

Art Therapy for Treating Children with Autism Spectrum Disorders (ASD): The Unique Contribution of Art Materials

By: Dafna Regev, PhD, The Graduate School of Creative Art Therapies and the Emili Sagol C.A.T. Research Center, University of Haifa, Israel

Sharon Snir, PhD, Tel Hai College and the Graduate School of Creative Art Therapies, University of Haifa, Israel.

The present study focuses on the perceptions of art therapists regarding the unique contribution of working with art materials in treating children diagnosed with ASD in the process of art therapy. Ten expert art therapists who work with children with ASD were interviewed regarding their interventions with the children. A systematic qualitative analysis of the interviews was conducted to identify the interventions that were most effective. Data analysis led the researchers to identify ten major functions pertaining to the role and contribution of art in the therapeutic process: (1) Art - an additional means of communication. (2) Art Materials - a means of sensory activation. (3) Pleasure from artistic activity leads to session engagement. (4) Art as a third party mediator in the client-therapist relationship. (5) Art draws the children out of the autistic bubble. (6) Art provides a controllable environment. (7) The artistic product helps create continuity. (8) Art records and helps create a notion of self presence. (9) Art helps increase the child's range of patterns. (10) Joint drawing as a space that invites communication. The findings underscore the contribution of art as an intervention tool in treating children with ASD.

Keywords: Art therapy, art materials. Autism, reclaiming function.

Introduction

The use of art therapy in treating children diagnosed with Autistic Spectrum Disorder (ASD) began in the 1960s and 1970s. Therapists reported the methods they devised using art materials to address the challenge of working with the population of children with ASD. One of the major challenges they describe is "penetrating the 'autistic bubble'" to make contact and communicate with the client, and thus facilitate the child's growth and development. Using the same approach, the current study formulates a general theory regarding the role and unique contribution of art in the therapeutic process. To this end, it draws on clinical therapists' large pool of knowledge, which is based on clinical experience, observations, perceptions, insights and approaches to their use of art in working with and treating children with ASD.

Pleasantal-Berger (2007) listed the following six areas of difficulty that characterize work with children with ASD: (1) Theory of Mind deficiency; i.e., children with ASD cannot conceptualize the other as having thoughts, beliefs and feelings different from their own (Colle, Baron-Cohen & Hill, 2007; Moran et al., 2011; Peterson, Wellman, & Slaughter, 2012). (2) Executive Function deficiency. Executive functions enable the individual to organize everyday activities towards a particular purpose. A deficiency in these functions makes it difficult to solve cognitive problems, behave in a way that is socially and emotionally appropriate, process information or exercise

adaptive functions (Landa & Goldberg, 2005). (3) Difficulty understanding complex emotions of the self and others and conceptual difficulties connecting parts of a game that includes the expression of ideas and emotions into a whole scenario (Greenspan & Weider, 2006). (4) Difficulty understanding and applying social skills (Bellini, Akullian, & Hopf, 2007; Murray et al., 2009). (5) Feelings of loneliness (Bauminger, Shulman & Agam, 2003; Lasgaard, Nielsen, Eriksen, & Goossens, 2010). (6) Hyper- or hypo-sensitivity of each of the senses. Any one of these difficulties can cause children to misinterpret or incorrectly process critical information as they learn to communicate with their surroundings, which in turn impairs their attentiveness and their ability to connect and communicate with others (Greenspan & Weider, 2004).

These difficulties in communication are also noticeable in the development of creativity among children with ASD (Charman & Baron-Cohen, 1993; Hermelin & O'Connor, 1990). Although many features of ASD are propitious for strong creativity, often these children skip the pre-representational stage and proceed directly to the schematic stage. Typically, their drawings are characterized by rigidity and repetition, and they find it difficult to express their emotions, thoughts and ideas through drawing. Children with ASD take no interest in their completed artistic creation and, in fact, as soon as the work is done, they seem to have no recollection of it whatsoever. As these children work, they can move from one drawing to the next and display no sense of continuity. Because they exhibit no spontaneity, they need to be guided through the creative process (Evans, 1998).

The inter-personal communication difficulties that characterize children with ASD also affect the development of a relationship between therapist and client (Evans, 1998). Typically, these children do not seek approval, follow instructions or forge relationships with

the treating therapist. During the therapy sessions, these children do not express any preference for a particular activity and frequently appear to concentrate on insignificant objects (Emery, 2004).

In recent years a vast amount of data has accumulated regarding clinical interventions with children with ASD that involve artwork (Bragge & Fenner, 2009; Emery, 2004; Evans & Dubowski, 2001; Martin, 2009; Osborne, 2003). These findings have been presented in works by several clinicians who have attempted to conceptualize and theorize their clinical work. The current study attempts to take this conceptualization one step further by synthesizing the clinical knowledge of a set of expert therapists in the field and using this to systematically construct and define the functional value of using art in the therapy clinic when treating children with ASD.

Method

Participants

This study is based on interviews conducted with ten art therapists, 9 women and 1 man, aged 33-60 (see table 1). These therapists were nominated by their peers in a snowball sampling technique, as experts in treating children with ASD. All participants were art therapists trained in highly reputable programs for Art Therapy studies and work with children with various autistic spectrum disorders in special education settings tailored to the needs of this population. The ages of the clients treated by these therapists range from 3 to 18, with a broad spectrum of functional levels (see Table 1 for details). This wide age range reflects the special education system in Israel in which many special educational settings for ASD children provides services for diverse populations. All of the participating therapists agreed having their interviews used for research purposes by signing an informed consent form. The therapists were instructed to give examples from treatments without any identifying details.

Table 1 – Therapists' Demographics

No.	Age	Gender	Setting	Age of clients	Function level of clients	Theoretical orientation	Supervisor	Seniority	Seniority in Autism
1	49	Male	Private & Public	6-18	High	Psychodynamic	Yes	12	11
2	42	Female	Private & Public	3-8	All levels	Psychodynamic, Object relations	Yes	17	10
3	60	Female	Private & Public	5-14	High	Behavioral	No	20	8
4	41	Female	Private & Public	3-12	All levels	Psychodynamic, Behavioral (DIR), Phenomenological	Yes	15	8
5	47	Female	Public	16-18	All levels	Anthroposophic, Holistic	No	10	3
6	33	Female	Public	3-6	All levels	Psychodynamic, Behavioral (DIR)	No	3	3
7	43	Female	Public	6-18	All levels	Psychodynamic	No	5	5
8	55	Female	Private & Public	12-18	High	Cognitive Behavioral	Yes	10	5
9	44	Female	Private & Public	3.5-6.5	All levels	Psychodynamic	Yes	6	6
10	44	Female	Private & Public	2-6	All levels	Psychodynamic	Yes	14	12

Measure

The interviews were semi-structured to allow new viewpoints to emerge freely, and to enable a better grasp of the perceptions of the participants, and collect vivid examples from the clinic regarding the role of the art in the therapy process (McCracken, 1988). A loose interview schedule was designed to gradually focus the participants on issues related to the use of art in their work with ASD children.

The interviews with the therapists were conducted by graduate students trained for this purpose. The interview plan had six main subjects. At the beginning of the interview, the art therapists were asked to provide details on their personal and professional background. Then they were asked about their affinity with the ASD population, and about their perceptions about the uniqueness of work with them. In the third part, we asked all therapists to describe their challenges while working with these children. Subsequently, the fourth part discussed the therapy goals as perceived by the therapists. With respect to these goals, the therapists were asked in the fifth part to describe a therapy session treating a child with ASD, while relating to the way the room is organized, the materials that are most accessible to the client, the type of interventions they typically use (e.g., type of activity, the role of verbal communication), and the role of the client-

therapist relationship in these sessions. Last, we asked the therapists directly about their views on the functional value and contribution of art to the therapy session.

Procedure

The first stage was to identify therapists who met the criteria for this study. One of the researchers contacted potential participants via phone, explained the purpose of the study and asked for their verbal consent. All ten art therapists agreed to participate in the research. We asked the participants to think prior to the interview about the main issues in their work with children with ASD and in particular to reflect on the functional value of using art in their treatment. Then a meeting was scheduled between the consenting participant and one of the trained students at a location convenient for the participant-therapist. The interview was conducted and recorded during this single meeting.

Data Analysis

The ten interviews served as the basis for the data analysis. Transcripts were prepared from digital audio recordings and interview notes. Grounded theory methodology (Charmaz, 2006) was used to analyze the data. In the first stage of analysis, the open coding, the two researchers read the interview transcripts and each separately identified relevant themes and meaning units in each interview, ranging in length from a small phrase to a paragraph-long excerpt. In the second stage, the axial coding, the researchers held a discussion in which they collectively formulated the main categories and selected a label to characterize the content of each category. They also identified themes that fit into each broader category. A brief description of each theme was printed on file cards with examples from the interviews to clarify each theme. In the third stage, the selective coding, final tuning was made of the definition of the themes. These themes were processed several times, until the researchers were able to incorporate all the information from the interviews.

In the results, "the majority of the participants" refers to 7-10 interviewees, and "some of the participants" to 4-6

interviewees. When only a few (fewer than 4) of the therapists raised a specific theme, it was not included in the findings. The ten categories are described in the Results section.

Results and Discussion

This section presents the ten main categories pertaining to the role and contribution of art in the therapeutic process which emerged from the analysis of the interviews held with art therapists who treat children with ASD .

The participants represented diverse professional approaches and methods and they treat clients at various points on the autistic spectrum; nevertheless, common themes emerged regarding the functional role of art in the treatment of these children with ASD. As mentioned, these functions were discussed within the broader context of both the difficulties encountered when treating this population as well as the therapeutic goals defined by the interviewees.

1. Art - An additional means of communication.

The majority of the participants indicated that clients typically had difficulty communicating, which occasionally was accompanied by a language deficiency. As a result, the content areas available for discussion were limited, as was the ability to handle emotions. In this context, the interviewees related to the creative dimension as a realm that enabled communication and self expression .

“I think of it [art] as a different kind of language that is direct, devoid of pretense and manipulation, innocent, it comes from within... the most primal... it’s an excellent means of expression... There you find communication, an escape from pre-existing patterns; there you find emotions, choices, decisions.”

Art as a medium for self-expression is the corner stone of using art for therapeutic purposes (Martin, 2009; Robbins, 1994; Sack, 2007). However, as the interviewees noted, not all of the children could reap the benefits of this function, due to difficulties in communication and

symbolization, which in turn affect non-verbal communication and creativity (Charman & Baron-Cohen, 1993; Hermelin & O'Connor, 1990). Hence, some children at the pre-symbolic stage use art on the sensory level, rather than on a communicative or aesthetic one, as they pour, mix and knead the art materials.

2. Art Materials - A means of sensory activation.

The majority of the therapists described the importance of working initially with regressive art materials, as well as with para-art materials such as water, sand, and dough, in sessions with ASD children in the pre-symbolic stage. The basic sensations of pouring and palpating can elicit the child’s curiosity and activates the child’s senses. The materials enable the child to experience cause and effect and to encounter the world through the senses.

“These materials connect to something very primal, they invite a leisure-like experience, unrushed, without pushing the children onto something for which they are still unprepared. They invite experimentation, lessen anxiety and arouse interest... They enable some kind of encounter with the world, an experience that is complete and vibrant, a type that otherwise is often absent”.

As some of the participants noted, the sensory encounter with the art materials often addresses the difficulty these children have in regulating stimuli, described by one of the interviewees as a “physical regulation deficiency.” As a result of this condition, children with ASD often react to the wealth of stimuli in a room by spilling materials, toppling equipment, and tilting cupboards to scatter their contents. In these situations, using the art materials provides a medium which the children can study and learn to manipulate gradually. In this role, as a few participants mentioned, art enables not only inquisitiveness and learning, but also release and increased emotional openness. This effect of art and para art materials highlighted the importance of the sensory experience as a means for discussing feelings and emotions such as discomfort, happiness or fear that can

help develop the child's sense of self (Evans & Dubowski, 2001; Evans, 1998; Gabriels, 2003).

3. Pleasure from artistic activity leads to session engagement.

Appealing to the senses is also related to a third function of the use of art materials. Therapy sessions, as described by the majority of the therapists, were intrinsically repetitive, and occasionally characterized by a complete absence of activity; in this context, therefore, the positive experience of the sensory encounter with the art materials served to engage the child with ASD in creative activity. As a result, the child remained focused on the session and within the limits of the assigned space, through elicitation of curiosity and a sense of pleasure. In this way, the child can benefit from the therapeutic effects of art (see also Regev & Guttman, 2005).

“The child was so busy that 45 minutes just weren't enough for him: ‘What? That's it? The time passed so quickly? How did that happen?!’ The children become so deeply engaged that the time just flies.”

4. Art as a third party mediator in the client-therapist relationship.

According to the therapist participants, the therapeutic relationship initiates within the non-threatening framework of artistic activity. All the interviewees referred to this relationship as a therapeutic goal in their work with children with ASD. The artistic activity in which client and therapist are immersed becomes a third party in the room, mediating between them, reducing the threat of direct, face-to-face intimacy. The art materials, objects as opposed to living beings, are perceived by the children as non-threatening, and thus they are less anxious about engaging with them. Nevertheless, these materials contain, albeit covertly, the potential for a dynamic interaction, which evolves gradually between the client and the therapist who introduces these materials. Thus, one of the interviewees told of a client who suddenly withdrew after an initial period in which the relationship

began to develop. The therapist understood this as a sign of the client's anxiousness regarding the intimacy inherent in the therapeutic relationship.

“At some point, I suggested we play with (lighting) candles and, slowly but surely, we began communicating again through the mediation of this third element, the candles... We began working with the candles and a very beautiful process developed between us. Gradually he showed signs of wanting to come back for the next session, until finally he would rush into the room eagerly.”

Introducing the materials, working on the artistic activity within the session and organizing the session around creativity all provide a common ground where the client and therapist can share being and doing. It is within this common space that the interaction develops; this is where the elements of a relationship can be experienced, expressed and processed. Themes such as dependence vs. independence, giving and receiving, asking and responding come into play within this shared space. Interestingly, in this context, almost all of the interviewees mentioned organizing the materials in a way that ensures the need for interaction, by placing them somewhere hidden or high up. In this way, they avoid flooding the child with the stimuli, but still arousing the child's curiosity in an inviting and appealing manner.

“If they want something they have to ask me for it, which means communication; otherwise, they would never need to interact and there would be no communication whatsoever”.

As was described in the interviews, shifting the focus away from the interpersonal interaction and onto the art materials helps alleviate anxieties that stem from the interaction and makes the situation altogether more tolerable for the child with ASD (Bragge & Fenner, 2009; Evans, 1998; Evans & Dubowski, 2001).

5. Art draws the children out of the autistic bubble.

The sensory qualities of the art materials, the colors, scents, potential sounds and tangible textures, make them

appealing and inviting, thus eliciting the clients' curiosity. In this sense, the materials have the potential not only to encourage interaction but also to create the need to open a window onto the world and reach beyond the autistic bubble. Thus, some of the therapists felt that art based interventions could attract the child's attention without having to intrude on the child's inner world in a manner that could be perceived as threatening.

“For example, the use of primary materials such as water and fire arouses their inquisitiveness, their curiosity to observe and learn, which otherwise is noticeably absent. It provides an opportunity for communication and sensation, a way of connecting with the world.”

6. Art provides a controllable environment (where the child can simply be).

Preserved art materials, such as pencils, markers or chalk were described by some of the therapists as a particularly good match for use with some children with ASD, because these materials have a passive and static quality, thus providing the children with a safe and controllable environment. In this manner, children can cope with their anxiousness without feeling threatened within this environment. As described in the literature, in this tolerable arena, the child can develop a sense of his or her own presence, and even the ability to tolerate the interpretation of emotions (Evans, 1998; Martin, 2009; Sack, 2007).

“The children tend to use materials that they can control graphically, such as pencils and markers. They prefer the solid quality that makes the materials controllable, as these enable them to counter their anxiety with a sense of control.”

7. The artistic product helps create continuity.

As some of the interviewees mentioned, children with ASD often have difficulties with symbolism, which in turn has a deleterious effect on their ability to perceive any type of continuity, e.g., continuity of events, memories, or associations. The fact that experiences cannot be

adequately registered in the child's mind gives rise to a great deal of anxiety that the child is unable to express. As a result, the child disconnects from the outside world and draws into himself. This inner world takes over the child's entire being.

However, since artistic activity leaves an actual trace in the form of a product that can be preserved and returned to at a later time, it helps create a sense of continuity. The child can see the continuity, as he or she develops, constructs and affects the artistic product. Thus, the artistic product becomes the palpable connection between one session and the next, in a process that helps develop the capacity for symbolism.

“Before the sessions began, I asked the parents to provide a work shirt, and the child selected one of his father's shirts, as he is very attached to the father. After each session, he'd come home and tell his father what he'd done to the shirt, where he'd added a spot of color, and through these spots he actually related his own actions and experiences. Furthermore, he was reporting on his ability to accomplish something, to be active, which was a completely unprecedented development. The father came to me with tears in his eyes and said ‘with that shirt I feel like I myself am present in the therapy session with him’... It's like a history book that records his actions, which is amazing for this child, whose experiences of the world are always so fragmented; it's as if he can't remember from one week to the next or doesn't even know what he did, but this object remembers for him”.

According to clinical reports (Emery, 2004), this function is extremely important in creating the shift from pre-symbolic work with materials to graphic representations of items in the real world.

8. Art records and helps create a notion of self presence.

In some of the interviews, participants mentioned that within the creative process, as the child leaves a mark of his own doings on the page, on the wall, or in the room,

the artistic product becomes a record of the child's presence within the given space .

“He would hold his hand [over the page] as if he wanted to leave an imprint of his hand, but he'd just look at me and wouldn't actually do it. Only slowly and gradually did he venture to let his hand print on the page. I understood this as a growing willingness to leave his mark on the world, and so I reflected back to him his increasing ability to take up physical space in the world”.

This function relates to the real existence of the artistic product as a document that registers the presence of its creator in the concrete world. This is similar to the most primary and essential significance of art, namely a mark that one leaves in one's surroundings, much like a child who draws on the wall or dips a finger in the porridge to create swirls. It provides proof of the child's ability to affect his or her environment, thus visibly demonstrating the existence of the self within the environment (Kramer, 1971).

9. Art helps increase the child's range of patterns.

Interviewees referred to children's tendency towards repetitive patterns of behavior, both in terms of the content of the sessions and in their activities with art materials. However, the majority of the interviewees noted that one of the main functions of the use of art was to prompt additional patterns. This broadening of the repertoire could take the form of the way the material was used or it could refer to the children's ability to vary, enrich and develop a narrative through a repeated image.

“I had one child who drew frightening sharks throughout the entire year. At first they were these gigantic black things and one shark would cover an entire page, with a giant mouth and teeth. Slowly, however, the sharks became smaller; then there was a mother and father shark, and even a family of sharks with shark neighbors. Then came other types of fish and by the end of the year there were only little fish and not even a single shark”.

It would seem that varying the art materials in more advanced stages of therapy helps the child break away from rigid repetitions and encourages the young client to attempt to create something new (Evans, 1998; Evans & Dubowski, 2001).

10. Joint drawing as a space that invites communication.

One of the accepted therapeutic practices in art therapy that addresses interpersonal relationships is the technique of joint drawing. Creating a joint work of art enables reciprocal learning, interpersonal interactions, attentiveness and touch (Snir & Hazut, 2012). Some of the therapists raised important issues concerning the use of this technique with ASD children. They noted that working jointly on a single page brings together the two creators in a situation in which they have to relate to each other, and thus provides an opportunity for interpersonal interaction .

“Within the last year I've begun using Winnicott's drawing game with one child. We start with a shape and then take turns. For a child who seems blocked, and for whom use of language is almost a foreign activity, to complete something from a circle that I drew is a feat, and that's the kind of doodling work we do from time to time”.

The shared space can also provide an opportunity for modeling, where the therapist creates something and invites the client to expand his or her repertoire of graphic expression. However, some of the interviewees described situations with this technique in which the child was wary of any intimacy and the need for separateness made it impossible to work together on a single sheet of paper. Similarly Gunter (2007) noted that a joint presence within a limited space can feel threatening to a child with ASD. The interviewees resolved this by seeking to establish cooperation using reciprocal attentiveness and observation, but with two separate sheets of paper. In this manner, each could demonstrate his or her attention toward the other on the page, yet without the threat of

intimate sharing and within the protected limits afforded by the separate spaces.

“One child would draw repetitively on his page, and I would create the same but parallel drawing on my own page. This went on for months, to the point that I began to have a phenomenological perception of the power of a line, of the use of pressure and direction. I understood this by doing what he did, rather than merely observing his actions. The other thing that happened was that I slowly began to perceive a theme: he was drawing the two of us, an image representing him and another representing me, and so I began to direct the way things were going. He would draw something and then wait for me to draw the same thing, and when I did something he imitated my drawing, and so I began to add meaning to the images, I gave them names, and thus we developed a gentle dialog between our (separate) drawings. He made choices: some of the things I drew he chose to use in his drawing and others he rejected, but suddenly there was a relationship that developed, without us having exchanged a single word.”

Conclusion

The current study focuses on art therapy, a field that is becoming more prominent in the context of treating children with ASD. This field offers a range of interventions using art materials, which help expose ASD clients to new experiences. The creative artistic intervention encourages the child to connect with the outside world and the people that inhabit it.

In recent years, art therapists from all over the world have begun to report on their own experience working with children with ASD, and discussing their observations and conclusions on the available interventions and approaches (Bragge & Fenner, 2009; Emery, 2004; Evans & Dubowski, 2001; Martin, 2009; Osborne, 2003). The current study is an attempt to expand on this initiative and to increase our understanding of the use of art therapy in

treating children with ASD. To this end, interviews were conducted with ten art therapists in Israel whose expertise includes working with children with ASD. Although these interviewees have clients with diverse difficulties pertaining to various points on the ASD spectrum, they all nevertheless attested to the potential therapeutic effects of the use of art materials in their sessions.

The list of functions underscores the power of art to induce communication with the world, as captured in the term “reclaim” coined by Alvarez (1992). According to Alvarez, therapists treating especially difficult populations, e.g., children or adults with ASD, clients with deficiencies or a history of abuse, must act as a sturdy, vibrant and inviting presence for their clients, in order to awaken and sustain the personality that the client has needed to conceal and protect. To this end, Alvarez suggests that therapists should learn to identify the clients’ lifeless repetitions and experiences of boredom and find a way to inject some life and vigor into them and thus expand the range of experience of these clients. As the findings of the current study suggest, the qualities of art and work with art materials provide a way to “reclaim” these clients, by inviting them out into the world. The qualities of art and its materials provide a space that is alive, present, activating and enjoyable, where the client can feel less anxious in the presence of another person. The findings here suggest that art should be integrated as a useful tool in the treatment of children with ASD.

The functions of art in the therapeutic process, as defined here based on the clinical experience of art therapists, can be extended to therapeutic work with other client populations, as suggested in clinical and theoretical discussions on the beneficial power of art in therapy and education (Kramer, 1971; Regev & Guttmann, 2005; Storr, 1972). Furthermore, these functions may be significant for therapists working in other modalities, such as drama, music, or dance/movement therapy; an exploration of the unique aspects of art in each modality

may help further our understanding and lead to developments within the field of art therapy .

Nevertheless it is important to note that although young clients with ASD can make dramatic progress after being involved in early intervention programs (Greenspan & Weider, 1998), there is no specific therapeutic program, with or without art- based interventions that constitutes a cure.

As the current study has shown, systematic observation which relies on the perspectives of clinicians in the field and their vast experience can be a valuable methodology. Currently there is no agreed-upon terminology to characterize the processes of art therapy with pediatric ASD clients and efforts such as the current overview were designed to contribute to such conceptualizations. It is important to note, however, that these grounded theory assumptions need to be validated through further research by evaluating the development of the therapeutic contract and the therapeutic relationship using assessment and outcome studies. This next step, which should include an assessment of the efficacy of the functions of art in therapy as described here, is crucial for the development of the field of art therapy.

Finally, the current study was conducted in Israel, a relatively small country, which provides a very small scale for research purposes. Undoubtedly, this line of research would benefit from the inclusion of therapists from all over the world. This would provide a much richer pool of perspectives and thus enhance our understanding of the systems, methods and approaches through which art therapy contributes to the treatment of children with ASD.

References

- Alvarez, A. (1992). *Live company*. London, U.S.A. and Canada: Routledge.
- Bauminger, N., Shulman, C., & Agam, G. (2003). Peer functioning and loneliness in high-functioning children with autism. *Journal of Autism and Developmental Disorders*, 33(5), 489-507.
- Bellini, S., Akullian, J., & Hope, A. (2007). Increasing social engagement in young children with autism spectrum disorders using video self-modeling. *School Psychology Review*, 36, 80-90.
- Bragge, A., & Fenner, P. (2009). The emergence of the 'interactive square' as an approach to art therapy with children on the autistic spectrum. *International Journal of Art Therapy*, 14(1), 17-28.
- Charman, T., & Baron-Cohen, S. (1993). Drawing development in autism: The intellectual to visual realism shift. *British Journal of Developmental Psychology*, 11, 171-185.
- Charmaz, K. (2006). *Constructing grounded theory*. London: Sage.
- Colle, L., Baron-Cohen, S., & Hill, J. (2007). Do children with autistic have a Theory of Mind ? A non-verbal test of autism vs. specific language impairment. *Journal of Autism and Developmental Disorders*, 37(4), 716-723.
- Emery, M. J. (2004). Art therapy as an intervention for autism. *Art Therapy*, 21(3), 143-147.
- Evans, K. (1998). Shaping experience and sharing meaning. Art therapy for children with autism. *Inscape*, 3(1), 17-25.
- Evans, K., & Dubowski, J. (2001). *Art therapy with children on the autistic spectrum – Beyond words*. London and Philadelphia: Jessica Kingsley Publishers.
- Gabriels, R. L. (2003). Art therapy with children who have autism and their families. In C.A. Malchiodi (Ed.), *Handbook of art therapy*, 193-206 .
- Greenspan, S. I., & Weider, S. (1998). *The child with special needs: Encouraging intellectual and emotional growth*. Reading, Mass: Addison-Wesley.
- Greenspan, S. I., & Weider, S. (2004) *Yeladim im tzrachim meyuchadim (The Child with Special Needs)*, Kfar Yona: Itim Hafakot.
- Greenspan, S.I., & Weider, S. (2006). *Engaging autism: Helping children relate, communicate and think with*

- the DIR Floortime approach. Cambridge, MA: Perseus.
- Gunter, M. (2007). Scribbling as an activity done together: squiggle pictures as tangible object in the outside world. *Playing the unconscious: psychoanalytic interviews with children using Winnicott's squiggle technique*. (pp. 156-164).
- Hermelin, B., & O'Connor, N. (1990). Art and accuracy – The drawing ability of idiot savants. *Journal of Child Psychology and Allied Disciplines*, 31(2), 217-228.
- Kramer, E. (1971). *Art as Therapy with Children*. New York: Schocken Books .
- Landa, R. J., & Goldberg, M. C. (2005). Language, social and executive functions in high-functioning autism: A continuum of performance. *Journal of Autism and Developmental Disorders*, 35(5), 557-573.
- Lasgaard, M., Nielsen, A., Eriksen, M. E., & Goossens, L. (2010). Loneliness and social support in adolescent boys with autism spectrum disorders. *Journal of autism and developmental disorders*, 40(2), 218-226.
- Lowinger, S. (2007). *Interactive approaches to the treatment of children with communication disorders*. Kiryat Bialik: Ach (In Hebrew).
- Martin, N. (2009). *Art as an early intervention tool for children with autism*. London: Jessica Kingsley Publishers.
- McCracken G.D. (1988). *The long interview*. Newbury Park, CA: Sage.
- Moran, J. M., Young, L. L., Saxe, R., Lee, S. M., O'Young, D., Mavros, P. L., & Gabrieli, J. D . (2011). Impaired theory of mind for moral judgment in high-functioning autism. *Proceedings of the National Academy of Sciences*, 108(7), 2688 -2692..
- Murray, D. S., Ruble, L. A., Willis, H., & Molloy, C. A. (2009). Parent and teacher report of social skills in children with autism spectrum disorders. *Language, Speech, and Hearing Services in Schools*, 40(2), 109-115.
- Osborne, J. (2003). Art and the child with autism: therapy or education? *Early Child Development and Care*, 173(4), 411-423.
- Pellicano, E. (2010). Individual differences in executive function and central coherence predict developmental changes in theory of mind in autism. *Developmental Psychology*, 46(2), 530–44. doi:10.1037/a0018287
- Peterson, C. C., Wellman, H. M., & Slaughter, V. (2012). The mind behind the message: advancing theory-of-mind scales for typically developing children, and those with deafness, autism, or Asperger syndrome. *Child development*, 83(2), 469–85 .doi:10.1111/j.1467-8624.2011.01728.x
- Pleasantal-Berger, N. (2007). Interactive approach for treating children with high functional ASD, in S. Lowinger, (Ed.), *Interactive approaches to the treatment of children with communication disorders*. Kiryat Bialik: Ach (In Hebrew).
- Regev, D., & Guttman, J. (2005). The psychological benefits of artwork: The case of children with learning disorders. *The Arts in Psychotherapy* 32, 302-312.
- Robbins, A. (1994). *A multi-modal approach to creative art therapy*. Philadelphia: Jessica Kingsley Publishers.
- Sack, G. (2007). Creativity in Arts - Creating a bond, in S. Lowinger, (Ed.), *Interactive approaches to the treatment of children with communication disorders*. Kiryat Bialik: Ach (In Hebrew).
- Snir, S., & Hazut, T. (2012). Observing the relationship: Couple patterns reflected in joint paintings. *The Arts in Psychotherapy* 39, 11-18.
- Storr, A. (1972). *The dynamics of creation*. Great Britain: Martin, Secker & Warburg.

Corresponding authors: Dafna Regev, PhD, Email: daf.regev@gmail.com, Sharon Snir, PhD, Email: sharonsnir@gmail.com