment (n = 8).

Outcomes

All respondents were invited to talk about what they conceived as typical art therapy outcomes and in what way these outcomes were reflected by the art product and the child's behavior during art making, and behavioral changes in the classroom and at home. In Table 4 changes in behavior, which are visible during art making, are described. This example illustrates the transfer of outcomes at home related to reduction of problem behaviors. An art therapist said: *“I remember a mother who told me that her son became more flexible: His football shoes don't have to be placed at the cupboard anymore; they also may be placed in the hall... And when we have other peanut butter, my son is not disturbed anymore. And others may even share his peanut butter.”* And another therapist talked about a child becoming more expressive: *“What parents tell me is often like: “He talks more.” And what they mean is that he talks more about how he feels: Previously the child was closed down and the mother felt something was wrong, but had no clue.”*

Table 4 Outcomes of art therapy

Main category Outcomes of art therapy	
Keywords	Statement with number of interviewees
Improved expression	Children become more expressive, make art that is more personal, verbalize more about problems such as being bullied, experiencing divorce or loss of family member (n = 8).
Improved self image	Children learn how to deal with anger and frustration, and how to direct attention, their enjoyment of art activities has grown. Children are more able to consider their behaviors and how to function better, their self-esteem and self-confidence has developed (n = 8).
Improved flexibility	As part of more flexible behavior: children are more relaxed, can make choices easier, and are better at planning (n = 8).
Transfer of improvement	Improved skills and behavior of the children were also reported by parents and teachers (n = 8)

Discussion

Our study of the tacit knowledge of art therapists about their work with children with autism has resulted in new insights on a descriptive level that we organized in a theoretical framework, the COAT model. There was substantial agreement among respondents regarding essential elements of art therapy with children with ASD, despite their diversity in methods and personalities as well as the differences in the children they worked with. This is promising for the development of a treatment protocol (Robey, 2004).

According to the perceptions and experiences of respondents, art therapy may have an effect on reducing behavioral problems of children with autism in specific problem areas: social communicative behavior, flexibility, and self-image. Art therapy interventions promote facilitating sensory experiences, sharing experiences, focusing attention, and talking about personal issues and were reported to contribute to positive changes in behavior, not only during therapeutic sessions but also at home and in the classroom. Other authors have reported similar experiences (Emery, 2004; Gilroy, 2006; Pioch, 2010; Teeuw, 2011). Schweizer et al. (2014) also found comparable behavioral and attitudinal approaches of the therapists themselves. These included active structuring, verbal and nonverbal attunement, and talking about experiences in art and in daily life.

There seem to be positive influences on the child when parents, other family members, educators, and teachers are involved (Schothorst et al., 2009; Verheij et al., 2014).

However, working collaboratively with parents was not an issue mentioned by our respondents, although, according to some of the comments in the Outcomes category of the COAT model, there was mention of contacts between the art therapist and the parents. This is different from what is recommended in academic and clinical literature with regard to engaging parents or caretakers (Renty & Roeyers, 2006; Simpson, 2005; Whitaker, 2002).

The model shown in Figure 1 is organized and summarizes the data, and contains four layers, thereby emphasizing the interplay of children's expressions, therapists' approaches, contextual conditions, and outcomes. Simpson (2005), in his evaluative assessment of interventions and treatments for young people with ASD, distinguished four categories as a main treatment focus: the physical (for instance, sensory experiences), the cognitive (learning), the behavioral (skills), and the interpersonal (relationship) dimension. It is interesting to note that, in contrast to most other interventions in the Simpson overview, art therapy does not seem to have one, exclusive focus. Considering respondents' answers, they seem to view art therapy as a multi-focal intervention, thereby directing themselves to engage the physical (sensory), cognitive, and behavioral aspects of the child's functioning, as well as the relational aspects of the therapy.

Considering some of the problems of children with ASD in information processing related to theory of mind, executive functioning, and central coherence (Rozga et al., 2011), the question remains: to what extent does art therapy help to solve these problems? As respondents reported, the child develops social communicative skills through art making that transfers to other situations. Despite theory of mind problems, art therapy appears to stimulate developmental possibilities. Art making also seems to activate planning skills (executive functioning). And, finally, regarding central coherence, the varied sensory experiences of children in art therapy can be interpreted as stimulating the focusing of attention and broadening of the repertoire of preferences.

Tacit knowledge of the experts we interviewed was systematically brought to the surface. Martin (2009) emphasized that more empirical findings about art therapy and ASD are needed. The tacit knowledge of professionals that emerged in this study was developed into a plausible model outlining crucial, practice-based elements and conditions for doing art therapy with children with ASD. Together with results of a systematic review of clinical case descriptions of art therapy with these children (Schweizer et al., 2014), an important step has been taken toward identifying what works in art therapy with children with ASD.

This study is a step towards an evidence-based interventions. We developed the COAT model using some elements comparable with intervention mapping techniques (Bartholomew, Parcel, Kok, & Gottlieb, 2001). These techniques imply that an intervention is described in terms of its core aspects at a micro-level (what's being done in therapy), its systemic and institutional aspects at a meso level (what institutional conditions are key), and its position in a scientific and societal context (what's the evidence of benefits and costs) at a macro-level.

The study also has limitations. First, differences in features of children with ASD and their problems were not taken into account explicitly. No child with ASD is equal to another (Fein, 2011; Nieweg, 2013). Although there was a certain amount of agreement in respondents' treatment experiences, they provided varied descriptions of children's behavior and expressions in art. For instance, sometimes the art product was the main focus and other times the shaping process was central. Some children have the ability for symbolic expression and understanding; others express themselves through pre-representative shaping and body language. This means that the bottom up approach of this study has yielded more detailed information about the treatment. But at the same time, due to the method, individual differences of children with ASD to a certain level have disappeared.

A second limitation is the small sample size, which provides a poor level of external validity. As our first goal was to detect crucial art therapeutic elements and components, more than producing a picture of the way art therapists interact with ASD children in the Netherlands, concordant experiences from all participating art therapists were pivotal (Mason, 2010). A final limitation is that we lack data about unsuccessful treatments, as well as factors that contributed to unsuccessful treatments. An explicit dialogue on this topic with respondents could have deepened our insights.

Despite these limitations these expert practitioners contributed their rich experiences on promising components of art therapy treatment of children with ASD that we used to develop the COAT model. Each of the concepts in the model needs further elaboration. When building evidence on treatment, the concepts described in this article need to be further operationalized and standardized. One way to achieve this could be aimed at finding consensus on the most and least significant components or practice elements (Chorpita, Daleiden, & Weisz, 2005) with a Delphi procedure (see, for instance, Busschers, Boendermaker, & Dinkgreve, 2016). A second could be directed at observing and

measuring art therapists' behavior during sessions. A methodology that maps behavior as assessed by self-reports and/or external observations, based on a fixed checklist of therapeutic activities could be used. Thirdly, children's, parents' and referrers' perspectives about COAT concepts can add useful information to compare to the therapists' responses in this study (Iachini, Hock, Thomas, & Clone, 2015); this would consider the multiple perspectives on the quality of art therapy (Raban, Ure, & Waniganayake, 2003).

Despite the limitations, this study contributes to transparency, transferability, and professionalizing in this area of art therapy practice . Exploration and explication of tacit knowledge of art therapists, organized in the COAT model, is a first step toward a practice evidence-based description of art therapy with children with ASD as called for by Van Yperen and Veerman (2007).

Art therapy with children with Autism Spectrum Disorders: A review of clinical case descriptions on 'what works'

Based on:

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Abstract

Well-ordered empirical information on ‘what works’ in art therapy with children diagnosed with Autism Spectrum Disorders (ASD) hardly exists. For that reason a systematic review was undertaken covering the period 1985-2012. Our study explored academic and practice-based sources with the aim to identify core elements of art therapy for normal/high intelligent target group children up to 18 years. Eighteen descriptive case-studies were found and analyzed according to the Context Outcomes Art Therapy (COAT) model. The results indicate that art therapy may add to a more flexible and relaxed attitude, a better self-image, and improved communicative and learning skills in children with ASD. Art therapy might be able to contribute in mitigating two main problem areas: social communicative problems, and restricted and repetitive behavior patterns. Typical art therapeutic elements such as sensory experiences with sight and touch may improve social behavior, flexibility and attention-abilities of autistic children. Considering the limited evidence that was found, primarily existing of elaborated clinical case descriptions, further empirical research into the process and outcomes of art therapy with ASD children is strongly recommended.

Keywords: art therapy; Autism Spectrum Disorder; children; review

Introduction

In a survey among 541 members of the American Art Therapy Association (AATA) nearly 10% of the respondents considered themselves specialized in autism (Elkins & Deaver, 2013).

Although exact numbers are lacking in the Netherlands children with Autism Spectrum Disorder (ASD) are often referred to art therapy (Teeuw, 2011). There is some evidence that art therapy applied to ASD diagnosed children in special education, contributes to a positive change in their social behavior and their focus of attention (Pioch, 2010). However, the study of Pioch does not give insight into typical elements of art therapy - like, for instance, touching and handling art materials or looking and evaluating the development of the visual art work - that might explain these changes. Gilroy (2006) suggests in general terms that art therapy with autistic children might be effective in long term treatment in groups or individually, because the process of art making stimulates cognitive and emotional development, enables relationships, and leads to a decrease of destructive behavior. Gilroy based her suggestion on a number of publications about art therapy with autistic children. In a qualitative study based on experiences of Dutch art therapists with ASD children, the therapists described the effects of art therapy on those children as being able to develop their competencies to direct attention, to improve flexibility, to behave in a more structured way, and to verbally express their experiences (Schweizer, 2014). Moreover, there seems to be a transfer of these developments to the home situation and the classroom (Pioch, 2010; Schweizer, 2014). This suggests that art therapy might play a role in the treatment of children diagnosed with ASD.

The new classification scheme of the DSM-5 (APA, 2013) does not classify anymore the ASD-subtypes Pervasive Developmental Disorder, not otherwise specified (PDDnos) and Asperger like the DSM IV did (APA, 2000). This implies that all the subtypes mentioned in this review, are indicated as 'ASD'. Another subtype, not mentioned in DSM-5, is High Functioning Autism (HFA). The distinction is based on subtle differences in neuropsychological functioning but the children show comparative behavior (Buma & Van der Gaag, 1996; Klin et al., 1995). This review focuses at children diagnosed with ASD implying restricted possibilities in social communication, and repetitive and obsessive behaviors. Those children have special ways of information processing (APA, 2013; De Bildt et al., 2007).

For children in general it is in accordance with their age and it is also a safe and natural way to express themselves through drawing as a way to cope with the world around them. Children move their fingers in sand or in porridge as soon as they realize that their movements leave traces (Kellogg, 1970; Rutten-Saris, 2002). Several studies describe the positive value on children of making drawings, making things and playing to better cope with their problems (Kramer, 1971; Löwenfeld & Brittain, 1964; Meijerowitz-Katz, 2003; Waller, 2006).

Art therapy is based on experiences and theories assuming that the creative process involved in artistic self-expression supports people to handle their problems. As a consequence the most often described aims of art therapy are: increasing self-esteem and self-awareness, developing coping skills, supporting bereavement and acceptance, achieving insight, structuring behavior, reducing stress, and developing interpersonal skills (American Art Therapy Association, 2014; Case & Dalley, 1992; Malchiodi, 2003; Schweizer, De Bruin, Haeyen, Henskens, Rutten-Saris, & Visser, 2009). Art therapy is an experiential therapy that provides a variety of sensory stimulation in a safe organized environment by offering art materials and techniques (such as paint, crayons, clay, wood, textile, etc.). The art therapist invites the client to experience and express him or herself during the process of creating art. The art shaping stimulates development of ideas, motor skills, task orientation, cause and effect links, spatial insight, shape recognition, the experience of yourself in the space around, and the development of eye contact (Gilroy, 2006; Haeyen, 2011; Hinz, 2009; Malchiodi, 2003). These tactile and visual experiences are supposed to stimulate change of behavior and integration of cognitive-, sensoric - and kinesthetic experiences and behaviors (Bergs-Lusebrink, 2013; Case & Dalley, 1990; Gilroy, 2006; Hintz, 2009; Malchiodi, 2003).

Children diagnosed with ASD show skills for detailed perception and drawing of objects, but they do have problems with drawing human expressions (Lee & Hobson, 2006; Selfe, 1983). One of the most well known treatments is TEACCH (Treatment and Education for Autistic Children and Children with Communicative Handicaps), (Schopler en Mesibov 1995), This programme uses images in a well structured way, to train communication skills. Ozonoff en Cathcart (1998) found significance about improvement of social and communication skills of young children diagnosed ASD after participating in TEACCH.

This implies that art therapy offers opportunities to support and treat children with ASD, because the attention of the child is directed to art making while the art therapist is

attuning to the art shaping process of the child. For children with problems in communication, which strongly characterizes ASD diagnosed children, this might be an opportunity to develop new skills. After all, communication with the therapist through art is described as a safe opportunity to stimulate change (Schweizer, 2014). However, the evidence base for this line of thinking is still lacking.

Based on former work of the first author (Schweizer, 2014) a tentative framework has been designed to organize the main components of an art therapeutic intervention (see also chapter 1 and 2). This model is visualized in figure 1 and covers four areas of operation: 1) art therapeutic (AT) means and forms of expression; 2) therapists' behavior (including interactions with the client and handling of materials); 3) context (setting, reason for referral, duration of therapy, concurrent treatment); and 4) intended outcomes (including short- and long-term goals). The framework is named the Context and Outcomes of Art Therapy (COAT) model, suggesting the centrality of the 'art area' and the indispensability of the other three 'circles of influence'; without these layers one cannot speak of an art therapeutic intervention.

Figure 1. Context and Outcomes of Art Therapy (COAT) model

The purpose of this paper is to systematically review the scientific literature concerning the role art therapeutic elements and conditions play in the treatment of normal to high intelligent ASD diagnosed children. Based on this review the COAT-model will be further

elaborated with the aim to construct a well-founded base for clinical and evaluative use in art therapy with ASD children. As a guideline in this review the following four research questions will be addressed.

1. What AT-means and forms of expression contribute to the treatment of children with ASD?
2. What specific art therapeutic behavior contributes to the treatment of children with ASD?
3. What AT contextual conditions contribute to the treatment of children with ASD?
4. What outcomes of AT as a treatment for children with ASD are being strived for and realized in the treatment setting and in daily life?

Method

Several studies on the outcomes of usual treatments on adults as well as on children with ASD showed only thin evidence (CVZ, 2010; Schothorst et al., 2009). A study on the efficacy of art therapy, with all kind of children's and adults' problems (Slayton, D'Archer, & Kaplan, 2010), lacked data about art therapy with autistic children and adults. Despite these not very exciting results we decided to systematically disclose the literature for reasons of completeness by searching for studies using Randomized Controlled Trial (RCT) designs, quasi-experimental designs (no random control group), one group pre-test post-test designs (no control group), and practice-based change studies including case studies (with well-defined intervention protocols). As a final step also studies of practice examples of art therapy in journals, handbooks and theses were included in the search.

Electronic searches were performed for the period 1985-2012 including Dutch as well as English literature. The consulted databases were Cochrane, Medline, PubMed, PsychINFO, Picarta, Eric, Google, and the website of the AATA. In addition, the following journals were manually searched: *Tijdschrift Vaktherapie* (formerly: *Tijdschrift Creatieve Therapie*); *Wetenschappelijk Tijdschrift Autisme*; *International Journal of Art Therapy* (formerly: *Inscape*); *The Arts in Psychotherapy*; *American Journal of Art Therapy*. Finally, correspondence with two art therapy researchers was used. The following search terms were used, solely and in combination: art, art therapy, autism spectrum disorder, children, effect, outcome. Studies were included in which

- children up to 18 with normal and high intelligence with ASD were subject of research¹;
- art therapeutic interventions with the aim to stimulate change in behavior and skills of children diagnosed with ASD;
- art as a means of expression was described in relation to a change in behavior or skills of children diagnosed with ASD.

Excluded from this review were interventions of music-, drama- and dance movement therapy because art therapy has the focus on art, and especially on the visual and tactile experiences of clients with ASD.

Each study was examined in line with the four main categories of the COAT-model: context, outcomes, therapeutic behavior and art therapeutic means and forms of expression. The more specific variables were mapped by qualitative content analysis (Krippendorff, 2004; Strauss & Corbin, 1990; Weber, 1990). These variables concern:

- Author, year of publication;
- Type of study design, including sample size;
- Context I (info on participants): gender, age, diagnosis;
- Context II: setting, duration of treatment, reasons for referral;
- Therapeutic behavior (like [non]verbal interventions, attitude, psycho-education) and background theory;
- Art means and expressions (like materials, shapes, themes, interaction during art making);
- Outcomes: treatment goals and realized outcomes.

Results

The electronic search in databases, the 'hand search' in journals, reference lists, grey literature, and the correspondence with art therapy researchers, resulted into 18 relevant studies (see table 2). Only six studies were included by the electronic search (table 1). Most studies were found in reference lists and via personal contacts with other researchers. All

¹ Studies were also included when concerning art therapy with also non-verbal and mentally retarded children diagnosed with ASD, combined in one study with ASD children with normal and high intelligence.

studies were qualitative, mostly case descriptions in a theoretical framework of developmental psychology, art theory, and psychotherapy theory.

Table 1. Number of suitable studies found by search methods

Search	Unselected results of electronic searches	Selected results of electronic searches	Results of hand search
Art AND/OR art therapy AND/OR Autism Spectrum Disorder AND/OR Pervasive Development Disorder not otherwise specified	146	6	12
Art AND/OR art therapy AND/OR Autism Spectrum Disorder AND/OR Pervasive Development Disorder not otherwise specified AND effect OR outcome	0	0	0
Art therapy AND outcome OR effects	0	0	0

In the next part an overview of findings (table 2) is given based on 18 case descriptions from 12 publications, respectively six general descriptions of art therapeutic interventions from six publications. As expected, we did not find any study involving an experimental or quasi-experimental design. Two one group studies were found: one qualitative inquiry of a summercamp with children diagnosed ADHD and ASD (n = 25) with examples of art therapeutic interventions with one boy with ASD [10]; the other containing a qualitative study of sandplay therapy with children diagnosed ASD - individually and in groups up to seven children (total n = 25), [13]. One grounded theory study upon practices from eight art therapists was included [17]. Furthermore, one case study, only describing treatment method and practice, was found [12]. Fifteen studies described practice examples in a theoretical frame, of which six described art therapy practice on a more general level [8,9,14,15,17,18]. The other nine publications showed details of art therapy treatments¹ of in total 18 participating children diagnosed ASD [1-7,11,16].

Table 2. Overview of 18 studies on art therapy with children with Autism Spectrum Disorders

Author, year	Type of study	Gender	Age	Diagnosis	Setting	Duration of treatment	Reasons for referral	Aims	Therapeutic behavior	Art means and expressions	Outcomes
1. Bragge & Fenner, 2009	Theoretical study (art therapy theory and a model to evaluate practice). Examples from two cases.	M ¹	7;5	HFA ¹	School for special education Individual art therapy Melbourne, Australia	15 weeks, weekly sessions	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills.	Following the child. Offering new sensory and symbolic experiences. Verbal directions. Communication in art. Art-psychotherapy, play therapy, early developmental psychology, client centered psychology.	Stereotyped images. Representative images. Broadening interests by exploring drawing and painting materials: animals, landscape. Sharing art experiences.	Improved communication skills/social behavior. Improved self-image. Transfer is not described.
2. Elks-Abuhoff, 2008	Case example with short theoretical founding.	F	18	Before AT ¹ : social phobia. After AT: Asperger.	Private practice Individual art therapy USA	7 months; once a week	Ineffective other treatments. Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Affective problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improvement of recreation skills.	Following the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Sensory regulation. Verbal directions. Early developmental psychology, art psychotherapy.	Representative images. Exploring a diversity of materials. Tactile and playful experiences. Themes from daily life, emotions. Sharing art experiences. Talking about the artwork is talking about her own functioning.	Improved communication skills/social behavior. Improved self-image. Improved learning skills.
3. Emery, 2004	Case example in theoretical frame	M	6	ASD, normal	Setting unknown	7 months; frequency unknown	The art therapist observed:	Aims unknown	Following the child. Directive and structuring approach.	From kinesthetic and pre-representative	Improved communication

	intelligence	Individual art therapy California, USA	Social communicative problems; behavior problems.	Offering new sensory and symbolic experiences Verbal directions. Early child developmental psychology, attachment/object constancy theory, client centered psychology	experiences, to representative drawing of people and daily life, including talking about it. Sharing art experiences. Also drawing at home and better eye contact.	skills/social behavior. Improved learning skills.					
4. Etherington, 2012	Chapter in a book about assessment in art therapy. Practice example.	M	6	Asperger	Private practice Great Britain	Unknown	Social communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills.	Following the child. Offering new sensory and symbolic experiences. Sensory regulation.	From pre representative and fragmented drawing and painting, to representative human figure. Becoming more personal. Shared experiences. Talking about the work.	Improved communication skills/social behavior.
5. Evans, 1998	Practice-oriented and theoretical research with examples from practice.	M	6	ASD, verbal and non verbal.	School for autistic children Individual art therapy Great Britain	Treatment of 2 years; frequency unknown	Unknown	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills.	Following the child. Directive and structuring approach. Following the child. Offering new sensory and symbolic experiences. Sensory regulation. Early developmental psychology (Stern, 1985).	From stereotype representative drawing to kinesthetic and sensory experiences with materials. Becoming more personal. Sharing art experiences.	Improved communication skills/social behavior. More flexible behavior. Development of learning skills.
6. Evans & Dubovsky, 2001	Book about Art Therapy re children with diagnosis ASD; case examples in theoretical frame [i.e., early developmental psychology (Stern 1985)]	F	8	ASD, non-verbal	School for children diagnosed ASD, working together with 'a multi-disciplinary staff'. Great Britain	55 sessions; frequency unknown	Unknown	Benefit from a visual approach and/or tactile stimulation. Development of communication skills.	Following the child. Offering new symbolic experiences. Communication in art. Early developmental psychology (Stern, 1985).	Drawing, painting, pre-representative scribbles. Sharing art experiences.	Improved communication skills/social behavior. No transfer of results mentioned.

7. Evans & Ruten-Sarís, 1998	Chapter in book about art therapy with children with developmental problems. Examples from three cases in theoretical frame (i.e., early developmental psychology [Stern, 1985])	M	9	ASD, verbal	School for children diagnosed ASD, working together with 'a multi-disciplinary staff'. Great Britain	Unknown	Unknown	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of self-image. Improvement of flexibility.	Following the child. Offering new symbolic experiences. Verbal directions. Communication in art. Early developmental psychology (Stern, 1985).	Representative drawing, painting animals, people. Sharing art experiences. Talking about the art work.	More attention, more playful, use more space in his paintings, more tolerance for new experiences. Greater insight and understanding of his own autism. Improved self-image. Transfer of results is not mentioned.
		M	7	ASD, non-verbal	Residential facility, working together with 'a multidisciplinary staff'. Great Britain	2 years; frequency is not mentioned.	Unknown	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility.	Following the child. Offering new sensory and symbolic experiences. Communication in art.	Pre-representative scribbling. Kinesthetic and sensory play in the space and with crayon, paper and water. Sharing art experiences	Hardly any development. Developed new play with water. Great need of governing the situation. No transfer mentioned.
7. Evans & Ruten-Sarís, 1998	Chapter in book about art therapy with children with developmental problems. Examples from three cases in theoretical frame (i.e., early developmental psychology [Stern, 1985])	M	10	ASD	School for autistic children. Great Britain	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of self-image. Improvement of flexibility.	Following the child. Directive and structuring approach. Following the child. Offering new sensory experiences. Sensory regulation. Communication in art. Early developmental psychology (Stern, 1985)	Representative drawing with increased control and awareness. Pencils, crayons, paint, paper, water. Animals, human figures. Sharing art experiences	Improved communication skills/social behavior. Improved self-image. Better regulation of anxiety and anger.
		M	8	ASD	School for multi-disabled children. Great Britain	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of self-image. Improvement of flexibility.	Following the child. Directive and structuring approach. Following the child. Offering new sensory experiences. Sensory regulation. Communication in art. Early developmental psychology (Stern, 1985).	Pre-representative scribbles. Stockmar wax crayons, paper. Kinesthetic and sensory experiences. Sharing art experiences	Improved communication skills/social behavior. Improved self-image. More quality of life.

	M	6-8	ASD	Slovenia	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of self-image. Improvement of flexibility.	Following the child. Directive and structuring approach. Offering new sensory experiences. Sensory regulation. Communication in art. Early developmental psychology (Stern, 1985).	Pre-representative scribbles. Stockmar wax crayons, paper. Kinesthetic and sensory experiences. Sharing art experiences.	Improved communication skills/social behavior. Improved self-image. Improved learning skills.	
8. Gabriels, 2003	Chapter in Handbook Art Therapy; theoretical overview with general practice examples.	-	All types	-	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improvement of flexibility.	Being aware of the child's response. Verbal directions. Communication in art.	A diversity of art media, tools and activities. Sensory and kinesthetic experiences. Shared experiences.	Improved communication skills/social behavior. Better regulation of anger and anxiety. Improved learning skills.	
9. Goucher, 2012	Chapter in a book about play based interventions for children with ASD	M	13 up to 17 years.	Asperger	Group: 2 years	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improvement of recreation skills. Improvement of quality of life.	Directive and structuring approach. Offering new sensory and symbolic experiences. Verbal directions. Communication in art.	Representative drawing and writing. Broadened interests from stereotyped interests. Expressed and talked about his insecurities and fears which diminished. Sharing art experiences.	Improved communication skills/social behavior. Improved self-image. Increased flexibility. Awareness of pleasure. Reduced anxiety.	
					USA						
		M	13 up to 17 years.	ASD	Non-public school for special education. Individual art therapy. USA	Several years	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improvement of recreation skills. Improvement of quality of life.	Directive and structuring approach. Following the child. Offering new sensory and symbolic experiences. Verbal directions. Communication in art.	Representative shaping with a variety of art materials. Increased differentiation of images and symbols. From rainbows to animals, to portraits. Sharing art experiences.	Improved communication skills/social behavior. Improved self-image. More control over art materials and more self-control.

10. Henley, 1999	A qualitative group study of 5 years of Art Therapy Summer Camps with 25 children with ASD and ADHD.	M	Group: 6-12 Case: 7	ASD/ADHD	Group activities and individual art therapy. USA	5 weeks, daily programme	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improvement of recreation skills. Improvement of quality of life.	Directive and structuring approach. Offering new sensory and symbolic experiences. Verbal directions. Communication in art.	Representative and expressive play. Animals. Every facet of the daily camp experience is a potential creative therapeutic experience. Sharing art experiences with other children.	Improved communication skills/social behavior. Improved self-image. Transfer: many children behaved better at home.
11. Iserow, 2008	Theoretical study (art therapy theory; joint attention theory; psycho-analytical points of view). Examples from two cases.	F	17	ASD non-verbal	Child, adolescent and family consultation service. Great Britain	7 months AT, weekly sessions	Behavioral problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Improved self-awareness.	Following the child. Offering new sensory and symbolic experiences. Verbal directions. Verbal attempts to make contact. Early developmental psychology. Client-centered psychology. Art psychotherapy.	Pre-representative sensory and kinesthetic experiences. Own saliva, water and paint. Slightly awareness of materials and the other	Slightly more aware of the (verbal) other and of the material.
12. Kornreich & Schimmel, 1991	Case study	M	12	ASD high intelligence	School for children with ASD. AT as part of family treatment. Great Britain	Unknown	Behavioral problems. Social-communicative problems.	Unknown	Following the child. Offering new sensory experiences. Verbal directions. Early developmental psychology. Client-centered psychology. Art psychotherapy.	Representative and expressive shaping. Claying a portrait with scared eyes. Talking about experiences in art and in daily life.	Improved communication skills/social behavior. Improved self-image. Reduced anxiety.
12. Kornreich & Schimmel, 1991	Case study	M	11	DSM III: early infantile Autism with schizophr nic features and functional mental retardation	Out-patient community-based child guidance clinic. Mother receives instructions in remedial parenting. USA	2 years, once a week	Ineffective other treatments. Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Affective problems. Social-communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility.	Directive and structuring approach. Offering new sensory and symbolic experiences. Verbal directions.	Representative stereotype figures are becoming more personal with drawing and painting materials, water, clay and tissue paper. Themes from the world around him: family members, animals, landscape seen from the window. Talking about drawings and daily life.	Improved communication skills/social behavior, also at home and in school. Better regulation of anger and anxiety. Improved learning skills. Improved self-image.

13. Lu, Petersen, Lacroix & Rousseau, 2010	Action research and theoretical frame of Jungian sandplay therapy. Case vignettes illustrating descriptions of development of play skills.	2 girls, 23 boys	7-12	ASD at different levels of functioning	Special education school. Canada	10 weeks intervention, once a week 60 min., 5-10 min. opening and closing rituals. Both individually and in small groups.	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility.	Following the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Sensory regulation. Verbal directions. Communication in art. Play therapy. Jungian psychology.	Sensoric and symbolic experiences in sandtray with sand and colorful figurines and building materials, water. Stimulating sensory play and symbolic expression. Sharing art experiences.	Improved communication skills/social behavior. Better regulation of anger and anxiety. More flexible behavior. Improved learning skills.
14. Martin, 2009a	Qualitative study. Theory and practice based.	Unknown	Unknown	ASD at different levels of functioning	Unknown	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social communicative problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility. Improvement of self-awareness. Improvement of recreation skills.	Following the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Sensory regulation. Verbal directions. Developmental/behavioral, psychotherapeutic, eclectic theories.	The whole range of expressive materials and possibilities to stimulate sensory and expressive experiences.	Unknown
15. Martin, 2009b	Practice based and theory based.	Numerous examples from practice experiences	≥ 2	ASD at different levels of functioning	Art studio. Art courses for young children, and young children with their parents. USA	?	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social communicative problems. Developmental possibilities.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility. Improvement of self-awareness. Improvement of recreation skills.	Following the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Sensory regulation. Verbal directions.	Often pre-representative stadium and kinesthetic stimulus. Diversity of painting materials, drawing materials, clay, textile, found objects.	Improved communication skills/social behavior. Improved learning skills. More flexible behavior. Better self-image.

16. Schweizer, 1997	Case examples in theoretical frame [i.e., early developmental psychology (Stern, 1985)]	M	8	PDDnos ¹	Residential child psychiatric hospital. Art therapy as part of multi-disciplinary team. The Netherlands	1½ year 2x weekly treatment	Behavioral problems. Social communicative problems. Developmental possibilities.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility. Improvement of self-awareness.	Following the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Verbal directions. Communication in art. Early developmental psychology (Stern, 1985).	Representative images: drawing stereotyped figures from his own scary fantasy world to a more crafts-like shaping. Experiences with different art materials to a safer symbolic work. Talking about the techniques and safety here and now.	Improved communication skills/social behavior. Improved self-image. More flexible behavior. Better regulation of anger and anxiety.
17. Schweizer, 2014	Theory based on interviews with eight art therapists about their practice examples.	M, F	6 up to 12 years	ASD	Private practice. School for special education. In- and out-patient child psychiatric hospital. The Netherlands	Unknown	Not ASD only, but problems at home. Social-communicative problems. Behavioral problems.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility. Improvement of self-awareness.	Follow the child. Directive and structuring approach. Offering new sensory and symbolic experiences. Verbal directions. Communication in art.	Representative and pre-representative expressions. Thematic/symbolic expressions. Sensory experiences. Broad diversity of materials, techniques and expressions. Sharing art experiences.	Improved communication skills/social behavior. Improved self-image. Better regulation of anger and anxiety. More flexible behavior. Showing the child's art to enjoy life. Better planning skills.
18. Van Zweden-Van Buren, 2007	MA thesis, based on literature comparing art therapy with art education as interventions for children with ASD. Recommendations for art therapy.	Un-known	Un-known	ASD at different levels of functioning	Art/art therapy in schools. The Netherlands	Unknown	Likely to benefit from art making as stimulation of developmental delay and expression. Behavioral problems. Social communicative problems. Developmental possibilities.	Benefit from a visual approach and/or tactile stimulation. Development of communication skills. Development of learning skills. Improvement of flexibility. Improvement of self-awareness. Improvement of recreation skills.	Following the child. Directive and structuring approach. Starting point is the clients' question for help and his/her problems. A supportive, directive and structuring attitude seems to be recommended.	Expressive materials are used to develop varied and deeper experiences and understanding of body and inner world.	Improved self-image. More flexible behavior. Better regulation of anger and anxiety. Improved communication skills/social behavior.

¹Explanation of abbreviations: M = male; F = female; HFA = High Functioning Autism; ASD = Autism Spectrum Disorder; PDDnos = Pervasive Developmental Disorder, not otherwise specified; AT = Art Therapy.

The results mirror a mixture of practice examples from 4 girls and 14 boys. The girls were between 8-18 years of age; one was diagnosed Asperger, the other three were mentally retarded. The boys were between 6-17 years; one of them was diagnosed PDDnos, four HFA/Asperger, nine ASD with normal intelligence, and one ASD with mental retardation. There was no information reported about verbal IQ and performal IQ.

During art therapy sometimes change in diagnostic information appeared. One girl was firstly diagnosed with a social phobia and later as HFA/Asperger. One boy was firstly diagnosed with mental retardation and during art therapy appeared to show normal intelligence.

The relevant aspects of art therapy for children belonging to the target group are categorized in figure 2 according to the four clusters of the COAT-model. Per cluster the results will be described. To prevent too detailed information in the results, data found in only one or two studies will not be discussed.

Figure 2. COAT-model concerning children diagnosed ASD

AT means and forms of expression

Children with ASD show a wide range of possibilities for expression, developmental levels, shapes, themes and interests. This cluster can be divided in four topics: experiences with art materials; shapes and themes; development of personal art work; and verbal and non-verbal communication.

Experiences with art materials

Most children are not explorative and flexible in the beginning of the art therapy treatment. During art therapy the child becomes more explorative, flexible and expressive [1-18]. Two types of preference for art materials appeared. Children aimed at symbolic expression, mostly use drawing materials such as crayon, paint and water, and (later in the therapy process) clay [1,3,4,6,11,12]. The other group works with all kinds of materials, offering varied tactile and kinesthetic experiences to evoke sensory awareness and expression [2,3,5-9,13-17].

Shapes and themes

One general characteristic that appears in the art work is the stereotype way of making images [1,5,14-16]. Even with a sensory and kinesthetic approach - as in symbolic work - children are mainly not explorative in the beginning of the art therapy (although 'becoming more explorative and expressive' is an important aim). Children differ in the ability to make realistic drawings. The so-called 'pre-representative drawings' [6,7,11,14,15], not always seem connected with a low intelligence profile [3,4,7,15]. Often the realistic drawings are stereotyped figures from comics, films, or computer games [1,5,6,12,16]. The images at the beginning of the treatment are often scary [9-12,16]. If children are able to profit from support the symbols in the drawings become more safe.

Development of personal art work

During the art therapy process, express their fears, and make more detailed connections with their daily life [1-3,5-7,9-15].

Verbal and non-verbal communication

Concerning the communicative characteristics of art expressions our sources indicate that art supports expressiveness and art is another language to share experiences [1-3,5-7,9-11,17]. Art therapy is described as an alternative way of communicating, because the art

stands between the child and the therapist. This creates a safe environment for the child to focus attention and to develop skills and expressiveness [1,2,6,10]. Children make contact during art making with the therapist and with other children, and develop their communication skills [1,2,5,7,8-13]. Some children profit more from body language and playful interactions with the art materials, than from spoken words [5-7,11-13,15]. Although therapy is mostly non-verbal, many children start to talk about their experiences with materials and the symbols they make [1-4,6,9-12,16].

Therapeutic behavior

Therapeutic behavior concerns an active attitude as well as a non-directive approach. It is about what the art therapist is offering verbally and non-verbally, and also about how the art therapist approaches the client. Five characteristics of therapeutic behavior emerged: attunement to clients' needs; stimulating visual- and tactile sensory experiences; supporting the shaping process; verbal directions; and sharing experiences. Besides, in 16 of 18 practice examples theoretical backgrounds have been described.

Attunement to clients' needs

The art therapist facilitates the child to learn in a nonconventional, nonverbal, and comprehensive and expressive language [2,14,15,18] with both non-directive and directive attitudes [1,3,7,13-17]. The art therapist attunes to individual needs and possibilities of the child [1,4,5,7,13-16] indicating that attunement to the child supports his or her development [6,7,16-18]. The child may follow its own needs, choose its own subjects, and follow its own interests [3,4,11,12,14-15]. The art therapist offers encouragement and direction [5,7,9,18] and structures and facilitates the process with materials [9,10,12,16,17] 'safe' art forms and techniques [3,9-11,13-18].

Stimulating visual and tactile sensory experiences

Visual- and tactile sensory experiences are facilitated, stimulated and regulated by evoking expression with tactile materials [2,5,7,13-15] structuring imaginative themes [4,9,13,16], gradually introducing new materials and directions [5,7,13,16], and assisting the child in maintaining these new experiences [5,7,16].

Supporting the shaping process

In all case examples [1-18] the art therapist offers 'new experiences' like visual and tactile sensory experiences and symbolic images, since the child is inclined to hold on its own well-known habits. Also, the art therapist offers technical support for a 'good result' as art work [14-16]

Verbal support and stimulation

Verbal directions are varied and include supporting, structuring, and playing about the shaping process [1,2,8,10-13]; communicating in a sensitive way when anxiety increases [13-16]; stimulating to draw more in details, draw or paint how you feel now, draw or paint things in the room, about daily life [1-3,9-12,14]; talking about art work (reflecting) [3,10-14] and psychoeducation [8,14,15].

Sharing experiences

Interactions between the art therapist and the child happen through art materials/images. The art therapist recognizes and communicates through art in early developmental stages and 'vitality effects' (Stern, 1985) [6-8]. The art therapist offers contact through materials [1,6,8,16] and supports communication with others through art making [9,10,12].

Theoretical background

Therapeutic behavior is nearly always described related to psychological theoretical principles, sometimes as a combination of theories. Six theoretical frames were mentioned: early developmental psychology (cf. Stern, 1985) [1,3,5-7,11,16], client-centered psychology [1,3,11], art psychotherapy [1,2,11], play therapy [1,13], Jungian psychology [13], and art education [8,9,14,15,18].

Context

This category concerns four items: settings; referrals and aims; duration and frequency of treatment; and transfer.

Settings

In about 60% the treatment setting is a school. This concerns schools for autistic children [5-7,11], schools for special education [1,9,13], and schools for multi-disabled children [7]. The other settings are: residential care [16], outpatient child guidance clinic [11-12], private practice [2], art studio [14-15], and summer camp [10].

Referrals and aims

Seven reasons for referral were mentioned in at least three studies. These were: social communicative problems (living in their own world, problematic social interactions) [1-18], affective problems [2,12,14], behavioral problems (anger outbursts [1,10,12,17] and anxiety [9-12,14]), restricted interests, activities and behaviors [1,2,5-7,9-18], attention problems [1,3,5-7,10,11,16-18], specific developmental problems [5-8, 13, 15-18], and 'likely to benefit from art making to stimulate development and expression' [1,2,4,7,9,15,17] or 'likely to benefit from a visual approach and/or tactile stimulation' [1-18].

Six topics appeared in the literature as aims of treatment: communication, sensory stimulation, self-awareness, flexibility, learning skills, and other aims. Communication aims were characterized by the development of interaction possibilities and/or communication skills [5-11,13,15,18] or were directed to the child to become more expressive and playful (in art and in behavior) [1-3,5,8,9,11,13-15,18], to develop a higher sensitivity towards symbolic information [7,13,14,18] and to develop the sharing of experiences [11,12,15]. The aim of sensory stimulation was mainly to explore materials [9,14,15,18]. Self-awareness concerned the improvement of self-esteem [7,10-12,16]. The aim of flexibility was mainly connected to diminishment of anxiety, anger and stress with the child [2,5,6,10,12]. Learning skills was about the development of learning skills [5,12-16]. Finally, there were two other aims in several studies: development of recreation skills [2,9,10,15] and improving quality of life of the child [9,13,16,18].

Duration and frequency of treatment

In 67% of the case examples the duration and frequency of the art therapy is unknown. The reported treatment periods differ from ten weeks to many years. Forty weeks or longer is more often mentioned than shorter treatment periods.

Transfer

Development of the ability to draw about daily life aspects is described in connection with increasing communication skills with others in daily life [2,3,8,9]. In a number of cases it is indicated that communication outside the art therapy situation has to be (and actually was) improved [2,8-10,12,13]. Sometimes parents or teachers were involved in the art therapy treatment [2,9,15].

Outcomes

From all practice examples and general descriptions, four types of art therapy outcomes were reported: ASD children got more flexibility and relaxation, improved their social and communication skills, improved their self-image, and improved their learning skills. Note that these observations are qualitative observations. Some 2/3 of the outcomes were described in terms of improved behavior; the other 1/3 in terms of improved behavior in connection with developments in art making [2-8,11-13,16].

More flexibility and relaxation

This result concerns qualitative observations about more flexibility in thinking and handling of the child [9,13,15-18], more relaxation at school and at home [9,12,15], improved sensory and emotional regulation [8,15,18], and less anxiety and anger [9,11,12,17,18].

Improved social and communication skills

In the studies a wide range of improved social behavior was reported: more engagement in contacts [3,7,12,13,15,17], sharing sensitive interactions during art making [1,5-7,13], more awareness of the other [1,7,11,13,16,17], increased tolerance for interactions [5,9,12,17], improved social behavior at home and at school [2,4,7,10,12,13,15-17], increased expressivity [2-8,11-13,16], increased verbal expressivity [2,11-13], sharing experiences with the therapist by drawing about daily life [2,3,12,17], and easier to live with [4,10,12,15,16].

Improved self-image

According to three studies all kind of playful experiences contribute to improving self-esteem and social skills [9,10,13]. In a lot of studies the children are qualitatively evaluated as to have improved their self-esteem, self-concept, and sense of self [3, 5-9,16], and/or to have gained more self-confidence [1,2,5-13,15-18]. In addition, other results are described in terms of like: gaining insight and understanding of one's own autism [2,5,6], being more personal [1,11-16], experiencing more pleasure [3,9,15-16], and experiencing a better quality of life [3,6,9,10,13].

Improved learning skills

Here it concerns the development of attention/task orientation [7,8,13,15,18], an easier way of coping with new information [15-18], and the enhancement of symbolic thinking and the development of imagination [7,8,13,15,18].

Discussion

Summary and reflection

All 18 relevant studies were qualitative descriptions, involving ASD children who received some type of art therapy during some period of time. To systematically analyze and categorize the information in these studies, the COAT-model of Schweizer (2014) was applied.

The results of the qualitative analyses suggest that art therapy may contribute to a more flexible and relaxed attitude, a better self-image, and improved communicative and learning skills in children diagnosed ASD. Art therapy might be able to have a positive contribution to both problem areas of ASD children, as defined in DSM-5 (APA, 2013): the social communicative problems and the restricted and repetitive behavior patterns.

In the introduction it was noticed that there was some evidence that typical art therapeutic elements such as sensory experiences with sight and touch, may improve social behavior, flexibility and attention-abilities of autistic children. This review confirms these indications and provides more insight in art therapeutic elements, art therapists' behavior, the therapeutic context, and outcomes strived for with children diagnosed ASD. Regarding the behavior of the therapist - a key factor in treatment processes (Duncan, Miller, Wampold, & Hubble, 2010) - the most often reported elements were attunement to children's needs, supporting them in getting sensory experiences, supporting their art shaping process, giving them verbal direction, and sharing experiences with them. Considering the wide variation in art therapy practices that we found findings of this review should be interpreted with caution.

Further research, which we strongly recommend, can help to clarify the meaning of therapists' input and the other factors in the COAT-model, and might indicate the status of art therapy as an additional or alternative intervention for usual treatment approaches for children with ASD, such as cognitive behavioral therapy or social behavior training (cf. Schothorst et al., 2009).

The evidence we gathered was almost exclusively based on clinical case descriptions. The methodological quality of the included studies is, generally speaking, weak. All included studies report on single practice examples from authors who were also participating themselves as art therapists. This might create a publication bias in the data (Song et al.,

2013); only successful treatments from these professionals were described, excluding their less positive cases. In addition, information on longer term results is missing so even in these well-described cases crucial feedback is lacking on what came out at the end. Anyway, this is the state of affairs in many domains of child and youth treatment research (Knorth, Knijff, & Roggen, 2014).

One of the reasons why there is such a shortage of research is proposed by Gilroy (2006); she suggests that art therapists get uncomfortable from empiricism and turn away from it because of the gap between the varied art therapy practices and the uniformity that is required in outcome studies. Without a certain degree of ‘manualization’ of art therapies it is very hard to detect common elements in practice that can explain for the difference between the more and less successful art therapeutic cases (Wilson, 2007). In this context Gilroy (2006) stresses the need to further develop the profession of art therapy, based on research- and practice-based evidence.

Recommendations

To uplevel the evidence on art therapy regarding children with autism, more research is needed. We propose some focus points.

First, there is a need for defining core concepts in art therapy with children diagnosed ASD such as ‘sensory experiences’, ‘expressivity’, ‘personal art work’, ‘flexible behavior’, ‘social-communicative behavior’ or ‘learning skills’. Although practitioners undoubtedly know how to use these labels and what is meant by such expressions, more precise definitions are wanted. As long as concepts like these are used as ill-defined indicators of what is going on in art therapy, progress in our knowledge base is hard to reach (Malchiodi, 2012). Research on therapists’ own conceptualizations and experiences could support the process of clarification (Teeuw, 2011).

Second, a more standardized treatment programme should be articulated, based on a relevant change theory (Malchiodi, 2005; Waller, 2006), in combination with practice-based evidence as, for instance, forwarded in this review. Only art therapeutic work that is the expression of a replicable approach with articulated principles, methods and techniques can be researched on its treatment integrity and outcomes (Yeaton & Sechrest, 1981).

Third, attention should be paid not only to successful treatments but also to less successful or failing cases. Since no child with ASD is the same, it is plausible that there are ‘failing’ treatments. By including therapeutic endeavors that ‘don’t work’ we might learn

what should be avoided, i.e. how to strengthen our work for the benefit of vulnerable children and their parents or caretakers (Kingdon, Hansen, Finn, & Turkington, 2007; Rizvi, 2011; Whipple et al., 2003).

Fourth, monitoring of art therapies in practice should be conceived of a qualifying characteristic of the profession. A systematic registration of client characteristics, main therapeutic activities, and outcomes - the last ones on the short and the longer term - will help to level up the art therapeutic discipline (Van Yperen, 2013). Systematic deliverance of this kind of feedback is the only way to discover 'what works' in art therapy with ASD diagnosed children (cf. Reese, Norsworthy, & Rowlands, 2009; Sapyta, Riemer, & Bickman, 2005). Different research designs can be applied, varying from wide-scale AT-programme evaluations (Harinck, Smit, & Knorth, 1997) to piled N=1 studies (Spreen, 2013); the last ones being especially attractive for care workers / therapists in daily practice, also because of the intrinsic educational and training impact they might have for them (Van Yperen, 2013).

Consensus-based typical elements of art therapy with children with Autism Spectrum Disorders

Based on:

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Abstract

Art therapy (AT) offers a specific treatment for developmental, social and behavioral problems of children with autism spectrum disorders (ASD). In this study typical elements of AT with ASD diagnosed children are specified and validated in a two-round Delphi study with 32 and 28 experts respectively (art therapists, referrers). In the first round, relevance and applicability of the elements were rated. The degree of consensus per element was computed using the Gower coefficient. Results were subsequently, to the extent necessary, clarified by a focus group discussion involving seven professionals (five art therapists; one psychologist-ASD specialist; one social worker with an ASD diagnose and also parent of an ASD diagnosed child). Consensus was achieved on 46 elements which relate to goals, means, and outcomes of AT including therapists' appropriate attitude and behavior. The findings are helpful to clarify the role of AT in treatments for children with ASD.

Keywords: art therapy; autism spectrum disorders; consensus; Delphi study; focus group

Introduction

Children diagnosed with autism spectrum disorders (ASD) often have difficulties with social and communicative behavior and preoccupations (American Psychiatric Association, 2013). When these difficulties have become problematic, art therapy (AT) may offer a specific treatment. In AT the child with ASD is communicating with the art therapist in an indirect way, i.e. by making art. Especially for children with communication problems the basic nonverbal character of AT might be an opportunity to develop and experience adequate skills. Working with art materials involves a focus on sensory experiences and personal expressions, which might stimulate a better integration of cognitive, sensoric and kinesthetic experiences as well as behavioral changes (Bergs-Lusebrink, 2013; Case & Dalley, 1990; Gilroy, 2006; Hinz, 2009; Malchiodi, 2003). In AT the visual and tangible products and the shaping process itself serve as a tool to stimulate behavioral change and stabilization of concerns or problems in an experiential way (Schweizer et al., 2009; Malchiodi, 2003; Rubin, 2001). The role of the art therapist is to facilitate and support a client's emotional, cognitive, social or physical functioning in a systematic cycle of observation, defining aims, implementation of treatment, completing treatment, and evaluation (Smeijsters, 2008; Visser, 2009).

One out of five art therapists in the Netherlands (Schweizer, 2016) and one out of six art therapists in the US (Elkins & Deaver, 2013) are treating clients with autism. Children with autism are often referred to AT for problems with self-image, expressing themselves, flexibility, and social and learning problems. However, well-designed empirical studies of art therapeutic interventions with children with autism are very scarce (Schweizer, Knorth, & Spreen, 2014).

Art therapists are educated to deliver personalized care: each client has to discover his or her own personal way of expression with art materials (Malchiodi, 2005). A practice-based tradition almost without scientific evidence demonstrates the collective professional attitude: art therapists strongly rely on their clinical expertise (Haeyen, Van Hooren, & Hutschemaekers, 2015). However, scientists, policymakers as well as a growing number of art therapists feel the need to systematically investigate those 'typical elements' that define art therapeutic interventions (Barkham & Mellor-Clark, 2003; Blase & Fixen, 2013; Borgesius & Visser, 2015; Spanjaard, Veerman, & Van Yperen, 2015). By clarifying these elements,

empirical supported treatments can be applied in practices of personalized care (Ng & Weisz, 2016).

In other nonverbal therapies like music therapy and dance therapy there is international consensus on the theoretical working elements that may improve sense of self, expressive and social behavior for children with ASD (Geretsegger, Holck, Carpenter, Elefant, Gold, & Kim, 2015; Hildebrandt, Koch, & Fuchs, 2016; Koch, Mehl, Sobanski, Sieber, & Fuchs, 2015). However, these working elements have not been elaborated specifically for AT.

A recent literature review (Schweizer et al., 2014) and a pilot study into tacit knowledge of art therapists about AT with children diagnosed with ASD (Schweizer, Spreen, & Knorth, 2017) resulted in a theoretical framework on favorable typical elements of AT with children diagnosed with ASD. This framework, referred to as the COAT model, consists of four core categories:

1. The Context category refers to the setting of the treatment, the referral criteria and treatment aims, the duration and frequency of the treatment, and environmental influences on the child's behavior.
2. The Outcomes category refers to the problem behaviors of the child to be treated and monitored, such as more flexible and relaxed behavior, improved social and communication skills, improved self-image, and improved learning skills.
3. The Art therapeutical materials and expressions category refers to the handling and process of working with materials evoking tactile and visual sensory experiences, such as offering variations of/with art materials to improve the child's flexibility and expressivity. Verbal and non-verbal communication during art making are part of the process.
4. The Therapeutic behavior category refers to attunement of the therapist to clients' needs, both non-directive and directive, to stimulate visual and tactile sensory experiences, to support the shaping process, to give verbal support, and to share experiences.

The present study is focused at further specification of the AT characteristics as defined in the COAT framework. The purpose of the Delphi study is to investigate the extent of consensus about the perceived relevance and applicability of the AT-elements for children with autism by exploring the extent to which these elements are recognized by therapists and referrers. The aim of the focus group discussion is to develop further understanding about some inconsistencies in the Delphi results in Table 3. The results of both studies will be applied as building blocks in further investigations of an AT treatment programme.

Method

First, a Delphi study was performed in which agreement between a sample of experienced art therapists and professional referrers was studied concerning the elements of the COAT framework. In this Delphi study experts were consulted anonymously, to prevent influencing each other (Hsu & Sandford, 2007; Skulmoski et al., 2007; Turoff, 1970). The study consisted of an iteration of two successive questionnaires. The method has been modified - regularly applied - by not facilitating participants with information about rankings from the first round; this has been decided to support private decision making as much as possible (cf. Jünger, Payne, Brine, Radbruch, & Brearley, 2017).

Second, a focus group discussion was organized with a group of experts (different from the Delphi study) to elaborate and clarify some of the results of the Delphi study. Exchanging experiences, reflections and thoughts in the focus group discussion was expected to add extra perspectives to the Delphi results in a way of 'controlled opinion feedback' (Hsu & Sandford, 2007; Krueger & Casey, 2009; Skulmoski, Hartman, & Krahn, 2007; Turoff, 1970). Both research techniques were intended to collect information from practitioners as well as to assess (the degree of) consensus on relevant topics (Gibbs, 1997; Hsu & Sandfort, 2007).

Participants

Respondents in both studies were selected by convenience sampling (Etikan, Musa, & Alkassim, 2016). Included were experienced art therapists (BA) and professional referrers from ten different provinces in the Netherlands. Participants joined this study for different reasons. Some offered to join the research by themselves, others were asked to join by other participants or colleagues. In this study 'experienced' is defined as: art therapists who have been treating ASD children aged 6 to 12 years for at least five years. Art therapists were invited by e-mail to participate and they were asked to invite a referrer to join the research. Anonymity of participation was guaranteed in this e-mail invitation. Art therapists and referrers were allowed to work with children with autism with all levels of intellectual ability.

In the Delphi study 19 art therapists with 6 to 30 years work experience and 13 referrers participated. Referrers were psychiatrists (n=2), psychologists (n=7) and individual special education teachers (n=4). One referrer collaborated with an art therapist for only one year and another referrer for two years. The other 11 of the 13 referrers had 3 to 19 years

experience in collaborating with art therapists and referring children with autism to AT. Art therapists and referrers worked in the same (umbrella) organizations (see Table 1).

Table 1. Overview of participants in Delphi study (N=32)

Type of organization to which participants are affiliated	Number of participating art therapists N	Experience with children with ASD ^a in years M (range)	Number of participating referrers N	Years of collaboration between referrer and art therapist M (range)
Institute for child and youth psychology/psychiatry	9	17.2 (9-30)	5	7 (3-10)
Institute for children, youth and adults with (mental) retardation	1	17 (na) ^b	1	8 (na)
School (for special needs education)	4	16.7 (8-32)	6	14 (10-18)
Private practice	3	14.5 (10-20)	-	-
Institute specialized in treatment of children with ASD ^a	2	8 (6-10)	1	6.5 (3-10)
Total	19	15.1 (6-32)	13	8.9 (3-10)

^a ASD = Autism Spectrum Disorder; ^b na = not applicable

To participate in the focus group study seven experts were invited who had experiences in working with ASD children from six years to life long. To improve reliability of the results different art therapists were invited than those of the Delphi study. Two of the participants in the focus group did not have the profession of an art therapist. One participant was a psychologist specialized in ASD and the other was a specialized social worker who was also the mother of an ASD diagnosed son. All participants worked with children with all variations in autism in different institutions (see Table 2).

Table 2. Overview of participants in focus group (N=7)

Type of organization to which participants are connected	Number of participating art therapists	Number of participating psychologists	Number of participating (parents of) clients	Experience with children with ASD ^a in years
	N	N	N	M (range)
Institute for child and youth psychology/psychiatry	2	1	1	26.8 (15-30)
Private practice	1	-	-	30 (na) ^b
Institute specialized in treatment of children with ASD	2	-	-	8 (6-10)
Total	5	1	1	21,9 (6-50)

^a ASD = Autism Spectrum Disorder; ^b na = not applicable

Procedure

Participants were consulted between December 2014 and April 2016. For the Delphi study a questionnaire has been developed with typical AT statements (items) based on the core categories of the COAT model. The statements refer to those aspects of AT that are assumed to characterize the treatment of children with ASD. As an illustrative example of the A-category: "At the start of the treatment the child has restricted interests for specific art materials."

For the present study extra items were added to the items related to the COAT categories with the aim to collect the respondents' views regarding the starting point for treatment, i.e. the diagnosis, the specific problems of the child, and the reasons for referral (Schweizer, 2016; Schweizer et al., 2014).

Two versions of the questionnaire were used: a version for art therapists containing 78 items and one for the referrers with 30 items. The items about art therapeutic methods (A-category) and art therapeutic behavior (T-category) were not presented to the referrers. The participants were invited to evaluate each item in three ways. First, they were asked to rate the relevance of each item for AT with children diagnosed ASD on a scale from 0 (not relevant at all) to 10 (highly relevant). Second, they had to rate each item, using the same scale, concerning the applicability in AT practice. Third, the participants were allowed to add qualitative comments on each item in case of unclear descriptions.

The Delphi study was performed in two rounds. The first round resulted in a preliminary consensus item list based on the amount of (dis)agreement between the participants and on the added qualitative comments. In the second round the revised questionnaire was sent to the same participants for the same rating procedure as in the first round.

After the Delphi study the resulting list of typical AT elements in the treatment of ASD children was subject to a focus group discussion. This four hours lasting meeting (including coffee break) was organized with the aim to further explore items that remained questionable and needed further explanation. To enable preparation of the participants, a document with an explanation of the purpose of the meeting and information about the topics was sent to the participants one week before the meeting.

Analysis

The degree of agreement in the Delphi study was computed with the Gower coefficient (Gower, 1971). Sufficient agreement between the participants about each single item was defined as having an average score equal or larger than 8 (very relevant or useful), and a Gower coefficient larger than 0.8. The latter cut-off level was based on usual criteria for interrater reliability (Busschers, Boendermaker, & Dinkgreve, 2016; Evers, Lucassen, Meijer, & Sijtsma, 2010). Similarities and differences between identical single items of art therapists and referrers were analyzed employing an independent Student's T-test.

The recorded conversation from the focus group discussion was verbatim typed. The text was coded by two independent researchers by using content analysis (Mayring, 2000). Decisions for determining concepts were based on rules for constant comparison (Glaser, 1965). After 'incidents' (relevant text parts) had been identified and coded, they were compared with each other. After that the codes were integrated into categories. The codes were compared with the focus group items. Next the codes and categories were compared and discussed with those from a trained art therapy student. After that the codes and categories were reported to the focus group participants with a request for feedback. After a second request for feedback the researcher did not receive suggestions anymore.

Results

Based on the criteria of agreement the Delphi questionnaire for art therapists was reduced from 78 to 46 items in the second round. From the list for referrers 5 out of 30 items were excluded. The hypothesis was not confirmed that there is no difference between the two groups of professionals in terms of valuation (between the sum scores) of those 25 items. Art therapists (n=19) valued items significantly more positively (more relevant, more applicable) compared to referrers (n=9) ($t = 4.54$; $p < .001$).

Table 3 shows the outcomes of the second round in the Delphi study. The Parts I, II, III, IV and V in Table 3 consist of 'the child's problems' (when referred to AT) and the four COAT categories. Respondents were asked to score from 0 (not relevant / applicable) to 10 (fully relevant / applicable). Selected in the Tables were average scores from 8 up to 10 and agreed scores from 0,8 up to 0,1. The decision about agreed scores means 80% of consensus between respondents, which is valued as 'good' (Busschers et al, 2015; Evers et al 2010). The columns at the right side of the tables are showing the amount of agreement and the amount of consensus concerning 'relevance' and 'applicability' of each item.

Table 3. Results of the Delphi study regarding assessment and treatment elements that are relevant and applicable in art therapy with children with autism spectrum disorders (second round, N = 28).

I Child with autism	Relevant; Average	Relevant; Agreed	Applicable; Average	Applicable; Agreed
1. An official diagnosis is not needed because focus of art therapy is on behavior of the child.	8	0.88	8.1	0.81
2. Children with autism at all levels of physical and intellectual levels can profit from art therapy; this has consequences for verbal psycho-education and reflections.	8.1	0.86	8.2	0.86
3. The child has problems at home and in school with flexibility.	8.2	0.89	8.8	0.93
4. The child has problems at home and in school with expressing him/herself and with communicative behavior.	8.7	0.94	8.7	0.94
5. The child has problems at home and in school with his/her self-image and has often a negative self-image.	8.6	0.86	8.6	0.92
6. The child has problems at home and in school with emotion regulation.	8.3	0.87	8.6	0.88
II Art means and forms of expression				
7. Observing and mapping behavior and expressions in problem areas: flexibility, social communicative behavior, self-image.	9	0.88	8.7	0.84
8. To become familiar with the art materials, environment and art therapist.	8.4	0.88	8.7	0.84
9. At the start of the treatment the child is tense about unexpected situations.	8.1	0.85	8.6	0.84

10. At the start of the treatment the child has restricted interests for specific art materials.	8	0.88	8.3	0.85
11. At the start of the treatment the child has difficulties to talk about problems during art making.	8.4	0.86	8.3	0.85
12. At the start of the treatment the child has difficulties to talk about positive experiences during the art work.	8.1	0.87	8.3	0.87
13. The child talks about positive experiences during art making, in relation to his/her verbal and reflective abilities.	8.3	0.80	8.4	0.83
14. The child talks about difficult experiences during art making, in relation to his/her verbal and reflective abilities.	8.1	0.87	8.1	0.85
15. The child prefers to work result-oriented during art making.	8.3	0.85	8	0.84
16. The child learns to accept help from the art therapist and to ask for it when needed during art making.	8.5	0.82	8.4	0.80
17. At the end of the treatment the child is more open to work with a greater variation of art materials.	8.6	0.82	8.2	0.86
18. At the end of the treatment the child has more skills and is more familiar with an increased amount of techniques to work with art materials.	8.5	0.80	8.3	0.86
19. At the end of the treatment there are more moments of shared attention with the art therapist during art making.	8.3	0.80	8.4	0.82
20. At the end of the treatment there are more moments of exchange between the child and the art therapist and the artwork.	8.1	0.81	8.3	0.84
21. At the end of the treatment the child enjoys more the therapeutic relationship.	8	0.82	8.2	0.84
22. At the end of the treatment the child is more aware of his/her own skills in working with art materials and techniques.	8.3	0.83	8.3	0.85
23. At the end of the treatment the child is more aware of his/her own contribution in disappointing experiences.	8	0.80	8	0.80
III Art therapist's behavior				
24. During the first treatment phase the art therapist talks with the child about the reasons why s/he comes to art therapy, depending on the verbal and reflective skills of the child.	8.6	0.91	8.6	0.91
25. The art therapist has an active attitude offering and supporting contact, follows the child's choices, mirrors body language and themes to support the child, makes the child feel safe, invites him/her to personal art expressions and observes preferences and resistances in working with art materials.	9.6	0.82	9.4	0.83
26. The art therapist shifts between a non-directive and following attitude with a directive and structuring attitude due to the child's needs to express him/herself with art making.	9.3	0.98	9.3	0.90
27. The art therapist offers opportunities to exchange experiences during art making.	9.3	0.88	9.3	0.84
28. The art therapist supports the child to focus attention to the art making.	9.2	0.85	8.6	0.86
29. The art therapist stimulates varied tactile and visual experiences by the child.	9.1	0.85	9.1	0.87
30. The art therapist invites the child to make eye contact during art making, depending on the ability of the child to bear this.	8.7	0.94	8.9	0.94
31. The art therapist stimulates the child to follow directions; this is not self-evident.	8.6	0.91	8.6	0.92
32. The art therapist stimulates reciprocity during art making and working together.	8.6	0.84	8.7	0.82
IV Context: indications, treatment goals, family & school support, art therapy room				
33. Indication: art therapy may help the child to improve emotion	8.6	0.93	8.2	0.93

regulation, to become more relaxed, to develop confidence in own skills, and to become less easily frustrated and scared.				
34. Indication: art therapy may help the child to improve to express him/herself.	8.5	0.89	8.7	0.90
35. Indication: art making together with the art therapist and/or other children may support the improvement of social skills.	8.5	0.85	8.9	0.85
36. Indication: art making is like a mirror for the child and improve his/her self-awareness.	8.3	0.88	8.5	0.90
37. Indication: art therapy is contraindicated if the child becomes more scared and restless when working with art materials.	8	0.84	8.1	0.84
38. Goal: Gaining successful experiences to improve self-esteem, self-confidence, inner rest, and mood.	8.5	0.93	8.4	0.92
39. Goal: Handling and expressing feelings, emotions, and thoughts.	8.5	0.85	8.4	0.89
40. Goal: Acceptance of (autism related) problems.	8.4	0.87	8.4	0.87
41. Goal: Development of planning and organizing skills (executive functioning).	8.3	0.88	8.4	0.87
42. Goal: Handling oversensitivity and develop differentiation.	8	0.80	8	0.87
43. Art therapist goes in consultation with parents, carers and teachers to attune how to support the child to improve development of other behavior.	8.5	0.90	8.4	0.88
44. Art therapy room contains a wide collection of art materials and techniques to be able to offer sensitive variations of new experiences.	9.1	0.84	9	0.87
V Outcomes				
45. Art therapy facilitates successful experiences to improve self-image, mood and inner rest.	9.2	0.84	8.9	0.82
46. Art therapy improves handling and expression of emotions, feelings and thoughts.	8.8	0.87	8.6	0.87

Typical AT features for ASD children

In table 3 only those items satisfying the agreement criteria are displayed.

Part I contains items about the problems of the child with autism in AT. According to the referrers as well as the art therapists, the statement about using DSM-diagnoses in AT practice did not reach agreement. Instead, it was commented that the (behavioral) problems of the child must be the main focus in AT, not the classification. Also in the school situation children are not often diagnosed when referred to AT. Another added commentary of respondents was that ASD children with all intelligence levels can profit from AT although the capacity to talk about and to reflect upon their functioning varies.

Part II (COAT) primarily offers an overview of forms of expressions in art making and related behavior of the child. The consensus based items concern varied topics: visual and sensory experiences through handling art materials, dealing with unexpected situations during art making, and cooperation and sharing experiences with the art therapist during art making. An item about standardizing the art activities offered in the first three sessions did not reach a sufficient level of agreement. Some art therapists preferred to follow

preferences for art activities of the child. Others preferred to offer their own standard art activities, which were varied.

Part III (COAT) covers the art therapists' behavior, and includes an active attitude offering and supporting contact with the child by mirroring with body language, art materials, themes, making the child feel safe, and inviting the child to varied sensory experiences and personal art expressions. An important aspect of the therapists' behavior considered by the participants is shifting between a nondirective, following attitude and a more directive, structuring attitude dependent on the child's needs to express him/herself with art making. Making contact by art making is prominent during treatment. The therapist also talks with the child, specifically about the aims of AT. Stimulating, supporting and inviting the child could be initiated both verbally and nonverbally. Other important relational aspects during therapy according to the participants are carefully stimulating eye contact and reciprocity, creating a mode of 'working together', and stimulating the child to ask for help when needed. All items about the therapists' behavior reached the acceptable level of consensus.

Part IV (COAT) shows different kinds of contextual elements for AT with children diagnosed with ASD. Firstly, indications and treatment goals are shown, thereby addressing the development of the child's self-image, flexibility, emotion regulation and social behavior. Secondly, requirements are indicated such as opportunities for consultation with parents, teachers and/or other carers, and the availability of an adequate space for working with the child. One of the items that did not reach a sufficient level of agreement was about parents and the child making art in art therapy together, with the aim to stimulate joint attention and interaction.

Part V (COAT) focuses on outcomes of AT with children diagnosed with ASD. A majority of outcome descriptions in the original item list did not meet the inclusion criteria. The participants had consensus about the notion that successful experiences in art therapy improve self-image, mood and inner calm as well as improvement in the expression of emotions, feelings and thoughts for a child with ASD. Two of the items in Part V did not reach a sufficient level of agreement. The first one was about improvement of flexibility of the child diagnosed ASD. Referrers doubted if this could be an outcome of art therapy in contrast with art therapists who agreed sufficiently that improvement of flexibility was one

of the outcomes of AT aimed for. The other item with too little agreement concerned improvement of learning skills as an important outcome.

Focus group additions

To enable the use of the Delphi results as building blocks for further studies on the characteristics and effectiveness of AT some items were further explored in the focus group session. Selection of the topics was made upon the overlap and differences in results from the Delphi study (see table 3). This concerns items in the art therapy means and expressions section (Part II, COAT) and in the therapist's section (Part III, COAT), and the outcomes section (Part V, COAT). Comparison of these three Parts in table 3 raised questions by the researcher about the improvement of self-image, flexibility and expressive behavior during art making. The concept of 'Self-image' raised questions because of different concepts: a 'Negative self-image' was mentioned (item 5) and 'Self-awareness' (item 36), 'Self-esteem' and 'Self-confidence' (item 38). The concept 'Flexibility' was mentioned as a problem (item 3) but not found in other Parts of Table 3. And 'Handling of emotions, feelings, thoughts' is mentioned as a result, but not in the art therapist's Part III and Art expressions Part II. Discussing these questions in the focus group and analysing the results, the following explanatory notes could be added to understand the mentioned inconsistencies of the Delphi results.

1a. Regarding: *Development of self-image, mood and inner calm because of successful experiences*. In AT it is observed that children diagnosed with ASD are mainly not automatically aware of their own moods, tensions, experiences and actions. The focus group members stressed the importance for the child with autism to become aware of experiences during art making (acting and feeling), because these children often have a poor sense of self and sometimes difficulties in the thinking how (s)he relates to the art making. This sense of self is supposed to be more than just self-image. An art therapist contributed in the discussion with the following statement: *"An 'I feeling' starts with tactile and emotional experiences. It is about your own experiences and not about another person's experiences about you."*

1b. A shared opinion emerged during the focus group discussion that *self-perception, self-confidence, and self-insight* are successive developmental steps in AT contributing to an improvement of *sense of self*. A way to develop sense of self is by improving technical skills.

For example, in the Art Studio of one of the focus group members children learn step by step painting techniques. The two final instructions by the therapist are to make (1) a self-portrait and (2) a portrait of their favorite stuffed animal. *“No need to mention how proud and happy children are to show such results”*, as was said by this participant. The art work created by the child was considered to be important as a tool for experiences of success and as a medium to learn to talk about positive and negative experiences.

2. Regarding: *Flexibility and varied experiences in art making*. Although this item was not mentioned in the outcomes part in table 3, the focus group participants mentioned that a major part of the AT process with these children consists of finding and stimulating (small) changes in preoccupied or obsessive behaviors. It was argued that this may happen in a process of attunement to art material by offering sensory experiences with paint (as an example); or a moment of change may emerge by focusing on a preferred theme; or going along with a fantasy of the child in a separate ‘own world’. To stimulate the child to various sensory or fantasy experiences, the art therapist should carefully invite the child to make small achievable steps regarding the moving, touching and handling of art materials, including the selection of art materials to be worked with. One art therapist told: *“I was working with a boy who only wanted to draw electricity poles. After some sessions, when we became more used to each other, he became more open to other art materials and subjects. But when something difficult had happened in the classroom or at home, he used to ask for a huge piece of paper. He drew a huge electricity pole and after this was done he said: ‘So, what are we going to do today?’ From obsessive behavior it changed into a way to reduce stress.”*

3. Regarding: *Development of expressive behavior and improving regulation of emotions*. In the focus group it was noticed that sometimes the child does express his/her own emotions or stress in the art work itself, and this could be supported by the art therapist. The art therapist might support the child to express fantasies by proposing possible materials and technical solutions. For example: *“A boy diagnosed with ASD was referred to AT because of his (uncontrolled) anger outbursts. I proposed that he should become a volcanologist. During several weeks and in varied ways we researched stages before and during a volcano outburst. For example, we used coca cola in a bottle, made drawings from what happened under the surface. This boy was able to connect the outburst stadia from the volcano with his own behavior and we talked about it.”*

The art therapist helped the child to create several images of volcanos with art materials. During several sessions, the child developed awareness and control of emotions (table 3, part V, outcomes). This then was a visible and touchable experience with many possibilities for talking about problem behavior. During such a process the art therapist attunes to and mirrors body language and art expressions to connect with the child. This is the way in which moments of shared attention and exchange can be developed in the triangular relationship between child, art, and art therapist.

Discussion

Clinical opinions of experts (second round: 9 referrers, 19 experienced art therapists) have been collected in a Delphi study to reflect on the general research question of this research: To what extent are art therapeutical elements, categorized by the COAT framework, relevant and applicable in AT daily practice with children with ASD? To further tailor the findings of the Delphi study expert opinions of seven members of a focus group were collected. The participants in the Delphi study had consensus about 46 typical elements that, according to them, define AT with children diagnosed ASD.

The results of our study reflect consensus about treatment conditions for AT to meet the problematic behaviors of children diagnosed ASD. The findings confirm specific characteristics of AT. Outcomes have been defined with respect to what the child has to develop or learn. An art therapeutic intervention facilitates successful experiences for ASD children and is considered to contribute to improvement of sense of self, mood and inner calm. Also art therapy with ASD children is assumed to offer opportunities to improve the handling and expression of emotions, feelings and thoughts (table 3, Part V). These consensus-based elements, organized in the COAT model, can be used as building blocks for a treatment model that can be used for further investigating the effectiveness of AT (Van Yperen, Van der Steege, Addink, & Boendermaker, 2010).

The relevance of this study is reflected by a broad spectrum of treatment possibilities of AT for the child with ASD. Sense of self problems, social communicative problems, flexibility problems and emotion regulation problems are all known goals of AT treatment. These concepts have been explored and each of them needs further explorations in practice and literature. For instance, it is unknown how these problem behaviors interrelate with

each other. Children with ASD have heterogeneous profiles; some show mild difficulties, some severe difficulties (Fein, 2011; Feinstein, 2010). This may be associated with differences in how problems appear and co-morbidities of children with autism (Gillberg & Fernell, 2014; Fein, 2011; Feinstein, 2010; Waterhouse & Gillberg, 2014). In accordance with the concept of personalized care, the broadly oriented AT approach may focus on various aspects of the child's behavior at the same time, but also on specific behavioral problems of the child.

The individually oriented approach of ASD related problems in AT is supported by a typical result of the Delphi study: both referrers and art therapists agree that the ASD-diagnosis is not decisive for the type of AT treatment to be offered. Instead, the specific (problematic) behavior of the child should be leading. Nevertheless, the recently introduced DSM-5 criteria for persons with ASD have close resemblance with the consensus-based AT elements, especially the treatment goals. Indeed, persons diagnosed with ASD tend to have social and communication problems such as misinterpreting verbal and nonverbal interactions. Also, persons with ASD often are committed to certain habits and behaviors, and may respond in a highly sensitive way to changes in their environment (American Psychiatric Association, 2013; Fein, 2011). Furthermore, problems in executive functioning are described as one of the main areas. These concern (difficulties in) processes such as working memory, planning skills, attention, inhibition, cognitive flexibility, and self-monitoring (Rozga, Anderson, & Robins, 2011). These are all skills that direct the treatment goals in an AT programme.

The results of the Delphi study about the core components as organized by the COAT model can also be understood in the light of the operation of intervention factors. A specific or typical factor in AT treatments for ASD children which was taken into account is 'art means and expressions' (COAT, Part II in table 3). Working with art materials (COAT) involves a focus on sensory experiences and personal expressions, which might stimulate a better integration of cognitive, sensoric and kinesthetic experiences as well as the behavioral changes of the child (Bergs-Lusebrink, 2013; Case & Dalley, 1990; Gilroy, 2006; Hinz, 2009; Malchiodi, 2003).

A new understanding of the concept self-image from the Delphi study (table 3: items 5,7,38,45) came as a result from the focus group discussion. The focus group experts agreed that children diagnosed with ASD often have problems with self-consciousness and self-

image and in AT the first focus is development of self-perception. In music and dance therapy with children diagnosed with ASD, Stern's theory about development of a sense of self is described with the stages of an emergent sense of self, a core sense of self and a verbal sense of self (Stern, 1985, 2006; Trevarthen, 1998; Trevarthen & Hubley, 1978). In the theoretical frame of a test for measuring self-esteem the concepts are described as: self-perception, self-image, self-concept and self-esteem (Veerman, Straathof, Treffers, Van den Bergh, & Ten Brink, 1997). These results from the focus group study have added new insights regarding the COAT model. The term self-esteem has been changed into sense of self, which seems more appropriate as an umbrella concept for descriptions of behaviors in effect studies.

General factors influencing AT outcomes are 'therapists' behavior' (COAT, Part III in table 3) and 'context of the treatment' (COAT, Part IV table 3). In his/her behavior the art therapist is continuously adjusting to clients' needs and expectations (Hermanns & Menger, 2009; Van Yperen et al., 2010). In order to monitor the therapeutic alliance, continued investigation of the elements in part III of table 3 is recommended. Also in the context there are influential aspects of the child such as treatment motivation, hope and expectations and the possibility to change or mitigate problems in the environment (Liber et al, 2007; Van Yperen et al., 2010). In further studies attention must also be paid to general contextual factors, such as changes in the school (for example, a new teacher) or at home (for example, moving to a new house where the child has a room for his/her own).

One finding of this study partly conflicts with findings in our earlier study based on theoretical evidence (Schweizer et al., 2014). It concerns an element in the category 'art therapists' behavior' (COAT, Part III) in the Delphi study, namely 'attunement to client's behavior'. It was excluded from the list. Nevertheless, attunement is an important item in literature concerning the treatment of developmental problems (Stern, 1985; 2006; Trevarthen, 1998; Trevarthen & Hubley, 1978), and is a central element in adjacent treatment modalities like dance therapy and music therapy (Poismans, 2009; Samaritter & Payne, 2013). It may well be that the participants in our study excluded this item, mainly because it was too general, and supporting items that describe more specific how this attunement is practiced (e.g., item 25: The art therapist has an active attitude offering and supporting contact, follows the child's choices, mirrors body language and themes to

support the child, makes the child feel safe, invites him/her to personal art expressions and observes preferences and resistances in working with art materials.).

Another remarkable result is a lack of consensus in the category 'context', namely on 'duration and frequency of treatment' (COAT, Part IV). Added comments of respondents referred to the actual situation of governmental limitations of budgets; often only ten sessions are funded. Twenty weekly sessions often seem to be necessary but not feasible according to our respondents. ASD children tend to develop slowly; a treatment of 40 weeks actually was described as most desirable.

Comparison of results between referrers and art therapists showed a more appreciative image of AT coming from the art therapists. Although no conclusions can be drawn due to the small amount of participants, this raises questions such as: Do art therapists have a more optimistic view of what happens in AT, and is this why they have higher expectations of the results achieved? A positive attitude of professionals contributes to positive social and vocational outcomes (Byrne, Sullivan & Elsom, 2006; Cleary, Horsfall, O'Hara-Aarons & Hunt, 2012).

Strengths and limitations

There is no unambiguous description available on how to conduct a Delphi study (Humphrey-Murto et al., 2017; Jünger et al, 2017). To decrease bias as much as possible by working with experts to develop consensus about AT elements, also other professionals than AT therapists were collaborating in this study: referrers (psychiatrists, psychologists, special education teachers) were involved in the two Delphi rounds. Diversity of informants has been further strengthened by selecting different experts for the Delphi study and focus group. In the focus group also a mother of a child with ASD and a psychologist who is an ASD researcher were involved.

A limitation of our study is that bias about interpreting relevance and applicability of AT elements may have been introduced by the convenience sampling of experts. The 'accessibility' of a broader group of participants was restricted because they were invited by e-mail and there is no complete overview of experienced art therapists and their location (including the work setting) in our country.

Future research

Further research should focus on these elements that are very specific for AT. Investigations of AT practices as well as into the literature about the larger body of ASD evidence is needed

to improve further specification and legitimization of the outcome measures concerning sense of self, emotion regulation, flexibility and social behavior. The practice-based evidence this study generated concerning the core concepts of the COAT model, can be used as a guide to develop AT treatment schemes and evaluation scales regarding AT for children with ASD and their families. To measure the effects of AT including the therapeutic processes, observation scales on the child's and therapists' behavior during AT are desirable. Such instruments can be helpful in evaluating AT treatment with children with autism, and also in monitoring treatment integrity and in connecting process and outcome data (Goense, 2016; Van Yperen, Veerman, & Bijl, 2017).

Conclusion

This study reports how consensus on 46 items of art therapy with children diagnosed with ASD has been achieved by a Delphi study among 28 participants. The items are concerning the problems why a child is being referred to art therapy, the art expressions of the child, the handling of the art therapist, aspects of the context during treatment, and the treatment outcomes. A deeper insight into the results was gained with a focus group discussion.

Implications for practice and policy

An art therapeutic intervention facilitates successful experiences for ASD children and is considered to contribute to improvement of sense of self, mood and inner calm. Also this treatment is assumed to offer opportunities to improve the handling and expression of emotions, feelings and thoughts, improvement of flexible behavior and stimulating shared attention and communication skills. The results from this study can be used as building blocks for a treatment model that defines what AT typically offers. This provides clients and policy makers with a clearer picture about AT for children diagnosed with ASD.

Evaluating art therapeutic processes with children diagnosed with Autism Spectrum Disorders: Development and testing of two observation instruments for evaluating children's and therapists' behaviour

Based on:

Schweizer, C., Knorth, E. J., Van Yperen, T. A., & Spreen, M. (2019b). Evaluating art therapy processes with children diagnosed with Autism Spectrum Disorders: Development and testing of two observation instruments for evaluating children's and therapists' behaviour. *The Arts in Psychotherapy*, 66, 1-9. doi:10.1016/j.aip.2019.101578

Abstract

Two instruments were developed and examined to enable treatment evaluation for art therapy (AT) with children diagnosed with Autism Spectrum Disorders (ASD). One instrument is the OAT-A (Observation in Art Therapy with a child diagnosed ASD), the other the EAT-A (Evaluation of actions of the Art Therapist during treatment of a child diagnosed ASD). Both scales were refined in a three round procedure. In each round raters (art therapists and students) observed and coded four videos of different AT sessions. For each round interrater reliability was tested and when necessary items were revised. In each round the first video was used for training purposes only. Both instruments showed in the third round an acceptable level of intercoder agreement. Using the OAT-A and EAT-E in clinical research requires extensive training of raters who preferably work in pairs, thereby enabling comparison of their assessments. It is concluded that important steps have been taken to enable systematic evaluation of art therapy with children diagnosed ASD including the actions of the art therapist.

Keywords: art therapy; evaluation instrument; Autism Spectrum Disorders; children; interrater reliability

Introduction

Children diagnosed with Autism Spectrum Disorders (ASD) are often referred to art therapy (AT) (Elkins & Deaver, 2013; Schweizer, 2016). Although frequently applied in practice, there is very little empirical evidence about this treatment and its results. Observational instruments may improve knowledge about the effects of AT on children diagnosed with ASD. In this study we describe the development and interrater reliability of two instruments: the OAT-A (Observation in Art Therapy with a child diagnosed ASD), and the EAT-A (Evaluation of actions of the Art Therapist during treatment of a child diagnosed ASD).

In AT the process of art making is assumed to offer experiences that positively influence the needs and expressive behaviours of children with developmental disorders. Children diagnosed ASD are expected to develop more creativity, skills, coping strategies, and expressions as well as recognition and representation of affect as a result of AT. Also, repetitive and restricted behaviours and sensory challenges might be influenced by the usage of art materials and creative processes (Ferris Richardson, 2016; Kramer, 1993; Martin, 2009; Van Lith, Stallings, & Harris, 2017).

In AT the triangular relationship between client, art means, and art therapist is supposed to have specific value compared to the dual relationship between therapist and client in psychotherapy (Heijnen, Roest, Willemars, & Van Hooren, 2017; Schweizer, de Bruin, Haeyen, Henskens, Rutten-Saris, & Visser, 2009). The collaboration between the client and the therapist offers many opportunities for communication during the art making process. However, as far as the authors know, there has been no clarity about the treatment results from the triangular situation of the art therapist working with art means in AT with a child diagnosed ASD.

There are some assessment instruments available which are used in AT for diagnostic purposes such as the 'Draw a Person Picking an Apple from a Tree' method (PPAT), sometimes combined with the Formal Elements Art Therapy Scale (FEATS) (Gantt, 2016; Gantt & Tabone, 2003). Another test that is often used in AT is the Diagnostic Drawings Series (DDS) (Cohen & Mills, 2016). However, these assessments are not specific for children with ASD. Further the Face Stimulus Assessment (FSA) (Betts, 2003) is typically used for assessment of psychosocial development, cognitive and perceptual skills, and neurological functioning of people with communication problems. All mentioned instruments used in AT

are mainly aimed at analysing the art product, for example by interpreting the use of colour, shape and symbols. Betts (2006, 2016) described the use of art-based instruments as questionable, primarily due to problems of validity and reliability. She advised to develop instruments combining the rating of behaviour of the client with the art making process (Betts, 2016).

In conclusion, currently instruments are lacking to rate the behaviour of the child diagnosed ASD during art making in AT and to monitor the actions of the art therapist. If available this type of instruments could be used for treatment evaluation to check if there is any progress in the problem behaviour areas of the child and to monitor the therapeutic behaviour, for instance to check treatment integrity.

A rating system is a way to monitor behavioural changes of children in AT and, moreover, it might be helpful in steering the treatment process (Stemler, 2004). An instrument that monitors what art therapists actually do during treatment will help to evaluate the professional skills of the art therapist. This also may shed a light on therapeutic integrity by evaluating if the art therapist is delivering those treatment components that are intended to be provided (Goense, Assink, Stams, Boendermaker, & Hoeve, 2016).

Previous steps for the development of rating instruments to monitor AT were described in a Delphi study (Schweizer, Knorth, Van Yperen, & Spreen, 2019a). In that study consensus has been determined about the relevance and applicability of 46 elements typical of art therapy with children diagnosed ASD. ‘Elements’ are defined as identified self-standing parts of a treatment that contribute to the treatment result (Spanjaard, Veerman, & Van Yperen, 2015). These consensus-based elements are related to the art making processes of children diagnosed with ASD and to the behaviour of the art therapists. Both ‘areas of defined typical elements’ are assumed to be crucial for achieving positive outcomes (Schweizer et al., 2019a; Goense et al., 2016; Van Lith, Stallings, & Harris, 2017; Van Yperen, Van der Steege, Addink, & Boendermaker, 2010). Consensus-based elements typical for AT with children diagnosed ASD can contribute to a ‘promising’ level of practice-based evidence (Van Yperen, Veerman, & Bijl, 2017).

The elements referred to up here need to be transformed into observable items as a next step to enable evaluation of AT-processes and -outcomes. In this line, and based on the

46 consensus-based elements mentioned above, two instruments have been developed to enable systematic treatment evaluation:

- a) An observation scale to monitor the child with autism during art making in art therapy (Observation in AT of a child diagnosed ASD: OAT-A);
- b) A (self)evaluation scale regarding the art therapist (Evaluation of actions of the Art Therapist during treatment of a child diagnosed ASD: EAT-A).

Method

The OAT-A and EAT-A have been developed and tested in a mixed methods design. Quantitative data were obtained by investigating the items of both instruments using the format of a 5-point Likert rating scale for monitoring the frequency of observed behaviour (1 = never observed; 5 = very frequently observed) and the visibility of behaviour (1= very unclear; 5 = very clear). Qualitative data consisted of spoken and written comments by the participants.

Participants

Participants (therapists and students, N=73) were included by convenience sampling (i.e. by using newsletters from professional organizations, Facebook, and mouth to mouth advertisement). Art therapists (n=48) were BA certified, according to the national standard for practicing the art therapy profession in the Netherlands (where this research was performed). In this group nearly all participants (n=44) were (very) experienced therapists working with children diagnosed ASD. AT students (n=25) were not required to have experience as an art therapist. They could be included when they had proven to be experienced in observation of clients' behaviour in an AT setting.

As described in the Procedure (see below) the study was performed in several rounds. In each round different groups were assembled with a maximum of ten participants to create opportunity for exchange of information and discussion (see Figure 1).

Instruments

Both scales consist of four subscales monitoring behavioural changes of the child that are expected to become visible respectively to be stimulated: sense of self, emotion regulation, flexibility, and social behaviour. These outcome measures have been identified as main treatment goals in three former studies (Schweizer et al., 2014, 2017, 2019a). Also, these behaviours are recognized as important problem areas of children with autism (American

Psychiatric Association, 2013; Hartman, Luteijn, Moorlag, De Bildt, & Minderaa, 2007; Huizinga & Smidts, 2012). The following definitions of the subscales can be given.

Sense of self. This concerns the awareness of children diagnosed ASD of their own experiences during art making (acting and feeling), and how these relate to the art making (Schweizer et al., 2019a). A 'sense of self' is described in Stern's theory (Stern, 1985), specifying the developmental steps that are assumed to represent the process of 'getting grip' on experiences related to oneself. This theory is often applied in AT as well as in music therapy and dance therapy with children diagnosed ASD (Evans & Dubovski, 2001; Poismans, 2009; Samaritter & Payne, 2013). Relevant adjacent concepts in this context are self-perception, self-image, and self-esteem as developmental steps (Keizer, Dijkerman, Van Elburg, Postma, & Smeets, 2015; Stern, 1985; Veerman, Straathof, Treffers, Van den Bergh, & Ten Brink, 2004). Self-perception is mainly based in neurological and unconscious processes which are connected to experiences during art making. Self-image is defined as the awareness of personal qualities, skills and competencies. Self-esteem refers to feelings of (dis)satisfaction related to skills and competencies.

This subscale has seven items in the OAT-A, which are related to the art making process. For example, item 1.2: "The child shows sensitivity when touching art materials". In the EAT-A the subscale *Stimulating sense of self*, has 11 items, for example item 1.4: "The art therapist stimulates the child to attune to art materials".

Emotion regulation. This concerns dealing with physiologic arousal and adjusting emotional responses to internal or external impulses. Children diagnosed ASD have difficulties in making connections between emotions and situations, are easily overwhelmed by impulses, and they normally need time to calm down (Konstantareas & Stewart, 2006). The subscale contains items about perception, expression and evaluation of arousal and emotions as well as adjustment to others and purposes to be reached.

This subscale has three items in the OAT-A. For example, item 2.1: "The child shows emotions, experiencing". In the EAT-A, the subscale *Supporting emotion regulation* has five items concerning supporting expression of arousal and emotions during art making, for example item 2.3: "The art therapist supports the child to express emotions in art work".

Flexibility. This is about problems the child has with changes in situations, subjects, a way of thinking, or behaving. Distinguished are cognitive flexibility (the ability to search for other possibilities to solve a problem) and flexible behaviour (the ability to adjust to a

changed situation) (American Psychiatric Association, 2013; Gioia, Isquith, Guy, & Kenworthy, 2010).

In the OAT-A this subscale consists of three items. For example, item 3.2: “The child uses varied art materials and/or techniques”. In the EAT-A the subscale *Stimulating flexibility* consists of three items, for example item 3.2: “The art therapist supports the child to learn new skills and techniques”.

Social behaviour. The art therapist stimulates the child to develop social behaviour by working together in different ways during art making. Children diagnosed with ASD work together with the art therapist in the triangular AT relation by learning new skills, having success experiences, working task oriented, step by step, and enjoying to make art together (Schweizer et al., 2017). Also, development of joint attention, enjoying to cooperate, learning to ask for help when needed, and learning to give words to experiences are assumed to contribute the development of social behaviour of children diagnosed ASD in AT.

This subscale has nine items in the OAT-A, for example item 4.3: “The child follows directions of the art therapist”. In the EAT-A, the subscale *Stimulating social behaviour* has five items, for example: “The art therapist stimulates sharing attention during art activities”.

Procedure

Both instruments were derived from the list with 46 consensus-based elements (Schweizer et al., 2019a) and transformed by rephrasing these elements into items describing observable behaviour. All elements that did not refer to observable behaviour (such as the equipment of the art therapy room) were removed. From items showing substantial overlap only one of these was kept in the list. Sometimes an element had to be reformulated in two statements to make it better observable. The four areas of outcomes (sense of self, emotion regulation, flexibility, social behaviour) were chosen to organize the items in subscales. The final 22 items of the OAT-A and 24 items of the EAT-A were the result of testing and refinements in a three rounds testing procedure.

To enable testing the *interrater reliability* of both instruments, four selected video fragments of AT sessions with children with ASD served to determine the level of interrater agreement regarding the OAT-A and EAT-A. The videos showed four different art therapists and children diagnosed ASD. The videos were made as research material for this study by art therapists in different organizations in the country after being invited by various calls (newsletters, mouth to mouth). The request was to make a video from AT-sessions with

children diagnosed ASD (age 6-12), regardless of the art therapeutic approach that was used. A statement of consent regarding the making and the use of a video for study goals was provided by the organizations where the children were treated. Final video fragments have been selected based on the following criteria (cf. Harinck & Hellendoorn, 1987):

- the fragments are recorded during AT-sessions in an AT-room with a child diagnosed ASD;
- the child and the art materials are clearly shown;
- the art therapist's handlings are clearly shown including his/her (nonverbal) interactions with the child;
- the fragments are covering different treatment phases: begin, middle, and end of AT;
- the fragments enable observers to rate all the items of both scales.

The videos were also selected by considering differences in age, gender and problem areas of the children with ASD. Children could have normal or high levels of intelligence. Table 1 gives an overview of the selected video fragments.

Table 1. Short descriptions of selected video fragments

Gender	Age	Reason for referral	Art activity	Art therapists' interventions	Session nr
Boy	6	Stimulating flexible behaviour, Stimulating new sensory experiences and skills.	Making dough from flour, salt and water	Step by step instructions Discovering connections of words to experiences	12
Boy	7	Development of planning skills, Reality testing; Working together; Listening to instructions (Social skills).	Making a car-ship from wood	Supporting to organize and shape ideas Checking if ideas and initiatives were realistic	4
Girl	6	Negative selfimage; Stimulate social behaviour; Emotion regulation.	Decorating a little wooden block with small coloured pieces of mosaic stones.	Supporting to have a success experience; Stimulating to make her own choices.	1
Girl	12	Bereavement problems (Emotion regulation).	A traditional technique to shape felt around a small stone	Exploring sensory experiences; Stimulating soft and tender feelings by touching wool; Stimulating powerful movement by strongly rubbing the felt; Offering psycho education	4

Figure 1 illustrates the procedure how the interrater reliability of the two instruments was assessed and enhanced. The first step was a pilot to explore if and how the procedure could work. In three succeeding rounds the participants were trained to interpret the items by watching four selected video fragments and scoring the items.

Figure 1. Procedure

Each round followed the same procedure. Video 1 was watched and the items were evaluated and judged in a training situation. During this training the scores of each participant were consecutively compared and discussed by item with all participants. The researcher noted spoken comments about both instruments. Also, participants were invited to write down in the score form their possible additional comments about the clearness of

the items. When the scores on an item were similar or nearly similar (difference of one point) this was interpreted as an indication of its clarity. In case of different interpretations or explanations, the procedure was to reflect on both the description and the interpretation of an item. If a participant realized to have scored differently from others it was possible to adapt the score. After this *interactive evaluation* during the training phase the video was watched again and the items in both instruments were scored again. Next the following three videos were observed and scored *without* exchange of considerations. This procedure was repeated in the second round.

The first two rounds were aimed to further improve and test the scales and to prepare a final measurement in the third round. During this third round no changes were needed anymore; items were esteemed clear enough according to the participants scoring the first video. Because of the time-consuming exercise video 4 could not always be watched and was skipped in round three.

Data analysis

Qualitative data were comments of and discussions by participants about recognizing and interpreting the items. The items were adapted following these comments and notes of the participants and following the notes regarding the discussions made by the main researcher (first author). It was decided that items were clear enough when no new comments were added. This level of saturation (Baarda et al., 201) was the case during the third round.

Interrater reliability has been computed in two ways: per item and per subscale. Because of the ordinal level of the scores (5-point Likert scale) for each video the degree of agreement between all pairs of raters was computed per item using quadratic weighted Kappas (κ_w)². κ_w may be influenced by a restriction of the range of scores, resulting in an inflated high or low value. For that reason also Gower indices (G)³ were computed to interpret values of κ_w for those items with a very high or very low absolute agreement.

² $\kappa < 0.40$ means poor; $0.40 \geq 0.60$ means moderate; $0.60 \geq 0.80$ means substantial; and > 0.80 means almost perfect (Cicchetti & Sparrow, 1981; Landis & Koch, 1977; Stemler, 2004).

³ To determine the degree of absolute or next to absolute agreement the Gower standards are: $G < .70$ means poor; $.70 - .79$ means moderate; $.80 - .89$ means good; $\geq .90$ means almost perfect (Stemler, 2004).

Results

Comments

Based on comments about descriptions and scores, the OAT-A was reduced and revised from 37 items in the first round to 22 items after the third round. The EAT-A was reduced and revised from 26 items in the first round to 24 items after the third round. A stimulating comment by professionals and AT students was that they evaluated both scales as “very helpful” in observing AT sessions with ASD children. Professionals recognized the items and mentioned that “they became more conscious” of their treatment approach. Also, it was mentioned that the professionals felt “relieved” that the items were very much like their own experiences and the scales “... gave them self-confidence”. Students mentioned that the items helped them to develop “more understanding” of the art therapy situation with a child diagnosed ASD.

An extended written explanation of each item in both scales was developed during discussions about the interpretations of items. Participants agreed that this explanation is needed to avoid misinterpretation of the items and to train understanding of application of the scales.

Duration of rating sessions decreased while participants got more used to the items: the first time in the first round it took approximately 30 minutes for participants to score both instruments; the last time in the third round it took approximately 15 minutes.

Interrater reliability

The scores on interrater reliability of OAT-A and EAT-A of the third round are presented below. In tables 2 and 3 the results are shown for the four subscales. The levels of agreement per subscale have been computed as means of the relevant item kw 's.

Table 2. Interrater reliability OAT-A. Results from three (third round) video observations of Art Therapists (AT) (N=29) and AT students (ST) (N=18) with individual weighted Kappas (K_w) and Gowers (G); subscale means and min. – max. range (* 100) of weighted Kappas.

1.	Sense of self Self-perception; Self-image; Self-esteem	Video 1				Video 2				Video 3			
		K_w		G		K_w		G		K_w		G	
		AT	ST	AT	ST	AT	ST	AT	ST	AT	ST	AT	ST
1.1	The child is <u>moving in a relaxed manner</u> in the art therapy room.	0,75	0,75	0,87	0,86	0,31	0,67	0,64	0,82	0,49	0,46	0,74	0,70
1.2	The child <u>shows sensitivity</u> when touching art materials.	0,47	0,61	0,73	0,78	0,46	0,63	0,72	0,79	0,33	0,38	0,65	0,65
1.3	The child is <u>connected with his/her</u> experiences during art making.	0,58	0,67	0,78	0,82	0,57	0,70	0,77	0,83	0,31	0,45	0,64	0,69
1.4	The child <u>directs his/her attention</u> to his/her own art work.	0,73	0,66	0,86	0,81	0,58	0,66	0,78	0,81	0,50	0,54	0,74	0,74
1.5	The child shows a <u>success experience</u> .	0,58	0,49	0,78	0,72	0,47	0,46	0,73	0,70	0,46	0,36	0,72	0,64
1.6	The child <u>shows awareness</u> of his/her behaviour during art making.	0,67	0,67	0,83	0,82	0,35	0,79	0,66	0,88	0,48	0,66	0,73	0,81
1.7	The child is <u>making connections</u> between experiences during art making and experiences in daily life.	0,62	0,67	0,80	0,82	0,45	0,60	0,71	0,78	0,29	0,44	0,63	0,69
	Subscale mean (min-max * 100)	0,62 (55-94)	0,65 (48-95)			0,46 (19-77)	0,64 (31-88)			0,45 (24-81)	0,47 (14-77)		
2.	Emotion regulation												
2.1	The child <u>shows emotions/experiencing</u> .	0,40	0,60	0,67	0,78	0,49	0,75	0,73	0,86	0,47	0,52	0,72	0,73
2.2	The child is <u>expressing emotions/experiences</u> in art materials/symbols.	0,55	0,68	0,77	0,82	0,57	0,60	0,78	0,78	0,11	0,58	0,54	0,77
2.3	The child <u>shows authenticity</u> in/during making his/her art work.	0,62	0,82	0,88	0,90	0,40	0,54	0,69	0,74	0,50	0,63	0,74	0,79
	Subscale mean (min-max * 100)	0,52 (13-97)	0,70 (16-98)			0,49 (03-92)	0,63 (14-98)			0,36 (22-98)	0,51 (08-97)		
3.	Flexibility												
3.1	The child <u>reacts with tense</u> to unexpected moments during art making.	0,68	0,52	0,84	0,73	0,38	0,55	0,68	0,75	0,59	0,59	0,79	0,77
3.2	The child <u>uses varied</u> art materials and/or techniques.	0,43	0,58	0,70	0,77	0,51	0,61	0,75	0,78	0,30	0,66	0,64	0,81
3.3	The child is <u>independently</u> making his/her artwork.	0,67	0,66	0,83	0,81	0,51	0,50	0,75	0,70	0,30	0,60	0,63	0,78
	Subscale mean (min-max * 100)	0,59 (19-98)	0,59 (17-98)			0,46 (11-96)	0,55 (07-97)			0,39 (15-97)	0,66 (13-98)		
4.	Social Working together												
4.1	The child is <u>mirroring body language</u> from the art therapist.	0,25	0,51	0,61	0,73	0,46	0,63	0,72	0,79	0,56	0,59	0,77	0,77
4.2	The child <u>shows enjoyment</u> during art making together with the art therapist.	0,57	0,52	0,77	0,73	0,40	0,60	0,69	0,78	0,40	0,42	0,69	0,68
4.3	The child <u>follows directions</u> of the art therapist.	0,71	0,66	0,85	0,81	0,64	0,79	0,81	0,88	0,64	0,60	0,81	0,78

4.4	The child <u>accepts help</u> from the art therapist.	0,65	0,63	0,82	0,79	0,52	0,57	0,75	0,76	0,56	0,60	0,77	0,78
5.5	The child <u>asks for help/agreement/advice</u> from the art therapist.	0,32	0,55	0,65	0,75	0,43	0,63	0,71	0,79	0,48	0,66	0,73	0,81
4.6	The child watches with <u>shared attention</u> to his/her art work together with the art therapist.	0,36	0,60	0,67	0,78	0,47	0,44	0,72	0,69	0,29	0,45	0,63	0,69
4.7	The child is making art work in <u>interaction</u> together with the art therapist.	0,50	0,35	0,74	0,63	0,27	0,46	0,62	0,70	0,32	0,38	0,65	0,65
4.8	The child is making art work in <u>reciprocity</u> together with the art therapist.	0,56	0,54	0,77	0,74	0,40	0,63	0,69	0,79	0,37	0,40	0,67	0,67
4.9	The child is <u>making eye contact</u> with the art therapist.	0,32	0,67	0,65	0,82	0,45	0,49	0,71	0,72	0,20	0,52	0,58	0,73
Subscale mean (min-max * 100)		0,47 (32-88)	0,56 (27-80)			0,45 (27-77)	0,58 (24-79)			0,47 (17-67)	0,50 (24-78)		

Table 3. Interrater reliability EAT-A. Results from three (third round) video observations of Art Therapists (AT) (N=29) and AT students (ST) (N=18) with individual weighted Kappas (Kw) and Gowers (G); subscale means, min. – max. range (* 100) weighted Kappas.

1.	Stimulating sense of self (self-perception; self-image; self-esteem)	Video 1				Video 2				Video 3			
		K _w		G		K _w		G		K _w		G	
		AT	ST	AT	ST	AT	ST	AT	ST	AT	ST	AT	ST
1.1	The art therapist supports <u>talking about the reason why</u> the child is coming to art therapy.	1,00	1,00	1,00	1,00	0,19	0,84	0,58	0,67	0,96	0,84	0,98	0,91
1.2	The art therapist supports verbally and nonverbally <u>starting up</u> the art therapeutic process.	0,83	0,76	0,91	0,87	0,79	0,63	0,89	0,75	0,81	0,76	0,90	0,87
1.3	The art therapist is <u>active in making contact</u> with the child.	0,86	1,00	0,92	1,00	0,81	0,76	0,90	0,84	0,96	0,79	0,98	0,88
1.4	The art therapist stimulates the child to <u>attune to art materials</u> .	0,75	0,76	0,87	0,87	0,83	0,66	0,91	0,35	0,45	0,46	0,71	0,70
1.5	The art therapist supports the child to <u>become aware of his/her experiences during art making</u> .	0,32	0,61	0,64	0,78	0,60	0,55	0,79	1,00	0,44	0,39	0,71	0,66
1.6	The art therapist supports the child to <u>work towards a result</u> (art product).	0,68	0,79	0,83	0,88	0,76	0,79	0,88	0,88	0,69	0,67	0,84	0,82
1.7	The art therapist <u>structures</u> the situation.	0,83	0,84	0,91	0,91	0,83	0,67	0,91	0,82	0,60	0,63	0,79	0,79
1.8	The art therapist invites the child (directive, structuring) to <u>return to the art work</u> when his/her attention is distracted. *	0,44	0,48	0,71	0,71	0,21	0,51	0,59	0,73	0,23	0,25	0,60	0,58
1.9	The art therapist <u>follows the child</u> when he/she is taking initiatives in art making.	0,51	0,50	0,74	0,72	0,16	0,19	0,57	0,54	0,41	0,40	0,70	0,67
1.10	The art therapist verbalizes <u>behaviour/experiences/emotions</u> of the child.	0,30	0,58	0,63	0,77	0,57	0,49	0,78	0,72	0,28	0,45	0,63	0,69

1.11	The art therapist <u>brings forward possible relations</u> between experiences during art making and situations in daily life.	0,55	0,54	0,77	0,74	0,48	0,19	0,73	0,54	0,15	0,19	0,56	0,49
Subscale mean (min-max * 100)		0,64 (51-89)	0,71 (57-97)			0,57 (27-73)	0,57 (44-86)			0,54 (30-76)	0,53 (24-74)		
2.	Supporting emotion regulation (stimulating expression)												
2.1	The art therapist stimulates the child to <u>develop his/her own preferences</u> in handwriting, colours, material, composition.	0,68	0,63	0,84	0,79	0,46	0,38	0,72	0,66	0,42	0,49	0,70	0,72
2.2	The art therapist stimulates the child to make art work about <u>personal themes</u> .	0,29	0,49	0,63	0,72	0,31	0,35	0,64	0,63	0,56	0,49	0,77	0,72
2.3	The art therapist stimulates the child to <u>express emotions</u> in art work.	0,76	0,63	0,88	0,79	0,33	0,46	0,65	0,70	0,59	0,43	0,78	0,68
2.4	The art therapist stimulates the child to <u>express experiences from daily life</u> in art making.	0,89	0,79	0,94	0,88	0,23	0,47	0,60	0,71	0,46	0,27	0,72	0,59
2.5	The art therapist stimulates the child to <u>give words to experiences</u> .	0,33	0,58	0,65	0,77	0,47	0,55	0,73	0,75	0,29	0,23	0,63	0,57
Subscale mean (min-max * 100)		0,59 (18-86)	0,62 (25-92)			0,36 (11-81)	0,44 (16-88)			0,46 (34-93)	0,38 (16-88)		
3.	Stimulating flexibility												
3.1	The art therapist invites the child to <u>make variations</u> in art materials, movements, image and talking.	0,35	0,58	0,66	0,77	0,35	0,66	0,75	0,86	0,30	0,60	0,64	0,78
3.2	The art therapist supports the child to <u>learn new skills and techniques</u> .	0,55	0,79	0,76	0,88	0,61	0,80	0,70	0,83	0,31	0,67	0,64	0,82
3.3	The art therapist supports the child when he/she <u>gives up when disappointed</u> about the art work.*	0,12	0,14	0,54	0,52	0,27	0,62	0,25	0,58	0,17	0,31	0,57	0,61
Subscale mean (min-max * 100)		0,34 (13-97)	0,50 (12-98)			0,41 (13-97)	0,69 (22-99)			0,26 (08-95)	0,52 (06-97)		
4.	Supporting social behaviour												
4.1	The art therapist supports <u>sharing attention</u> during art activities.	0,33	0,67	0,65	0,82	0,72	0,70	0,85	0,83	0,63	0,49	0,81	0,72
4.2	The art therapist supports moments of <u>exchange and reciprocity</u> during art making.	0,34	0,75	0,66	0,86	0,37	0,59	0,67	0,77	0,28	0,46	0,63	0,70
4.3	The art therapist supports the child to <u>follow directions</u> from the therapist.	0,69	0,84	0,84	0,91	0,71	0,75	0,85	0,86	0,54	0,31	0,76	0,61
4.4	The art therapist stimulates the child to <u>ask for support</u> in an adequate way.	0,63	0,35	0,81	0,63	0,41	0,15	0,70	0,52	0,44	0,60	0,71	0,78
4.5	The art therapist <u>makes eye contact</u> during instructions and art making.	0,45	1,00	0,71	1,00	0,48	0,76	0,73	0,87	0,50	0,82	0,74	0,90
Subscale mean (min-max * 100)		0,48 (41-95)	0,72 (57-97)			0,54 (28-91)	0,59 (06-81)			0,48 (21-80)	0,54 (32-91)		

Agreement on the four subscales of both instruments (sense of self, emotion regulation, flexibility, social behaviour) is mainly 'moderate' up to 'substantial', with some 'poor' exceptions. Agreement on the individual items of both instruments shows a variety from 'poorly reliable' up to 'almost perfect reliable'. The highest and lowest scores vary among the three videos and spread over all subscales and items; no patterns were detected indicating outspoken weak items or subscales. The trained ratings (video 1) are showing higher amounts of agreement.

Comparison of the results of both instruments shows an overall slightly higher agreement scoring of items and subscales in the EAT-A compared to the OAT-A. In both instruments, the first subscale (sense of self) shows the highest agreement. Two scores of professionals in the OAT-A and four scores of professionals in the EAT-A are showing a 'poor' level of agreement. In both instruments this concerns art therapists' scores on subscale 2 (emotion regulation) and subscale 3 (flexibility) in video 3. In the EAT-A also a 'poor' level of agreement has resulted from scoring subscale 2 (emotion regulation) in video 2, and subscale 3 (flexibility) in video 1.

Most items in the OAT-A scored 'substantial'; some items 'almost perfect', 'moderate' or 'poor'. The averages of the items and subscales in the EAT-A scored 'substantial', and a considerable part of the items scored 'almost perfect'. Fewer items scored 'moderate' or 'poor' and these were randomly spread over the three videos. Two items in the EAT-A scored in all three videos lower than 'moderate' (1.8 and 3.3) and still seem to be a bit confusing (as commented by some participants in the last round).

Further exploration of the data revealed some differentiation between the experts and students. Looking at the mean subscale scores of the OAT-A, the students' scores show mainly a higher agreement than those by the art therapists. Only video 1, subscale 3 (flexibility), shows the same mean score of students compared with the professionals' score. Also, in the EAT-A the students' scores show more agreement compared with the professionals' ones. Only two subscale scores are lower: video 3, subscale 1 (sense of self) and subscale 2 (emotion regulation). Scores from subscale 1 (sense of self), video 2, show a corresponding amount of agreement between students and professionals.

Searching for improvement of the results, the agreement scores were also computed after transformation of the 5-point Likert scale into a 3-point Likert rating scale (1 – 2/3/4 – 5). This resulted in overall higher degrees of relative agreement (G) (not reported in the

results section). Actually, by doing so the OAT-A reached high levels of intercoder agreement (0.74–1.00; 42% ‘moderate’ and 58% ‘good and almost perfect’).

Discussion

The aim of this study was to develop and test interrater agreement of items in two evaluation instruments, OAT-A and EAT-A. Levels of absolute and relative agreement scores computed with kw and G, resulted in satisfying outcomes enabling evaluation of AT processes with children diagnosed ASD. Both instruments show moderate up to substantial reliability. The scales and items in both instruments have gained clarity by feedback from the participants (Beurskens et al., 2012). Face validity could be established considering their comments, especially those by professionals that the instruments are strongly mirroring their practices.

The scored degrees of absolute and relative agreement provoked some considerations. When evaluating the results from the overall procedure, it is remarkable that the second and third video resulted in lower kw’s than the first video. There have been no comments from participants that could explain this outcome. Differences between the de videos concerning individual behaviours of the children and their art therapists might be an explanation. This suggests the desirability of exchange by judges of their interpretations in training sessions, as performed with video 1.

Although a 5-point Likert rating scale shows lower degrees of relative agreement (G) than the 3-point Likert rating scale (1 – 2/3/4 – 5), the 5-point Likert scale seems to be more appropriate for enabling the mapping of expected small changes with children in the AT treatment. Indeed, children diagnosed ASD are expected, if at all, to make small changes in a relative slow pace during the treatment process (Fein, 2011).

The number of 34 engaged respondents in the third round was evaluated as sufficient. Based on the results it was not expected that more rounds or more judges could have added different results. Weaknesses in the instruments and observational mistakes were supposed to be equalized by the amount of raters (Cicchetti, 1976). On the other hand, less raters and more videos could have resulted in higher degrees of intercoder reliability.

Comparing the scores of participants it appeared that some raters were inclined to give more extreme scores (1 and 5), while others were more often scoring in a modest way

(2 and 4). This suggests the desirability of a training for raters to improve the understanding of the instruments (Sattler, McKnight, Naney, & Mathi, 2015).

Students' scores showed a higher level of agreement than those of professionals. This is not exceptional. Studies with novice- and expert-raters often show different results: sometimes scores from novices and experts are equal, sometimes experts have higher agreement scores, and sometimes students have (Güss & Badibanga, 2017; Springs, Muller, Sidiropoulos, & Marsh, 2018). AT students commented that the instruments were useful and educative for them. Their lack of professional experience – just something that can contribute to idiosyncrasies in judgements by professionals might be one of the explanations of their higher level of agreement.

Limitations

The three selected videos were different and resulted in varied scores. It was not possible to test both instruments with more videos due to the practical reason that it would have been too much time consuming. A higher amount of videos would have offered more varied materials. This could have enabled a more stringent test on reliability.

Due to the limited amount of videos it was not possible to compute interrater reliability with an Intraclass Correlation Coefficient (ICC), i.e. to determine the correlations or consistencies between the observed items and the mean subscale scores. Using a sensitive ICC could have resulted in too much impact of extreme scores from outliers.

It is not clear if the videos made during therapy situations may have influenced the performance of therapist and child and if this has influenced reliability of the results in this study. On the other hand it is a well-known phenomenon that people observed with video-recording very quickly get used to such devices (Eliëns, 2015).

Due to the relatively small amount of AT-professionals available in the Netherlands it was not possible to compose a random sample of participants. It is not clear in what way the convenience sampling procedure has influenced representativeness of the results. At the same time we are convinced that the engaged participants in no way form a special or 'deviant' group.

Recommendations

The intercoder reliability study on the OAT-A and EAT-A is a first step to enable systematic AT evaluation with a child diagnosed ASD. As indicated before there is until now not a thoroughly operationalized AT-programme for children diagnosed ASD that could work as a

frame for evaluation and reflection. The items in both instruments are generating the possibility to monitor the behaviour of the child with autism in AT, their specific qualities of working with art materials, and the handling of the process by the art therapist. The OAT-A can support the dissemination of AT-evaluations with children diagnosed ASD; the EAT-A concerns evaluation of the art therapists' attitude and supports professionalization.

Professionals as well as their clients and colleagues in other disciplines are gaining clarity about the treatment and its results by defined and transferable items (Foolen, Van der Steege, & De Lange, 2011). However, variance in interpretations of observers seems unavoidable. The training situation enabled evaluation of differences in scoring by comparison of scores in pairs of raters, resulting in consensus scores. This procedure can also be recommended in using OAT-A and EAT-A in the future.

Systematic observation studies will contribute, we think, to a deeper understanding of treatment items and results in practice. It is promising that the instruments are "mirroring daily practice" of participants, as was said. The use of these instruments, specifically the input of a series of relevant (self)observation items, can be seen as building blocks for the further articulation of an AT treatment programme. Referral to AT of children diagnosed ASD can become more explicitly linked to one of the four problem areas: sense of self, emotion regulation, flexibility, and social behaviour. AT students may develop understanding and observation skills for AT with children diagnosed ASD by following a training procedure with watching videos, scoring and evaluating the instruments.

An instrument like the EAT-A might also be helpful in evaluation of treatment integrity. The assumption then is that there is an articulated idea about what the treatment should encompass and what the behaviour of the therapist should look like. Gathering more data with EAT-A also could help to further explicate an AT-intervention theory, thereby providing a basis for research on treatment integrity. In turn, such a development probably will contribute to improvement of treatment results as was documented in several studies (Goense et al. 2016; Town et al., 2012).

A next step to enhance practice-based evidence of AT with children diagnosed ASD will be to use the instruments in a systematic treatment evaluation study. In such a study it is recommended to monitor if the OAT-A is sensitive enough for measuring change in the child's behaviour.

Further improvement of the quality of the instruments can be obtained by exploring and developing construct validity. Treatment outcomes measured by these two instruments should be compared to results measured by existing validated instruments assessing children's sense of self, flexibility, emotion regulation, and social behaviour (Beurskens et al., 2012).

Reliable and valid treatment evaluation instruments will contribute to professionalism of art therapists working with children diagnosed ASD. It may be assumed that the child with ASD and his/her problems also will be served better. Such instruments might offer a standard for AT students to develop insight about the profession and to become better therapists.

Conclusion

The OAT-A and EAT-A are enabling evaluation of the triangular relationship in AT by integrating AT practices with concepts based on theoretical assumptions about sense of self, emotion regulation, flexibility and social behaviour of the child diagnosed ASD. A connection has been made between behaviour of a child with ASD, the art making, and the behaviour of the art therapist. Systematic evaluation of AT with children diagnosed ASD and an evaluation of the handling of the art therapist both are enabled if a training is included about using the instruments here presented. This training concerns watching video fragments from AT sessions, scoring the subscales, and discussing the scores with one of more colleagues to support a full understanding of the items.

my dog

SORRY!

Rust
1.

Evaluation of 'Images of Self', an art therapy programme for children diagnosed with ASD

Based on:

Schweizer, C., Knorth, E. J., Van Yperen, T. A., & Spreen, M. (2020). Evaluation of 'Images of self', an art therapy programme for children diagnosed with ASD. *Children and Youth Services Review*

Abstract

The art therapy (AT) programme for children diagnosed with Autism Spectrum Disorders (ASD), 'Images of Self', has been evaluated with repeated single case studies (n=12) in a mixed-methods design. The programme focuses on children's difficulties with their 'sense of self', 'emotion regulation', 'flexibility' and 'social behavior'. Parents, teachers and art therapists scored the BRIEF and CSBQ, instruments for rating child behavior. Children filled out the SPPC, a self-image scale. To evaluate the quality of the programme, therapists used a child observation scale (OAT-A) and a therapists' self-evaluation scale (EAT-A). All instruments were applied three to five times per case, depending on the corresponding measurement objectives: one week before the start of the programme (T0), during session 3 (T1), session 8 (T2), session 15 (T3), and 15 weeks after termination of the treatment (T4). Parents and teachers were invited to complete a form for qualitative comments which was structured around the four problem areas. Therapists video-recorded three sessions and evaluated these with parents and - during training sessions - with the principal investigator. At the end of the treatment parents, teachers and art therapists gave a rating for their overall satisfaction with the treatment. Main improvements after treatment were seen in children's flexible and social behavior. Overall satisfaction regarding the programme showed averages between 7.1 and 7.7 (out of 10). Implications of our study for AT-practice and future research are discussed.

Keywords: art therapy programme; children; Autism Spectrum Disorders; evaluation; small-N methodology

Introduction

‘Images of Self’ is a recently developed art therapeutic treatment programme for children with problems related to Autism Spectrum Disorders (ASD). The programme is based on a series of practice-based studies (Schweizer et al., 2014; Schweizer et al., 2017; Schweizer et al., 2019a; Schweizer, Knorth, Van Yperen, & Spreen, 2019b). In this series consensus was reached among 32 art therapists and 28 referrers about what they considered as typical elements of art therapy (AT) for children with ASD. Two instruments (I. Observation of a Child with ASD in Art Therapy: OAT-A; II. Evaluation of the Art Therapist working with a child with ASD: EAT-A) were also developed to enable programme evaluation, including studying the treatment integrity of the therapist (Schweizer et al., 2019b).

Children diagnosed with ASD are characterized by their restricted social and communicative skills and repetitive and obsessive behaviors (APA, 2013). In AT, children’s experiences during the art-making processes and the ‘art product’ they create, are assumed to reduce or stabilize problematic behavior and/or support children in dealing with and accepting these problems (Malchiodi, 2003; Rubin, 2001; Schweizer et al., 2009). Art therapists facilitate the emotional, social, physical and creative processes in a systematic cycle of observing, formulating treatment aims, treatment and evaluation of children’s progress (Visser, 2009; Smeijsters, 2008). Characteristic of this experiential way of treatment is the so-called *triangular relationship*: communication between therapist and client goes indirectly via the art making. This way of treatment provides opportunities for new experiences and for the development and training of new skills for children with communication problems. Working with art materials offers a focus on tactile and sensory motor experiences. Such a process may contribute to new behavior (Bergs-Lusebrink, 2013; Case & Dalley, 1990; Gilroy, 2006; Hinz, 2009; Malchiodi, 2003). For example, a child with ASD often has difficulties with perceiving his/her own feelings and experiences. During art making the child may explore and develop preferences and new skills, based on a better processing of feelings and experiences (Ben Itzhak, Abutbul, Bela, Shai, & Zachor, 2016).

Four main problem areas of children with ASD in AT were defined: ‘sense of self’, ‘emotion regulation’, ‘flexibility’, and ‘social communication’ problems (Schweizer et al., 2019b). Development of *sense of self* starts with a focus on personal experiences, i.e. the child’s self-perception (what do I feel, like or dislike?) (Schweizer et al., 2019a). A better self-

perception and awareness of success during art making are expected to contribute to an improved self-image and self-concept. Greater self-esteem is considered to be a final result of these developmental stages of ‘sense of self’ (cf. Stern, 1985). Problems with *emotion regulation* are related to a strong or weak reactivity and can appear as anger outbursts (Konstantareas & Stewart, 2006; Samson et al., 2013). *Flexibility* problems appear as difficulties that arise because of the child’s rigid behavior patterns (APA, 2013). *Social communicative behavior* problems often manifest themselves as troubles of the child with adaptation to other persons and new situations, and as difficulties with expressing themselves verbally about what they have in mind (APA, 2013). Figure 1 shows how the AT programme ‘Images of Self’ is assumed to contribute to change in these problem areas of the child.

Figure 1. Hypothetical influence from art therapy on the behavior of the child with autism

The central aim of this study is the evaluation of the ‘Images of Self’ AT-programme for children with ASD. This concerns monitoring the child during the therapy sessions, at school, and at home. Also, the contribution of the art therapist will be monitored. Our study contributes to first empirical evidence about the treatment (Schweizer et al., 2014). Only one recent study on the effects of AT was found: five from nine children improved

significantly in cognitive, motor and social skills. A positive development was also assessed in their drawings. (Koo & Thomas, 2019). Outcomes strived for in our study concern changes in children's 'sense of self', 'emotion regulation', 'flexibility' and 'social behavior, thereby showing a movement in the direction of behavior that is better accommodated to the child's social environment (Boer & Van der Gaag, 2016; Van der Doef, 1992). In children with ASD, usually these behaviors show a slow development, if not a lack of development. We expect that in the AT condition these problematic behaviors will decrease.

The programme

The 'Images of Self programme' consists of 15 weekly, individual AT sessions (each lasting 45 minutes) and is standardized as much as possible. It is to be executed in accordance to the child's preferences in themes, type of art materials, skills, techniques and individual needs, thereby taking into account the variety of problems for each individual child with ASD (Fein, 2011; Feinstein, 2010; Waterhouse & Gillberg, 2014). A prerequisite for conducting the programme is that the AT room must offer a quiet safe space with a broad spectrum of art materials that offer opportunities to vary with different experiences. The art therapist must take an active and supportive role in creating a safe and inviting place, so the child is stimulated to express him/herself through art. The first three sessions are focused on getting used to the situation and exploring preferences and resistances of the child relating to the type of art materials and the art therapist. The child is stimulated and supported to create art-products which make him/her happy and which generate success experiences. In the next 12 sessions the child is stimulated to vary experiences and develop different skills, to become more aware of experiences, preferences and resistances, and to connect words to these experiences.

The therapist records the sessions at several measurement moments through video, and watches and watches it afterwards with the parents. In addition, a psychoeducation training was offered to parents to improve understanding of ASD in their child. Parents who not receive this training had their child treated in a special educational setting.

Method

The programme has been evaluated with a sample of 12 single case studies in a pretest-posttest design. At five specific moments in time members of the child's network (i.e., parents, teacher, art therapist) in each case, completed several questionnaires (figure

2). Possible change in behavioral aspects of sense of self’, ‘emotion regulation’, ‘flexibility’ and ‘social communication’ were measured through these questionnaires. Additional comments were noted during the same five measuring moments by the network members in an evaluation form and during training sessions with the art therapists and the principal investigator. This mixed-methods design provided a multiple perspectives approach of quantitative and qualitative data, leading to an improved understanding of the topic being studied (Creswell, 2015; Tashakkori & Teddlie, 2010).

Figure 2. Measurement moments

The study design was approved by the METC, the Dutch Medical Ethical Assessment Committee (Centrale Coördinatie Mensgebonden Onderzoek – CCMO) in 2017.

Participants

Included were children diagnosed ASD in the age between 6-12 years having an IQ $\geq$ 80. Children were signed up through the usual referral procedures from the collaborating organizations, i.e. the art therapists employed there (N=7). Based on the professional judgements of these therapists, children were excluded if they were evaluated as showing too high amounts of resistance to or fear of art making. With the help of the collaborators initially 15 children were found who fulfilled the inclusion criteria. However, three children dropped out before session 8 because of a highly problematic and disturbing school situation. As a result, 12 children fully participated in this study.

Seven art therapists finally joined the study. All participating therapists had a Bachelor's degree in art therapy, which is the general professional qualification in the Netherlands. They had at least two years' experience in working as an art therapist with the target group. They were included with the help of convenience sampling (Lavrakas, 2008), i.e. by using newsletters from professional organizations, Facebook, and mouth to mouth advertisement. As a result, initially 17 art therapists signed up. During preparation in the training phase 10 of them decided not to join the research because it appeared to be too time consuming. Moreover, for eight of them who worked in a private practice it was unpaid work.

Both parents and teachers of the included children have contributed to the evaluation of 'Images of Self' by filling out questionnaires, observing daily behavior, and reporting possible behavior changes of the child in a form. Further participation of parents was achieved by discussing and evaluating video recordings from selected sessions with the art therapist.

Instruments

The parents and the teachers completed two questionnaires. The first instrument was the (Dutch version of the) Behavior Rating Inventory of Executive Functioning (BRIEF; Gioia, Isquith, Guy, & Kenworthy, 2000; Huizinga & Smidts, 2012), measuring executive functioning of children. Consistency and test-retest reliability for parents and teachers (in the Dutch version) are high (Cronbach's α .78-.97). Content and construct validity are well

established. The 75 items of the BRIEF are rated on a 3-point scale ranging from 1 (never) to 2 (sometimes) or 3 (often).

The second questionnaire was the Children's Social Behaviour Questionnaire (CSBQ), in a Dutch version (VISK), which measures social behavior of children with ASD (Hartman, Luteijn, Serra, & Minderaa, 2006; Hartman, Luteijn, Moorlag, De Bildt, & Minderaa, 2007). Internal consistency of this questionnaire is sufficient (Cronbach's $\alpha \geq .70$) for descriptive and research aims. The 49 items in the CSBQ are rated with a 3-point scale ranging from 0 (never) to 1 (sometimes) or 2 (often).

The children completed the Dutch version (CBSK) of the Self-Perception Profile for Children (SPPC; Harter, 2012; Veerman, Straathof, Treffers, Van den Bergh, & Ten Brink, 2004). This instrument measures self-perception and has 36 items with four rating options. Cronbach's α for internal consistency of the subscale 'behavior attitude' is poor (Cronbach's $\alpha \leq .70$). The subscales 'social acceptance' and 'self-esteem' show a Cronbach's $\alpha \geq .70$, which is acceptable. Test-retest reliability of the scales 'social acceptance' and 'self-esteem' are acceptable (Cronbach's $\alpha \geq .70$); that of the subscale 'behavior attitude' is poor $\leq .70$.

Expected behavioral changes were measured with subscales in the following questionnaires:

- 'Self-perception' was measured by the 'evaluation of behavior' (BRIEF), and 'behavior attitude' and 'self-esteem' subscales (SPPC).
- 'Emotion regulation' was measured by the 'emotion regulation' subscale (BRIEF).
- 'Flexibility' was measured by the 'flexibility' (BRIEF), and 'stereotype behavior' and 'resistance for change' subscales (CBSQ).
- 'Social behavior' was measured by the 'not attuned', 'diminished contact' and 'social understanding of problems' (CBSQ), and 'social acceptance' subscales (SPPC).

The art therapists evaluated the progress of the child during treatment with the 'Observation in Art Therapy of a child diagnosed with ASD' (OAT-A, Schweizer et al., 2019b). This instrument has 22 items covering four subscales: 'sense of self', 'emotion regulation', 'flexibility' and 'social behavior'.

The therapeutic behavior of the art therapist is evaluated with the 'Evaluation of the actions of the Art Therapist working with a child diagnosed with ASD' (EAT-A, Schweizer et

al., 2019b). This instrument has 24 items and measures the professional behavior of the art therapist when working with a child. The four subscales are 'supporting the development of sense of self', 'supporting the improvement of flexibility', 'stimulating emotion regulation' and 'stimulating social behavior'. Both instruments were tested on interrater reliability and showed moderate to substantial reliability with art therapists who were trained and got counseling on the use (Schweizer et al., 2019b).

Parents, teacher and art therapist indicated their satisfaction with the treatment by using a rating scale ranging from 1 (completely unsatisfied) to 10 (completely satisfied).

Additional comments were noted by parents, teachers and art therapists in an evaluation form and during training sessions with the art therapists and the researcher. They were invited to briefly write down their comments about (intermediate) results and expectations concerning the child's behavior. The researcher extracted extra information from the art therapists about the treatment and evaluation moments with the parents and teachers, during training sessions (see below).

Procedure

The first measurements (T0) were planned one week before the actual treatment program for a child began. The parent/s and teacher of the child completed two questionnaires at T0: BRIEF and CSBQ. At session 3 (T1) the art therapist completed OAT and EAT, while the child completed SPPC. From the viewpoint of the art therapist this was before 'real treatment', because the first three sessions were for observation, i.e. to get a first impression of developmental opportunities in art making and the behavior of the child. At session 8 (T2) the art therapist again scored OAT-A and EAT-A and made a video recording to be watched and evaluated with the parents. After session 15 (T3) the parents and the teacher completed the BRIEF and CSBQ, the child the SPPC, and the art therapist the OAT and EAT. Also, in session 15 the art therapist made a video recording and selected representative parts to watch and evaluate with the parents. In addition, all participants were invited for an overall satisfaction rating (scale 1-10) regarding the total treatment programme. The follow-up (T4) was 15 weeks after terminating the treatment. This art making session was again recorded by video and evaluated, and afterwards the relevant questionnaires were completed by all participants. At all five time points (T0-T4) the parents, teachers and art therapists completed an evaluation form to collect more detailed qualitative information about processes at home, at school and during treatment.

To support and control the research process, small groups of three or four art therapists were trained by the PI (who is also an experienced art therapist). This training comprised five meetings: one before the treatment, and four during and after treatment. During the training sessions the treatment and research procedures were discussed, and video fragments of 'old cases' were watched and evaluated with OAT-A and EAT-A. This was done to enhance the reliability of the 'real' scoring later on (Schweizer et al., 2019b).

Data analysis

Severity of ASD related problem behaviors were calculated based on norms in the BRIEF-, CSBQ- and SPPC-Manuals. To detect whether a single child has improved, the Reliable Change Index (RCI) (Jacobson & Truax, 1991; Veerman & Bijl, 2017; Wise, 2004) was computed between T0 and T3 and between T0 and T4. Criteria to assess meaningful change between two measurements are: strong improvement: $RCI \geq 1.96$; some improvement: $1.65 \leq RCI < 1.96$; stable: $1.65 > RCI > -1.65$; some decline: $-1.65 \geq RCI > -1.96$; strong decline: $RCI \leq -1.96$.

Qualitative data from the evaluation form filled out by parents, teachers and art therapists were analyzed according to the four outcome domains (figure 1). Next, they were organized in two categories: 'reasons for referral' and 'treatment results'.

Art therapists' comments were noted by the researcher during training sessions, structured by the topics: a) How is the child's behavior at home, in the classroom, and in AT related to the outcome domains? b) (How) does watching a video recording with the parents contribute to (a better) understanding of the child by the art therapist and the parents? c) (How) does the use of the instruments OAT and EAT contribute to (a better) understanding of the child? d) What are the art therapist's most noticeable and hardly seen actions? e) (How) does the training contribute to the art therapist's understanding and performance during AT? Qualitative data analysis was checked by and discussed with a peer researcher.

Results

Table 1 gives an overview of some characteristics of the children and their context at the beginning of the treatment process, including the reasons for referral to AT. In addition, some facts on the therapists are provided.

Table 1. Overview of participating children, art therapists, treatment settings, reasons for referral, use of medication, and context information

Child	Gender	Age	Art Therapist	Experience of art therapist (years)	Treatment setting	Reason for referral	Medication	Context information
1	F	6	1	13	Ambulant mental health care organization	Not going to school at start AT. Heavy emotion regulation problems and inflexible behavior in classroom.	Vitamin B injections	After eight weeks she is part-time visiting school. Mother tells that the teacher does not understand her child.
2	F	9	2	40	(Semi)residential psychiatric center for children and youth	Social communication problems: isolated; what is she thinking / feeling?	No	Philippine background with Asian values about behavior and education. Mother has a burn-out and is in a divorce.
3	F	12	3	8	School for special education	Emotion regulation problems in classroom (crying); negative self-image; Oversensitivity.	Methyl phenidate for oversensitivity	Extra psycho-education for child, to improve her understanding of ASD.
4	M	10	4	13	(Semi)residential psychiatric center for children and youth	Child shows severe depressed feelings at home. Negative self-image. Emotion regulation problems in classroom (anxiety problems and anger outbursts).	Methyl phenidate	Parent training to improve understanding of ASD.
5	F	11	5	40	School for special education	Negative self-image. Severe depressed feelings at home. Emotion regulation problems in classroom (anxiety problems). Social communication problems at home and in school (hardly talks).	No	At the end of AT she went to a lower class grade.

6	M	9	5	40	School for special education	Negative self-image. Emotion regulation problems at home and in classroom (anxiety problems and anger outbursts).	Yes, for the anxiety and emotion regulation, but no specific information what it is.	After 10 weeks, mother severely ill. Child has problems with teacher.
7	M	10	5	40	School for special education	Negative self-image. Flexibility problems at home.	No	
8	M	12	6	20	(Semi)residential psychiatric center for children and youth	Negative self-image. Flexibility problems. Social communication problems (what is she thinking / feeling?). Anxiety problems.	No	Parent training to improve understanding of ASD.
9	M	12	6	20	(Semi)residential psychiatric center for children and youth	Negative self-image. Emotion regulation problems at home and in classroom (anger outbursts).	No	Parent training to improve understanding of ASD. Stop-think-do method is used in school.
10	M	11	1	13	Ambulant mental health care organization	Negative self-image. Emotion regulation problems at home (anger outbursts). Social communication problems (what is he thinking / feeling?).	No	Parent training to improve understanding of ASD.
11	F	11	7	9	Ambulant mental health care organization	Negative self-image. Social communication problems.	Methyl phenidate for ADHD	
12	M	12	1	13	Ambulant mental health care organization	Negative self-image. depressed feelings. Social communication problems (what is he thinking / feeling?).	No	Parent training to improve understanding of ASD. Divorce of parents during treatment.

Table 2. Overview of RCI of BRIEF, CSBQ, SPPS scores from parents, teachers, art therapists, all cases

Outcome, Test and item	Case 1		Case 2		Case 3		Case 4		Case 5		Case 6		Case 7		Case 8		Case 9		Case 10		Case 11		Case 12	
	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4
Measurement																								
Sense of self																								
BRIEF Beh. Eval. (parent)	-0.88	2.64	3.09	4.41	2.2	0	2.64	4.41	0	1.76	0	-0.88	0.44	1.32	0.88	0	1.32	1.76	-1.76	-1.76	1.32	1.32	0	0
BRIEF Beh. Eval. (teacher)	0.44	0.44	1.32	0.44	-0.44	0.88	1.76	0.88	-1.32	-0.88	0.44	0	0	0.88	0.88	0.88	0	-2.64	-1.32	-3.97	0.40	-3.97	-7.49	-6.17
SPPC Beh. Att. (child)	1.3	0.87	-2.61	0.87	-0.87	1.3	1.63	1.09	1.3	2.17	1.84	0.54	-0.54	-0.54	-0.43	-0.43	-1.3	0.54	0	-0.87	-1.74	5.44	5.44	
SPPC Self- Est. (child)	0.46	0.46	0	3.64	0	0	1.22	0.41	1.37	0.46	0.41	-0.41	-0.81	-1.62	0	0	-2.28	-2.73	1.21	1.21	-1.37	-3.64	0.41	0
Emotion regulation																								
BRIEF Emo. Reg. (parent)	0.94	1.88	1.41	-3.76	2.35	1.41	1.41	1.41	0.47	0.47	-0.47	0.47	0.47	0.47	0.47	0.47	3.76	3.76	-0.94	-0.47	2.82	2.82	1.41	1.41
BRIEF Emo. Reg. (teacher)	0	-0.47	2.82	3.29	-0.47	0.94	0.47	1.41	-3.76	-1.41	-0.94	-0.94	-0.47	0.47	1.41	0.94	0.47	-0.94	-0.47	0.47	-0.47	0.47	-4.7	-2.35
Flexibility																								
BRIEF Flexibility (parent)	1.5	4.01	5.51	4.51	2.5	2.5	3	3	-4.01	-4.51	1.5	0.5	-1.5	0.5	1	0.5	2.5	2	0.5	1	0.5	0.5	0.5	0.5
BRIEF Flexibility (teacher)	1	2	3.51	4.51	-2.5	-4.01	2	2.5	0	-2	2	3.51	2	0.50	0	2	0	2	-1	1	-0.5	1	-3	-1.5
CSBQ Ster. Beh. (parent)	-0.82	2.47	-0.82	0	9.91	3.71	-0.69	0	-2.99	0	2.75	0	3.44	4.12	0	4.95	3.71	2.48	-1.24	-1.68	6.19	6.19	-3.71	-1.24
CSBQ Ster. Beh. (teacher)	1.65	0.82	-2.47	0	1.24	-1.24	0	0.69	-1	-3.98	-2.06	0	1.37	1.37	2.48	2.48	0	1.24	-2.48	0	2.48	1.24	2.48	2.48
CSBQ Res. to Ch. (parent)	0	1.47	0	1.47	-9.5	1.9	2.51	1.25	-4.42	-4.42	0	1.25	0	0	0	3.8	5.7	5.7	0	1.29	0	0	1.9	1.9
CSBQ Res. to Ch. (teacher)	2.95	4.42	5.89	0	-5.7	0	-5.7	0	1.25	0	-1.47	0	0	3.76	3.76	1.9	1.9	0	0	-3.8	1.9	0	1.9	1.9
Social behavior																								
CSBQ Social Att. (parent)	-3.82	1.09	0	-0.55	-1.59	-1.59	4.98	2.49	1.53	1.53	0.5	0	1	0.50	-1.06	2.65	5.82	5.82	-1.59	1.06	3.17	5.29	3.7	3.7
CSBQ Social Att. (teacher)	-1.64	-1.09	0.55	0.55	2.65	3.17	-0.5	2.99	2.05	-2.56	-4.7	-7.97	1	0.50	1.06	1.06	0	-0.53	1.06	1.06	0	-1.06	1.06	6.35
CSBQ Social Int. (parent)	1	3.98	-1	-1	3.36	0	4.79	4.79	3.78	0	0	-2.05	0.68	2.05	0.84	1.68	-3.36	2.52	0	-1.68	-2.52	5.04	-4.2	-4.2
CSBQ Social Int. (teacher)	1.99	1	2.99	4.98	0.84	3.36	-1.37	0	4.73	-0.95	6.16	9.59	0.68	0.68	4.2	6.72	0	-4.2	-2.52	-5.04	0.84	4.2	4.2	4.2
CSBQ Social Und. (parent)	-3.57	-0.71	0.71	0	0	-0.65	1.68	1.68	-3.92	-2.35	-5.6	-2.24	-0.56	1.12	0	-1.29	1.29	3.23	0.65	1.29	1.94	5.16	-1.29	1.29
CSBQ Social Und. (teacher)	0	-0.71	0	-0.71	-2.58	-6.46	-2.8	-1.12	0	-0.78	-2.06	0	2.24	2.80	1.29	0	0	-0.65	-0.65	-0.65	-1.29	1.94	1.29	1.29
SPPC Social Acc. (child)	-0.77	-0.77	-1.92	-1.15	-0.38	-1.53	-1.02	-2.04	-1.92	-2.3	1.02	1.7	-0.34	-1.36	0.38	0	-0.77	-0.77	-0.68	-0.68	-1.92	-3.45	0.68	0

Note: Expanation

RCI meaningful change between two measure moments		BRIEF Beh. Eval.:		Behavior Evaluation		CSBQ Ster. Beh.:		Stereotype behavior	
strong improvement:	≥ 1.96	BRIEF Emo.Reg.:		Emotion Regulation		CSBQ Res. to Ch.:		Resistance to Change	
some improvement:	≥ 1.65 and ≤ 1.96					CSBQ Social Att.:		Social interaction	
stable:	≥ -1.65 and ≤ 1.65	SPPC Beh. Att.:		Behavior Attitude		CSBQ Social Int.:		Social Interaction	
some decline:	≥ -1.95s -1.65	SPPC Self-Est.:		Self-Esteem		CSBQ Social Und.:		Social Understanding	
strong decline:	≤ -1.95	SPPC Social Acc.:		Social Acceptance					
The negative RCI Scores for SPPC mean improvement									

Table 3. Overview of OAT-A and EAT-A difference scores by art therapists, indicating a change between T1 and T3, and between T1 and T4 respectively (N = 12 children)

Difference scores: Concepts and Scales	Case 1		Case 2		Case 3		Case 4		Case 5		Case 6		Case 7		Case 8		Case 9		Case 10		Case 11		Case 12	
	Measuring moment																							
	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4	T3	T4
Sense of self																								
OAT (mean)																								
EAT (mean)																								
Emotion regulation																								
OAT (mean)																								
EAT (mean)																								
Flexibility																								
OAT (mean)																								
EAT (mean)																								
Social behavior																								
OAT (mean)																								
EAT (mean)																								

Note: Explanation

substantial plus difference	++	(TX-T1) = 3 or 4
small(er) plus difference	+	(TX-T1) = 1 or 2
no difference	0	(TX-T1) = 0
small(er) minus difference	-	(TX-T1) = -1 or -2
substantial minus difference	--	(TX-T1) = -3 or -4

Some children not only show ASD-symptoms, but also have to cope with other issues like anxiety problems, depressed feelings, oversensitivity, and ADHD. Looking at the standards for problematic behavior of the BRIEF, nearly all included children (n=11) show at the start of the treatment high scores in severity of problems regarding 'emotion regulation', 'flexibility' and 'behavior evaluation' (T-scores > 60). Also, the CSBQ data show high scores in severity of problems of the child, particularly in the areas of 'social acceptance', 'self-esteem' and 'behavior-attitude' (generally, scores are very high according to the norms of a child psychiatric population). According to the professional judgments of the art therapists, all children had varied problems with 'self-perception', 'flexibility', 'emotion regulation', and 'social behavior'.

The overview in table 2 shows the degree of improvement according to the RCIs computed between T0-T3 and T0-T4. Strong improvement is visible in table 2 in cases 1, 2, 4, 7, 8, 9 and 11 (n=7), specifically at T4 in the areas 'flexibility' and 'social behavior'. (Strong) decline is visible in cases 5, 6 and 10, mainly in the areas 'flexibility' and 'social behavior'. Cases 3, 5, 6, and 12 show mixed results of strong improvement and (strong) decline spread over different outcome measures. Notably, all cases show items with stable RCI's, and on closer examination the majority of these 'stable' results appear to show some improvement.

T3 scores are often equal to T4 scores. In five cases (1, 2, 7, 8, 12) T4 scores are mainly higher than T3 scores. In nearly all cases (except case 2 and 6) the SPPC child scores have improved during the follow up (T4). T4 scores in cases 2, 3, 5, 6 and 10 are less favorable for 'flexibility' and 'social behavior'.

Scores from teachers are often different from those of the parents. Sometimes there is more behavioral change observed in the school situation, sometimes more at home.

Scores of cases with RCIs that indicate strong improvement are accompanied by positive OAT-A scores, especially for an improved 'sense of self' and 'social behavior' (table 3).

In table 3 case 8 has improved on all outcomes of the OAT-A. Improvement at T4 regarding 'sense of self' is observed in cases 4, 5, 7, 8, 9, 10, 11 (n=7), regarding 'emotion regulation' in cases 1, 2, 5, 6, 8, 9, 11, 12 (n=8), regarding 'flexibility' in cases 1, 2, 3, 8, 9, 10, 12 (n=7), and regarding 'social behavior' in cases 1, 2, 4, 5, 6, 7, 8, 11, 12 (n=9). A decline regarding 'flexibility' at T4 is observed in cases 4, 5 and 6.

The EAT-A results are showing a stable behavioral pattern of the art therapists in 'supporting development of sense of self' (n=11). Increased 'stimulation emotion regulation' by the art therapist at T4 can be reported in cases 1, 4, 5, 6, 8, 9, 10 and 12 (n=8); increased 'stimulating flexibility' is observed in cases 1, 2, 3, 10, and 11 (n=5); increased 'supporting social behavior' is seen in cases 1, 2, 4, 5, 6, 7, 8, 9 and 12 (n=9).

Parents scored the highest for overall satisfaction about the treatment: 7.7 out of 10 (min 6, max 10). Teachers' average was 7.2 (min 5, max 9), and art therapists' average was 7.1 (min 6, max 8). Three parents commented spontaneously: "If my child was asked to score, this would have been a 10." Art therapists reported that all parents were motivated to join the research. For teachers it was sometimes hard to find time for scoring the tests, due to a heavy workload. Teachers scored lower when having a problematic relationship with the child.

In all cases (except case 11) parents, teachers and art therapists at T4 have written comments about main improvements in the areas of 'self-esteem' and 'social behavior'. Children were perceived as more happy and stable, and more able to give words to their experiences. Improvements in 'emotion regulation' were also reported in eight cases (1, 3, 4, 5, 8, 9, 10, 12) and improvements in 'flexibility' in four cases (4, 8, 11, 12). In addition, it was reported by parents that 'over-sensitivity' was decreased (cases 1 and 3), and that some children showed 'anxieties' (cases 4, 5, 6 and 8).

For parents and art therapists watching videos was an extra way in which to improve their understanding of their child's behavior. Parents evaluated this as supportive; they were relieved and content to see their child functioning in such a positive way.

Combination of quantitative results and qualitative comments can provide a better understanding of scores but also generates questions. Cases with the highest scores seem to have quite stable situations at home and a good working relationship with the teacher. Problems at home (divorced parents and/or illness of the mother) seem to have a negative impact for the cases 6 and 12 (see BRIEF and CSBQ scores at T3). The same seems the case regarding problems at school (no good match between child and teacher) for the cases 5, 6 and 12. Case 10 is remarkable: comments by parents and the art therapist regarding the less positive development of the child are contrary to the (positive) RCIs. The video at T4 also shows a happy, self-confident and relaxed boy.

‘Sense of self’ items in the SPPC (scored by the child) are not showing strong improvement in most cases. But ‘social acceptance’ at T4 for cases 4, 5, 9 and 11 shows improvement regarding ‘self-esteem’. Decreased scores are remarkable because in the qualitative comments from all participants it was reported that children are more happy and more stable after completing the treatment. OAT-A results support the outcomes obtained from the SPPC, and in most cases show improvement in the areas of ‘sense of self’ and ‘emotion regulation’. However, the improvement in the OAT-A ‘sense of self’ scores (inside the AT-setting) is not always in agreement with the BRIEF and CSBQ results (observations at home and in the classroom).

Discussion

Results from our treatment evaluation indicate that ‘Images of Self’ is partly helpful for children suffering from ASD related problems (Barlow, Nock, & Hersen, 2009). In the majority of seven children (58%) the expected improvements (according to figure 1) were confirmed by the measurements with BRIEF and CSBQ regarding ‘flexibility’ and ‘social behavior’ in. Positive change in the direction of behavior that is better accommodated to the child’s social environment was also described in the comments of teachers, parents, children and therapists after terminating the program: the children were more able to communicate, to ask for help, and they showed more self-confidence.

In the qualitative comments it appeared that children were happier and more stable (n=11) and improved in ‘sense of self’ (n=9) and were better at ‘emotion regulation’ (n=8). Involvement of parents and psychoeducation were recognized as valuable building blocks in ‘Images of Self’ (cf. Van Rooyen & Rietveld, 2018).

Our positive results are contributing to first empirical evidence of AT with children diagnosed with ASD (Van Yperen, Veerman, & Bijl, 2017).

There are some noticeable differences in reasons and aims for referral (table 1) and treatment outcomes: the main reasons for referral to AT were a ‘negative self-image’, ‘emotion regulation problems’ and ‘social behavior problems’ in the children, while main positive results from the measurements were improvement of children’s ‘flexibility’ and ‘social behavior’. All children were referred with ‘self-image’ problems. To understand the relatively low SPPC child-scores in the ‘sense of self’ area – which are contrary to the reported positive comments about improvement in ‘sense of self’ from parents, teachers,

and art therapists (n=11) – it could be hypothesized that children scored their self-image more realistically after treatment. This may indicate that AT had contributed to an improved in the sense of a more realistic but not necessarily more positive ‘sense of self’.

In one case (10) it was difficult to understand why the scores on BRIEF and CSBQ did not improve, because the video-observations and the additional comments of the child, the parents and the teacher were positive. The art therapist presumed that this could be related to a more valid understanding of the ASD related problems, expressed by parents, teacher and the child in standardized instruments.

It is striking that in some cases that seem to benefit from the AT-program (1, 2, 6 and 12) there were substantial problems in the child’s personal context (like divorce of the parents, illness of the mother, and problems of the child at school). Contrary to our expectations this did not seem to influence the scores in a negative direction.

A combination of results in table 2 (BRIEF, CSBQ and SPPC) and table 3 (OAT-A and EAT-A) supports insights in behavioral changes at home and at school and in AT. It is plausible to assume that the AT situation offers other opportunities for the child’s development than daily life situations. Differences in the results in table 2 and 3 indicate differences in the child’s behaviors during art making processes on the one hand and the child’s behaviors in daily life and at school on the other hand.

Strengths and limitations

Strengths. This study concerns a first evaluation of the ‘Images of Self’ AT programme for children diagnosed with ASD. ‘Images of Self’ seems promising for these children showing problems with ‘sense of self’, ‘emotion regulation’, ‘flexibility’ and ‘social behavior’. We believe our study generated a valuable contribution to scientific evidence by combining results from daily practices about various problems of ASD diagnosed children in AT at home, at school and in different settings (American Psychological Association, 2006; Chambless et al., 1998).

In our study, the repeated single case study methodology facilitated a focus on individual children, thereby using the perspectives of multiple informants (Bartholomew et al., 2012; Spek, 2012; Spreen, 2009, 2013). The Cochrane Collaboration regards outcomes from single case designs as contributing to research evidence if an RCT is not relevant or not (yet) doable for evaluating practice (Higgins & Green, 2011). The approach offered opportunities to explore, develop and map insights in the progress and development of a

sample of children in their personal situations on a detailed level (Reeves, Deeks, Higgins, & Wells, 2008; Fein, 2011; Kern Koegel & Brown, 2007; Snir & Regev, 2013; Aalbers, Spreen, Bosveld-Van Haandel, & Bogaerts, 2017).

According to the multiple informants approach parents and teachers of the children were involved in the research procedure. From a research perspective, the involvement of parents by watching and discussing videos from AT sessions might also be interpreted as a form of action research at a micro-level (Reason & Bradbury, 2006). From a treatment perspective, the involvement of parents is strongly recommended (Steiner, Koegel, Koegel, & Ence, 2012). Their engagement and the joint forces of therapist, teacher and parents are expected to contribute to improve the level of care (cf. Hurt et al., 2017; Schothorst et al., 2009).

Our design enabled comparison of data gathered from different sources. In the majority of cases results were (rather) consistent; in a minority they were not always. It stimulated us to explore reasons behind these differences and contributed to a deeper understanding of the results of 'Images of Self'.

Validity and reliability of the BRIEF, CSBQ and SPPC were satisfactory to good; reliability of the OAT-A and EAT-A was moderate to substantial with trained raters. We therefore believe the results do represent the reality fairly well.

Limitations. There were also some limitations. In this study we applied a 'convenience sample' which, in combination with the repeated single case approach, limits the opportunity for generalization of the treatment results (Barlow, Nock, & Hersen, 2009). Exclusion of children with too high levels of fear and resistance for art-making might have created a bias in analysis of the results.

In addition, it was not possible to monitor the referred children for a longer period before treatment with the aim to assess a baseline of their functioning; their referral to AT was surrounded by a sense of urgency and following the children without treating them was not an option. However, a baseline would have enabled us to assess with more precision what the impact was for the child of starting a treatment program like 'Images of Self' (Delsing & Van Yperen, 2017).

Nearly all participating children (n=11) had co-morbidity problems (table 1). The severity of ASD-related problems scored highly on most items for most cases according to the norms of the BRIEF, CSBQ and SPPC. This may have impacted the results in a negative

way. Three children dropped out before the 8th session. They also dropped out of school. Apparently 'Images of Self' did not offer enough support.

Although the treatment program was tailored to the individual clients it was not possible to show all detailed results in this article. We focused on the behavior of the child and not on the art making process or the behavior of the art therapist, although aspects of both were observed with the OAT-A and EAT-A. In a further analysis of our data we will take a closer look at these aspects (see also below).

Recommendations

An analysis of more detailed results is expected to provide more insight into the opportunities 'Images of Self' can offer children with ASD. For further research we recommend to take a look at treatment fidelity (King & Bosworth, 2014). This might support a deeper understanding of the outcomes. For instance, investigating the relationship between what exactly is going on during AT and how this affects the problematic behavior of children may shed further light on interaction processes and working mechanisms (McLeroy, Bibeau, Steckler, & Glanz, 1988; Bartholomew et al., 2001; Koole & Tschacher, 2016). Also, an expanded series of single case studies with micro-analyses of video stimulated recall of art therapists while treating a child with ASD can contribute to further insight in art making processes and results. Nearly all treated children had severe ASD related problems. It would be interesting to see what the results would be in a group of children with less severe problems. With the results of the proposed research lines, the 'Images of Self programme' may be optimized further, thereby creating a solid base for experimental studies to test the effectiveness of the program.

Our results could be useful for the referral policy of professionals in the field because of the positive results that were seen in the children who benefitted most from the programme. For AT practice the results of the evaluation of 'Images of Self' must be seen as a first step into providing insight in the program and its effects. It can also serve as a source of inspiration for those who have the ambition to contribute to a more evidence-based AT practice.

Conclusion

The promising results after evaluation of the 'Images of Self' AT program for children diagnosed with ASD may encourage parents, schools, child welfare agencies and mental health services to refer to and make more use of AT. Learning from the strengths and

limitations of the study and following our recommendations can contribute to further improvement and implementation of the program as next steps.

PLAN voor MISGAAN

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om weer mee te doen

General discussion

Introduction

The general aim of this thesis was to identify (conceptual and practical) typical elements of art therapy (AT) with children diagnosed with ASD, and to develop and evaluate a treatment programme based on these elements. Five studies have been conducted to explore if and how AT can be helpful for children with ASD-related problems. The main research question in this thesis was:

Which elements in art therapy can be identified that are assumed to contribute to positive treatment outcomes of children diagnosed with ASD, and which outcomes actually can be achieved if an art therapy programme – designed in accordance with these elements – is applied in practice?

The findings enable a deeper understanding of some basic principles of art therapy for children diagnosed with ASD, its content and structure, characteristic activities of the art therapist, and the context of the treatment. Besides indications regarding general and specific working elements of AT, the study also generated information about outcomes of AT, which can be used to further direct the treatment and its evaluation.

In this final chapter several topics for discussion out of this thesis will be considered. After recapitulating the results of each study and discussing the main research findings, the strengths and limitations of the project will be described, followed by recommendations for future research and practice.

Main research findings

The main research question has been studied by focusing on five more specific sub-questions. The results for each of these sub-questions are recapitulated and structured according to the ‘stages of empirical evidence’ model of Van Yperen, Veerman and Bijl, (2017; see also chapter 1).

Evidence level 1: Description of practices

1. *Which typical elements or components of art therapy for children diagnosed with ASD can be identified that may contribute to positive treatment outcomes, based on (tacit) knowledge of experienced art therapists?*

In this first study (chapter 2) eight experienced art therapists were interviewed to identify core elements that may contribute to AT with children diagnosed with ASD. Exploring the individual (tacit) knowledge of the participating therapists resulted in a set of 'rich' examples illustrating the practice of AT with these children. On a descriptive level these naturalistic examples illustrate learning and development of the child with ASD during art making in relation to the approach of the therapist.

Analysing these examples with a systematic approach based on grounded theory has delivered substantial agreement among the respondents regarding the question which specific elements are typical for AT treatment of ASD children, regardless of differences in characteristics of children and personal approaches of therapists. The qualitative data resulted in the description of typical AT elements in four categories. Category 1) Art means and expressions: typical was the finding that ASD children with restricted behavioural patterns seemed to develop in making variations with art materials after being invited to do so. Also, they seemed to improve in connecting words to experiences. Category 2) Art therapist's activities: typical was the finding that an active structuring role of the therapist appeared as one of the main components in treatment. Also, the art therapist supports the child in connecting words to experiences. Category 3) Contextual aspects: Typical were findings related to the importance of the treatment setting, the referral criteria and aims, and the duration and frequency of the treatment. Category 4) Outcomes of the treatment: a typical finding was the transfer of what was learned during AT outside the treatment setting, referring to outcomes such as improved flexibility ("... at home another place for the peanut butter is no problem anymore for the child ...") and social communication skills ("... talked at home about what happened today ...").

The four categories were shaped into the **Context and Outcomes in Art Therapy (COAT)** model (p. 10). The name of this model with its layers around the core of AT is an equivoque: AT is like a coat that is worn as an extra layer to protect and facilitate the child in his/her environment. Further reflections on the COAT model will be described below.

The identification of these practice-based understandings on AT for children with ASD is a prerequisite for recognition, appreciation and development/improvement of a treatment programme (Van Yperen, Veerman, & Bijl, 2017). Making practice elements explicit and structuring this knowledge in the COAT model enables the exchange of relevant information for clients and professionals, and contributes to research.

Evidence level 2: Theoretical evidence from the literature

2. *Based on the literature, which typical elements in art therapy for children diagnosed with ASD can be identified that contribute to positive treatment outcomes?*

The second study (chapter 3) was a review of the literature (Grant & Booth, 2009). The search strategy was restricted to identify relevant elements of art therapy for normal/high intelligent children age < 18 years with ASD. Literature in academic and practice-based sources from 1985 up to and including 2012 on art therapy with these children was collected. No decent outcome-monitoring studies (like change or goal-attainment studies) or experimental studies (like RCTs or CCTs) could be identified. However, 18 well-described and well-documented case studies were found. Content analysis was applied and structured according to the preliminary COAT model (p. 10). This resulted in theoretical from the literature concerning the descriptions of characteristics of the four layers of the model.

At the core of the COAT model – art therapy means and expressions – the identified characteristics showed quite some overlap with the current practice in AT with ASD children as identified in study 1 (see above). A wide range of art materials, themes, interests, and varied levels of skills came across in the case studies. Also, the way of communicating between child and art therapist about the art making process and the artwork itself could be identified as part of this category. Regarding the second category – the art therapist’s activities – five relevant aspects could be distinguished: attunement to the children’s needs, supporting the child in having visual and tactile sensory experiences, supporting the child with the art creating process, supporting the child with relating words to experiences, and stimulating the child to share experiences. Concerning the third category – contextual aspects or elements – some information about settings was reported. Children were attending AT mainly in school settings but also in residential and outpatient care settings, private practices, and summer camps. In addition, main reasons for referral were articulated, like social communication problems, outbursts of anger and anxiety, restricted interests, and attention problems. It was striking that in 12 of the 18 cases the duration of the treatment was not reported. In the other six cases the duration varied from ten weeks to many years. In some cases parents and teachers were involved. Also, a positive transfer was reported: the child talked at home or at school more frequently about experiences in daily life. Concerning the fourth category – the outcomes of treatment – the following specifications

for psychosocial improvement of the child were found: improvement in flexibility and relaxation, in self-image, in social behaviour, and in learning skills.¹

Evidence level 2: Theoretical evidence from practice

3. *To what extent is there consensus among art therapists and referrers regarding the relevance and applicability in daily practice of typical elements of art therapy with children diagnosed ASD, identified in studies 1 and 2?*

In order to determine agreement about the defined typical elements of art therapy with children diagnosed with ASD found in the first two studies, a two-round Delphi panel and focus group discussion were carried out as the third part of research in this dissertation (chapter 4).

In the Delphi study, relevance and applicability of the defined elements were rated by experienced art therapists and referrers (n=29). The degree of consensus per element was computed using the Gower coefficient. For the second Delphi round the items were selected based on the level of agreement on the items. The remaining items were adjusted using written comments of respondents. Results were subsequently clarified in a focus group for those elements that showed poor consensus. This discussion involved seven professionals.

As a result consensus was achieved on 46 typical elements classified into four domains – sense of self, emotion regulation, flexibility and social behaviour – which relate to goals, means, and outcomes of AT, and include art therapists' attitude and behaviour.

The broad panel contributed to the definition of typical elements that form the building blocks of an AT programme for children diagnosed with ASD, and two measurement instruments to enable treatment evaluation.

Evidence level 3: First empirical evidence on outcomes

4. *What is the interrater reliability of two observation instruments that have been developed from study 3 to monitor child's and therapist's behaviour: the OAT-A (for observing the child's behaviour during AT) and the EAT-A (for evaluating the therapist's behaviour during AT)?*

Study four (chapter 5) concerned the development of two measurement instruments to evaluate the behavioural changes of children diagnosed with ASD following therapy, and therapists' actions during AT. One instrument is intended to systematically observe the child

in AT (OAT-A); the other for evaluation of the art therapist's behaviour treating a child diagnosed with ASD (EAT-A). Both instruments have moderate to substantial levels of interrater reliability when users are trained.

Both measurement instruments were based on the same 46 consensus-based elements as the treatment programme 'Images of Self', developed in study 5 (see below). Evaluation of this programme with measurement instruments that were based on these building blocks contributed to the systematic monitoring of relevant elements in the treatment programme. In addition, a solid foundation for evaluation was created with the implementation of a training course for art therapists – this to ensure an optimal understanding of the programme and the measuring instruments.

5. Which outcomes can be achieved by implementing 'Images of Self', an art therapy programme for children diagnosed with ASD?

The central hypothesis in the last study in this dissertation was that the AT programme 'Images of Self', including the art materials/expressions and activities of the art therapist, may positively influence the children's 'sense of self', 'emotion regulation', 'flexibility', and 'social behaviour'.

In a multiple case study 12 children were assessed five times on the outcomes 'sense of self', 'emotion regulation', 'flexibility', and 'social behaviour'. Children were observed during the art therapy sessions, at school and at home by respectively the art therapists, parents and teachers. The programme was evaluated by combining the results of the quantitative measurements and the qualitative written comments by the multiple informants.

Nearly all participating children (n=11) scored 'high' at the start of AT considering the norms of the applied measuring instruments (BRIEF, CBSQ, SPPC) for severity of problematic behaviours. All children had varied problems with 'sense of self', 'flexibility', 'emotion regulation', and 'social behaviour'. According to the quantitative data seven children reliably improved in 'flexibility' and 'social behaviour' during and after treatment in AT, at home and in school. According to the qualitative data all children were perceived by their parents, teachers and art therapists as happier and more stable, and more able to give words to their experiences. Also, improvements in 'emotion regulation' (n=8) and 'flexibility' (n=4) were

reported. In addition, parents reported that some children (also) showed 'anxieties' (n=4) and 'oversensitivity' (n=2).

Discussion of main findings

This thesis generated to new empirical knowledge about art therapy for children diagnosed with ASD. Findings concern the problems of children diagnosed with ASD and the elements that appear to be relevant for their treatment. These findings were structured according to the COAT model (p. 10) and included the development and first testing of two measurement instruments and the evaluation of the AT programme 'Images of Self'.

The child with ASD and AT

ASD is a pervasive disorder that affects multiple areas of functioning. In this thesis four specific areas of problematic behaviour for children diagnosed with ASD have been identified, defined and monitored in AT, at home and at school, and concerned problems with 'sense of self', 'emotion regulation', 'flexibility', and 'social behaviour'. Twelve children participated in the multiple case study. They were referred for AT because of a 'negative self-image', 'emotion regulation problems' and 'social behaviour problems'. The quantitative analysis based on BRIEF and CSBQ showed that seven out of twelve children improved in 'flexibility' and 'social communication' after finishing the AT programme 'Images of Self'. This positive change was perceived during AT, at home and at school. Only four children showed strong improvement of 'self-esteem' and 'social acceptance' in the SPPC. The children's satisfaction with their treatment was not monitored or assessed. Regarding qualitative results from written comments, parents, teachers and therapists reported that children were happier and more stable (n=11), and improved in 'sense of self' (n=9) and 'emotion regulation' (n=8).

The included children were of school age between 6-12 years. Because of their normal to high intelligence profiles it was expected that AT might create opportunities to verbalize experiences and to reflect on these. High intelligence profiles of children with ASD are often related to more problematic behaviours but also to better treatment outcomes (Konstantareas & Steward, 2006).

Based on the results it may be argued that 'Images of Self' offers opportunities for development of children's social and communicative skills. Participating art therapists

mentioned that the children were referred to AT because regular verbal treatments were not expected to be sufficient enough to communicate with the children about their problems. This may be interpreted as an indication that the *nonverbal approach* serves as an alternative opportunity for these children. Sharing art activities with an art therapist and simultaneously talking about what and how the child creates images can be understood as an exercise to train the skills for connecting words with their experiences.

The verbal qualities of high functioning children with ASD are often overestimated. They often seem to express themselves well verbally, but have difficulties in understanding others (Miniscalco, Fränberg, Schachinger-Lorentzon, & Gillberg, 2012). This is one of the pitfalls that may create misunderstanding and insecurity in the child. Art making offers opportunities to function on at an emotionally younger age that might better fit for the child. Also, the concreteness of the visual and tangible experiences creates opportunities for verbalizing and reflection (Regev & Snir, 2013). Opportunities for these children to improve verbal and nonverbal communication are supported by the idea of the *triangular relationship* between the child, the art making and the art therapist (Regev & Snir, 2013).

Besides improvement of social and communicative skills, improvement in flexibility is also an important outcome of our study. Touching and shaping varied art materials provokes and stimulates new experiences. During art making it is also encouraged to recognize preferences and dislikes of colours, techniques and shapes. Our study indicates that improved flexibility of the child seems to transfer to the situation at home and at school. This makes the (social) lives of these children easier.

The results indicate that the programme might have had impact on the daily lives of the children. The ability to talk about what happened today, about what is liked or disliked, or about what makes or made the child so angry, supportive to children to adapt easier to peers and to respond to the demands of daily life, such as functioning in a classroom or at home.

Typical consensus-based elements of AT

Experienced art therapists, psychologists, psychiatrists and teachers who refer children for AT highly agreed on specific characteristics of AT that meet the problematic behaviours of children diagnosed with ASD. Art therapists had a more appreciative image of AT than referrers. It might be that art therapists have a more optimistic view of what

happens in AT and higher expectations of the results to be achieved. In this context it is interesting to know that a positive attitude of professionals seems to contribute to positive social and vocational outcomes (Byrne, Sullivan, & Elsom, 2006; Cleary, Horsfall, O'Hara-Aarons, & Hunt, 2012).

The elements and concepts that have been made explicit offer an outline for the AT profession and training to understand, investigate and conduct the treatment. They provide a language to communicate with third parties such as other professions and policymakers. In addition, they enable further specifications for AT: Are these elements only valuable for children diagnosed with ASD with normal to high intelligence profiles or also for children with lower intelligence profiles? Are the elements also valuable for AT with children and adults with other disorders? And, could the elements – specific for AT – be valuable for other creative therapies like dance movement therapy, drama therapy, and music therapy?

The COAT model

Studying the practice of art therapy for children diagnosed with ASD resulted in a broad variation of elements that are part of this practice. To investigate the complexity of the area we used the COAT model (**C**ontext and **O**utcomes of **A**rt **T**herapy). The categories in the COAT model concern basic concepts regarding AT and support the understanding of contextual and specific elements of the intervention under study. The model provided a useful structure to our research.

In Chapter 1 it was argued that in the Netherlands the need for transparency, evidence and effectiveness of psychosocial interventions is increasingly being emphasized (Van Yperen, Veerman, & Bijl, 2017). From a huge amount of terminology about general and specific working elements, behaviour changing techniques, core elements, etc. the COAT framework (p. 10) was developed to achieve unity in the development and research into our intervention (Van Yperen, Veerman, & Van den Berg, 2015).

The COAT categories are in line with other models that promote evaluation and research in child and youth care, developed to improve transparency and effectiveness of interventions. Several frameworks are serving evaluation of interventions in child and youth care (Veerman, Spanjaard, & Van Yperen, 2015). Three (interacting) 'layers' are described as main characteristics of descriptions of interventions in this field: contextual characteristics, structural characteristics, and content characteristics. The COAT model (p. 10) meets the

aims of such a framework that supports systematic evaluation of core elements of a treatment. Additional to the three-layered framework in child and youth care, the COAT model makes the expected outcomes of the treatment explicit. Another addition is that the COAT model also concerns observable behaviour of the children when creating art.

A well-known AT model is the so-called *ATs-molecule* (Smeijsters, 2008). In this model theoretical approaches, methods, therapeutic techniques of all AT modalities (including drama therapy, music therapy, dance therapy, and art therapy) and also the professional organisation and professional development are related to aspects of treatment within an organisation. When comparing the more general ATs-molecule with the more specific COAT model, it appears that in the ATs-molecule tasks of the arts therapists are described in a wide manner, concerning all kinds of theories, therapeutic relational aspects, art forms and techniques. In the COAT model the categories are focused on one target group and also therapeutic relational aspects, art forms and techniques, contextual aspects and outcomes are specific for this target group.

Besides the importance of the COAT model for the target group in this thesis, the model may be supportive for further research into AT. For the AT profession in particular the model may contribute to the development of evidence-based practice and practice-based evidence on AT. The model may also be applied to other groups of clients and not be restricted to children diagnosed with ASD. For research into ATs the COAT model includes all components that may contribute to a positive treatment result. Investigating these components might contribute to more reliable empirical knowledge about the treatment, including the activities of the art therapist, the conditions for the treatment, and its results.

For AT professionals and for AT training courses application of the COAT model means that development of professional skills is something broader than simply being an expert in the treatment regarding client's needs and aspects of the professional alliance; the art therapist also has to take into account and relate to contextual aspects and treatment outcomes outside the direct treatment.

Two measurement instruments

The OAT-A and EAT-A enable evaluation of art therapy with children diagnosed with ASD. Using both measurement instruments may support a deeper understanding of AT practice with children diagnosed with ASD for art therapists as well as for art therapy

students. Both instruments can contribute to improvement of the professional treatment of children diagnosed with ASD. The OAT-A provides art therapists and art therapy educators with an instrument to *systematically observe* the behaviour of the child with ASD during AT. The EAT-A supports art therapists and art therapy educators to understand and *systematically evaluate* their own behaviour and actions when treating a child diagnosed with ASD, which may strengthen treatment integrity.

For further improvement of the OAT-A and EAT-A it should be considered that our qualitative results indicated that some children had problems with anxieties and some with over-sensitivities. These behaviours were not included in the first two studies but are recognized as comorbidities in the population of children with ASD in the evaluation of 'Images of Self'. A meta-analysis showed that 40% of children with ASD present an anxiety disorder (Van Steensel, Bögels, & Perrin (2011), and a review of anxiety studies in children and adolescents with ASD documented that between 11% and 84% have experienced anxieties (White, Oswald, Ollendick, & Scahill, 2009). When revising the OAT-A and EAT-A it should be considered to add items about anxieties and over-sensitivities.

To improve reliability and validity of the measurement instruments more psychometric investigations are needed.

The programme 'Images of Self'

The outcomes of the evaluation of 'Images of Self' are a reason to reflect on the results, on components of the programme that might have contributed to the results, and on the role of the participants.

Reflection on the outcomes

The results of our multiple case study concern explorations on the level of first empirical evidence. The observed outcomes are based on a well-described intervention with trained professionals who applied the programme to 12 children. Three validated measurement instruments (BRIEF, CSBQ, SPPC) were applied to obtain a broad picture of the children's development. Behavioural change was monitored by parents and teachers, and by art therapists and children themselves, thereby using a pretest-posttest design with a follow-up measurement. Reliability of results, i.e. behavioural change was determined with the Reliable Change Index (RCI). An intervention study carried out according to this design gives *indications* of the effectiveness (Van Yperen, Veerman, & Bijl, 2017). Given a 57% rate of

successful treatments on the outcome measures 'flexibility' and 'social behaviour', these results can be interpreted as quite substantial compared to general 'reduction of problems' rates of 35–62% with psychosocial interventions for children and youth 12 months after the treatment began (Jörg et al., 2012; Nanninga, Jansen, Knorth, & Reijneveld, 2018).

Not all individual treatments in this study were successful and there are no obvious reasons why. When comparing scores from parents and teachers in all cases no patterns were recognized in the data which could be an indication why the treatment did not sufficiently work. It could have been expected, for instance, that children show more problematic behaviour at home than in the classroom because of the 'familiar place' at home. In the same line of reasoning it could have been expected that children would behave more problematic where parents were ill or wrapped in divorce. The classroom was expected to offer a more structured, predictable situation which is presumed to generate rest for the child. In some cases the art therapist reported that the match between child and teacher was not very supportive for the child. A further study with a higher number of cases might generate more understandable patterns regarding the impact AT has on children at home and at school.

Also, when comparing the results regarding diminishment of problem behaviours there were no clear patterns found. One case without comorbidities developed very well, as may be expected. In some cases that did not develop well or even showed increased problems, there might have been a negative influence of children's 'anxieties' or 'over-sensitivities'. As indicated before, these states of being were not monitored nor explicitly treated within the evaluated AT programme.

The partly successful results mean that no miracles can be expected from 'Images of Self'. At the same time the power of creating art may be considered; it is expected to engage children in a positive way, which may be a positive achievement for the child in problematic situations (cf. Regev & Snir, 2013).

Reflection on the programme

There are a few effective treatments for children diagnosed with ASD (Boer & Van der Gaag, 2016; Van Rooyen & Rietveld, 2017). (Young) children with ASD can make progress when receiving *intensive* interventions (> 25 hours in a week) based on cognitive behavioural principles. These treatments have demonstrated to be effective on development of social

skills (Scheeren, Koot, & Begeer, 2019; Van Rooyen & Rietveld, 2017). There are controversial findings about effects of another nonverbal therapy, music therapy. One study showed (some) effectiveness of music therapy for social communicative skills of children diagnosed with ASD (Geretsegger, Elefant, Mössler, & Gold, 2014). Another study did not find significant effects for music therapy for children with ASD (Bieleninik et al., 2017). Lack of significance was explained by possibly insufficient training of music therapists. Generally, ASD treatments are oriented at improving social communication (Van Rooyen & Rietveld, 2017). Compared with outcomes of other treatments in this area our results look promising.

Our programme intended to positively change four outcomes: 'sense of self', 'emotion regulation', 'flexibility' and 'social behaviour'. Associations between these concepts have been demonstrated (Weiss, Thomson, & Chan, 2014). For practitioners it may be a 'logical' idea that becoming aware of sensory experiences and thoughts during creation of art contributes to an improved 'sense of self'. And this 'sense of self' is needed for regulating stress and emotions. In addition, it is presumed that expanding experiences and skills during creation of art is related to higher flexibility, and more flexibility creates more self-confidence (which is part of 'sense of self'). The three components 'sense of self', 'emotion regulation' and 'flexibility' contribute to the social behaviour of the child with ASD (although a description of 'social' might fit better when defined as 'improved adaptive skills'). Art therapists reported that the four outcomes, also reflected in the OAT-A and EAT-A, were helpful to understand and treat the children diagnosed with ASD.

The 'Images of Self programme' is characterised by a *developmental approach*. This approach matches with differences in calendar age and psycho-emotional age and with weak integration of verbal skills with performance skills of children diagnosed with ASD. The children often show difficulties in understanding verbal messages. Art making is seen as an important contribution to the child's development and offers opportunities to practice with connecting words to experiences (Schweizer et al., 2009; Verfaillie, 2011).

It is interesting to know that a guideline for *music therapy* was developed with partly comparable ingredients to 'Images of Self' (Geretsegger et al., 2015). It concerns the open offer of art resources / musical means to facilitate and adapt to the child's needs and an active attitude of the art or music therapist to attune to the expressions of the child. Attunement to the child's needs and expressions is one of the consensus-based elements as an activity of the art therapist in relation to the child with ASD. In music therapy this is called

synchronizing and this is described as one of the main working elements of music therapy for children with ASD (Geretsegger et al., 2015).

The choice of a 15 sessions programme was based on various reasons. In the literature the number of AT sessions with ASD children varies from five weekly sessions to several years (Schweizer, Knorth, & Spreen, 2014). Children diagnosed with ASD often need time to get used to a new situation. After the first three sessions of getting used to AT, treatment may start. In the literature, we found that children with severe problem behaviours mostly take advantage of treatment in the first four months (Garland et al., 2014). The duration of 15 weeks 'Images of Self' seemed to be appropriate for the majority of the children included in the study. It is not clear if it is to be expected that expanding the duration of 'Images of Self' would improve the outcomes.

A treatment programme like 'Images of Self' supports a further implementation in the field of art therapy for children diagnosed with ASD, we assume. Using an empirically founded and uniform set of terms and concepts is helpful in advancing the professional image of art therapists. An evidenced-based treatment can function as a *guide* for providing the best clinical care. Implementation in training courses, mental health care and mental health guidelines of such a programme enables an improvement of the quality of professional practice and makes it transferable, especially because of its concreteness (Foolen, Van der Steege, & De Lange, 2011).

Empirical evidence of the treatment programme can be enhanced by applying a *treatment fidelity study* (Capin, Walker, Vaughn, & Wanzek, 2018). This involves a more detailed research of the competencies and behaviour of the art therapist, of the contribution of parents and teachers, and the contribution of art materials and the art expressions of the children. Also, the structure of the programme can be evaluated: phases in the treatment, amount of sessions, content and structure of sessions. Finally, the conditions for the treatment need to be evaluated, such as: the art therapy room, the training of art therapists, and the use of video recordings as a tool to communicate with parents.

Reflection on the role of participants

The outcomes of the evaluation of 'Images of Self' included the perspectives of participating parents and teachers. Involvement of parents and teachers in monitoring the results at home and at school helped to gain an insight into the transfer of the treatment

results. Moreover, the involvement of parents as a contribution to treatment for children diagnosed with ASD is recommended (Boer & Van der Gaag, 2016; Hungate, Gardner, Tackett, & Spencer, 2018; Van Rooyen & Rietveld, 2017). Research shows that an active participating role of clients in mental health care services generally contributes to achieving positive outcomes (Metselaar, Knorth, Van Yperen, Van den Bergh, & Horstman, 2016; Metselaar, Van Yperen, Van den Bergh, & Knorth, 2015).

In our study the *participation of parents* was achieved in two ways. First, parents of children in the programme received *psychoeducation* to improve their understanding and interactions with their child. Psychoeducation is strongly recommended for parents of these children (Van Rooyen & Rietveld, 2017) and may even sometimes be a more substantial contribution to positive change of the child than the intervention itself (Stormshak, Bierman, McMahon, & Lengua, 2000). Increased understanding of problems and more consistent behaviour of parents may have a lifelong impact on children (Kazdin & Wassell, 2000). However, despite the psychoeducation not in all cases did children improve at home. Art therapists reported that situations at home such as illness of (one of) the parents or a divorce were sometimes influencing the home situation negatively. Parental inconsistent behaviour is related to disrupting behaviour of children with psychosocial problems (Garland et al., 2014). In three cases the art therapists reported that they thought a parent might have ASD (but undiagnosed) which restricts the implementation of the psychoeducation.

Further, it is suggested that in some situations more practical instructions, such as ‘modelling’, might be helpful (Visscher et al., 2020). This supports our approach of parents *watching videos* of AT sessions. In this study parents were stimulated to talk about interaction opportunities with their child by watching videos of AT sessions together with the art therapist and sometimes also with the child. Another option for experiencing alternative interactions between parents and child could be to collaborate with the child and the parent(s) *during* AT sessions. In the current programme this has not yet been practised, until now.

To involve teachers was not easy in some cases. Working in separate organisations took extra efforts and time of art therapists to exchange information and to ensure that teachers completed the measurement instruments. On the other hand, for children who received AT in the school situation there was often a short line of communication between the art therapist and the teacher. According to the art therapist, collaboration – such as

exchange of information between teacher and art therapist about the child – improved a mutual understanding of difficulties in the classroom and in the AT situation.

All art therapists, parents and teachers were invited to give a rating for satisfaction with the treatment at the end of the treatment. The average rating given by the parents was the highest: 7,7 out of 10. Teachers' and art therapists' ratings were 7,2 and 7,1, respectively. Such a rating gives a general impression about more than 50 possible variables that may be influencing the satisfaction of parents, teachers and clients about a treatment (Viefhaus et al., 2019). It is plausible to associate satisfaction with the quality of the treatment (Edlund, Young, Kung, Sherbourne, & Wells, 2003). Parents' highest scores might reflect the fact that parents are highly involved in the therapy process. Therapists often score lower than others on satisfaction (cf. Viefhaus et al., 2019). Involving the therapist perspective as a particularly critical rater seems to be very important – in practice and research – and may help therapists to reflect on and, therefore, enhance the quality of their therapies. Teacher ratings in our study were higher if there was a good relationship between the child and the teacher. When there was not such a good relationship between child and teacher the situation in the classroom could be very difficult to manage. Actually, this was the case with the lowest scoring teachers. This may have influenced the treatment results.

Strengths and limitations of the study

Reflecting on our study, we can distinguish strengths and limitations in our research.

Strengths of the study

In this thesis a broad scientific approach was practiced. The applied methodology supported in-depth explorations of literature and practice. With experienced professionals AT practices were explored and 46 typical elements were identified. Based on consensus between these professionals about the typical elements two instruments for monitoring AT with children diagnosed with ASD – the OAT-A and the EAT-A – were developed and tested on interrater reliability. Next, a treatment programme, called 'Images of Self', was developed based on these findings and evaluated, thereby making use of information of all parties involved: children, parents, art therapist and teachers. The studies, attuned to one another, resulted in first empirical evidence of AT for children with ASD.

Most intervention studies of children with ASD use single case designs. This is a flexible method that allows identification of functional aspects in the treatment (Hungate et al., 2018). Evaluation of the 'Images of Self programme' with 12 cases in a mixed-methods design and multiple informants provided solid information on the development of the participating children. The application of standardized measurement instruments to monitor children's progress during and after treatment was combined with qualitative information of stakeholders on the child's behaviour in AT, in the home situation and at school. The applied design in this last part of our study fits very well with the aim of a first evaluation of AT and might be considered as a preferred strategy.

Involving art therapists, AT students, children with ASD, their parents and teachers in different parts of the study was an essential part of the research. The multiple informants approach contributed to insight in different perspectives regarding AT processes and outcomes, including – in our final study – varied indications on the transfer of treatment results to daily situations for the child such as home and school.

Limitations of the study

Ideally, in N=1 methodology a baseline measurement of the child's functioning *before* treatment starts, provides a reference point, to which to compare the development of the child during treatment (Delsing & Van Yperen, 2017). Because of the severity of the problems with the included children, it was considered as unethical to take time (months) to implement a baseline measurement. Nevertheless, assessing a baseline of for instance four weeks may provide a control condition that better enables a causal attribution of the results to the AT programme.

The findings of the treatment evaluation were based on a relatively small sample of case studies and showed varied data. It was expected that qualitative data would have been helpful to explain these variations – for example, why some treatments seemed to be unsuccessful or what had been the impact of contextual factors, such as a bad relationship between the child and the teacher, or a divorce of the parents. However, the information gathered led in most cases at best to new questions, more than hypotheses or concluding explanations.

With a focus on the child outcomes of the 'Images of Self programme', there was less information collected regarding elements in the three other categories of the COAT model.

For instance, hardly any information was generated about AT means and children's artistic expressions. In a sense this also applies to the work done by the art therapists. Although their input in AT was monitored with the help of EAT-As, we were not yet able to clarify if and how their actions contributed to the child's achieved outcomes. Continued research, including a further analysis of collected qualitative data, could help to get a view on these aspects.

In retrospect, the not monitoring of the children's satisfaction regarding the treatment was an unfortunate choice. A rating or evaluation by the child would certainly have had added value. Clients are an important source of information about, for instance, the connection of a treatment with the children's needs. For research aims children's feedback may contribute to improvement of the intervention (Metselaar et al., 2015, 2016).

Recommendations and future perspectives

Recommendations and perspectives for future research

The findings presented in this thesis show that there are still challenges for future research. First, core elements and working mechanisms of the 'Images of Self programme' can be further investigated. A check of ingredients of 'Images of Self', including its failure and success factors, might contribute to quality improvement of the programme. Evaluating treatment fidelity, including tracking the actions of the art therapist, should be part of this. In addition, systematic client satisfaction measurements can contribute to determine which elements in the treatment need further development. Instruments that might be useful in this context are the SRS (Session Rating Scale) and ORS (Outcome Rating Scale) (Hafkenscheid, Duncan, & Miller, 2010), as well as the SMILEY 9-12, a Dutch rating scale for children's treatment satisfaction (Huyghen, Metselaar, Post, Von Rudnay, & Knorth, 2020). Studying the effectiveness of 'Images of Self' can be further developed according to the model of stages of empirical evidence (Van Yperen, Veerman, & Bijl, 2017). This could be realized by conducting more case studies with repeated (including baseline) measurements. Involving a bigger sample of children participating in 'Images of Self' could generate more power and improves external validity. It might also create opportunities to better assess the associations between changes in children's behaviour in AT, at home, and in the classroom.

In addition, (quasi) experimental studies may yield still more evidence of the effectiveness of 'Images of Self'. But in this kind of study a condition should be that the experimental and control group are properly matched because of the high variation in problem behaviors of ASD children. Because of the complexity of problem behaviors of children with ASD the opportunities to define the population for a RCT are restricted. ASD is a developmental disorder and is permanent. Quality of life of people with ASD is lower than of people without ASD (Van Heijst & Geurts, 2015). Expanded follow up studies may enable monitoring if positive outcomes of AT remain, or if AT can be helpful (by implementing one or more sessions) for 'recharging', for instance during a period of a changes with high impact in the life of a child.

The influence of AT on some problem behaviours of our population which were not included in this study could be investigated in future research. These problems were mentioned in some comments of respondents and also seem to be characteristic for children diagnosed with ASD. It concerns 'anxiety problems' and 'over-sensitivity' for all kinds of stimuli and influences in the daily context of the child (for instance, divorce of parents or a teacher who does not match well with the child). It is expected that including and validating these items in the measurement instruments that monitor the child with ASD in AT (OAT-A) and the actions of the art therapist (EAT-A) contribute to further improvement of the quality of the assessment.

Art therapy offers opportunities for people with emotion regulation problems and flexibility problems (Haeyen, 2018; Madani-Abbing, 2020; Péntzes, 2020). A systematic review on these items might support theoretical evidence and further research.

One of the results of 'Images of self' is that children developed their ability to talk about their experiences and about what is going on in their minds. A challenging area for further research concerns 'alexithymia', the inability to identify and describe emotions experienced by one's self or others (Costa, Steffgen, & Samson, 2017; Sifneos, 1973). It is an interesting topic to investigate if the experiential approach of AT supports recognition of emotions and feelings or if it supports cognitive understanding of these states of being.

Recommendations and perspectives for AT with children and ASD-related problems

This thesis is an innovative contribution to the professionalization of AT with children diagnosed with ASD. The collected evidence provides insight in typical elements and building

blocks for AT practices and training courses. With this in mind and also in the light of the results of 'Images of Self', some opportunities for practice need to be mentioned.

Implementation of the programme in youth care organisations and (special) educational settings may support referral to AT and treatment with AT for children diagnosed with ASD. Additional diagnostic information may be obtained by observation of the behaviours of the child with ASD during AT.

Making videos of (some) AT sessions is recommended to help them to understand the child with ASD. For the art therapist the videos are helpful to evaluate his or her interactions with the child. For parents watching the videos together with the art therapist and the child (if (s)he likes to do so) may be supportive to understand what works well in interaction with the child.

The combination of 'Images of Self' with psychoeducation for better understanding the child with ASD is also recommended. This might be combined with watching the videos of AT sessions. Implementation of monitoring the results during measurement moments of 'Images of Self' with OAT-A, EAT-A and validated instruments like the BRIEF and CSBQ, will contribute to achieve insight in specific problem areas and developmental opportunities of the child. This may support a better understanding of and relating to the child by art therapist, parents and teachers.

An opportunity for young children with ASD and their parents is to consider AT as a preventive intervention (Martin, 2009). Early intervention is recommended for children diagnosed with ASD. This may support children to improve their social and communication skills (Pasco, 2018; Will et al., 2018) and support parents for instance to improve their quality of life, reduce their stress level and stimulate better understanding of the child (Bohadana, Morrissey, & Painter, 2019). Exploring experiences in the therapeutic triangle with the parent(s) and child could offer developmental and communication opportunities. The art therapist can function as a model, the art materials and expressions as a tool for communication.

Another opportunity may be found in the field of inclusive education. It is in the news that this approach is often problematic for children diagnosed with ASD, but concrete data are lacking (Nederlands Jeugdinstituut, 2020). Implementing AT in school settings may be beneficial to the child for development of flexibility and social behaviour. Spending 45

minutes a week in an individual AT situation might contribute to more relaxed behaviour in the classroom and a better social atmosphere in the classroom.

Opportunities for training art therapists have been mentioned in this thesis and may be repeated in the light of development of practices and training courses. A training to apply 'Images of Self' and the OAT-A and EAT-A in AT practice would improve treatment opportunities and support implementation of the programme in treatment settings and education.

¹ After publication of the review in 2014, three more publications were found about AT with children diagnosed with ASD. The first study contained interviews with experienced art therapists (n=10) in Israel (Regev & Snir, 2013). Ten themes in the treatment were presented: 1) art making functions as a means for communication and expression for the child with ASD; 2) art materials stimulate the sensory experiences and are an encounter with the 'outside world'; 3) pleasure from artistic activity leads to session engagement; 4) the triangular relationship between the artistic activity in which client and therapist are immersed, reduces the threat of direct, face-to-face intimacy; 5) art making draws the child with ASD out of its 'bubble' by the challenge of tangible and visual stimuli; 6) art making is a controllable situation that enables a learning situation with stimulating challenges; 7) the artistic product creates continuity and offers opportunities to explore the expressions of what is in the mind of the child; 8) art expressions support a notion of self-presence by mirroring the actions of the creator; 9) art making stimulates to expand the range of behavioural patterns; 10) joint art making creates a space that invites for communication. The authors recommend to develop more evidence about the treatment. These results broadly are in line with our findings. Number 3 ('pleasure'), 5 ('out of the bubble'), and 7 ('continuity') are an addition to our findings by making some aspects of AT still more explicit.

The second study concerned a survey among 14 experienced art therapists with the aim to collect information for building a treatment programme (Van Lith, Woolisher Stallings, & Harris, 2017). Specific elements of AT materials were described in line with the findings in our first two studies. Art making was described as a mode for expressing and talking about inner experiences by the ASD child. Specific aspects regarding the actions of the art therapists were presented, especially about structuring the sessions. Contrary to 'Images of Self' this programme prescribed art activities for exercising specific skills and for inviting the child to show specific art expressions. Based on the findings a programme with eight sessions was described; it was not yet tested. This amount of sessions is nearly half of the amount of 15 sessions in 'Images of Self'. Based on our findings we wonder if eight sessions might be enough. The programme is not clear about reasons or problems for referral or outcomes strived for.

The third study was an experimental pretest-posttest design study with nine children (Koo & Thomas, 2019). The Childhood Autism Rating Scale (CARS) was used to measure symptoms before and after eight individual art therapy sessions. Changes in the developmental level of the children's art products were also examined. Results showed that AT significantly contributed to improved cognitive, social and motor skills. The general approach in this study did not yield specific information about the AT process, the behaviour of the therapist, or contextual aspects.

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Samenvatting (Summary in Dutch)

*“Wat zo mooi is van beeldende therapie,
is dat het een taal biedt voor deze kinderen om zich te uiten.”*

Inleiding

Dit proefschrift heeft als doel om kenmerkende elementen uit de praktijk en theorie van beeldende therapie (BT) bij kinderen met autisme spectrumstoornissen (ASS) te identificeren en de evaluatie van deze behandeling mogelijk te maken. Onderhavig onderzoek beoogt een bijdrage te leveren aan ‘evidence-based practice’ van BT voor deze kinderen.

De hoofdvraag in dit onderzoek is: Welke typerende elementen in beeldende therapie kunnen worden geïdentificeerd waarvan verondersteld wordt dat ze bijdragen aan positieve behandelresultaten bij kinderen met ASS en welke resultaten kunnen worden bereikt wanneer een BT-programma, gebaseerd op deze elementen, wordt toegepast in de praktijk?

Volgens de belangrijkste classificatie-instrumenten – de DSM-5 en de ICD-11 – hebben kinderen met ASS vooral problemen met sociaal communicatief gedrag, repetitief gedrag en beperkte interesses. De prevalentieschattingen van aantallen mensen met ASS lopen uiteen van 1% tot 3%. De verhouding tussen jongens en meisjes is 3:1. De ASS kenmerken van jongens en meisjes met ASS verschillen vaak. Een van de verschillen is dat meisjes zich vaak sociaal aangepaster gedragen door bijvoorbeeld gedrag en gebaren over te nemen van anderen en grapjes voor te bereiden om in een gesprek te kunnen toepassen. Van de kinderen met een ASS-diagnose blijkt 44-70% behandeld te worden voor psychische problemen.

Een ‘diagnose’ maakt in grove zin duidelijk over welke populatie we spreken. Echter, in ons onderzoek bleek dat het in de praktijk van BT vooral van belang is om te kijken naar en te werken met individuele kinderen en hun specifieke gedragingen; niet ‘de diagnose’ maar het kind staat centraal. De kinderen in dit onderzoek zijn 6-12 jaar en hebben een ‘normaal tot hoog’ intelligentie profiel.

Kinderen met ASS worden in de praktijk vaak verwezen naar BT. Deze behandeling is in Nederland erkend als algemene interventie, maar er is tot op heden weinig wetenschappelijk bewijs voor de behandelresultaten van BT bij kinderen met ASS.

BT is internationaal gedefinieerd als een vorm van behandeling voor psychische problemen die wordt toegepast in het (speciaal) onderwijs, de kinder- en jeugdpsychiatrie,

en privé-praktijken voor BT. Het beeldend werken wordt ingezet ter bevordering van het geestelijk en fysiek welbevinden van individuen van alle leeftijden. Beeldend werken wordt doelgericht aangewend ter bevordering van expressie en om problemen en innerlijke conflicten te verwerken, gedrag en emoties te reguleren, spanning te verminderen, zelfvertrouwen, zelfbewustzijn en inzicht te bevorderen, en interpersoonlijke vaardigheden te ontwikkelen.

Het werken met beeldende materialen biedt sensomotorische ervaringen en nodigt uit tot persoonlijke expressie. Voor kinderen met problemen op het communicatieve vlak biedt deze voornamelijk non-verbale behandelvorm kansen om nieuwe vaardigheden en gedragingen te ontwikkelen. Doordat het contact met de therapeut verloopt via het beeldend werken, in een zogenaamde driehoeksrelatie, verloopt het contact op een andere manier dan in de gangbare relatie tussen twee personen. Het beeldend werken biedt mogelijkheden voor gedeelde aandacht.

Aanleiding voor het promotieonderzoek waren vele onbeantwoorde vragen over BT bij kinderen met ASS, zoals de redenen voor verwijzing van een kind naar beeldende therapie, kenmerkende elementen van beeldende therapie die bijdragen aan het verkrijgen van een goed behandelresultaat, het feitelijk handelen van de beeldend therapeut, de gewenste voorwaarden voor de behandeling, en de resultaten die met BT (kunnen) worden bereikt. In dit proefschrift wordt onderzoek naar dit soort vragen in vijf opeenvolgende hoofdstukken beschreven.

Het onderzoek is uitgevoerd op de eerste drie niveaus van evidentie voor interventieonderzoek, waarbij de volgende 'treden' van bewijsvoering naar voren zullen komen: 1) beschrijving van de praktijk, 2) beschrijving van theoretisch bewijs op basis van de literatuur, en 3) eerste empirische aanwijzingen voor evidentie (Van Yperen, Veerman, & Bijl, 2017).

Belangrijkste resultaten per hoofdstuk

Na een algemene introductie in hoofdstuk 1, wordt in elk volgend hoofdstuk van dit proefschrift een deelvraag beantwoord. Samen bieden de hoofdstukken een antwoord op de hoofdvraag.

In hoofdstuk 2 staat de volgende deelvraag centraal: *Welke kenmerkende elementen van BT bij kinderen met ASS kunnen worden benoemd die bijdragen aan positieve resultaten van deze behandeling; dit gebaseerd op ervaringskennis van ervaren beeldend therapeuten?*

In deze eerste studie is gezocht naar beschrijvende evidentie met betrekking tot BT voor kinderen met ASS. Om dit te bewerkstelligen zijn er acht ervaren beeldend therapeuten geïnterviewd die kinderen met ASS behandelen. Het exploreren van hun ervaringskennis leverde beschrijvingen van typerende elementen op in vier categorieën: 1) beeldende materialen en vormen van expressie, 2) het handelen van de beeldend therapeut, 3) de behandelcontext, en 4) de resultaten. Kenmerkend voor beeldende materialen en vormen van expressie is volgens onze respondenten bijvoorbeeld dat kinderen met een sterke neiging tot herhalen van voorkeurspatronen meer gaan variëren in hun vormgeving. En kinderen die moeite hebben om woorden te geven aan ervaringen leren dit aan de hand van hun ervaringen tijdens het beeldend werken. Als kenmerk voor het handelen van de therapeut kwam naar voren dat deze actief contact maakt, afstemt op het kind, en de situatie structureert. Wat betreft de behandelcontext is gewezen op de belangrijke rol van ouders, het aantal sessies, en de faciliteiten voor de behandeling. Tenslotte werd er wat betreft behandelresultaten op gewezen dat kinderen flexibeler worden (bijvoorbeeld dat thuis de pindakaas niet meer precies op dezelfde plek hoeft te staan). Ook leren kinderen – zo is de ervaring – beter woorden geven aan wat er in hen omgaat, waardoor ze bijvoorbeeld thuis meer vertellen over wat er op een dag gebeurd is. De resultaten van deze eerste deelstudie zijn geordend in het zogenaamde COAT model: Context and Outcomes of Art Therapy.

In hoofdstuk 3 staat de volgende deelvraag centraal: *Welke kenmerkende elementen van BT bij kinderen met ASS kunnen worden geïdentificeerd die bijdragen aan positieve resultaten van deze behandeling, gebaseerd op wetenschappelijke literatuur?*

In deze tweede studie is een review gedaan naar publicaties over interventieonderzoek uit de periode 1985 t/m 2012 met zoektermen als: art, art therapy, children, autism spectrum disorders, effect en outcome. Er zijn geen grootschalige uitkomststudies gevonden (zoals monitoring-, veranderings- of experimenteel-gericht onderzoek) van BT bij de doelgroep. Wel zijn er 18 goed gedocumenteerde casusbeschrijvingen van BT-behandelingen gevonden bij kinderen met ASS. Deze

beschrijvingen zijn geanalyseerd en de resultaten zijn gestructureerd met behulp van het COAT model. De in de literatuur gevonden beschrijvingen van typerende elementen vertonen overlap met die van de eerste studie.

In hoofdstuk 4 staat de volgende deelvraag centraal: *In welke mate is er consensus onder beeldend therapeuten en verwijzers ten aanzien van de relevantie en toepasbaarheid in de praktijk van typerende elementen in beeldende therapie met kinderen met ASS, zoals die ontleend zijn aan de resultaten van studie 1 en 2?*

Met een Delphi studie (29 deelnemers) en een focusgroep (7 deelnemers) zijn 46 items in kaart gebracht waarover onder de deelnemers voldoende consensus bestond dat het hier om kenmerkende elementen van BT bij kinderen met ASS gaat. De items zijn gecategoriseerd in relatie tot het werken aan vier domeinen van functioneren van kinderen: 'sense of self', emotieregulatie, flexibiliteit en sociaal gedrag. Deze items zijn vervolgens gebruikt als bouwstenen voor twee meetinstrumenten en een behandelprogramma, die in de respectievelijke studies 4 en 5 verder zijn ontwikkeld en geëvalueerd.

In hoofdstuk 5 staat de volgende deelvraag centraal: *Wat is de interbeoordelaarsbetrouwbaarheid van twee instrumenten om het kind met ASS in BT te observeren respectievelijk het gedrag van de beeldend therapeut te evalueren?*

Studie vier betrof de ontwikkeling en eerste psychometrische beoordeling van twee instrumenten om de BT-behandeling van kinderen met ASS te kunnen evalueren. Deze meetinstrumenten zijn getest op interbeoordelaarsbetrouwbaarheid. Het ene instrument is bedoeld voor observatie van een kind met ASS tijdens het proces van beeldende therapie: de OAT-A. Het andere instrument is bedoeld voor evaluatie van het handelen van de beeldend therapeut tijdens therapeutische sessies: de EAT-A. De betrouwbaarheid van beide instrumenten is gemiddeld tot substantieel gebleken wanneer de gebruikers (i.c. de beeldend therapeuten) een training hebben gevolgd.

In hoofdstuk 6 staat de volgende deelvraag centraal: *Welke resultaten kunnen worden bereikt met het programma voor beeldende therapie 'Zelf in Beeld' ('Images of Self'), beeldende therapie voor kinderen met ASS?*

Het doel van deze multiple casestudie was om BT bij 12 kinderen met ASS systematisch te evalueren. Ouders en leerkrachten vulden twee meetinstrumenten in: het Behavior Rating Instrument for Executive Functioning (BRIEF) en de Vragenlijst voor Inventarisatie van Sociaal gedrag van Kinderen (VISK). De kinderen vulden de Competentie Belevingsschaal voor Kinderen (CBSK) in om hun zelfbeeld te kunnen monitoren. Ook werd een formulier ingevuld door ouders, leerkracht en beeldend therapeut met aanvullende observaties over het gedrag van het kind in de vier probleemgebieden 'sense of self', emotieregulatie, flexibiliteit en sociaal gedrag. De instrumenten werden ingevuld bij aanvang, tijdens (twee keer), en bij beëindiging van de BT, alsmede tijdens een follow-up meting 15 weken na einde behandeling. Gedurende de therapiesessies werden de kinderen gemonitord door de beeldend therapeut met behulp van de OAT-A.

Bijna alle kinderen (n=11) scoorden aan het begin van de behandeling hoog ten aanzien van de mate van ernst van de problemen volgens de normen van de toegepaste meetinstrumenten. Problemen van de kinderen kwamen in allerlei variaties en combinaties voor op de gebieden van 'sense of self', flexibiliteit, emotieregulatie en sociaal gedrag. Bij zeven van de 12 kinderen zijn de problemen met flexibiliteit en sociaal gedrag na behandeling significant verminderd. Volgens de kwalitatieve commentaren van ouders en leerkrachten werden de kinderen evenwichtiger en blijer, en konden ze beter woorden geven aan hun ervaringen. Ook het zelfbeeld bij bijna alle kinderen was verbeterd (n=11). De emotieregulatie verbeterde bij acht kinderen. Enkele kinderen toonden, ook na afloop van de behandeling, enige angstproblemen (n=4) en een tweetal werd beschreven als overgevoelig voor prikkels.

Reflectie op resultaten

Afgaande op de resultaten in dit onderzoek is het aannemelijk dat het programma 'Zelf in Beeld' – beeldende therapie voor kinderen met ASS – mogelijkheden biedt voor de ontwikkeling bij kinderen van meer flexibel gedrag en van sociaal communicatieve vaardigheden. Ook heeft deze eerste evaluatie van 'Zelf in Beeld' duidelijkheid gebracht over redenen om naar beeldende therapie te verwijzen; we zagen met name een sterk negatief zelfbeeld, emotieregulatie problemen en sociaal communicatieve problemen als verwijismotieven.

De onderzoeksresultaten bevestigen de verwachting dat het maken van beeldend werk, ondersteund door een beeldend therapeut, aanknopingspunten biedt om te praten over hoe en waarmee het kind bezig is. De concreetheid van visuele en tastbare ervaringen biedt mogelijkheden voor reflectie en om woorden te verbinden aan ervaringen. Naast de ontwikkeling van sociaal communicatieve vaardigheden is het aannemelijk dat het werken met beeldende materialen het opdoen van nieuwe ervaringen stimuleert en dat de variatie in dergelijke ervaringen bijdraagt aan meer flexibel gedrag. In ons onderzoek zijn aanwijzingen te vinden dat de verbeterde flexibiliteit ook thuis en op school wordt waargenomen. Volgens ouders en leerkrachten ondervond een meerderheid van de kinderen die deelnamen aan het onderzoek een positieve invloed van de behandeling op het dagelijks leven. Wanneer kinderen kunnen vertellen wat ze hebben meegemaakt of wat ze zo kwaad heeft gemaakt, draagt dit bij aan een 'makkelijker kunnen functioneren' in de klas, thuis en met vriendjes.

De onderzoeksresultaten kunnen bijdragen aan de verdere professionalisering van BT, aan specialisatie van beeldend therapeuten met betrekking tot kinderen met ASS, aan uitwisseling van informatie met collega's in andere beroepen en met beleidsmakers, aan de opleiding tot beeldend therapeut, en aan onderzoek naar effectiviteit van interventies.

Voor vervolgonderzoek doen we een aantal suggesties. Zo kan het in detail verder onderzoeken van kwalitatieve data die zijn verkregen in het kader van de meervoudige casestudie bijdragen aan verbetering van de meetinstrumenten OAT-A en EAT-A en het programma 'Zelf in Beeld'. Voortgezette (nieuwe) casestudies kunnen ons databestand en de analysemogelijkheden verruimen. De psychometrische kwaliteit van de genoemde instrumenten en de effectiviteit van een geoptimaliseerd programma kunnen vervolgens opnieuw onderzocht worden bij een grotere populatie in een (quasi)experimenteel design. Vanwege de grote variatie in probleemgedragingen bij kinderen met ASS is het dan wel van belang om een goede matching te waarborgen bij de samenstelling van controle- en experimentele groep.

Appendix

Images of Self - Art therapy for children diagnosed with Autism Spectrum Disorders

Rationale

In art therapy (AT) the experiences offered to clients during art making are aimed at change of their behavior, and stabilization, acceptance or processing of their mental problems (Malchiodi, 2003; Rubin, 2001; Schweizer, De Bruin, Haeijen, Henskens, Visser, & Rutten-Saris, 2009). The art therapist supports emotional, cognitive, social and mental functioning of the client by applying a systematic 'cycle' of observing, determining aims, treatment, evaluation and completing of the treatment (Smeijsters, 2008; Visser, 2009). The course in this experience-oriented way of working is based on the triangular relationship between client, therapist and art making. The partly nonverbal character of the treatment offers opportunities for communication with sensitive children, such as children with ASD, and to train and develop new skills and insights. Shaping of art materials offers an opportunity for sensomotoric experiences, personal expressions, and new behavior strategies (Bergs-Lusebrink, 2013; Case & Dalley, 1990; Gilroy, 2006; Hinz, 2009; Malchiodi, 2003).

Aims

It is expected that AT contributes to the development of adaptative skills of the child diagnosed with ASD. The child then changes from demonstrating mainly assimilating behavior – oriented at his/her own impulses and ideas – to showing more often accomodating behavior, i.e. oriented at environmental demands (Boer & Van der Gaag, 2016; Ginsburg & Opper, 1969). It is assumed that adaptive skills are improving if the treatment is focused on the development of a better 'sense of self', more 'flexibility' and 'social behavior', and on diminishing 'emotion regulation' problems of the child diagnosed with ASD.

Main reasons for referral are: 1) 'sense of self' problems (strongly negative self-image, feelings of insecurity); 2) 'emotion regulation' problems (outbursts of anger or anxiety); 3) problems with 'flexibility' (difficulties with change or unexpected situations); and 4) social communicative problems (difficulties with expressing oneself to somebody else concerning thoughts and feelings).

Inclusion and exclusion criteria

The program is meant for children 6 – 12 years, diagnosed with ASD and with normal or high intelligence, who have the ability to connect words to experiences. Excluded are children with too high levels of fear or resistance to working with art materials.

Structure of the program

‘Images of Self’ consists of 15 individual art therapy sessions. The first three sessions are for the child getting used to the art therapy situation and to the therapeutic relationship. The focus is on attunement to art materials. The art therapist has an active role in supporting the child in gaining positive (success) experiences. The second phase (sessions 4-8) in the treatment is oriented at supporting the child in varying with art materials and in trying different ways of expression. The art therapist stimulates the child to explore own preferences and resistances in materials and forms of expression. The third phase of the treatment (sessions 9-15) is aimed at connecting words to experiences and at working more independently.

Content of the program

The offered art activities in the program will be adapted to the individual child, thereby taking into account the variations in problems and skills of each single child.

The focus in the program, related to the four problem areas, can be defined as follows.

1. AT offers the child opportunities for the development of a more articulated *sense of self* (cf. Stern, 1985). The assumption is that experiences during art making support a development in ‘sense of self’ by touching and seeing art materials and expressions and also by connecting words to these experiences, like ‘What do I see? What do I experience? How do I feel? What am I doing?’
2. *Emotion regulation* opportunities appear in two ways: 1) in art expressions, for example when a child makes ‘scary monsters’, and 2) during art making, for example when a child is stressed or angry because the art making is not according to his/her expectations. Both ways of expressing emotions offer opportunities for talking about the fears, stress, etc., and provide chances to explore or train other strategies in art making. Development can be observed in the coming to existence of new and adapted skills.
3. Difficulties with *flexibility* are often seen in AT with children diagnosed with ASD in restricted behavioral patterns, difficulties with unexpected occurrences and a lack of

overview during the art making. Art making offers opportunities for improving flexibility by making small changes in – conveyed or selected – art materials, themes and techniques. The positive experience of ‘making something’ is a good support to focus at new opportunities instead of keeping a restricted and disappointed attitude. Planning skills and skills to having overview of tasks are both assumed to contribute to flexibility and may be obtained during creating art.

4. *Social behavior* can be improved by different relational experiences. Joined attention skills will be stimulated during art making processes. Children with ASD often do not ask for help when they don’t know how to continue, or ask for help all the time and do not rely on their own problem-solving skills. In AT they can learn to ask for help. They have often have difficulties in working together on a task and in AT they can learn in a playful manner how to collaborate.

Actions of the art therapist

The art therapist has an active and supportive attitude to facilitate new experiences for the child. The therapist structures the situation when needed, helps to direct attention to experiences by asking questions such as ‘What colour do you like most?’, ‘How does this material feel in your hands?’, etcetera. For stimulation of relational aspects the therapist furthers shared attention and shared enjoyment. Also, the therapist trains the child to ask for help when needed and to give words to experiences.

To improve an understanding of non-reciprocal relational behavior of the child, the art therapist is trained in recognizing the child’s typical behavior and in advancing the therapeutic process.

Conditions

Well equipped art room

For the treatment a well equipped art therapy room is recommended. Among others it means that the child can choose and take profits from a broad spectrum of art materials and techniques. Also video equipment should be present (see below).

Collaboration with parents and teachers

Collaboration between the art therapist, the parents and the teacher regarding their way of understanding and approaching the child is expected to contribute to the creation of a maximal supportive environment for the child.

Psycho education of the parents supports the treatment of the child.

It is preferred that teachers are trained in working with children with ASD.

Monitoring the child

In order to monitor the child's behavior during AT a measuring instrument was developed, called OAT-A (Observation in Art Therapy of a child diagnosed with ASD). Its four scales refer to the concepts 'sense of self', 'emotion regulation', 'flexibility' and 'social behavior'. The instrument should preferably be scored by the art therapist after sessions 3, 8 and 15.

Results are most reliable when the therapist is trained and supervised in using OAT-A.

Measurements with the Behavior Rating Inventory of Executive Functioning (BRIEF) and Child Social Behavior Questionnaire (CSBQ) before, during, at the end and 15 weeks after treatment by parents and teachers are part of the procedure. Discussing these scores with the art therapist supports understanding the child and provides insight in developmental opportunities and difficulties.

Monitoring the art therapist

In order to monitor the art therapist's behavior during AT a measuring instrument was developed, called EAT-A (Evaluation of actions of the Art Therapist, working with a child diagnosed with ASD). Its four scales refer to the concepts 'sense of self', 'emotion regulation', 'flexibility' and 'social behavior'. The instrument should preferably be scored by the art therapist after sessions 3, 8 and 15. Results are most reliable when the therapist is trained and supervised in using EAT-A.

Videos

Part of the treatment is that the art therapist makes video records during the sessions 3, 8 and 15. These records will support the art therapist in monitoring the child's and his/her own performance and is helpful in scoring the OAT-A and EAT-A.

Watching and discussing video records together with parents (and teachers) serves to reflect on how to understand and support the child in the best possible ways. An 'informed consent' form should be signed in advance by all parties involved.

Dankwoord

Beeldende therapie is een van de mooiste vakgebieden die ik ken. Het beroep dat wordt gekenmerkt door het beeldend vormgeven als middel voor expressie en communicatie, heeft verbale kaders nodig om zich te kunnen ontwikkelen en zich maatschappelijk steviger te kunnen profileren en positioneren. Het verbinden van beeldende expressievormen en andere non-verbale belevingsaspecten van het vak met beschrijvende taal vind ik een mateloos interessante uitdaging.

Eén van de doelgroepen die kunnen profiteren van beeldende therapie zijn kinderen met autisme. Tijdens mijn ervaringen als beeldend therapeut merkte ik dat bij het werken met deze doelgroep basale principes van beeldende therapie aan de orde kwamen: hoe is de verbinding met wat ze beleven en doen te ontwikkelen via beeldend vormen? Van de kinderen met autisme en hun beeldend werk heb ik tijdens mijn loopbaan als beeldend therapeut veel geleerd. Deze kinderen en ook degenen die meededen aan dit promotieonderzoek, maakten diepe indruk met de ontwikkelingen die ze doormaakten en hun kwetsbaarheden. Hun aandeel bij de verschillende deelonderzoeken en ook van hun ouders, leerkrachten en beeldend therapeuten vormde de basis van dit project. Steeds werd ik weer enthousiast door de (onmisbare) samenwerking met de praktijk.

De beeldend therapeuten die zich enorm hebben ingezet voor het realiseren van het behandel-evaluatieonderzoek wil ik op deze plaats heel hartelijk bedanken voor hun waardevolle bijdragen: Cara Boerwinkel, Mirjam van Houwelingen, Ciska Martens, Elly Meijer, Eveline Peper, Leanne Nieuwenhuis en Leonie Scholtz. Daarnaast had dit promotieonderzoek nooit kunnen plaatsvinden zonder de medewerking van professionals aan de andere deelonderzoeken. Het is heel erg fijn dat zoveel beeldend therapeuten wilden deelnemen aan interviews, de Delphi studie, focusgroep en de interbeoordelaar-betrouwbaarheid studie. Odette Aalhuizen, Patricia Aarts, Henk Aartsma, Siemke Andela, Roos Birnie, Heleen Boelens, Claartje Boissevain, Dorien Bredenhoff-Kroese, Anneke Criens, Lisette Dissel, Anna ten Doeschot, Terenja Dors, Alice Dunsbergen, Ingrid Farnholt, Paula Gilles, Ingeborg Grootendorst, Margot Hagen, Esther Hendriks, Gerda Kamphuis, Mariëlle Koenders, Bina Koster, Clarinda van Lunteren, Marije ter Maat, Olga van Mansom, Rineke Neutel, Margé Nijhuis, Ans Pieters, Christine Post, Winneke Rauh, Martine Ruijter, Kamille Rijksen, Saskia van Rijn, Nanda Sanders, Roos Schippers, Shannon Schroor, Thecla Sierks, Josephine Spijker, Renate Stelpstra, Harriët Teeuw, Beatrix Verhofstad, Jan Vijver, Sanne van der Vlugt, Miran van Wardenburg, Joke Wassenaar, Hillie van de Weg, Chris Wilms, Linda

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Het is een voorrecht om in de gelegenheid te worden gesteld om een 'privé opleiding', zoals ik het promotieonderzoek heb ervaren, te kunnen volgen. NHL Stenden hogeschool, met name de toenmalige directeur Alie Schokker, stond achter dit project. Ik prijs me gelukkig met het enthousiasme van Alie voor N=1 onderzoek als belangrijke bijdrage voor de onderbouwing en positionering van vaktherapeutische beroepen.

Het was een belangrijke stap voorwaarts voor het onderzoek dat de instellingen voor kinder- en jeugdpsychiatrie Accare, De Bascule, GGZ Centraal Friesland, Therapeutisch Centrum GGZ en Speciaal Basis Onderwijs Focus toestemden in medewerking aan de behandel evaluatie! Dit is tevens een bijdrage aan de maatschappelijke erkenning van beeldende therapie.

Voor de onderzoeksbegeleiding heb ik mogen genieten van een trio van experts op aanvullende kennisgebieden. Onze samenwerking was vanaf het begin constructief en verliep in ontspannen sfeer. Erik, de belangrijkste begeleiding bij het hele promotietraject lag bij jou. Vanaf het begin heb je mij open, positief-kritisch en trouw ondersteund met de jouw eigen precisie en wetenschappelijke betrokkenheid. Al was beeldende therapie niet jouw werkveld, met je voorliefde voor praktijkgericht onderzoek, jeugdhulp en grote

onderzoekservaring heb je bijgedragen aan het welslagen van dit project. Marinus, je introduceerde de N=1 methode middels het lectoraat Small-n-designs, op de opleiding Vaktherapie bij NHLStenden hogeschool. Jouw waardering voor de beroepspraktijk was een vruchtbaar vertrekpunt om te onderzoeken hoe en in hoeverre ervaringen in beeldende therapie meetbaar te maken zijn. Met jouw Groningse nuchterheid heb je me geholpen om té gedetailleerde ‘darlings’ te ‘killen’ en de grote lijnen weer te geven. Tom, met jouw expertise, op het gebied van praktijkgericht onderzoek naar werkzame elementen in de jeugdhulp, heb je me vele malen de weg gewezen naar onderbouwing, verbinding en verfijning van analyses. Beste heren, woorden zijn niet toereikend om jullie te vertellen hoe bijzonder ik het vind en hoe dankbaar ik ben dat jullie me al die jaren hebben begeleid. Op de vele gedeelde momenten van onzekerheid gaven jullie mij het vertrouwen dat ‘het goed zou komen’! Waarvan akte.

Begin jaren '90 liet kinder- en jeugdpsychiater Hans Michielsen mij kennismaken met de theorie van Daniël Stern over de vroege ontwikkeling. Hij stimuleerde me om te gaan schrijven over kinderen met vroege ontwikkelingsproblemen in beeldende therapie. Helaas is hij veel te vroeg overleden. Een andere belangrijke inspiratiebron is Marijke Rutten – Saris, van wie ik veel heb geleerd over de verbinding tussen lichaamstaal en beeldelementen en over spiegelen en afstemmen in beeldende therapie. Zij heeft me geïnspireerd bij het leren begrijpen van vroege ontwikkelingsproblematiek.

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Opgroeien in een intellectueel gezin met geassimileerde ouders die een Joodse oorlogsgeschiedenis met zich meedroegen en een daarbij behorende overlevershouding, leerde me dat er veel ervaren kan worden waar niet over gesproken kan worden en ook dat er veel is waar wél over gesproken kan worden.

De afstudeerscriptie van de opleiding creatieve therapie bij Middeloo was de eerste stap om informatie over (non-verbale) ervaringen op een abstracter niveau te beschrijven. Op de elektrische typemachine met correctietoets van mijn vader ging ik ermee aan de slag. Na deze worsteling was ik ervan overtuigd nooit meer iets te schrijven. Lieve vader, je hebt me ondersteund om mijn eigen weg te volgen. Wanneer ik weer eens niet de makkelijkste weg koos kon ik mijn hart bij je luchten en dacht je met me mee hoe verder. Lieve moeder, jij stimuleerde mijn creativiteit en leerde me moeilijke knopen ontwarren met geduld en humor. Jullie wilden mijn promotie zo graag meemaken. Al blijven jullie altijd in mijn hart aanwezig, ik mis jullie op dit belangrijke moment!

Liefste Paul, toen onze relatie begin 2013 begon, zei ik dat ik dacht over twee jaar wel wat meer tijd te zullen krijgen voor ons. Het werden nog een paar jaar meer. In jouw warme liefde, vrolijkheid, diepgang en grote belangstelling voor van alles en nog wat, heb ik een onvoorwaardelijk maatje gevonden. Je hebt het allemaal op een fantastische manier doorstaan: mijn stress en mijn volle denkhoofd. Ik verheug me op de nieuwe periode die we ingaan.

About the author

Rebecca Celine Schweizer was born in 1960 in Leiden, The Netherlands. After graduating from Rijnlands Lyceum Oegstgeest (HAVO) in 1979 she studied art therapy (BA) at the University of Applied Sciences Utrecht (former 'Middeloo'), Amersfoort, The Netherlands. From 1986-1988 she studied professional innovation (MA) at the University of Applied Sciences Utrecht. In 1988-1989 she studied supervision at the University of Amsterdam and she studied art from 1991-1993 at De Nieuwe Academie in Utrecht. In 2012 she obtained her MA Arts Therapies at the University of Applied Sciences Zuyd, The Netherlands.

Her first job as art therapist was in residential child psychiatric care from 1983- 1994 at RMPI, Rotterdam Medical Pedagogical Institute. From 1995-2001 she worked as art therapist in child psychiatric day care centre Curium, Gouda. Also she was temporarily employed as an art therapist in Amsterdam, Derksen Centrum, outpatient mental care centre for adults and RIAGG Centrum Oud West, Amsterdam, outpatient mental care for children and parents.

Celine started her private supervision practice for art therapists in 1989 and in 1991 she started as supervisor at the art therapy education course at NHL Stenden University of Applied Sciences (former Christelijke Hogeschool Nederland), in Leeuwarden. From 2001 until now she also worked as lecturer in art, art therapy methods, and research. She is a member of the Research Centre 'Small n-designs' at NHL Stenden University of Applied Sciences, Leeuwarden, and a member of the Research Centre KenVaK. Since 2012 she is lecturer and coordinator for 'the case study module', at the Master of Arts Therapies (before situated at Hogeschool Zuyd, and now at Hogeschool Arnhem and Nijmegen). From 2007 – 2020 she represented her University at the General Assembly of The European Consortium of Arts Therapies Educations and since 2010 she is a member of the Scientific Committee of this body. Since 2013 she is a member of the European Federation of Art Therapists (EFAT) and chair of its Research Committee.

Among many activities in the professional field over years, she volunteered for the professional organisation Nederlandse Vereniging van Beeldend Therapeuten (NVBT) since 1983. She contributed in the field of arts therapies as co-author to *'Adviesnota CONO aan de minister van gezondheidszorg over opleiding, positie en organisatie van de beroepsgroep Vaktherapeuten'*, a report CONO (*'Advise for the ministry of health about training, position and organisation of arts therapies'*). She also contributed to the *'Zorgstandaard autisme', 2018 ('Care guideline for autism')* and to the *'Landelijk Opleidingsprofiel Creatieve therapie'*,

(‘National guidelines for arts therapies trainings’) in 1999 and 2008. In 1999. She was co-author of the *‘Beroepsprofiel beeldend therapeuten’, (‘Professional guidelines for art therapists’)*. She has published and edited several articles and books since 1990, including the books *‘In beeld: Doelgroepgerichte behandelmethoden in beeldende therapie.’, (‘A view of: Art therapy aimed at specific problems’), 2001. She also co-edited ‘Handboek beeldende therapie: Uit de verf’, (‘Handbook art therapy: Paint it out’), 2009.* She has presented papers, posters, workshops and Masterclasses about art therapy related topics in several European countries at conferences and universities.

She works as an artist in her own studio.