Facilitating Attachment in Children With Autism Through Sensory-Based Relational Art Therapy Approach (S-BRATA)

by

Huma Durrani

A Culminating Project and Dissertation

Submitted to the Faculty of the Graduate School, Mount Mary University

In Partial Fulfillment of the Requirements for the Degree

Doctor of Art Therapy

Milwaukee, Wisconsin

May 2019

The members of the Doctoral Committee appointed to examine the dissertation/ culminating project of [Huma Durrani] certify that they have read this document and find it fully adequate in scope and quality to meet the requirements for the degree of Doctor of Art Therapy, and recommend that it be accepted.

Christopher Belkofer, Ph.D., Chair — Date 5/7/19

Lynn Kapitan, Ph.D., Core Faculty — Date 5/7/19

Beth Gonzalez-Dolginko, Ed.D. — Date 5/2/19

Pamela Slane, Ph.D. — Date 5/02/19

Department of Art Therapy, School of Natural & Health Science and Education
Dean Cheryl Bailey, Ph.D.

Dedication and Acknowledgments

I dedicate my research to all children with differences and their caregivers, who have inspired me to pursue my passion to practice, research, teach, and advocate for my profession. I am very grateful to my husband Osman who has supported me wholeheartedly in all aspects of my personal and professional development, as well as my sons Moeez, Murad, and Mikail, who patiently put up with my preoccupations while I was researching and writing.

I owe immense gratitude to Dr. Christopher Belkofer for his infectious passion for the subject, exceptional insight into my work, and appreciative encouragement of my writing. He urged me to push my limits and strive for excellence where I may have stalled. I consider Dr. Lynn Kapitan a mentor who is responsible for my decision to pursue a doctorate in art therapy. Her exceptional research and pedagogical skills have benefitted me in unquantifiable terms. She patiently steered me from the beginning of my research to its very end with unconditional support.

I am especially grateful to both Dr. Pamela Slane and Dr. Beth Gonzalez-Dolginko for their time and invaluable input. Their feedback was meaningful and much appreciated. To the entire art therapy faculty at Mount Mary University, I am indebted to all of you for your expertise, guidance, and personalized contribution toward my doctoral journey.

A special thank you to Romny Vandoros for agreeing to triangulate my work and Shazia K. Jan for her brilliant counsel and continued support. Last but not least, my experience would not have been half as incredible but for my amazing cohort: Kai, Jessie, Melanie, and Tzafi. You guys are perfectly awesome!

Abstract

The purpose of this research is firstly, to bring attention to the psycho-emotional well-being of children with Autism Spectrum Disorder (ASD) within the context of sensory integration dysfunction (SID) and impaired attachment. Secondly, it is to establish art therapy as an efficacious treatment that can address the psycho-emotional needs of children on the spectrum. To this end, an explicit framework called sensory-based relational art therapy approach (S-BRATA) is presented for therapists, that focuses on healing impaired attachment in children with ASD and comorbid SID. A three-article dissertation was chosen to disseminate the research for broader reach, targeted impact and concise delivery of content. The first article which is a viewpoint makes a case for art therapy as an effectual intervention for children on the spectrum which, due to its' broad scope and applicability, can address the core deficits of ASD such as: issues with sensory regulation, psycho-motor regulation, communication and expression. The second article specifically illuminates the relationship between SID and impaired attachment in children with ASD highlighting the emotional and psychological ramifications of disrupted attachment. The impact of SID on impaired attachment in children with ASD is explicated and supported through current discourse on ASD, SID and attachment theory. Furthermore, relevant art therapy literature is reviewed within the context of sensory regulation and relational artmaking positioning it as a suitable treatment to address impaired attachment in children with ASD and comorbid SID concurrently. The third article presents a clinically tested framework or S-BRATA, generated through grounded theory methodology, that addresses SID and impaired attachment in children with autism. S-BRATA is based on findings from three case studies of children with autism and comorbid SID and is informed by research on attachment theory, SID, and art therapy

within the context of neuroscience. Finally, therapists are recommended to use S-BRATA as a preliminary structure for addressing sensory issues and facilitating attachment in children with autism. Further research and development of S-BRATA is suggested with possible cross-disciplinary collaboration.

Keywords: autism spectrum disorder, art therapy, attachment, sensory integration dysfunction, neuroscience

Table of Contents

List of Figures

List of Tables

CHAPTER 1

Introduction

My interest in sensory integration dysfunction (SID) was spurred by the diagnosis of my son Moeez's Autism Spectrum Disorder (ASD). SID is a core deficit of autism and ranked high on the list of challenges that Moeez faced on a daily basis. The sensory domains of hearing and sight (audio-visual), touch (tactile), movement (vestibular), and sense of body in space (proprioception), which I have always taken for granted, became a battle ground for my family as we sought to understand and deal with unfamiliar behaviors that were a manifestation of Moeez's struggle with sensory input that his body was unable to process typically. These behaviors, also known as restrictive, repetitive behaviors (Lidstone et al., 2014), buffered Moeez against a world of painful sounds, sights, and sensations and allowed him to enclose himself in a protective shell. We dealt with SID symptomatically, taking the traditional route of occupational therapy that focused on sensory integration therapy among the other behavioral interventions that were recommended for the treatment of autism. Over time, after years of intervention, Moeez learned to regulate his anxiety and manage his behaviors, but SID left an indelible mark on my life as I suffered vicariously through Moeez's battle with it.

Years later, during my graduate studies in art therapy at LASALLE College of the Arts, Singapore, as I delved deeper into attachment theory (Bowlby, 1969), a nagging realization evoked by memories of Moeez's early childhood and pervasive sensory issues caused me to question the quality of our attachment relationship. I was reminded of my repeated failed attempts to connect with Moeez as an infant through the synchrony of attachment behaviors (Bowlby, 1969) such as: mutual gaze, babble or proto-conversations (Evans & Dubowski, 2001), and gesture; his reluctance to latch on to my

breast, as if it were a painful rather than a pleasurable experience; his unregulated sleep patterns and rigid behaviors; his unresponsiveness to his name for the first 3 years of his life; and his lack of speech until he was 6 years old. It was not that he and I did not share a bond, for he sought my company and recognized me as his caregiver; however, attuned attachment behaviors between us had been deficient, as was co-regulatory activity (Kossak, 2009; Shore, 2014). I recalled how it would take Moeez hours to go to sleep as I lay by his side, and eventually he would move to the floor and press his body into the hardness of the surface until it calmed him into slumber. I was alerted to the possibility of impairment in Moeez's attachment pattern with me due to the severity of his sensory challenges, which may have impeded his connection with me in a world of multisensory perceptions. The seed for my doctoral research had been laid with this dilemma. My continued personal and professional association with other children with autism, some of whom were on the severe end of the spectrum, prompted further inquiry over the years into the connection between SID and attachment.

As I developed insight, through research and practice, into the multisensory nature of art materials and their capacity to induce and contain affect, I began to consider the wider applicability of the inherent qualities of art materials and the precipitate sensations and perceptions. Facilitating art therapy with children on the spectrum and observing their increased self-regulation through the use of art materials, which opened them up to engagement with me culminated in my research question for my doctoral work at Mount Mary University: How can sensory-based relational art therapy facilitate attachment in children with autism?

Importance for the Field of Art Therapy

Researchers have explored ASD and art therapy within the context of art materials and their qualities (Martin, 2009a), the development of artwork (Henley, 2001, 2018; Malchiodi, 2003), the relationship with the therapist (Evans & Dubowski, 2001), and, more recently, relational neuroscience (Chapman, 2014; King, 2016). However, an explicit theoretical and practical context for conducting art therapy with children on the spectrum (Martin, 2009b) particularly within the framework of SID and attachment is lacking.

My research is essential for both the fields of art therapy and ASD because, first, it brings attention to the high incidence of disrupted attachment in children with ASD—an issue that appears to be passed over in favor of addressing behavioral problems in children with autism, not realizing the serious consequences of this oversight. Second, through my research I illustrate practically and present theoretically how art therapy can facilitate attachment in children with ASD while addressing sensory problems that might underlie impaired attachment.

Last but not least, I show how art therapy offers therapeutic potentials over other interventions that may have a relational component but do not address sensory issues at the same time, which could hinder the attachment process. For example, although occupational therapists can address sensory dysfunction, they do not have the expertise to understand and aid attachment as art therapists do due to their training in psychodynamic psychology. Similarly, a psychologist trained in the Developmental Individual-difference Relationship-based (DIR) Floortime model (Greenspan & Wieder, 2006) may be trained to communicate and engage with children with autism but cannot tackle SID concurrently, unlike an art therapist who can attend to sensory issues and relationship development through sensory-based relational art making.

The Gap in Knowledge

Based on my study of the literature, as well as my clinical and personal experience, it appears that most therapeutic interventions for ASD focus on ameliorating the behavioral symptoms of the disorder, such as speech and language delay, difficulty with sensory integration, social skill deficits, and so on. Common behavioral interventions include applied behavior analysis (ABA) , Relationship Development Intervention (RDI), DIR Floortime, and Treatment and Education of Autistic and related Communication-handicapped Children (Autism Speaks, n.d.). The emotional well-being of a child with ASD often takes a backseat among therapeutic interventions for behavioral issues that require immediate attention (Gomez & Baird, 2005). Although it is necessary to address behavioral problems, it can be argued that the emotional well-being of the child deserves equal attention, given the challenges of the disorder and the stress and frustration of coping with them.

I can relate to the frustration of the caregiver whose child may be completely unresponsive, hyperactive, or disruptive to the extent that little communication is possible. It is understandable for a caregiver with a recently diagnosed child with autism to seek the most popular interventions that promise a change in the child's behavior when it is the most obvious symptom of ASD. Because behavioral approaches such as ABA and other autism-specific interventions are considered to be relatively efficacious in addressing behavioral issues in children with autism, parents may tend to opt for them as opposed to art therapy, which can be sidelined due to the paucity of evidence-based research and long-term studies. In addition, art therapy does not provide a quick fix or immediate results because the aim of the art therapist is not to change the child's behavior or teach skills; rather, it is concerned with the emotional well-being of the child

and building a relationship with the therapist in a secure and safe manner—a process that requires time. Whether the emotional health of the child will eventually affect the behavior of the child is another area of research for art therapists; however, it is not within the scope of my current research to explore this question. My point is that an undue emphasis on modifying the behavior of the child with autism may result in the oversight of the underlying emotional trauma that the latter may be experiencing due to relational and communication difficulties. Hence, addressing the root of the behavior—whether relational, emotional, or physiological—is more prudent than focusing first on the symptoms that may manifest as overt behaviors.

Although there is evidence of disrupted attachment patterns in a high number of children with ASD (Seskin et al., 2010), there seem to be few interventions that specifically target attachment issues in children with ASD. Considering the criticality of a secure attachment and its long-term implications for the healthy psycho-emotional development of a child, it is confounding why the issue has not received the attention it deserves in the context of ASD. Therefore, I address this crucial gap by examining attachment in children with ASD through a sensory-based, relational art therapy approach. Moreover, in consideration of producing evidence of a more significant clinical effect for this population, an updating of art therapy practices and theories may be prudent.

Dissemination of Research

I chose the three-article dissertation format for the dissemination of my research for the following reasons: (a) broader reach: journal articles are easily accessible worldwide through online data bases in libraries and universities. There is a much higher

chance of professionals, researchers and students coming across at least one of the three articles through keyword searches as opposed to a single dissertation (b) concise delivery of content: it is much less daunting to read three concise articles compared to a lengthy dissertation (c) targeted impact: articles can be written purposefully to drive across a point, address gaps in literature, critique evidence, make recommendations and claims.

Keeping the above reasons in mind, I purposefully chose a viewpoint as my first article as typically viewpoints are short articles that highlight the author's perspective on key issues, opinions and reflections, challenges or developments in research. My viewpoint article is meant to serve as an introduction to articles two and three and conveys the uniqueness of my position as a caregiver of a child with ASD as well as an art therapist with considerable experience working with individuals with ASD. Based on my personal and professional experience, firstly I draw attention to the oversight in the regimen of autism-specific interventions that are focused on behavior modification and skill building but do not address the psycho-emotional needs of the child with autism. Secondly, I drive home the broad scope and applicability of art therapy within the context of ASD and its core deficits such as: sensory issues, challenges with psychomotor regulation, communication, and expression. I highlight the multi-sensory, multi-dimensional use of art materials by the art therapist mediated by nuances of relational artmaking through case vignettes underscoring the potential of art therapy as a necessary inclusion in the regimen of ASD specific therapies.

The second article is where I present an evidence-based hypothesis implicating sensory challenges for the quality of attachment in children with ASD. I present a consolidated understanding of ASD, SID and attachment, drawing from current research and development and propose an art therapy intervention that has the potential to address

SID and attachment concurrently in children with ASD, a unique advantage that art therapy has over other ASD specific approaches that mostly target only one area of development. Article two sets the stage for the introduction of a sensory-based relational art therapy approach or (S-BRATA) in the third article, which is the culmination of my research where I present a framework for doing art therapy with children with ASD within the context of SID and attachment.

The S-BRATA which is based on three case studies and developed using grounded theory methodology is introduced and illustrated in detail in article three. The article details the methodology, procedures, assumptions and limitations of my research followed by illustration and elucidation of the seven themes constituting the S-BRATA: (a) sense of safety, (b) working with the child's sensory profile, (c) art materials as entry point for engagement, (d) attachment formation through mirroring and attunement, (e) flexibility in approach, (f) structure and boundaries, and (g) art product not the focus. Results and discussion of the case studies that generated the aforementioned themes are situated in current literature from ASD, SID, attachment, art therapy and neuroscience. Finally, the implications of S-BRATA for treatment of ASD are discussed and recommendations made for further research and development of the framework. Collaboration with other professionals in the expressive arts therapies is encouraged to enhance the framework.

CHAPTER 2

A Case for Art Therapy as a Treatment for Autism Spectrum Disorders

Abstract

Art therapy has the potential to address some of the core symptoms of Autism Spectrum Disorder (ASD) by promoting sensory regulation, supporting psychomotor development, and facilitating communication. The multi-sensory nature of art materials and the relational aspect of art making lends itself to the treatment of the challenges inherent in ASD whilst enhancing psycho-emotional wellbeing. These areas offer promising pathways for research.

Keywords: autism spectrum disorder; sensory integration dysfunction; psychomotor regulation; relational art making; art therapy

Introduction

Autism Spectrum Disorder (ASD) can manifest as difficulties with sensory motor functions, communication, and relationships (Volkmar, Chawarska & Klin, 2005). Art therapy has the potential to address these complex issues due to its multi-sensory nature and relational approach (Hass-Cohen & Findlay, 2015). However, art therapy is not sufficiently recognized as a significant intervention for autism due to a paucity of quantitative research, which is considered the benchmark for evidence-based practice (Van Lith, Stallings & Harris, 2017). Consequently, caregivers of children with autism opt for therapies that emphasize the criticality of early intervention for skill building and modifying behaviors. The common behavioral interventions are supplemented with speech and language therapies, occupational therapy for sensory motor issues and, in some cases, bio-medical and dietary interventions.

As a parent of a child with autism, I can understand why behavioral approaches that promise relatively quick results appeal to distressed parents struggling with non-communicative or behaviorally challenging children. These treatments are in contrast to a more measured approach like art therapy that focuses first on relationship building before attending to behaviors (Kuo & Plavnick, 2015). However, there appears to be an oversight with regards to the psycho-emotional needs of the child with autism, a fact that dawned on me first as a parent and later as an art therapist. Ignoring this aspect has detrimental effects, which become especially significant due to a high incidence of reported comorbidities of anxiety and depression in children with autism (Ben-Sasson et al., 2007). Not to mention, art making can be fun and may be an excellent resource for a child struggling under the weight of an otherwise tiresome therapy schedule.

I do not intend to undermine neither the importance nor the efficacy of the commonplace therapeutic interventions for ASD. Rather my aim is to draw attention to a possible gap in the regimen of autism specific treatments. Thus, I propose a broader view of art therapy as a treatment for autism that can address psycho-emotional needs of the child as well as promote sensory regulation, support psychomotor development, and facilitate communication. These areas also represent promising directions for further research. Rather than focus on the final art product, I will describe important elements of the creative process to demonstrate Evans and Dubowski's (2001) claim, "communication does not reside just within the finished pictures made by the child, but within the emerging and shifting dynamics of the whole art therapy process and its context" (p. 57). Below is a brief overview of how art therapy can address some of the core symptoms of autism and indeed be a treatment of choice.

Sensory Regulation

Sensory integration dysfunction (SID) is a core symptom of ASD and can adversely affect the behavior and learning of children experiencing it. SID refers to an individual's atypical response to external stimuli perceived through the senses of smell, taste, vision, hearing, kinesthetic, vestibular and/or proprioception (Marco, Hinkley, Hill & Nagarajan, 2011). Children with SID have a varied sensory profile and may suffer from a high degree of anxiety resulting in behavioral, psychosocial, and cognitive problems (Tomchek & Dunn, 2007). A child with SID may be hypo or hypersensitive to sensory stimuli; a child with tactile hypersensitivity may feel extreme pain at the slightest touch, whereas the hyposensitive child may seek extreme tactile stimulation. In my experience, working with children with autism requires a keen understanding of sensory challenges and familiarity with their sensory profiles. It is important to communicate with the child's occupational therapist, interview the caregivers, and observe the child in action.

The variety of textures, colors, smells and tastes of art materials have an inherent capacity to inhibit or induce emotional and sensory responses (Hinz, 2016). The visceral quality of art materials and application techniques can involve whole body movements. These in turn can stimulate different somatosensory and emotional regions of the brain thereby generating psychosomatic reactions that can regulate affect (Hass-Cohen & Findlay, 2015). Therefore, art therapists can harness the inherent qualities of art materials and their uses to supplement sensory regulation.

For example, Max (pseudonym), a 6-year-old boy with autism, had extreme sensory seeking behavior that required heavy tactile input. At the beginning of each of our art therapy sessions, he would regulate is anxiety by rolling dozens of balls of clay between his fingers while I sat next to him. The tactile input from handling the clay

calmed him sufficiently to allow him to move on to other activities such as joint artmaking with me. Increased sensory regulation may set the foundation for learning, communication, and relationship building (Durrani, 2014).

Psychomotor Regulation

Recent research has broadened its lens to consider the neurological deficits underlying autism rather than the singular focus on the relational aspect of the spectrum (Devito et al., 2007). This shift in perspective regards autism as a whole mind and body disorder involving sensory and psychomotor difficulties that underlie autistic behaviors. Whereas, sensory difficulties arise from inappropriate responses to environmental stimuli, psychomotor challenges are the result of impairment in cognitive functions and bodily movement (Donnellan, Hill & Leary, 2013). The stories of individuals on the spectrum have contributed immensely to our understanding of the challenges that can hamper simple chores and daily functioning. For instance, a seemingly straightforward task such as smiling or walking into a room may involve multiple challenges in perception, organization, control, and execution (Robledo, Donnellan & Strand-Conroy, 2012).

Art therapists can support psychomotor regulation by adapting art materials and the art making space to suit the needs of their clients. It is important to have brushes in a number of sizes and grips to aid fine motor skills. Handgrips may be necessary for pencils and crayons. Rather than finger dexterity, hands and limbs can take over the function of tools. The kinesthetic component of art making may involve cross lateral, bi-lateral and whole-body movement (Lusebrink, 1992). Accordingly, artwork can be made on material placed vertically on walls, horizontally on a table or floor, and at other angles on custom-built surfaces to accommodate disabilities. Clients can make art while static or

moving, sitting, standing or even lying down. Art therapists who are sensitive to the needs of their clients can incorporate various aspects of psychomotor development within their session by the prudent use of art tools, art materials and directives.

For example, I motivated 14- year-old Raj (pseudonym), a boy with autism who was low on motivation, to spray shaving foam in large circles on a mirrored wall in my studio. I demonstrated and joined him to spread the foam using large bilateral movements using his arms and hands. Once Raj was engaged in the activity, I urged him to jump up, bend down, and stretch as far as he could to reach the farthest ends of the mirror. To stimulate Raj further, I added paint to the foam which sustained and extended the activity into finger drawings.

Communication and Expression Within the Context of Attachment

The early attachment relationship with a primary caregiver is how human infants, born completely helpless, learn about themselves and their environment through interaction with others (Bowlby, 1973). Healthy physical, psychological and emotional development is contingent on their relationship with the significant other. A securely attached child is likely to be resilient as well as possess the ability to self-regulate and relieve distress. An insecurely attached child may be anxious, have impaired regulation, suffer low self-esteem, and relational problems amongst others (van der Kolk, 2016).

The quality of attachment between a child and caregiver is subject to specific synchronous behaviors (Schore, 2003; Snyder, Shapiro & Treleaven, 2012). Many of these behaviors; including reciprocal communication, attunement, co-regulation, eye gaze, gestures and vocalizations, amongst others; may be difficult for children with autism. Developmental delays and social and emotional differences can negatively impact the attachment pattern of a child with ASD as compared to their neurotypical

peers (Sivaratnam, Newman, Tonge & Rinehart, 2015). Fortunately, later relationships in life can replace earlier patterns of impaired attachment (Siegel, 2003). Therefore, an attachment between an art therapist and child with autism has positive implications (Martin, 2009).

Children with autism face challenges in verbal and non-verbal communication; social skills including understanding others' motivations, reading and responding to gestural cues, maintaining joint attention; as well as recognizing and understanding their own emotions (Greenspan, 2002). Art therapy can alleviate frustration by helping the child with autism express emotions and communicate with others. One way that art therapists can support clients with autism is by adopting a relational art making approach (Hass-Cohen & Findlay, 2015). An art therapist can emulate a secure base for the child with autism by incorporating attachment behaviors such as reciprocal cueing (responding to gestures or vocalizations of the child), attuning to the child (paying attention to rhythm and body language) (Evans & Dubowski, 2001), and mirroring or reflecting the feelings or affect of the child (Gallese, 2009).

For example, Ali (pseudonym), a 7-year old boy with autism, was initially averse to social interactions. He gradually began to relate with me through paint, a medium he enjoyed touching and smearing. Though paint was the route through how Ali engaged with me, excessive use of the material made him over excited. Nevertheless, I was able to modulate Ali by directing him to a more grounding material such as clay. Over time, Ali was able to return to paint and use it alternatively with clay as a means to regulate his physical and emotional state. Once Ali was calm, he was willing to remain in longer periods of engagement with me, which sustained our cycle of communication through joint artmaking.

Conclusion

The multi-sensory nature of art therapy and the relational aspect of art making contextualized within the psychological expertise of the art therapist presents a strong case for art therapy as a treatment option for ASD. Art therapists can help clients with autism by designing sessions with attention to sensory regulation, psychomotor development, and communication. Rather than see these three areas in isolation, an art therapist can incorporate sensory regulation through the use of the art materials concurrent to relationship building, communication and expression. Art therapists must advocate more actively for their profession through research and its dissemination, continuing to broaden the scope of art therapy.

References

Ben-Sasson, A., Cermak, S. A., Orsmond, G. I., Tager-Flusberg, H., Carter, A. S., Kadlec, M. B., & Dunn, W. (2007). Extreme sensory modulation behaviors in toddlers with autism spectrum disorders. *The American Journal of Occupational Therapy, 61*(5), 584–592.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation*. New York, NY: Basic Books.

Devito, J. T., Drost, J. D., Neufeld, J. W. R., Rajakumar, N., Pavlovsky, W., Williamson, P., & Nicolson, R. (2007). Evidence of corticol dysfunction in autism: A proton magnetic resonance spectroscopic imaging study. *Biological Psychiatry, 61*(4), 465–473. https://doi.org/10.1016/j.biopsych.2006.07.022

Donnellan, A. M., Hill, D. A., & Leary, R. M. (2013). Rethinking autism: Implications of sensory and movement differences for understanding and support. *Frontiers in Integrative Neuroscience 6*(124), 1–11. doi: 10.3389/fnint.2012.00124

Durrani, H. (2014). Facilitating attachment in children with autism through art therapy: A case study. *Journal of Psychotherapy Integration*, *24*(2), 99–108. doi:10.1037/a0036974.

Evans, K. & Dubowski, J. (2001). *Art therapy with children on the autistic spectrum*. London, United Kingdom: Jessica Kingsley.

Gallese, V. (2009). Mirror neurons, embodied simulation and the neural basis of social identity. *Psychoanalytic Dialogues, 19*(5), 519–536. doi: 10.1080/10481880903231910

Greenspan, S. I. (2002). *The secure child: Helping our children feel safe and confident in a changing world*. Cambridge, MA: Da Capo Press.

Hass-Cohen, N. & Findlay, J. C. (2015). *Art therapy and the neuroscience of relationships, creativity and resiliency.* New York, NY: W. W. Norton & Company.

Hinz, L. D. (2016). Media considerations in art therapy: Directions for future research. In

D. E. Gussak & M. L. Rosal (Eds.), *The Wiley Book of Art Therapy* (1st ed., pp.135–145). Chichester, United Kingdom: John Wiley and Sons.

Kuo, N. C. & Plavnick, J. B. (2015). Using an antecedent art intervention to improve the behavior of a child with autism. *Art Therapy: Journal of the American Art Therapy Association, 32*(2), 54-59. doi: 10.1080/07421656.2015.1028312

Lusebrink, V.B. (1992). A systems-oriented approach to the expressive therapies: The Expressive Therapies Continuum. *The Arts in Psychotherapy, 18*(5), 395–403. doi:10.1016/0197-4556(91)90051-B

Marco, E. J., Hinkley, L. B., Hill, S. S. & Nagarajan, S. S., (2011). Sensory processing in autism: A review of neurophysiological findings. *Pediatric Research. 69*(5), 48–54. doi: 10.1203/PDR.0b013e3182130c54.

Martin, N. (2009). *Art as an early intervention tool for children with autism.* London, United Kingdom: Jessica Kingsley.

Robledo, J., Donnellan, A. M. & Strand-Conroy, K. (2012). An exploration of sensory and movement differences from the perspective of individuals with autism. *Frontiers in Integrative Neuroscience*, *6(*107), 1–13. doi: 10.3389/fnint.2012.00107

Siegel, D. J. (2003). An interpersonal neurobiology of psychotherapy: The developing mind and the resolution of trauma. In D. J. Siegel & M. F. Solomon (Eds.). *Healing attachment, trauma, mind, body and brain,* (pp. 1–56). New York, NY: W.W. Norton.

Schore, A. N. (2003). Early relational trauma, disorganized attachment, and the development of a predisposition to violence. In D. J. Siegel & M. F. Solomon (Eds.), *Healing attachment, trauma, mind, body and brain*, (pp. 107–167). New

York, NY: W.W. Norton.

Sivaratnam, C. S., Newman, L. K., Tonge, B.J., & Rinehart, N.J., (2015). Attachment and emotion processing in children with autism spectrum disorders: Neurological, neuroendocrine, and neurocognitive considerations. *Revised Journal of Autism Development Disorders, 2*(2), 222–242. doi: 10.1007/s40489-015-0048-7

Snyder, R., Shapiro, S. & Treleaven, D. (2012). Attachment theory and mindfulness. *Journal of child family studies. 21*(3), 709–717 doi: 10.1007/s10826-011-9522-8.

Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy, 61*(2), 190–200. doi: 10.5014/ajot.61.2.190.

van der Kolk, B. (2014). *The body keeps the score. : Brain, Mind, and Body in the Healing of Trauma*. New York, NY: Penguin Books.

Van Lith, T., Stallings, J.W. & Harris, C. E. (2017). Discovering good practice for art therapy with children who have autism spectrum disorder: The results of a small scale survey. *The Arts in Psychotherapy, 54*, 78-84. doi: 10.1016/j.aip.2017.01.002

Volkmar, F., Chawarska, K., & Klin, A. (2005). Autism in infancy and early childhood. *Annual Review of Psychology, 56*(1), 315–336. doi:10.1146/annurev.psych.56.091103.070159

CHAPTER 3

Implications for an Art Therapy Intervention to Address Impaired Attachment in Children with Autism Spectrum Disorder and Comorbid Sensory Integration Dysfunction

Abstract

Sensory integration dysfunction (SID) is a core deficit of Autism Spectrum Disorder (ASD) that associated with high levels of anxiety and dysregulation in children with autism, and may contribute to impaired attachment. This article explicates current discourse on the relationship between SID, ASD and attachment. Art therapy is endorsed

as a process-oriented, sensory-based relational intervention that can address both impaired attachment and SID concurrently and thereby remove barriers to forming attachment relationships. A case vignette is included to illustrate the unique capacity of art therapy approach to tackle SID and facilitate attachment in a child with ASD.
Keywords: autism spectrum disorder, sensory integration dysfunction, sensory regulation, attachment, art therapy

Introduction

Sensory Integration Dysfunction (SID) which is a core feature of Autism Spectrum Disorder (ASD), is an atypical response to input from the environment as perceived by the senses of smell, taste, vision, hearing, kinesthetic sense, vestibular sense (movement), and proprioception (sense of body in space; Marco, Hinkley, Hill, & Nagarajan, 2011). SID may cause children with autism to shut down or withdraw from pain-inducing experiences caused by their surroundings (Baranek, Foster, & Berkson, 1997; Hartley, Sikora, & Mckoy, 2008; Kern et al., 2006; Liss, Saulnier, Fein, & Kinsbourne, 2006; Naber et al., 2007). Children who experience extreme sensory discomfort may manage the resulting anxiety by blocking out all incoming information

from external stimuli, including sounds such as another person's speech, and may appear merely unresponsive and enclosed in a shell. They may appear to be unattached or not present in the world and may seem closed off from feeling and experience, when in reality they may be involuntarily protecting themselves from unbearable anxiety. Hence, addressing SID is exigent to reducing anxiety in children with autism in order to open the door for relational development.

An infant's first relational experience is that of the bond between self and caregiver (Stern, 1977). This first relationship, known as attachment, lays the foundation for future interpersonal relationships for the child. Consequently, a healthy attachment pattern in the early years of life has long-term implications for the emotional development of the child (Ainsworth, 1969; Snyder, Shapiro, & Treleaven, 2012). With regards to SID's incriminating role in evoking anxiety in children with autism, various theories put forth over the years to explain impaired attachment in children with autism suggest that this may be due to high levels of anxiety and dysregulation stemming from sensory challenges (Ben-Sasson et al., 2007; Tomchek & Dunn, 2007). Therefore, in order to address attachment impairment in children with autism, it is imperative to concurrently tackle sensory issues. Although attachment patterns have been studied in children with ASD (Buitelaar, 1995; ; Rogers et al., 1993) there is no intervention that specifically targets impaired attachment in these children especially within the context of SID.

Art materials have the capacity to induce and reduce affect, balance levels of arousal, trigger emotive responses and facilitate grounding (Malchiodi, 2003). The regulatory capacities of art materials can be used to address SID in children with autism and challenges with sensory regulation. Furthermore, art therapists can emulate an

attachment relationship with children with autism by mirroring and attuning to them through engagement with art materials and joint art making (Durrani, 2014; Hass-Cohen & Findlay, 2015; Henley, 2018; Martin, 2009a). Attunement is a relationship based on reciprocity as a continuous process of the primary caregiver reflecting the feeling states of the child through identification and response to the latter's inner experiences (Wright, 2009).

Considering that SID in children on the spectrum may compromise the quality of their attachment to the caregiver in infancy, the insufficient attention to attachment in individuals with ASD calls for an expansion of our lens for how we can ameliorate these challenges. Because an impaired pattern of attachment in childhood can be subsequently replaced by a healthy one (Siegel, 2003), the need for timely intervention to maximize the benefits of attachment is critical to ameliorate the damage that may have resulted from impaired attachment.

Art therapists are uniquely placed to address both SID and attachment concurrently in children with ASD by promoting sensory regulation through art materials and using a combination of kinesthetic and non-verbal processes within a relational context. In this paper firstly, I explore the relationship between autism and SID within the context of attachment. Next, I cite a case example contextualized within current art therapy literature that illustrates an art therapy intervention that can promote sensory regulation in children with ASD thereby opening the door for relational development.

ASD

ASD is now understood to be a neurobiological disorder that is characterized by comorbid difficulties in the areas of speech and language, sensory integration, social skills development, theory of mind, repetitive behaviors, and restricted interests, among

other (Durrani, 2014; Fernell, Eriksson, & Gilberg, 2013; Hartley et al., 2008; Volkmar, Chawarska, & Klin, 2005). These challenges may manifest as psychosocial, emotional, temperamental, and/or cognitive problems in children on the spectrum, depending on the severity of the difficulty (Baranek et al., 1997; Liss et al., 2006; Tomchek & Dunn, 2007).

SID

SID is a dysfunction of the sensory processing system (Marco et al., 2011). When a child's brain is unable to organize incoming information from the senses coherently, the child's emotion, behavior, motor functioning, and attentional responses are negatively affected. For instance, a child who has sensory issues in the kinesthetic domain may find the texture of labels on clothes unbearable and could react with extreme distress each time these clothes are worn. Similarly, a child with vestibular hypersensitivity may find it painful to ride a swing and could feel excessively nauseous from any slight motion. When this pattern consistently hampers the child's daily functioning, it is classified as a disorder SID (Miller, Anzalone, Lane, Cermak, & Osten, 2007).

Hilton et al. (2010) contended that, generally speaking, there are three types of sensory modulation issues: sensory under-responsiveness, sensory over-responsiveness, and sensory seeking (i.e. actively seeking and engaging with stimuli). For instance, a child who has tactile hypersensitivity may feel extreme pain at the slightest touch, whereas the hyposensitive child may seek out tactile stimulation to an extreme degree and the sensory seeking child may manifest hand flapping, noise-making and rocking behaviors due to sensory under-responsivity (Lane, Young, Baker & Angley, 2009). These patterns may vary for each child across the entire spectrum of sensory stimuli, and a child may be hypo- and hypersensitive to different stimuli at the same time (Baranek et

al., 1997; Gomez & Baird, 2005; Tomchek & Dunn, 2007). According to Marco et al. (2011), more than 96% of children with ASD worldwide have hyper- and hyposensitivities in various areas.

Leekman, Nieto, Libby, Wing, and Gould (2007) examined the frequency and patterns of sensory abnormalities in children and adults with autism. They found that sensory deficits are distributed along an entire spectrum and do not follow a specific pattern; that is, some people with autism may have problems with audio-visual processing, whereas others may have challenges with proprioception, the vestibular domain, or other singular or multiple sensory domains. All individuals with ASD have a unique sensory profile and react to their environment based on the level of their challenges and their ability to self-regulate.

The Effect of SID on The Social and Emotional Development of a Child with ASD

Ben-Sasson et al. (2007) and Pfeiffer et al. (2005) reported a high incidence of anxiety-related disorders in children with autism and SID. They also noted a prevalence of symptoms of depression, withdrawal, and emotional reactivity among children on the spectrum who have sensory issues. Their findings were corroborated by Baranek et al. (1997), Kern et al. (2006), Liss et al. (2006), and Tomchek and Dunn (2007), who concluded that children with a high level of sensory dysfunction may strenuously avoid interaction with their environment or shut down their sensory channels due to unpleasant sensory input that may contribute or exacerbate their anxiety. For instance, children who have extreme auditory sensitivity may involuntarily block out all sounds from their surroundings in order to avoid the auditory input that is painful to them. Such negative impacts of SID on the emotional development of children with autism have implications

for their relational development, especially within the context of attachment to the primary caregiver.

Parenting Children With Autism and Sensory Challenges

The first synchronous relationship a person experiences in life is none other than that of the infant and their caregiver. The closely attuned infant–caregiver patterns of interaction produce the attachment relationship that lays the foundation for all future relationships for the child. For individuals on the autism spectrum, such relational experiences are severely affected by an incoherent sensory system that produces mismatching signals and responses. Serious implications for caregivers include not being able to decipher the inner world of their dysregulated, highly anxious child. As Slade (2009) stated: "With children on the spectrum, the signposts that ordinarily help parents make sense of their child's internal experiences, such as eye contact, typical indicators of pleasure, pain, fear, and sadness, directed communication, and the like are missing or disrupted" (p. 10). Perhaps, then, it is not unreasonable to expect that some caregivers may not be able to overcome these challenges (Seskin et al., 2010). For instance, an infant with severe oral sensitivity may find it difficult to latch onto the mother's breast. Though hungry, the child may find it painful to suckle and may cry uncontrollably due to both hunger and pain. The infant's mother may find this behavior incomprehensible, because a neurotypical child would usually be pacified by being fed. The daunting task of cognizant parenting of a child with ASD may overwhelm the most capable of caregivers, especially those who are unaware of their child's autism until diagnosed at 2 or 3 years of age (Fernell et al., 2013).

Although there is evidence to show that some children with autism develop healthy attachment to their caregivers (Rogers, Ozonoff, & Maslin-Cole, 1993), as

mentioned earlier, I am inclined to agree with Naber et al. (2007), who asserted that the presence of high anxiety coupled with self-regulation issues caused by sensory difficulties most likely severely compromises the formation of healthy attachment and therefore the capacity for interpersonal relatedness. Marco et al. (2011), who reviewed studies of sensory processing in individuals with autism using neuroimaging techniques, corroborated this assertion, finding that, among other deficits, individuals with autism have difficulty in analyzing emotions from faces and are unable to share another person's state of mind. This inability to conceptualize what another person is thinking or feeling called mindblindedness (Slade, 2009) or lack of a *theory of mind* that helps an individual interpret and understand another person's feelings and intentions. Coupled with sensory integration dysfunction, the inability of individuals with autism to relate to another individual's mental state has grave implications for relational experiences.

Attachment and ASD

Attachment theory, as developed by Bowlby (1969), is concerned with what is considered to be the typical and psychopathological development of a child within the context of the mother–child (or caregiver–child) relationship. Secure attachment is believed to result from the mutual attunement, co-regulation, and empathic resonance that occurs between caregiver and infant when communicating with one another through multiple interactions involving eye gaze, hand gestures, and vocalizations such as cooing (Schore, 2003; Snyder et al., 2012; Stern, 1977). Thus, attachment formation requires a two-way process also referred to as attunement, whereby both child and caregiver are psychologically, emotionally, and socially in sync with one another. Children who are securely attached to their caregivers are most likely to have a sense of security, trust in

self and others, an ability to seek support from others in regulating their behavior (Perry, 2006), resilience in the face of challenges, and a capacity to self-soothe (Shore, 2014).

Before clinical studies proved otherwise, researchers thought that children with ASD were not able to form any attachment with another person. This belief initially was based on Kanner's (1943) definition of the disorder and hypothesis that these children were born without the innate ability to develop intimate relationships; later on, poor parenting was believed to cause the relational deficits of autism (Naber et al. 2007; Rutter, 1978).

Subsequent studies employing clinical observation have verified that children with autism do show attachment behavior (Buitelaar, 1995; ; Rogers et al., 1993). A meta-analytic review of studies of children with autism that measured attachment via modified Strange situation procedures (Rutgers, Bakermans-Kranenburg, van IJzendoorn, & Berckleaer-Onnes, 2004) confirmed evidence of attachment behavior in children on the spectrum while acknowledging that the pattern of attachment may be less secure than that of other children (Ainsworth, Blehar, Waters, & Wall, 1978; Rutgers et al., 2004). According to Rutgers et al. (2007), the quality of attachment in children with autism appears to be less attuned and flexible.

Unfortunately, there is scant research on impaired or disorganized attachment in children with autism and the studies that have been done were mostly conducted on children older than 3 years of age (Naber et al., 2007), when the optimum period for attachment has already passed. However, researchers have hypothesized various probable reasons for impaired attachment. Taking into account the importance of reciprocal communication in the formation of an attachment, it makes sense that the following

differences in children with autism compared to neurotypical children would play a critical role in its quality.

Further to the findings cited above, Beurkens, Hobson, and Hobson (2013) noted that very young children with autism have "impairments in the frequency or intensity of eye contact, turn-taking, and referential looking" (p. 169). Moreover, Klin, Lin, Gorrindo, Ramsay, and Jones (2009) found evidence that children with ASD do not pay as much attention to the face and gaze of caregivers, which is usually a fundamental attachment-related behavior. This social and developmental difference has many implications for mutual co-regulation and attunement achieved through the gaze, facial expressions, and gestures of the caregiver aimed at the child (Schore, 2003). Emery (2002) named that children who cannot relate to people "go through infancy without acquiring a concept of persons as subjects of experience. . . . Any sensory deprivation can limit a child's experience and, therefore, alter his or her behaviors" (p. 144).

Although some researchers have investigated attachment in children with ASD through the lens of development issues and social and emotional behaviors, others, such as Ben-Sasson et al. (2007), have considered the quality of attachment in light of sensory regulation issues. High arousal, psychological stress, and anxiety occur in children who have difficulty integrating incoming sensory information from their environment. These sensory regulation issues that cause atypical processing of auditory, visual, and tactile stimuli have an impact on such children's ability to learn from people and the world around them (Marco et al., 2011). Imagine an infant who is extremely sensitive to sound or hyposensitive to touch. Attempts at physical affection by a caregiver might be rejected out of protection from pain, as would touching unfamiliar things in the environment; such avoidance over time puts relational and developmental learning at risk for the child.

Grandin (Grandin & Panek, 2013) described why having autism meant that she was unable to be physically affectionate toward her mother, stating, “The problem, though, wasn’t that I did not want her. It was that the sensory overload of a hug shorted out my nervous system” (p. 8).

Given the immense challenges that children with autism face in communication, social, emotional, and sensory domains, it is all the more pertinent to understand the mutuality that goes into forming a healthy attachment. Moreover, the impact of SID on attachment in children with ASD needs attention, considering that ASD can affect multiple channels of communication across the senses. SID and the anxiety that results from it have negative implications for the social, emotional, and developmental progress of children with SID.

Art Therapy’s Suitability to Concurrently Address SID and Attachment

Taking into consideration the high incidence of impaired attachment in children with autism and the possible link to SID, it makes sense to utilize a multifaceted intervention that can address both attachment issues and SID simultaneously. It is reasonable to argue that art therapy may be such an intervention that could be deployed to address the main problem of impaired attachment by identifying its component parts (e.g., sensory issues, difficulty with self-regulation, relational problems, and deficits in communication) and strengthening each as they fit together to resolve the main issue. Due to the multisensory nature of art therapy and its potential for intersubjective relatedness, art therapy can address the subparts of the broader question of disrupted attachment in children with autism.

For example, sensory issues and self-regulation problems are amenable to the large variety and textures of art materials that art therapists use to induce or reduce the

state of arousal in children with self-regulatory issues and/or hyper- and hyposensitivity to sensory input (Martin, 2009b). A child who is reluctant to engage in interpersonal relationships might be offered a fluid, highly stimulating sensory material like paint, whereas clay, with its earthy quality and the ability to ground an individual, might calm down an excitable and highly aroused child (Malchiodi, 2003).

Art therapists Evans and Dubowski (2001) recorded and micro-analyzed their sessions with their clients to create a treatment framework they called the interactive art therapy model. Their model is reminiscent of the many sensory cues and communications that take place in the interchange between primary caregiver and child or, in other words, what Stern (1977) described as attunement. Evans and Dubowski's model includes how to approach and engage children on the autism spectrum, with such specific details as the positioning of the therapist's body in relation to the child to maximize the child's comfort and safety, turn taking, the importance of timing, and being sensitive to the child's level of tolerance of sensory stimuli. This kind of interpersonal connection between therapist and child is analogous to the embodiment of instinctive identification and deeply felt attentions and responses in the caregiver–child relationship (Schore, 2003). The sensory and nonverbal cues that take place between caregiver and child, such as touch, vocalizations, gaze, gestures, and mirroring are the same cues that take place between therapist and client.

Martin (2009a) illuminated the working understanding of children on the spectrum by sharing her clinical knowledge of their needs and challenges, of how to support their art-making process, and of how to facilitate emotional expression and regulation. Particularly valuable are her insights into how sensory modulation may be induced through art making and art materials while also facilitating communication. She

emphasized the importance of providing "a variety of sensory stimulation in a safe, organized environment using activities that can crack open the door to a child's imagination" (Martin, 2009a, p. 20). She suggested experimenting with different art materials to determine their effect on the child; for example, by increasing a child's opportunity to explore materials as a means of facilitating sensory regulation, using art to help process thoughts and feelings, and customizing particular art projects that the child expresses interest in to address problems relevant to the child.

Following is case example that provides a glimpse into an approach based on sensory art making with a focus on inducing sensory regulation in the child while engaging in attachment behaviors to facilitate a bond between therapist and child.

Teo.

When I first saw Teo (pseudonym) a 5-year-old boy with autism and comorbid SID, he was unresponsive to his name and preoccupied with perseverative behaviors. According to his mother, Teo was similarly shut down at home and lacked complete engagement with others, to the extent that he neither asked for food or drink nor conveyed discomfort at soiling his diapers. Although Teo could speak, his language was not directed at anyone. He would perseverate with nursery rhymes that he had learned at school and from watching videos.

For the first few sessions of art therapy, Teo had a glazed look in his eyes and did not show any interest in engaging with me preferring to run around the room repeating nursery rhymes, behaviors possibly indicative of underlying anxiety (Lidstone et al., 2014). Cognizant of Teo's sensory challenges, as communicated by his mother, and their possible link to anxiety, my primary focus was to instill a sense of safety in him. Through refraining from active engagement with Teo, for instance by maintaining physical

distance, I made art in another part of the room mimicking Teo's singing hoping that Teo would be drawn to the lure of art materials and my attempts at mirroring him through his songs. Gradually, Teo began to show interest in what I was doing. I used materials such as shaving foam, slime and clay, aware of Teo's sensory seeking needs, and estimating that these materials would provide him the sensory input he required. Teo's proximity to me increased and he started to touch and feel the art materials I was using. His self-initiated proximity indicated that he was beginning to feel more comfortable in his environment and possibly more open to communicating with me.

Over time, Teo and I began to engage in joint sensory artmaking. For example, we spread shaving foam on large sheets of plastic on the floor and the mirror-lined walls of the room; made hand and foot prints on paper laid on the floor and manipulated play dough. I experimented with different art materials to gauge their suitability for Teo who showed me what worked or not for him through apparent interest and excitement or the lack of. Teo and my engagement was not restricted to a particular surface or area of the art therapy room; the entire space was his to run around, sing or make art. Also, the focus was not on the production of a tangible art product, rather it was to get Teo to engage with me on his terms even if only at the sensory and kinesthetic levels.

Concurrent to the joint sensory art making, I was constantly aware of attachment behaviors that occurred between Teo and me, the implicit communication which Kossak (2015) called "embodied intelligence". As I became increasingly familiar with Teo, I attuned to his highs and lows adjusting my responses to his perceived inner state. I found myself mirroring Teo's emotional and physical state that Erskine (1998) described as a "kinaesthetic and emotional sensing of others—knowing their rhythm, affect and experience by metaphorically being in their skin" (p. 236). Throughout the sessions I was

conscious of my own bodily responses such as my rate of breathing, level of anxiety or discomfort, state of arousal or lowness, subliminal cues that to me were reflective of how Teo may be feeling. These cues guided me to adjust my responses and tailor my approach in the sessions. For example I could sense the times that Teo needed to be left alone and I would back off from any activity and give him alone time.

Over the period of 12 sessions Teo and I spent considerably longer periods in joint sensory artmaking. Teo began to respond to his name, his eyes had lost that glazed look, and his mother reported that Teo had asked to be fed for the first time and was beginning to imitate children in the playground.

Conclusion

Formation of a healthy attachment is fundamental for optimal emotional and psychological development in children. The emotional well-being of children with ASD is as vital as the behavioral aspect of their development. Although there is evidence that children with autism can form an attachment with their caregivers, a high incidence of impaired attachment is reported. Sensory integration dysfunction can cause dysregulation and high anxiety in children on the spectrum that can result in such children blocking out their environment and creating relational disconnection. This shutdown has severe implications for the formation of a healthy attachment between children with autism and their caregivers. It appears that an impaired attachment pattern can be replaced by a healthier one through positive relationships later on in life. This information drives home the importance of interventions that can heal the effects of a disrupted attachment.

Art therapy can facilitate attachment between child and art therapist because it involves multisensory experiences employed within a relational context. An art therapist can use the subjective qualities of art materials to induce sensory regulation in a child

with autism and open the path for forming a healthy relationship both through the process of attunement and sensory-based relational art making. The relational aim of the art therapy session, is for the therapist to become the secure base for the child to explore art making at a comfortable level, which requires a highly attuned, empathic understanding of the child's needs.

Art therapy is uniquely placed to address both SID and attachment concurrently in children with SID. Art therapists are encouraged to explore and develop the potential of art therapy within the context of SID and attachment.

References

Ainsworth, M. D. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child Development*, *40*(4), 969–025.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* New York, NY: Erlbaum.

Baranek, G. T., Foster, L. G., & Berkson, G. (1997). Tactile defensiveness and stereotyped behaviors. *American Journal of Occupational Therapy, 51*(2), 91–95. https://doi.org/10.5014/ajot.51.2.91

Ben-Sasson, A., Cermak, S. A., Orsmond, G. I., Tager-Flusberg, H., Carter, A. S., Kadlec, M. B., & Dunn, W. (2007). Extreme sensory modulation behaviors in toddlers with autism spectrum disorders. *American Journal of Occupational Therapy, 61*(5), 584–592.

Beurkens, N. M., Hobson, J. A., & Hobson, R. P. (2013). Autism severity and qualities of parent-child relations. *Journal of Autism Development Disorder, 43*(1), 168–178. https://doi.org/10.1007/s10803-012-1562-4

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.

Buitelaar, J. K. (1995). Attachment and social withdrawal in autism: Hypothesis and findings. *Behaviour, 132*(5), 319–350.

Durrani, H. (2014). Facilitating attachment in children with autism through art therapy: A case study. *Journal of Psychotherapy Integration, 24* (2), 99–108. https://doi.org/10.1037/a0036974

Emery, M. J. (2002). Art therapy as an intervention for autism. *Art Therapy: Journal of the American Art Therapy Association, 2*(3), 143–147. https://doi.org/10.1080/07421656.2004.10129500

Erskine, R. (1998). Attunement and involvement: Therapeutic responses to relational needs. *International Journal of Psychotherapy, 3*(3), 235—244.

Evans, K., & Dubowski, J. (2001). *Art therapy with children on the autistic spectrum*. London, England: Jessica Kingsley.

Fernell, E., Eriksson, A. M., & Gilberg, C. (2013). Early diagnosis of autism and impact on prognosis: A narrative review. *Clinical Epidemiology, 5,* 33–43.

Gomez, C. R., & Baird, S. (2005). Identifying early indicators for autism in self-regulation difficulties. *Focus on Autism and Other Developmental Disabilities, 20*(2), 106–116. https://doi.org/10.1177/10883576050200020101

Grandin, T., & Panek, R. (2013). *The autistic brain*. New York, NY: Houghton Mifflin Harcourt.

Hartley, S. L., Sikora, D. M., & McCoy, R. (2008). Prevalence and risk factors of maladaptive behaviors in young children with autistic disorder. *Journal of Intellectual Disability Research, 52*(10), 819–829. https://doi.org/10.1111/j.1365-2788.2008.01065.x

Hass-Cohen, N., & Findlay, J. C. (2015). *Art therapy and the neuroscience of relationships, creativity and resiliency.* New York, NY: W. W. Norton.

Henley, D. R. (2018). *Creative response activities for children on the spectrum.* New York, NY: Routledge.

Hilton, C. L., Harper, J. D., Kueker, R. H., Lang, A. R., Abbacchi, A. M., Todorov, A., & LaVesser, P. D. (2010). Sensory responsiveness as a predictor of social severity in

children with high functioning autism spectrum disorders. *Journal of Autism Development Disorder, 40*(8), 937–945. https://doi.org/10.1007/s10803-010-0944-8

Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child, 2,* 217–250.

Kern, J. K., Trivedi, M. H., Garver, C. R., Grannemann, B. D., Andrews, A. A., Savla, J. S., . . . Schroeder, J. L. (2006). The pattern of sensory processing abnormalities in autism. *Autism, 10,* 480–494. https://doi.org/10.1177/1362361306066564

Klin, A., Lin, D. J., Gorrindo, P., Ramsay, G., & Jones, W. (2009). Two-year-olds with autism orient to non-social contingencies rather than biological motion. *Nature, 459*(7244), 257–61. https://doi.org/10.1038/nature07868

Kossak, M. S. (2015). *Attunement in expressive arts therapy.* Springfield, IL: Charles C Thomas.

Lane, A. E., Young, R. L., Baker, A. E. Z., & Angley, M. T. (2010). Sensory processing subtypes in autism: association with adaptive behavior. *Journal of Autism Development Disorder. 40* (1), 112–122. https://doi.org/10.1007/s10803-009-0840-2

Leekman, S. R., Nieto, C., Libby, S. J., Wing, L., & Gould, J. (2007). Describing the sensory abnormalities of children and adults with autism. *Journal of Autism Development Disorder, 37*(5), 894–910. https://doi.org/10.1007/s10803-006-0218-7

Liss, M., Saulnier, C., Fein, D., & Kinsbourne, M. (2006). Sensory abnormalities in autistic spectrum disorders. *Autism, 10*(2), 155–172. https://doi.org/10.1177/1362361306062021

Malchiodi, C. A. (2003). Handbook of art therapy. New York, NY: Guilford Press.

Marco, E. J., Hinkley, L. B. N., Hill, S. S., & Nagarajan, S. S. (2011). Sensory processing in autism: A review of neurophysiological findings. *Pediatric Research*, *69*(5), 48–54.

Martin, N. (2009a). *Art as an early intervention tool for children with autism.* London, England: Jessica Kingsley.

Martin, N. (2009b). Art therapy and autism: Overview and recommendations. *Art Therapy: Journal of the American Art Therapy Association. 26*(4), 187–190. https://doi.org/10.1080/07421656.2009.10129616

Miller, L. J., Anzalone, M. E., Lane, S. J., Cermak, S. A., & Osten, E. T. (2007). Concept evolution in sensory integration: A proposed nosology for diagnosis. The *American Journal of Occupational Therapy, 61*(2), 135–140.

Naber, F. B. A., Swinkels, S. H. N., Buitelaar, J. K., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., Dietz, C., . . . van Engeland, H. (2007). Attachment in toddlers with autism and other developmental disorders. *Journal of Autism and Developmental Disorders, 37*(6), 1123–1138. https://doi.org/10.1007/s10803-006-0255-2

Perry, B. (with Szalavitz, M.). (2006). *The boy who was raised as a dog: And other stories from a child psychiatrist's notebook: What traumatized children can teach us about loss, love, and healing.* New York, NY: Basic Books.

Pfeiffer, B., Kinnealey, M., Reed, C., & Herzberg, G. (2005). Sensory modulation and affective disorders in children and adolescents with Asperger's disorder. *American Journal of Occupational Therapy, 59*(3), 335–345.

Rogers, S. J., Ozonoff, S., & Maslin-Cole, C. (1993). Developmental aspects of attachment behavior in young children with pervasive developmental disorders.

Journal of the American Academy of Child and Adolescent Psychiatry, 32(6), 1274–1282.

Rutgers, A. H., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Berckleaer-Onnes, I. A. (2004). Autism and attachment: a meta-analytic review. *Journal of Child Psychology and Psychiatry, 45*(6), 1123–1134.

Rutgers, A. H., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Swinkels, S. H. N., van Daalen, E., Dietz, C., & van Engeland, H. (2007). Autism, attachment and parenting: A comparison of children with autism spectrum disorder, mental retardation, language disorder and non-clinical children. *Journal of Abnormal Child Psychology, 35(5),* 859–870. https://doi.org/10.1007/s10802-007-9139-y

Rutter, M. (1978). Diagnosis and definition of childhood autism. *Journal of Autism and Childhood Schizophrenia, 8*(2), 139–161.

Schore, A. N. (2003). Early relational trauma, disorganized attachment, and the development of a predisposition to violence. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain* (pp. 107–167). New York, NY: W. W. Norton.

Seskin, L., Feliciano, E., Tippy, G., Yedloutschnig, R., Sossin, K. M., & Yasik, A. (2010). Attachment and autism: Parental attachment representations and relational behaviors in the parent-child dyad. *Journal of Abnormal Child Psychology, 38*(7), 949–960. https://doi.org/10.1007/s10802-010-9417-y

Shore, A. (2014). Art therapy, attachment, and the divided brain. *Art Therapy: Journal of the American Art Therapy Association, 31*(2), 91–94. https://doi.org/10.1080/07421656.2014.903827

Siegel, D. J. (2003). An interpersonal neurobiology of psychotherapy: The developing mind and the resolution of trauma. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain* (pp. 1–56). New York, NY: W. W. Norton.

Slade, A. (2009). Metalizing the unmentalizable: Parenting children on the spectrum. *Journal of Infant, Child and Adolescent Psychotherapy, 8*(1), 7–21. https://doi.org/10.1080/15289160802683054

Snyder, R., Shapiro, S., & Treleaven, D. (2012). Attachment theory and mindfulness. *Journal of Child Family Studies, 21*(5), 709–717. https://doi.org/10.1007/s10826-011-9522-8

Stern, D. N. (1977). *The first relationship: Infant and mother.* Cambridge, MA: Harvard University Press.

Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy, 61*(2), 190–200. https://doi.org/10.5014/ajot.61.2.190

van der Kolk, B. (2014). *The body keeps the score: Brain, Mind, and Body in the Healing of Trauma*. New York, NY: Penguin Books.

Volkmar, F., Chawarska, K., & Klin, A. (2005). Autism in infancy and early childhood. *Annual Review of Psychology, 56*(1), 315–336. https://doi.org/10.1146/annurev.psych.56.091103.070159

Wright, K. (2009). Mirroring and attunement. Self-realization in psychoanalysis and art. New York, NY: Routledge.

CHAPTER 4

Sensory-Based Relational Art Therapy Approach (S-BRATA): A Preliminary Framework for Doing Art Therapy With Children on the Autism Spectrum

Abstract

This paper presents a clinically tested framework for working with children with autism spectrum disorder (ASD) that explicitly addresses sensory integration dysfunction (SID) and impaired attachment. The author illustrates through three case studies a sensory-based relational art therapy (S-BRATA) approach which is centered on the following themes: : (a) sense of safety; (b) working with the child's sensory profile; (c) art materials as entry point for engagement; (d) attachment formation through mirroring and attunement; (e) flexibility in approach; (f) structure and boundaries; and (g) art product not the focus. The themes were generated through grounded theory methodology that address sensory issues in children with autism and facilitate attachment between them and the art therapist. This sensory-based relational art therapy approach is informed by an in-depth knowledge of art materials and is conversant with research in art therapy within the context of neuroscience. As a preliminary framework, it may elicit further research and development in the area of art therapy and ASD and help to establish art therapy as an efficacious treatment for ASD.

Keywords: autism spectrum disorder, sensory integration dysfunction, attachment, sensory-based relational art therapy

Introduction

Autism presents as a spectrum of comorbid difficulties in the areas of verbal and nonverbal communication, social and relational skills, theory of mind, rigid and perseverative behaviors, and—last but not least—sensory integration dysfunction (SID) (Fernell, Eriksson, & Gilberg, 2013; Hartley, Sikora, & McCoy, 2008). Sensory challenges are pervasive throughout the spectrum and affect individuals to varying degrees and across multiple domains, including the senses of smell (olfactory), movement (kinesthetic), movement (vestibular), awareness of body in space (proprioception), touch (tactile), sight (visual), and hearing (auditory) (Tomchek & Dunn, 2007). SID is known to cause high anxiety in children with autism, which has implications for the development of a healthy attachment pattern between the infant with SID and the caregiver (Naber et al., 2007). Although research shows that most children with ASD are able to form an attachment with their caregivers, the quality of attachment may be impaired (Rogers, Ozonoff, & Maslin-Cole, 1993).

Children with autism may close themselves off from sensory input from their environment to protect themselves from painful experiences (Grandin & Panek, 2013). Because attachment-related behaviors between primary caregiver and child are rooted in sensory perceptions such as gaze, vocalizations, touch, and gestures (Stern, 1977), I support the hypothesis that a disturbance in the synchrony of these behaviors between the dyad will adversely impact the relationship between caregiver and child that is referred to as the "first relationship" (Slade, 2009).

A large body of research affirms the impact of the early child–caregiver relationship and attachment pattern on an individual's developmental, relational, and emotional health (Bowlby, 1969; Schore, 2003; van der Kolk, 2014). Thus, addressing the effects of an impaired attachment early on in life may be critical to the long-term

psycho-emotional health of a child with autism who is already challenged socially and relationally (Perry, 2006; Shore, 2014). Most autism-specific interventions for children target behaviors and the teaching of skills but neglect the emotional aspect of the children's development, which is critically involved in attachment.

Art therapy has the capacity to tackle sensory dysfunction and facilitate attachment between child and art therapist at the same time, which arguably makes it an ideal treatment. Art therapists can use the multisensory nature of art materials and their inherent qualities to evoke and inhibit arousal levels to induce sensory regulation in children with autism. Once children are better regulated and less anxious they are more open to engaging with the therapist, who can form attachment with them through attunement in an intersubjective space mediated through embodied intelligence between therapist and child.

The following presents research that consists of a multi-case study with three children with ASD and comorbid SID. The raw data collected through the multi-case study method was analyzed using grounded theory methodology that informed the creation of the sensory-based relational art therapy approach (S-BRATA). S-BRATA specifically addresses my research question: how can art therapy address impaired attachment in children with ASD and comorbid SID?

Methods

Study Design

A multi-case study for collecting data was chosen because it lends itself to intensive observation and qualitative analysis of a clinician's interaction with study participants, documented with rich and thick detail. Subsequently, grounded theory methodology was used to analyze the data and generate

Grounded theory is a qualitative methodology that informs the process of research through the rigorous analysis of empirical data, collected systematically and analyzed laterally (Kapitan, 2018). The research process enables the researcher to start building a theoretical understanding from the first bit of information received, which subsequently informs the investigator's next steps. Data is conceptualized and categorized according to frequency, similarity, and differences through a process of coding. Coding allows grouping and comparison of data for relevance, which is then integrated into a theory (Corbin & Strauss, 1990).

Participants

The study participants were selected through purposive or judgmental sampling. The target population for my research was four children with autism between the ages of 3 and 8 years old. A call for research participants was shared in closed special needs groups on Facebook in which I specified that the research focused would be on issues related to SID in children with ASD. The caregivers of the children were asked to privately register their interest in the study, followed by a preliminary in-person meeting with each caregiver to gather background information on the children, including their presenting issues. The caregivers were apprised of the goals of the study and the potential benefits of art therapy for their children, such as improved self-regulation, expression, and communication. The children who accompanied the caregivers were observed informally during the meeting for overt behaviors that might help in the selection.

The selection criteria included a diagnosis of ASD and the presence of a significant level of SID. No prior art therapy intervention was a prerequisite. It was assumed that a child with considerable sensory regulation issues would have impaired attachment. As such, attachment patterns were not measured through formalized testing due to lack of resources. The caregivers were apprised that the children would receive 12 art therapy sessions, ideally over a period of 12 weeks, with each session lasting approximately 40 to 50 minutes. Prior to the beginning of the sessions, caregivers signed informed consent forms that detailed the research procedure and the rights of the participants and gave permission to conduct art therapy with the children. Any other questions were addressed.

Four participants, Teo, Raj, Alex, and Sean (pseudonyms) were selected for the research. Whereas I was able to complete 12 sessions of art therapy with Teo, Raj, and Alex, sessions with Sean had to be terminated prematurely as his caregiver was unable to bring him for therapy regularly due to personal constraints. Therefore, Sean's case was removed from the study.

Teo. Teo was 5 years old when he came for art therapy. Although Teo could verbalize, he did not use language functionally or within a relational context to communicate his needs and wants. Teo perseverated on nursery rhymes and songs and seemed to be enclosed in his own world.

Raj. Raj, who was 7 years old, had significant sensory needs in the vestibular (movement) and proprioceptive (sense of body in space) domains. He had limited expressive language skills and had some reciprocal skills, such as following single-command directions.

Alex. Alex was a 7-year-old boy who was verbal and had good expressive and receptive language. Alex had issues with self-regulation, a short attention span, and significant proprioceptive needs. Alex had difficulty transitioning from home to school and would throw tantrums frequently upon separation from his mother.

Setting

The setting for the art therapy sessions was the art therapy clinic where I conduct my private practice. The clinic has as a large open space in the center of the room, approximately 400 square feet, to allow for working on the floor. A third of the walls are lined with floor-to-ceiling mirrors that can be incorporated in sensory play and art making.

Data Collection Procedure

The study design was reviewed and approved by the Institutional Review Board of Mount Mary University prior to conducting the study. Consent forms were signed by participants' caregivers before the beginning of the sessions (see Appendix A). The following steps were taken to document the raw data:

- I conducted an informal pre- and post-therapy interview with each caregiver.
- I made video recordings of the 12 sessions.
- I took photographs of the artwork made by the children and kept them safely before giving the artwork to each child's caregiver.
- I made detailed clinical notes documenting my observations and reflections of the session after each session.

To create the case record from the raw data, an approximately 60-minute video was prepared from video clips of the 12 sessions with each participant. These video clips were made after reviewing the 12 videos per child conferring with the 12 clinical notes.

The highlights captured significant moments in the interaction between myself and the child, showed changes in the child's behavior, and illustrated parts of my intervention that may and may not have worked. This video was then shared with the participant's caregiver and another art therapist for triangulation to confirm the accuracy of my clinical notes with the videos. All three caregivers were encouraged to watch the aggregate videos of their child before the post-therapy interview, however, only one caregiver complied affirming my analysis of the sessions. The other two gave general feedback about the sessions in the post-therapy interview but did not watch the video. The art therapist who reviewed my clinical notes in addition to the videos confirmed the accuracy of my claims, observations, and clinical analysis of the session in my clinical notes.

Data Analysis

Grounded theory methods were applied to the triangulated data, which is a form of qualitative analysis of empirical data, collected systematically and analyzed laterally (Kapitan, 2018), and facilitates theory-building from the grouping and constant comparison of data for relevance (see Figure 1) (Corbin & Strauss, 1990). The case study data were conceptualized and categorized according to frequency, similarity, and differences through a process of coding. This process produced 36 analytic tables corresponding to 12 sessions with each of the three participants, which reduced the data into analyzable categories (see Table 1). The categories were guided by questions in the Attachment Q-sort, which is an instrument used to measure attachment in children with autism (Vaughn & Waters, 1990). Key concepts were identified in the analytic tables to generate a gestalt of the three cases (see Table 2). Finally, the data generated from Table 2 was compared and coded by relevance and recurrence to generate the themes, discussed later, that have informed the findings of the study.

Table 1

Sample of an Analytic Table of Session 3 With Teo

Question	Answer
Was the child resistant to enter the room?	No; I kept the door open. Went back and forth from art room to waiting room so I called his mother in. Safety was primary.
Was the child comfortable with proximity to the therapist?	Teo did not seek proximity. I did. Was not interested/seemed oblivious to me. Was closed/anxious.
Did the therapist mirror the child's vocalizations, actions, and/or emotions?	Yes, I imitated movements. Sang around the room. Teo unaware/uninterested. I could sense that he was somewhat more comfortable in this session than the last. Therapist must attune to child's emotional state.
Did the child respond to directives?	No. Not aware or interested. Closed/anxious.
Did the child respond to turn taking?	No. Not aware or interested. Skill not developed. Closed/reciprocity lacking.
Did the child imitate the therapist?	No. Not aware or interested.
Did the therapist use things other than art material, such as musical instruments, games, and toys?	I used the rattle and beanies to attract attention. I was willing to use anything to engage. Flexibility is necessary.
Was there an attempt at joint attention from the child?	No. Teo grabbed marker and a rattle when I offered it. No reciprocity as yet. Not ready.
Did the child display anger/crying/tantrums?	No. Mom sat in for most of the session. Teo felt safe or was too closed to express.
Was engagement with the art material only at a sensory level?	Very little engagement with art material. Not motivated. Maybe right material was not offered.
Was there any art product at the end of the session?	None. Teo not ready or interested. Art product not a goal of the session.
Comments	Very frustrated. Not sure what to do and how to engage. Anxious about future sessions.

Note. Analytic tables were made for each of the 36 sessions based on the video clips and clinical notes.

Table 2

Samples of the Gestalts of Sessions With Teo, Raj and Alex

Gestalt of Teo's sessions. At the beginning of the therapy sessions Teo appeared oblivious to my presence and not interested to engage. However, art materials caught Teo's attention and eventually became the entry point for engagement with me. I sensed a gradual shift in Teo's attention in session three and felt that he was more aware of my presence and possibly somewhat interested. However, I vacillated between frustration and anxiety at his relative disinterest in engaging with me.
Gestalt of Raj's sessions. Raj was comfortable to enter the room from the very beginning but did not seems interested in engaging with me. The art material created opportunity for proximity and finally engagement with me but it felt forced and not because Raj was motivated. By session three Raj became a bit responsive before things started to fall apart in session five. I began to feel that possibly the sessions were not structured enough for him and that he would require firmer boundaries.
Gestalt of Alex's sessions. Alex's reciprocal skills were well developed, he could listen to directives, do turn taking and had joint attention. However, I could sense an underlying anxiety through the session that was reflected in a short attention span, tendency to get bored with one activity and a general state of hyper -arousal. I found myself adjusting my voice tone to match Alex's affect and consistently mirror his actions, use exaggerated affect and effusive praise to keep Alex from dysregulating. This technique worked well and Alex seemed to have developed a liking for me till session four when behavior took a turn and Alex seemed to want to seek conflict and push boundaries.

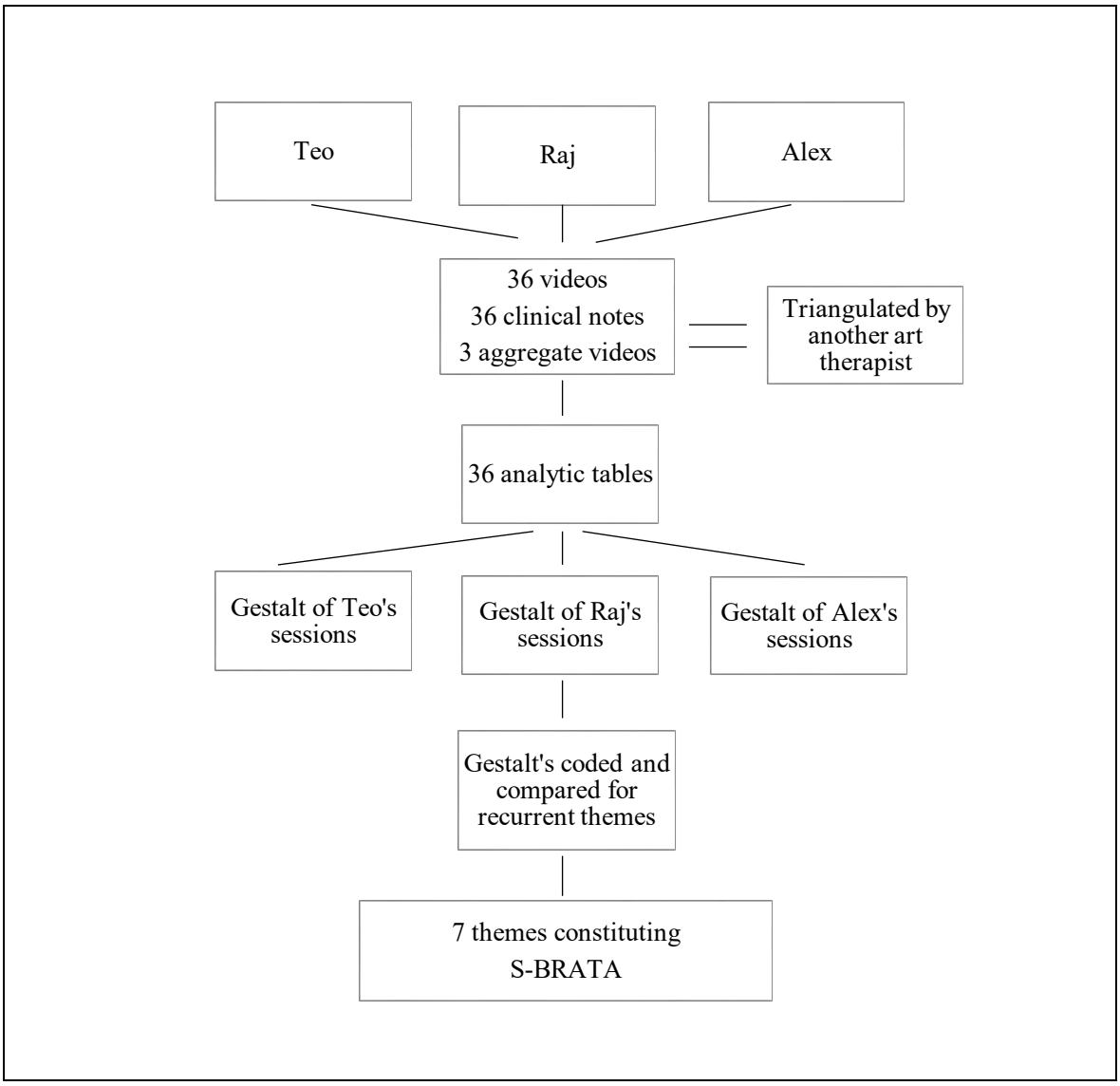

Figure 1. Illustration of grounded theory methodology including data collection and data analysis procedure.

Results

The following themes were identified by comparing across the three cases of Teo, Raj, and Alex: (a) sense of safety, (b) working with the child's sensory profile, (c) art materials as entry point for engagement, (d) attachment formation through mirroring and

attunement, (e) flexibility in approach, (f) structure and boundaries, and (g) art product not the focus. These themes form the framework of the S-BRATA that I utilized with study participants., discussed below.

Discussion

The study aimed to address the following question: how can art therapy address impaired attachment in children with ASD and comorbid SID? Below is a discussion of the results of the study contextualized within current literature and analyzed critically to assess the extent to which the research question was addressed and whether any new contributions were made to the field of art therapy within the context of ASD.

Sense of Safety

The first and foremost aspect of S-BRATA for this population, based on the grounded theory from the study, is to establish a sense of safety for the child with ASD by familiarizing oneself with the child while anticipating the child's level of stress (Martin, 2009a). A high level of anxiety is reported as typical for children with autism, compounded by a difficulty in expressing their distress (Evans et al., 1997; Evans & Dubowski, 2001; Slade, 2009), such as was the case for Teo, who did not have functional language skills. I observed Teo's initial reluctance to enter my clinic was indicative of his anxiety, perhaps due to lack of familiarity with the environment. Cognizant of Teo's probable apprehension, I approached him slowly, rather than rush into engaging with him, to allay any feelings of danger that he could have been experiencing. I allowed Teo's mother to sit in the clinic for the first few sessions until he was comfortable being alone with me. Also, instead of actively seeking Teo's engagement, I worked with art materials by myself in one part of the room as a way of modeling behavior rather than insisting he reciprocate and make art. My art making eventually drew Teo's attention and

encouraged him to approach me at his own pace to engage in sensory art making. This holding back of active engagement or seeking direct interaction with the child, as with Teo, may result in long periods of minimal interaction between therapist and child especially in the initial sessions until the child is ready to interact with the therapist on his own terms. As sessions proceeded, Teo approached me more frequently, became comfortable with proximity and initiated touch at times during joint artmaking such as when I put foam from my hands onto his hands and he reciprocated. Teo's increased level of comfort was indicative of his feelings of safety in the sessions and informed me that my holding back technique, that allowed him space and time to get familiar, had worked.

The withholding attitude, where the therapist may sit in one corner of the room not making any active attempt to engage with the child until the child initiates the interaction, may present a challenge to therapists who are used to the traditional form of art therapy where artmaking is the focal point of the session. Within the framework of S-BRATA, there may be sessions where no art is made and there is no art product, as happened in Teo's case. Thus, the therapist has to learn to be comfortable with periods of relative artistic inactivity that may be necessary to create a safe and non-threatening environment for a child who may be very anxious coming to an unfamiliar place, disturbed by changes in his routine and forced to interact with a stranger in the person of the new therapist. The focus therefore, is not on the image or art product but on the process of facilitating the child to tolerate interpersonal intimacy.

Working With the Child's Sensory Profile

The second theme, familiarization with the child's sensory profile, can aid the art therapist's understanding of the child's sensory needs and guide the use of the properties

of art materials to facilitate sensory regulation, given that a dysregulated child will be less inclined toward relational activity (Durrani, 2014). Valuable sources of information on the sensory challenges faced by the child include the child's occupational therapy report (if any), interviews with caregivers, and communication with other professionals. Thus, a child centered approach is necessary where the therapist caters to the specific needs of the child and does not prescribe to a 'one size fits all' approach.

Prior to starting the sessions with the Teo, Raj and Alex, I had discussed their sensory needs with their caregivers to familiarize myself with their sensory profiles. Therefore, cognizant of Teo's sensory seeking behaviors, in one of the sessions, I spread out a large plastic sheet on the floor where he was able to use all four limbs to spread shaving foam and paint hoping to provide him with the tactile input he craved. Similarly, for all three boys, Teo, Alex, and Raj, I often utilized the full-length mirrors on the clinic's walls to spread paint and shaving foam, employing large movements of the arms so that the boys had to reach out with their hands and bodies to interact with the medium and make marks on the mirror (see Figure 2).

There is always the possibility that exposure to certain materials may induce hyper-arousal in the child causing unmanageable excitement in them which may be indicated by increase in self-stimulatory behaviors, increase in rate of breathing, louder vocalizations and disruptive acts. At that point, the therapist has to switch to a more grounding material that will help in bringing down the arousal. For instance, Alex became very excitable using paints and would begin to squeeze large amounts of it onto the paper and subsequently spread it all over his hands and arms, followed by his face. That to me, was a signal to move on to sand play or clay to contain Alex's affect and channel him into an alternative behavior by providing a concrete focus around which

uncomfortable sensory experiences could be integrated (Martin, 2009b). Occasions like these, where the child may suddenly spiral into a state of hyper-arousal can be disconcerting for the therapist and it took me a few sessions with Teo, Raj and Alex to figure out the effect of specific art materials on each boy. Also, I realized that similar to co-regulatory activity between caregiver and infant, the therapist could use art materials to heighten hyper-arousal in the child followed by modulation through redirection in order to practice self-regulation. This could facilitate the internalization of self-regulatory activity through recurrent experiences of managing highs and lows as in Alex's case where I was able to practice this type of co-regulation by alternating between art materials that induced and reduced his arousal levels.

S-BRATA requires the art therapist to be cognizant of the child's sensory profile whether it is through feedback from caregivers and other professionals and also to be willing to deal with the highs and lows of a dysregulated child and adapt and adjust their approach accordingly. This could mean that possibly entire sessions are spent in sensory artmaking to facilitate regulation in the child. Unlike traditional art therapy where the focal point may be the art product and ensuing reflection, S-BRATA emphasizes the relationship between the therapist and child which requires the child to be regulated enough to be open to forming an attachment.

In some children with autism anxiety may manifest as restrictive, repetitive behaviors (RRB's) (Evans et al., 1997; Lidstone et al. 2014; Spiker, Lin, van Dyke, & Wood, 2012). These behaviors are classified as *repetitive motor and sensory*, such as hand flapping, finger movements, and spinning, or an *insistence on sameness*, such as rigidity in routines, narrow interests, rituals, and so on (Lidstone et al. 2014).

The therapist must remain attentive to the frequency of the restrictive, repetitive behaviors that the child displays in the session. Any increase or decrease in these behaviors could indicate the level of anxiety the child is experiencing and guide the intervention. I tried to remain alert to any changes in RRB's during my sessions. For instance, Raj would often grab a paintbrush and feel the bristles with his hands or touch them to his face, while he ran around the room. If he was unable to find a paintbrush he would hold a bunch of pencils instead. Raj's insistence on sameness behaviors were challenging and I struggled to redirect and

Figure 2. Teo: Foam and Paint on Mirror

Figure 3. Raj: Paint, Sand, and Glue

Figure 4. Raj: Paint and Torn Paper

motivate him to engage with me. Although Raj did engage in some sensory art making with me (see Figures 3 & 4), as the sessions went on I realized that art materials were not a strong enough pull for him to sustain that engagement; either his sensory needs were not being met through the art materials or he was just not drawn to them. This made me question the suitability of my approach with Raj and move out of my comfort zone to adapt to his needs.

Art Materials as Entry Point for Engagement

As documented in the case data, art can provide a buffer between the therapist and a child who has difficulty in social interaction. For Teo, who had difficulties with communication and was resistant to social interaction, active engagement was limited in the first few sessions. I engaged with art materials within sight of Teo, vacillating between frustration and anxiety at Teo's relative disinterest in engaging with me. Eventually the art materials caught Teo's attention and became the entry point for engagement. Throughout the duration of Teo's sessions, art materials helped sustain and prolong cycles of engagement between him and I. Toward the end of Teo's treatment, his mother reported that he had begun to imitate children in the park and had asked for water the other day, something he had not done before. Feedback from caregivers about changes in the child's behaviors at home and school are good indicators of the potential efficacy of an intervention.

With Raj, it seemed that art materials or perhaps the way I used them may not have sufficed with regards to his sensory needs as his RRB's and other disruptive behaviors increased progressively over the sessions; nevertheless, art materials were still the entry point for his engagement with me. There were instances with Raj where he and

I were able to emulate the caregiver–child relationship, such as when he sat with me in close proximity listening intently while I sang him a lull-a-bye.

Attachment Formation Through Mirroring and Attunement

Attachment to the therapist can be addressed once a sense of safety has been established and the therapist has been able to induce sensory modulation to whatever extent possible. However, it may also be the case that establishing a sense of safety, sensory regulation, and attachment are not sequential and take place concurrently in the course of a single session. As in the cases of all three boys, Teo, Raj and Alex I was simultaneously conscious of cultivating a sense of safety as well as attending to their sensory needs all the time emulating attachment behaviors. For instance, when I sensed that Raj needed to run around the room, instead of interrupting him directly and possibly escalating his anxiety, I would begin an activity suited to his sensory needs, such as drawing large circles with a bunch of pencils in both hands, in another part of the room to try and attract his attention indirectly. Having observed Raj's interaction with his caregiver in the waiting room and through my initial sessions with him, I had learnt that he was resistant to authority and would respond better if suitably motivated.

Relational art making, which Armstrong (2013) referred to as a strategy for replicating the mother–child relationship, supports attachment needs through mirroring and attuning to the child while engaging with art materials and art making. Evans and Dubowski (2001) recommended a treatment approach based on reciprocal cueing that is reminiscent of early communication between child and primary caregiver while also paying attention in the session to rhythm and body language. They referred to this communication as "proto-conversations" (Evans & Dubowski, 2001, p. 50) in that the therapist's response gives meaning to the client's vocalizations and results in

verbal/nonverbal dialogue. For instance, in his sessions, Teo perseverated on nursery rhymes that seemed to serve a regulatory purpose and were not directed at me. However, I joined him in his singing to establish a pattern of communication that indicated my desire to connect. Over time, my overtures drew Teo to pay attention and acknowledge my presence and he began to notice me and respond to directives. Toward the end of his sessions, Teo showed signs of emerging play when I threw a ball at him and he responded similarly indicative of significant progress of reciprocal skills that had been missing when I first saw him.

When a therapist can attune to the sensory and emotional state of the child, the therapist's self-awareness of countertransference feelings, anxiety, and breathing patterns in the session can offer important nonverbal information to help tailor the intervention for the child (Kossak, 2015). For instance, a highly anxious child may evoke reciprocal anxiety in the therapist and, similarly, as the child calms down the therapist may sense a change in the therapist's own body. In my sessions with Raj, I struggled with my own anxiety in attuning to him as I was unable to support him in self-regulating sufficiently with art materials. I recognized the lack of synchronicity between him and me through my own emotional state and that gave me insight into Raj's needs. Kossak (2015) called this an embodied process that the arts can provide. Belkofer and Nolan (2016) referred to this interpersonal connection as shared, sensory-based energy "resonance in our brain and our minds" (p. 163). Such interpersonal resonance is achieved through the act of *entrainment* (Kossak, 2015) or experiencing the state of another through deep connectivity through activities that involve sensory integration and kinesthetic movement.

Gallese's (2009) research on mirror neurons explicates the neurological basis of the phenomenon of two individuals sharing each other's subjective states, known as a state of empathy or *einfuhlung*, meaning the ability to enter "the world of another" (Franklin, 2010). The use of this term in literature seems to refer to an interdependent state of being that exists between two individuals as well as within their environment, or embodied simulation, as explicated by Gallese (2005). I learned from my sessions with Teo, Raj, and Alex that the state of *einfuhlung* can vacillate from session to session and also within a single session, and a cognizant therapist must make note of these fluctuations in order to guide their approach. Franklin (2010) described his experience with young adolescents by stating, "Analogous to a good parent, the therapist adjusts to shifting, intersubjective exchanges of attunement, mis-attunement and re-attunement that form the basis of the therapeutic alliance" (p. 162). I experienced attunement and re-attunement with Alex almost halfway through the 12 sessions when there was a rupture in our relationship. Alex had reached a point of comfort with me where he began to push my boundaries and I was forced to prematurely conclude a session due to highly disruptive behavior on his part. The rupture continued over the next few sessions but was managed by me setting firm boundaries in the session, much as a caregiver might seek to establish a sense of authority and control over a child. Subsequently, Alex settled back into the sessions and toward the end of the intervention his mother reported that his behavior had improved in general.

The relational aim of the art therapy session, thus, is for the therapist to become the secure base for children to explore art making at the level that they are comfortable, which requires a highly attuned, empathic understanding of each child's needs. The concepts of entrainment and embodied intelligence (Kossak, 2015) underpin all the

themes of the S-BRATA and emphasize the implicit processes of co-creation between therapist and child. S-BRATA emphasizes the relationship between the therapist and child mediated by art materials and joint artmaking.

Flexibility in Approach

With all three boys I made use of toys and musical instruments when I felt there was a need for materials other than art materials to engage or motivate them. I also allowed Teo's mother to sit in a couple of sessions and Alex's family members to come and join in one session when he was resisting entry into the room. I had not foreseen these as part of my intervention but I realized that flexibility in approach is key to attuning with the children and that it is necessary to meet them where they are at rather than adhering to preconceived ideas about the art therapy intervention. Thus, many times during the sessions when I sensed that something was not working, I adapted and tried something different to see if it would work. For instance, in some of my sessions with Raj, when I had been trying to actively engage him and he did not respond I changed my stance and sat back to observe him. That gave me insight into what Raj might be needing that I was not able to provide. I realized that Raj was not motivated to use art materials and although he had responded initially—probably out of curiosity—and art materials had been an entry point for engagement with me, they were not enough to sustain his interest. It made me wonder whether an approach that used a broader range of kinesthetic activity, such as dance or movement therapy, might be more suitable for Raj than art therapy. It also made me want to further explore the kinesthetic potential in art therapy by increasing my repertoire of activities in this area.

Similarly, with Alex, there were times when I allowed him to "just be" in the room rather than direct him to activities, because I sensed that he needed a break. This

was my "approach and retreat technique," where I engaged him in art making for a good 10 to 15 minutes and if he strolled off I would wait for him to come back to me. In the meantime, I would start working on something myself and that would pique his curiosity and he would wander back to engage with me.

Another area that art therapists must not restrict themselves in is space. Art can be made while sitting on the floor, at a table, on paper on the wall, on mirrors, or in any part of the room the child is comfortable with. I played tag with Teo when he ran around the room, hide and seek with Alex when he hid under the table, and sat on a beanbag chair with Raj in my lap to calm him down. The art therapy room can become a playground where a child feels safe, understood, and validated.

Structure and Boundaries

With children who have significant sensory challenges and where reciprocal behavior is not fully established it may not be possible to have an unstructured session. Initially, not knowing what to expect, I did not have a session plan for either Alex, Teo, or Raj but soon I began to realize that I had to have a lineup of materials and activities that I could use in the session, the reason being that children with autism struggle with lack of structure and respond well to predictability. Although art therapy may be considered a relatively unstructured intervention as compared to other autism-specific interventions that are mostly behavioral or developmental, referring back to my earlier point about flexibility, it may be necessary to adapt according to the needs of the child. For example, Alex required a succession of activities that included shaving foam, painting, stamping, clay, and sand play all in one session because his attention span was limited and he tended to get bored fast (see Figures 5 & 6). Therefore, I began to

preempt his boredom and was able to direct him or divert him from a tantrum to an activity that would distract or ground him.

In contrast, I believe with Raj I struggled throughout the sessions because coupled with his lack of interest in art materials I was unable to structure the sessions to the extent he required. Because he was not motivated to make art, it was not possible to structure activities for him.

Similarly, boundaries or containment may be necessary with structure for some children. Especially in Alex's case, his disruptive behavior receded only when he realized that certain things were unacceptable such as banging doors and throwing things around the room. Although I allowed him to pour large amounts of paint from the bottles, when I felt that he was dysregulating, I took control of the bottles and poured the paint for him or gave him a smaller palette that would could only hold a small amount of paint.

Art Product Not the Focus

Figure 5. Alex: Modeling Clay and Accessories

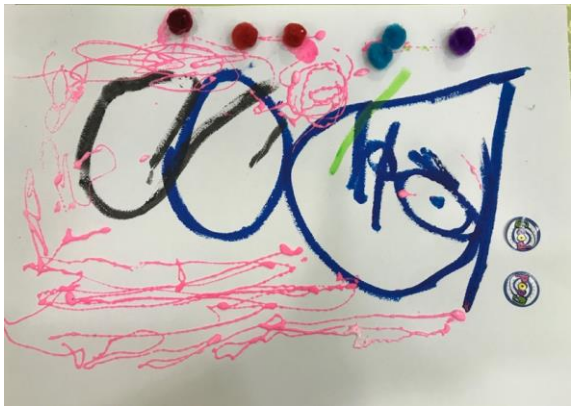

Figure 6. Alex: Mixed Media on Paper

Finally, it is important to remember that at times it may not be possible to have a session where any tangible art product is produced. In fact, with Teo and Raj, most of the art making was sensory-based and they were not interested in mark making (see Figure 7). With Alex, there was always an art product but his engagement was driven primarily by sensory needs. Although at times I was able to extend our cycles of communication by using the art product, such as when Alex brought in a photograph of himself riding a horse, I helped him in copying it, and he was very proud to share it with his mother, but creating an art product was not, in any event, the primary purpose of the art therapy intervention. The aim was to have a sensory modulated child engage in reciprocal communication with the me facilitated by art materials and artmaking to achieve the primary goal of establishing attachment between child and art therapist.

Figure 7. Teo: Paint and Foam on Paper

Assumptions and Limitations

There are various assumptions that were made in the study. First, the study rationale assumes that a securely attached child with ASD is a more psycho-emotionally healthy child, less insecure and anxious, as compared to a child with autism who has an impaired attachment pattern. There is no current research within the ASD literature to support this contention. Moreover, as a study limitation I was unable to conduct pre and post therapy standardized tests to assess the attachment patterns observed in my subjects. Although these cases illustrate the formation of an attachment between therapist and child

with ASD through my case studies, I was not able to measure its benefits due to limitations of time and resources. Another limitation of the study is that children with ASD are often involved in more than one therapeutic intervention at a time and the study design did not allow for isolating the effect of art therapy from other treatments.

Grounded theory methodology has its challenges in that it is mired in the qualitative vs quantitative debate where the accuracy of data collected from qualitative methods may be deemed as less valid and rigorous due to the lack of controlled procedures and predetermined scientific processes (Birks & Mills, 2015). The fact that I was unable to quantify the changes in my subject's behaviors for example reduction in restricted repetitive behaviors (RRB's), frequency of eye contact amongst others, may be considered a limitation of my study. Furthermore, due to the duality of my role as a practitioner/researcher as well as the heavily relational nature of my intervention where a large part of my analysis is based on implicit knowledge and interpersonal resonance (Kossak, 2015), it may be argued that there is the possibility of researcher bias in my methodology. While I acknowledge the challenges inherent in using grounded theory methodology, I am confident that the quality of my data, its fit to my theory and the rigor of my research process which is conceptually strong and logical, original and useful to the field of study, will address any issues of credibility that may arise (Charmaz, 2014).

Conclusion

This study results provide a preliminary framework for working with children with ASD using S-BRATA. In order for attachment to take place, a child's anxiety caused by sensory dysfunction has to be addressed so that the child is open to forming a relationship with the therapist. Art therapists must be familiar with children's sensory

profiles in order to create a safe space for them by attuning to their needs and being sensitive to their psycho-emotional state. This embodied communication between therapist and child replicates the caregiver–child relationship based on non-verbal, subliminal nuances of communication. Art material can provide an entry point for engagement with the child as well as being used for sensory modulation. Some children may not be as responsive to art materials as others and therapists need to adapt to the needs of each child by being flexible in their approach and, potentially, moving beyond art materials to engage the child, if needed. Structure and firm boundaries within the session may be necessary for some children with autism. An art product at the end of the session is not necessary and is not a goal.

S-BRATA is not restrictive neither prescriptive. It is a framework that can be adopted not only by art therapists but also by other expressive therapies practitioners who employ sensory and kinesthetic approaches in their work. Further research is required to extend and refine the framework for broader applicability; cross disciplinary collaboration with other professionals is recommended. An area that holds great potential for research and development of S-BRATA is dyadic therapy to promote attachment between the caregiver and child.

References

Armstrong, G. V. (2013). Modeling attuned relationships in art psychotherapy with children who have poor early experiences. *The Arts in Psychotherapy*, *40*(3), 275–284. https://doi.org/10.1016/j.aip.2013.04.002

Belkofer, C. M., & Nolan, E. (2016). Practical applications of neuroscience in art therapy: A holistic approach to treating trauma in children. In L. J. King (Ed.), *Art therapy, trauma, and neuroscience* (pp. 157–172). New York, NY: Routledge.

Birks, M., & Mills (2015). *Grounded theory. A practical Guide*. Los Angeles. CA: SAGE.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.

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. doi: 10.1080/17454830903006323

Charmaz, K. (2014). *Constructing grounded theory. A practical guide through qualitative analysis.* London. UK: SAGE.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21.

Durrani, H. (2014). Facilitating attachment in children with autism through art therapy: A case study. *Journal of Psychotherapy Integration*, *24*(2), 99–108. https:doi.org/10.1037/a0036974

Evans, D. W., Leckman, J. F., Carter, A., Reznick, J. S., Henshaw, D., King, R. A., & Pauls, D. (1997). Ritual, habit, and perfectionism: The prevalence and development of compulsive-like behavior in normal young children. *Child Development, 68,* 58–68.

Evans, K., & Dubowski, J. (2001). *Art therapy with children on the autistic spectrum*. London, England: Jessica Kingsley.

Fernell, E., Eriksson, A. M., & Gilberg, C. (2013). Early diagnosis of autism and impact on prognosis: A narrative review. *Clinical Epidemiology, 5,* 33–43.

Franklin, M. (2010). Affect regulation, mirror neurons, and the third hand: Formulating mindful empathic art interventions. *Art Therapy: Journal of the American Art Therapy Association, 27*(4), 160–167. https://doi.org/10.1080/07421656.2010.10129385

Gallese, V. (2009). Mirror neurons, embodied simulation and the neural basis of social identity. *Psychoanalytic Dialogues, 19*(5), 519–536. https://doi.org/10.1080/10481880903231910

Grandin, T., & Panek, R. (2013). *The autistic brain*. New York, NY: Houghton Mifflin Harcourt.

Hartley, S. L., Sikora, D. M., & McCoy, R. (2008). Prevalence and risk factors of maladaptive behaviors in young children with autistic disorder. *Journal of Intellectual Disability Research, 52*(10), 819–829. https://doi.org/10.1111/j.1365-2788.2008.01065.x

Kapitan, L. (2018). *Introduction to art therapy research* (2nd ed.). New York, NY: Routledge.

Kossak, M. S. (2015). *Attunement in expressive arts therapy.* Chicago, IL: Charles C Thomas.

Lidstone, J., Uljarevic, M., Sullivan, J., Rodgers, J., McConachie, H., Freeston, M., . . . Leekam, S. R. (2014). Relations among restricted and repetitive behaviors, anxiety and sensory features in children with autism spectrum disorders. *Research in Autism Spectrum Disorders, 8*(2), 82–92. https://doi.org/10.1016/j.rasd.2013.10.001

Martin, N. (2009a). *Art as an early intervention tool for children with autism.* London, England: Jessica Kingsley.

Martin, N. (2009b). Art therapy and autism: Overview and recommendations. *Art Therapy: Journal of the American Art Therapy Association, 26*(4), 187–190. https://doi.org/10.1080/07421656.2009.10129616

Naber, F. B. A., Swinkels, S. H. N., Buitelaar, J. K., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., Dietz, C., . . . van Engeland, H. (2007). Attachment in toddlers with autism and other developmental disorders. *Journal of Autism and Developmental Disorders, 37*(6), 1123–1138. https://doi.org/10.1007/s10803-006-0255-2

Perry, B. (with Szalavitz, M.). (2006). *The boy who was raised as a dog: And other stories from a child psychiatrist's notebook: What traumatized children can teach us about loss, love, and healing.* New York, NY: Basic Books.

Rogers, S. J., Ozonoff, S., & Maslin-Cole, C. (1993). Developmental aspects of attachment behavior in young children with pervasive developmental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*(6), 1274–1282.

Schore, A. N. (2003). Early relational trauma, disorganized attachment, and the development of a predisposition to violence. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain* (pp. 107–167). New York, NY: W. W. Norton.

Shore, A. (2014). Art therapy, attachment, and the divided brain. *Art Therapy: Journal of the American Art Therapy Association, 31*(2), 91–94. https://doi.org/10.1080/07421656.2014.903827

Slade, A. (2009). Metalizing the unmentalizable: Parenting children on the spectrum. *Journal of Infant, Child and Adolescent Psychotherapy*, *8*(1), 7–21. https://doi.org/10.1080/15289160802683054

Spiker, M. A, Lin, C. E., Van Dyke, M., & Wood, J. J. (2012). Restricted interests and anxiety in children with autism. *Autism*, *16*(3), 306–320.

Stern, D. N. (1977). *The first relationship: Infant and mother*. Cambridge, MA: Harvard University Press.

Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy, 61*(2), 190–200. https://doi.org/10.5014/ajot.61.2.190

van der Kolk, B. (2014). *The body keeps the score: Brain, Mind, and Body in the Healing of Trauma*. New York, NY: Penguin Books.

Vaughn, B. E., & Waters, E. (1990). Attachment behavior at home and in the laboratory: Q-sort observations and Strange Situation classifications of one-year-olds. *Child Development, 61*(6), 1965–1973.

CHAPTER 5

Conclusion

This research was instigated by a deep personal involvement with Autism Spectrum Disorder (ASD) by virtue of being a caregiver of a young adult on the spectrum. Cognizant of the challenges in raising a child with differences encompassing a range of relational, behavioral and emotional difficulties, over the years I have developed a keen insight into the spectrum not only from a personal but a professional perspective as well. Due to my son's severe sensory challenges, I sat through dozens of sessions of sensory integration therapy and subsequently tried to integrate my learning at home for almost two decades.

As a novice art therapist my very first clients were children with significant sensory integration disorder (SID) and ASD and so by default I unconsciously tailored my intervention to address sensory issues in the children on the spectrum who were too dysregulated and anxious to communicate let alone make art. At the same time, as a mother of an anxious teenager with ASD and a therapist who worked with equally anxious children, I was faced with this nagging realization that most of the interventions for ASD focused on behavior modification and the teaching of skills. Most caregivers were so overwhelmed with dealing with unwanted behaviors and developmental challenges of inherent in the spectrum that the emotional well-being of the child with ASD did not get the attention it deserved.

My understanding of attachment theory and the short and long-term consequences of a healthy first relationship between caregiver and child further drove home the importance of primary relationships and their impact on the psychological and emotional

well-being of individuals. However, it seemed that the relational focus in most ASD specific therapies was secondary to the teaching of life skills.

Ongoing work with children with ASD awakened me to the relational scope of artmaking provided the children were regulated enough to be receptive. SID seemed to be the overarching theme causing anxiety and regulation issues in these children and I realized that addressing sensory challenges had to be concurrent to the goal of forming an attachment with the child. Research showed that old attachment patterns could be replaced with new ones later on in life and that had implications for an intervention that could ameliorate the effects of a disrupted attachment (Siegel, 2003).

In 2014, I published an article in the *Journal of Psychotherapy Integration* (Durrani, 2014) where I described a case study of a 12-year-old boy with ASD and significant SID. In that article I hypothesized a relationship between SID and chronic sensory regulation issues and postulated that art therapy intervention had lowered anxiety levels in the boy and facilitated attachment between him and myself. I recommended further exploration of art therapy as a potential treatment for children with ASD. Still, I felt there were gaps in my knowledge that could only be addressed through further research. I pursued the doctorate in art therapy precisely to understand what I was doing and why and ultimately, how I could share my learning with others.

I chose a three-article dissertation to disseminate my research that consists of a viewpoint article followed by article number two that sets the stage for my research question by positioning art therapy as a suitable intervention to facilitate attachment in children with ASD and comorbid SID and finally the study that answers my research question: how can art therapy address impaired attachment in children with ASD and comorbid SID?

In the viewpoint I specifically target three areas of difficulty inherent in ASD namely: sensory regulation, psychomotor regulation, communication and expression and cited examples supported by current literature to show how art therapy can address them. I contend that each child with autism faces a unique combination of these challenges, and that art therapy is well suited to address these challenges because it is not restricted by language, cognitive development, developmental milestones, or any other specific skill set that is required of the child in order to do art therapy. Essentially, for researchers, professionals, and caregivers, the viewpoint makes a case for art therapy as an efficacious treatment for ASD and for art therapists it is a call to continue to develop the evidence base for their profession within the context of ASD.

Article two builds a theoretical base for the rationale behind tackling sensory issues in children with ASD whilst trying to form an attachment with them. It explicates current discourse and literature on ASD, SID, attachment and art therapy and elucidates the relationship between each. Art therapy is positioned as a suitable approach to address SID and attachment concurrently in children with ASD. This is done by reviewing the work of art therapists with individuals with ASD highlighting the sensory and relational aspects of the intervention. I cite some examples from my own work for the purpose of illustration. Article two offers a different conceptualization of treatment for ASD where the developmental and emotional aspects of the child with ASD are concomitant objectives. It prepares the ground for the framework that is required for art therapists to work with children within the context of SID and attachment.

In article three, I present the sensory-based relational art therapy approach (S-BRATA), conceived as a framework to guide art therapists working with children with autism with diverse needs—a blueprint flexible enough to allow adaptation and

specificity. The themes that constitute S-BRATA—(a) sense of safety, (b) working with the child's sensory profile, (c) art materials as entry point for engagement, (d) attachment formation through mirroring and attunement, (e) flexibility in approach, (f) structure and boundaries, and (g) art product not the focus—have broad applicability and can be tailored to the specific needs of each child, be they sensory, emotional, or developmental.

S-BRATA is built upon the invaluable contribution of art therapists who recognized the importance of safety and working with the child's sensory profile (Martin 2009a), the role of art materials (Malchiodi 2003; Martin 2009b) and the importance of developing a relationship with the child with ASD (Bragge & Fenner, 2009; Evans & Dubowski, 2001). The themes of the framework are informed by current developments in art therapy within the context of neuroscience (Chapman 2015; Gallese, 2009; King 2016; Shore 2014; Siegel 2003) and relational artmaking (Belkofer & Nolan 2016; Franklin 2010; Hass-Cohen & Findlay 2015; Kossak 2015).

S-BRATA is an empirical illustration of my learning from current research and practice in art therapy and ASD, as well as the advancement of that learning through the case studies of Teo , Raj and Alex. Each theme of the S-BRATA extends and develops some of the established concepts proposed by the aforementioned art therapists and researchers, at times challenging the traditional art therapy approach.

S-BRATA emphasizes a flexible structure where the therapist is encouraged to follow the lead of the child. The basic themes that underlie the S-BRATA are neither restrictive nor prescriptive but are meant to be used as a guide by art therapists. Each theme lends insight into the complexity of dealing with a wide spectrum of challenges that require an informed and attuned approach, for each child with ASD is unique and

adjustment and adaptation of the content within the themes may be required. All 7 themes run concurrent to each other and are not sequential in nature. For instance, the first theme which is the 'sense of safety' must pervade all the sessions just as the therapist must at all times maintain 'flexibility in approach' and aim for 'attachment formation through mirroring and attunement'.

S-BRATA challenges some of the traditional form of art therapy in that the focus of the approach is not on mark making or reflection on the art product. In fact, what is primary is the process of entering the child's inner world through engagement with art materials that are a used to induce regulation and motivate the child to initiate communication with the therapist. The therapist is positioned as an attachment figure and emulating an attachment relationship is fundamental to the objectives of the intervention. Hence, a session based on S-BRATA may not resemble a typical art therapy session where the interaction between therapist and child may be restricted to art making on a single surface like a table or the floor or the creation of an art product. For instance, there may be entire sessions that are only dedicated to sensory play or activities other than artmaking just because the child is not ready or motivated to engage with art materials. Hence, flexibility in approach is emphasized and allows for inclusion of play, drama, and music in the sessions when the therapist might need to attune to the child using different media. The aim of the therapist is to enter the world of the child on the child's terms.

Some specific techniques illustrated in S-BRATA, such as the 'holding back' and 'approach and retreat' techniques, may be considered unique to the field of art therapy. Holding back refers to the withholding attitude of the therapist who refrains from any kind of direct engagement with the child and may sit in a corner of the room making art in the sight of the child but not initiating contact. This type of approach is recommended

to instill a sense of safety for the child. Similarly, the approach and retreat technique refers to alternate periods of engagement and disengagement with the child preventing sensory overload. For instance, the therapist needs to step back and give the child down time to recoup and regulate if a certain activity has continued for long and may have overwhelmed the child. The above-mentioned techniques emanate from the implicit processes of embodied intelligence and interpersonal connectedness that facilitate a sense of awareness in the therapist of the emotional state of the child (Belkofer& Nolan 2016; Kossak 2105).

Although my research question focuses specifically on working with children on the spectrum who have sensory issues and impaired attachment, the framework is not exclusive to this population. It has the potential of wider applicability and practitioners are encouraged to adapt and develop it to suit their clients. Similarly, S-BRATA does not have to be the exclusive domain of art therapists. Expressive therapies practitioners such as dance, music, movement and drama therapists, professionals who incorporate sensory, kinesthetic, tactile, visual and auditory elements in their work can also employ the basic principles of S-BRATA in their approach. In fact, a collaboration between art therapists and other expressive therapies practitioners could enhance the framework with cross-disciplinary learning and sharing.

One could argue that S-BRATA encompasses less than or more than the scope of art therapy and is not in fact art therapy due to its broad and flexible elements. In my opinion strict categorization limits the scope of the intervention and is unnecessary. It is hoped that further research by art therapists will contribute to the evidence base of S-BRATA through ongoing quantitative and qualitative research as it has significant implications for inclusion in the treatment of children on the autism spectrum, especially

within the context of psychological and emotional well-being. Due to the limitations of my study, I was unable to include caregivers in my sessions with my subjects. Dyadic sessions facilitated by the art therapist using S-BRATA hold exciting possibilities for research and development within the context of attachment between caregiver and child with ASD.

References

Ainsworth, M. D. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child Development, 40*(4), 969–025.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* New York, NY: Erlbaum.

Armstrong, G. V. (2013). Modeling attuned relationships in art psychotherapy with children who have poor early experiences. *The Arts in Psychotherapy, 40*(3), 275–284. https://doi.org/10.1016/j.aip.2013.04.002

Autism Speaks. (n.d.). Treatments and therapies. Retrieved from https://www.autismspeaks.org/treatments

Baranek, G. T., Foster, L. G., & Berkson, G. (1997). Tactile defensiveness and stereotyped behaviors. *American Journal of Occupational Therapy, 51*(2), 91–95. https://doi.org/10.5014/ajot.51.2.91

Baron-Cohen, S. (1989). The autistic child's theory of mind: The case of specific developmental delay. *Journal of Clinical Child Psychology and Psychiatry, 30*(2), 285–298. https://doi.org/10.1111/j.1469-7610.1989.tb00241.x

Belkofer, C. M., & Nolan, E. (2016). Practical applications of neuroscience in art therapy: A holistic approach to treating trauma in children. In L. J. King (Ed.), *Art therapy, trauma, and neuroscience* (pp. 157–172). New York, NY: Routledge.

Ben-Sasson, A., Cermak, S. A., Orsmond, G. I., Tager-Flusberg, H., Carter, A. S., Kadlec, M. B., & Dunn, W. (2007). Extreme sensory modulation behaviors in toddlers with autism spectrum disorders. *The American Journal of Occupational Therapy, 61*(5), 584–592.

Beurkens, N. M., Hobson, J. A., & Hobson, R. P. (2013). Autism severity and qualities of parent-child relations. *Journal of Autism Development Disorder*, *43*(1), 168–178. https://doi.org/10.1007/s10803-012-1562-4

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York, NY: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation*. New York, NY: Basic Books.

Buitelaar, J. K. (1995). Attachment and social withdrawal in autism: Hypothesis and findings. *Behaviour*, *132*(5), 319–350.

Chapman, L. (2014). *Neurobiologically informed trauma therapy with children and adolescents: Understanding the mechanisms of change.* New York, NY: W. W. Norton.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21.

Devito, J. T., Drost, J. D., Neufeld, J. W. R., Rajakumar, N., Pavlovsky, W., Williamson, P., & Nicolson, R. (2007). Evidence of corticol dysfunction in autism: A proton magnetic resonance spectroscopic imaging study. *Biological Psychiatry, 61*(4), 465–473. https://doi.org/10.1016/j.biopsych.2006.07.022

Donnellan, A. M., Hill, D. A., & Leary, M. R. (2013). Rethinking autism: Implications of sensory and movement differences for understanding and support. *Frontiers in Integrative Neuroscience*, *6*(124), 1–11. https://doi.org/10.3389/fnint.2012.00124

Durrani, H. (2014). Facilitating attachment in children with autism through art therapy: A case study. *Journal of Psychotherapy Integration*, *24* (2), 99–108. https://doi.org/10.1037/a0036974

Emery, M. J. (2002). Art therapy as an intervention for autism. *Art Therapy: Journal of the American Art Therapy Association, 2*(3), 143–147. https://doi.org/10.1080/07421656.2004.10129500

Erskine, R. (1998). Attunement and involvement: Therapeutic responses to relational needs. *International Journal of Psychotherapy, 3*(3), 235—244.

Evans, D. W., Leckman, J. F., Carter, A., Reznick, J. S., Henshaw, D., King, R. A., & Pauls, D. (1997). Ritual, habit, and perfectionism: The prevalence and development of compulsive-like behavior in normal young children. *Child Development, 68,* 58–68.

Evans, K., & Dubowski, J. (2001). *Art therapy with children on the autistic spectrum*. London, England: Jessica Kingsley.

Fernell, E., Eriksson, A. M., & Gilberg, C. (2013). Early diagnosis of autism and impact on prognosis: A narrative review. *Clinical Epidemiology, 5,* 33–43.

Franklin. M. (2010). Affect regulation, mirror neurons, and the third hand: Formulating mindful empathic art interventions. *Art Therapy: Journal of the American Art Therapy Association, 27(*4), 160–167. https://doi.org/10.1080/07421656.2010.10129385

Gallese, V. (2009). Mirror neurons, embodied simulation and the neural basis of social identity. *Psychoanalytic Dialogues, 19*(5), 519–536. https://doi.org/10.1080/10481880903231910

Gomez, C. R., & Baird, S. (2005). Identifying early indicators for autism in self-regulation difficulties. *Focus on Autism and Other Developmental Disabilities, 20*(2), 106–116. https://doi.org/10.1177/10883576050200020101

Grandin, T., & Panek, R. (2013). *The autistic brain*. New York, NY: Houghton Mifflin Harcourt.

Greenspan, S. I. (2002). *The secure child: Helping our children feel safe and confident in a changing world*. Cambridge, MA: Da Capo Press.

Greenspan, S. I., & Wieder, S. (2006). *Engaging Autism. Using the Floortime approach to help children relate, communicate and think.* Philadelphia, PA: Da Capo Press.

Hartley, S. L., Sikora, D. M. , & McCoy, R. (2008). Prevalence and risk factors of maladaptive behaviors in young children with autistic disorder. *Journal of Intellectual Disability Research, 52*(10), 819–829. https://doi.org/10.1111/j.1365-2788.2008.01065.x

Hass-Cohen, N., & Findlay, J. C. (2015). *Art therapy and the neuroscience of relationships, creativity and resiliency.* New York, NY: W. W. Norton.

Henley, D. (2001). Annihilation anxiety and fantasy in the art of children with Asperger's syndrome and others on the autistic spectrum. *American Journal of Art Therapy, 39*(4), 113–21.

Henley, D. R. (2018). *Creative response activities for children on the spectrum.* New York, NY: Routledge.

Hilton, C. L., Harper, J. D., Kueker, R. H., Lang, A. R., Abbacchi, A. M., Todorov, A., & LaVesser, P. D. (2010). Sensory responsiveness as a predictor of social severity in children with high functioning autism spectrum disorders. *Journal of Autism Development Disorder, 40*(8), 937–945. https://doi.org/10.1007/s10803-010-0944-8

Hinz, L. D. (2016). Media considerations in art therapy: Directions for future research. In D. E. Gussak & M. L. Rosal (Eds.), *The Wiley book of art therapy* (1st ed., pp. 135–145). Chichester, England: John Wiley & Sons.

Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child, 2,* 217–250.

Kapitan, L. (2018). *Introduction to art therapy research* (2nd ed.). New York, NY: Routledge.

Kern, J. K., Trivedi, M. H., Garver, C. R., Grannemann, B. D., Andrews, A. A., Savla, J. S., . . . Schroeder, J. L. (2006). The pattern of sensory processing abnormalities in autism. *Autism, 10,* 480–494. https://doi.org/10.1177/1362361306066564

Kossak, M. S. (2009). Therapeutic attunement: A transpersonal view of expressive arts therapy. *The Arts in Psychotherapy, 36,* 13–18. https://doi.org/10.1016/j.aip.2008.09.003

King, J. L. (Ed.). (2016). *Art therapy, trauma, and neuroscience.* New York, NY: Routledge.

Klin, A., Lin, D. J., Gorrindo, P., Ramsay, G., & Jones, W. (2009). Two-year-olds with autism orient to non-social contingencies rather than biological motion. *Nature, 459*(7244), 257–61. https://doi.org/10.1038/nature07868

Kossak, M. S. (2015). *Attunement in expressive arts therapy.* Springfield, IL: Charles C Thomas.

Kuo, N. C. & Plavnick, J. B. (2015). Using an antecedent art intervention to improve the behavior of a child with autism. *Art Therapy: Journal of the American Art Therapy Association, 32*(2), 54-59.

Leekman, S. R., Nieto, C., Libby, S. J., Wing, L., & Gould, J. (2007). Describing the sensory abnormalities of children and adults with autism. *Journal of Autism*

Development Disorder, 37(5), 894–910. https://doi.org/10.1007/s10803-006-0218-7

Lidstone, J., Uljarevic, M., Sullivan, J., Rodgers, J., McConachie, H., Freeston, M., . . . Leekam, S. R. (2014). Relations among restricted and repetitive behaviors, anxiety and sensory features in children with autism spectrum disorders. *Research in Autism Spectrum Disorders, 8*(2), 82–92. https://doi.org/10.1016/j.rasd.2013.10.001

Liss, M., Saulnier, C., Fein, D., & Kinsbourne, M. (2006). Sensory abnormalities in autistic spectrum disorders. *Autism, 10*(2), 155–172. https://doi.org/10.1177/1362361306062021

Lusebrink, V. B. (1992). A systems-oriented approach to the expressive therapies: The Expressive Therapies Continuum. *The Arts in Psychotherapy, 18*(5), 395–403. https://doi.org/10.1016/0197-4556(91)90051-B

Malchiodi, C. A. (2003). Handbook of art therapy. New York, NY: Guilford Press.

Marco, E. J., Hinkley, L. B. N., Hill, S. S., & Nagarajan, S. S. (2011). Sensory processing in autism: A review of neurophysiological findings. *Pediatric Research, 69*(5), 48–54. doi: 10.1203/PDR.0b013e3182130c54.

Martin, N. (2009a). *Art as an early intervention tool for children with autism.* London, England: Jessica Kingsley.

Martin, N. (2009b). Art therapy and autism: Overview and recommendations. *Art Therapy: Journal of the American Art Therapy Association, 26*(4), 187–190. https://doi.org/10.1080/07421656.2009.10129616

McNiff, S. (1998). *Trust the process*. Boston, MA: Shambhala.

Miller, L. J., Anzalone, M. E., Lane, S. J., Cermak, S. A., & Osten, E. T. (2007). Concept evolution in sensory integration: A proposed nosology for diagnosis. *The American Journal of Occupational Therapy, 61*(2), 135–140.

Naber, F. B. A., Swinkels, S. H. N., Buitelaar, J. K., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., Dietz, C., . . . van Engeland, H. (2007). Attachment in toddlers with autism and other developmental disorders. *Journal of Autism and Developmental Disorders, 37*(6), 1123–1138. https://doi.org/10.1007/s10803-006-0255-2

Perry, B. (with Szalavitz, M.). (2006). *The boy who was raised as a dog: And other stories from a child psychiatrist's notebook: What traumatized children can teach us about loss, love, and healing.* New York, NY: Basic Books.

Pfeiffer, B., Kinnealey, M., Reed, C., & Herzberg, G. (2005). Sensory modulation and affective disorders in children and adolescents with Asperger's disorder. *American Journal of Occupational Therapy, 59*(3), 335–345.

Robledo, J., Donnellan, A. M., & Strandt-Conroy, K. (2012). An exploration of sensory and movement differences from the perspective of individuals with autism. *Frontiers in Integrative Neuroscience, 6*(107), 1–13. https://doi.org/10.3389/fnint.2012.00107

Rogers, S. J., Ozonoff, S., & Maslin-Cole, C. (1993). Developmental aspects of attachment behavior in young children with pervasive developmental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*(6), 1274–1282.

Rutgers, A. H., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Berckleaer-Onnes, I. A. (2004). Autism and attachment: a meta-analytic review. *Journal of Child Psychology and Psychiatry, 45*(6), 1123–1134.

Rutgers, A. H., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Swinkels, S. H. N., van Daalen, E., Dietz, C., & van Engeland, H. (2007). Autism, attachment and parenting: A comparison of children with autism spectrum disorder, mental retardation, language disorder and non-clinical children. *Journal of Abnormal Child Psychology, 35*(5), 859–870. https://doi.org/10.1007/s10802-007-9139-y

Rutter, M. (1978). Diagnosis and definition of childhood autism. *Journal of Autism and Childhood Schizophrenia, 8*(2), 139–161.

Schore, A. N. (2003). Early relational trauma, disorganized attachment, and the development of a predisposition to violence. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain* (pp. 107–167). New York, NY: W. W. Norton.

Seskin, L., Feliciano, E., Tippy, G., Yedloutschnig, R., Sossin, K. M., & Yasik, A. (2010). Attachment and autism: Parental attachment representations and relational behaviors in the parent-child dyad. *Journal of Abnormal Child Psychology, 38*(7), 949–960. https://doi.org/10.1007/s10802-010-9417-y

Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development, 4,* 133–161. https://doi.org/10.1080/14616730210154171

Shore, A. (2014). Art therapy, attachment, and the divided brain. *Art Therapy: Journal of the American Art Therapy Association, 31*(2), 91–94. https://doi.org/10.1080/07421656.2014.903827

Siegel, D. J. (2003). An interpersonal neurobiology of psychotherapy: The developing mind and the resolution of trauma. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain* (pp. 1–56). New York, NY: W. W. Norton.

Sigman, M., & Mundy, P. (1989). Social attachments in autistic children. *Journal of the American Academy of Child & Adolescent Psychiatry, 28*(1), 74–81. https://doi.org/10.1097/00004583-198901000-00014

Sivaratnam, C. S., Newman, L. K., Tonge, B. J., & Rinehart, N. J. (2015). Attachment and emotion processing in children with autism spectrum disorders: Neurological, neuroendocrine, and neurocognitive considerations. *Review Journal of Autism and Development Disorders, 2*(2), 222–242. https://doi.org/10.1007/s40489-015-0048-7

Slade, A. (2009). Metalizing the unmentalizable: Parenting children on the spectrum. *Journal of Infant, Child and Adolescent Psychotherapy. 8*(1), 7–21. https://doi.org/10.1080/15289160802683054

Snyder, R., Shapiro, S., & Treleaven, D. (2012). Attachment theory and mindfulness. *Journal of Child Family Studies, 21*(3), 709–717. https://doi.org/10.1007/s10826-011-9522-8

Spiker, M. A, Lin, C. E., Van Dyke, M., & Wood, J. J. (2012). Restricted interests and anxiety in children with autism. *Autism*, *16*(3), 306–320.

Stern, D. N. (1977). *The first relationship: Infant and mother*. Cambridge, MA: Harvard University Press.

Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy, 61*(2), 190–200. https://doi.org/10.5014/ajot.61.2.190

van der Kolk, B. (2014). *The body keeps the score: Brain, Mind, and Body in the Healing of Trauma*. New York, NY: Penguin Books.

Van Lith, T., Stallings, J.W. & Harris, C. E. (2017). Discovering good practice for art therapy with children who have Autism Spectrum Disorder: The results of a small scale survey. *The Arts in Psychotherapy, 54*, 78-84

Vaughn, B. E., & Waters, E. (1990). Attachment behavior at home and in the laboratory: Q-sort observations and Strange Situation classifications of one-year-olds. *Child Development, 61*(6), 1965–1973.

Volkmar, F., Chawarska, K., & Klin, A. (2005). Autism in infancy and early childhood. *Annual Review of Psychology, 56*(1), 315–336. https://doi.org/10.1146/annurev.psych.56.091103.070159

Wright, K. (2009). *Mirroring and attunement: Self-realization in psychoanalysis and art*. New York, NY: Routledge.

APPENDIX A

Research with Human Subjects Consent Form

Date:

Study: How Does Sensory- Based Art Therapy Approach With Children With Autism Open The Door To Attachment Through Relational Art Making

Dear Parent/Guardian of Research Participant:

I am conducting a study called 'How Does Sensory- Based Art Therapy Approach With Children With Autism Open The Door To Attachment Through Relational Art Making' as part of my Doctoral degree in Art Therapy at Mount Mary University in Milwaukee, Wisconsin. The purpose of my research is to illustrate the efficacy of art therapy in sensory modulation and facilitation of attachment in children with autism.

During this study, you child/ward will engage in art-based activities, will be assessed and observed. The study will involve a pre and post ATEC questionnaire for you to complete and 12 sessions of art therapy

approximately 45 minutes long, once a week, with the participant. The sessions will be videotaped for assessment and data collection. The data will be shared with my supervisors and other experts in the field for the purpose of triangulation in which case, it will not be possible to conceal the identity of your child. The results of the research may be presented to others for their information. However, all responses will be kept confidential and your child/ward's name or any direct or indirect identifying characteristics will not be used in any report regarding this research. You are free to decline on behalf of your child/ward to participate at any time and this will not affect any other services you are receiving. If you choose to withdraw from the study your information will be destroyed. After the research is completed you may request a summary of my findings if you so choose.

The following are possible discomforts or risks that may be reasonably expected: Participants who are unaccustomed to creating artworks may feel uncomfortable. Some art materials may evoke unpleasant sensory reactions and creating art works may remind people of good or bad memories, and may stir strong or unpleasant feelings. The benefits that may be expected (although they may not occur and unexpected feelings also may develop) include lessening of anxiety and improved relational skills.

If you have any questions about this study, please feel free to contact me at _____or _____. If I am not immediately available, I will return your call as soon as possible. If you wish to speak with my supervisor Dr. Chris Belkofer, he can be reached at _____.

Sincerely,

I, _____consent for my child/ward to participate in the study being conducted by Huma Durrani .I have reviewed and fully understand the contents of this consent form. I understand that I may refuse permission for my child/ward to participate or withdraw from the study at any time. I understand that all their responses will be kept confidential. I have been given a copy of this consent form.

Signed:_____

Date:_____

Parent or guardian if (participant is a minor or not able to sign for other reasons):

_____

Date:_____

Witness to participant's signature:_____

Date:_____