

Group Verses Individual Intervention: A Best Practice Analysis for Social Skill Development in  
Children Aged Four to Seven with Autism Spectrum Disorder

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## Abstract

This thesis is a best practice analysis to determine the play therapy modality that provides the most desirable increase in social skills for children aged four to seven diagnosed with autism spectrum disorder (ASD). Autism spectrum disorder was first observed in the 1960's (Silberman, 2015) and since has greatly increased in prevalence, affecting close to one percent of the population (American Psychiatric Association, 2013), which impacts both caregivers and professionals in the neurodevelopmental field. Through a social justice and human rights standpoint this thesis was conducted through the lens of neurodiversity (Silberman, 2015) and the importance of opportunities for those with disabilities in areas of central importance such as health and education (Nussbaum, 2007). Previous literature on the topic of social skill intervention for those with autism has shown the dominance of applied behavioural analysis (ABA) in research and practice (Leaf et al., 2015). Previous analyses of best practice have been inconclusive and there have been minimal clinical trials on the effects of play therapy specifically. Because of the gaps in literature, a best practice analysis was conducted through the human judgement approach (Bretschneider et al., 2005). Of the empirical studies that were analyzed a common dependent variable of joint attention and eye contact emerged allowing comparability of the studies. It was concluded that individual therapy may facilitate more non-verbal communication with adults and group therapy may facilitate more non-verbal communication with peers. This helps to lay a foundation of understanding moving forward with interventions for this population both for parents and professionals. Further clinical studies including more analyses of best practice and controlled clinical trials are suggested.

*Keywords:* autism spectrum disorder, social skills, development, motivation, play therapy, neurodiversity, theory of mind, applied behavioural analysis, capabilities

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## **Chapter 1 - Introduction**

### **Introduction**

Autism Spectrum Disorder (ASD) in children is characterized by difficulties in social development that affect relationships with families, peers, and communities (American Psychiatric Association, 2013). The ability to develop these relationships that come more easily for those who are considered to be neurotypical is often the most important goal for individuals of all ages on the autism spectrum (Kasari & Patterson, 2012). Although ASD is still considered to be a disorder and often has a focus on the deficits that emerge with it, we are heading into an age of neurodiversity in which the condition of ASD is being seen as a naturally occurring phenomenon that contributes to the evolution of technology and culture while adding to our already diverse human race (Silberman, 2015). This is coupled with the capabilities approach to social justice and human rights in which those with disabilities are advocated for to receive opportunities in areas of central importance such as health and education (Nussbaum, 2007). The goal is for clinicians and others in support of those on the autism spectrum to be accommodating and adapting rather than aiming to cure. This thesis examines the neurodiversity approach in terms of the development of social skills in an analysis of optimal clinical intervention for children with ASD.

### **Humans as Social Beings**

It is widely understood that humans are social creatures. Beginning in infancy, interpersonal connection is central to our existence. Noddings (2012) states that “every human life starts in relation, and it is through relations that a human individual emerges” (p.771). It is through our interpersonal connections that we are able to develop to our full potential. For many, this reliance on others for social and survival purposes carries on into the remainder of our lives.

These social connections are a typical part of human development and give us a sense of belonging and set the foundation to further human existence.

For some, specifically those diagnosed with ASD, interpersonal connection and social reciprocity do not develop at the same rate or to the same extent of those who are considered to be neurotypical. It is not that they lack these abilities, but perhaps have not been given the appropriate opportunities to develop them. According to White, Keonig, and Scahill (2007), “for a sizeable portion of individuals with ASD, the social deficits are not explained by lack of social *interest*” (p. 1859), but that the lack of skills and understanding of when to use social abilities is what contributes the most to the deficits seen in those with ASD. This social impairment can prove to be difficult for both the individual and the people in their lives throughout all developmental stages. Therefore, finding the appropriate opportunities to facilitate the improvement of social skills in those affected is highly desirable. The teaching relationship is considered to be one of the most prominent of personal relations (Noddings, 2012), therefore in the teaching of social skills we further develop these competencies through the therapeutic relationship itself.

### **Overview of Autism Spectrum Disorder**

**History.** Autism Spectrum Disorder is a neurodevelopmental disorder diagnosed in children and is highly characterized by the social differences in comparison to those who are neurotypical (American Psychiatric Association, 2013). The disorder was first observed in 1943 by Leo Kanner, a child psychiatrist who noticed common traits among 11 of his patients (Silberman, 2015). The children kept to themselves and seemed to ignore the people surrounding them, but were disturbed by changes to their rituals or physical environment (Silberman, 2015). Leo Kanner named the disorder he observed *autism*, which stems from the Greek word for ‘self’,

because of the children's' isolating tendencies (Silberman, 2015). Around the same time, Hans Asperger observed four of his own patients displaying social difficulties, although demonstrating gifted abilities in science and math (Silberman, 2015), which lead to the discovery of Asperger Syndrome.

**Symptoms.** Symptoms generally begin to emerge between the ages of 12 and 24 months and vary in severity between individuals (American Psychiatric Association, 2013). The disorder has come to be conceptualized as a spectrum disorder due to the variability seen in symptoms between individuals (McPartland, Law & Dawson, 2016). Diagnosis is generally carried out closer to the age of four and is done so through consultation with the *DSM-5* (McPartland, Law & Dawson, 2016) by a physician. Diagnosis at this age is often done so that school-aged children can qualify for disability funding and extra support heading into elementary school (Blumberg et al., 2013). The symptom generally present around this age is the delay in early development (American Psychiatric Association, 2013). Examples of these differences in development include lining up or carrying toys without engaging in play, knowing letters but not responding to their own name, lacking social interest, and the delaying in onset or plateau of spoken language (American Psychiatric Association, 2013). For a more in-depth explanation of symptoms and diagnostic criteria refer to Table 1.1 – ASD Diagnostic Criteria, as outlined in the *DSM-5* (American Psychiatric Association, 2013, p. 50-51).

**Table 1.1 – ASD Diagnostic Criteria  
DSM-5 American Psychiatric Association pp. 50-51**

<b>Diagnostic Criteria</b>	<b>299.00 (F84.0)</b>
<p>A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive; see text):</p> <ol style="list-style-type: none"> <li>1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduce sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.</li> </ol>	

<p>2. Deficits in nonverbal communicative behaviours used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.</p> <p>3. Deficits in developing, maintaining, and understanding relationships, ranging for example, from difficulties adjusting behaviour to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absences of interest in peers.</p> <p><i>Specify current severity:</i>  <b>Severity is based on social communication impairments and restricted, repetitive patterns of behaviour.</b></p>
<p>B. Restricted, repetitive patterns of behaviour, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):</p> <ol style="list-style-type: none"> <li>1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).</li> <li>2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behaviour (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).</li> <li>3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).</li> <li>4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).</li> </ol> <p><i>Specify current severity:</i>  <b>Severity is based on social communication impairments and restricted, repetitive patterns of behaviour.</b></p>
<p>C. Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies later in life).</p>
<p>D. Symptoms cause clinically significant impairments in social, occupational, or other important areas of current functioning.</p>
<p>E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.</p> <p><b>Note:</b> Individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disorder, or pervasive developmental disorder not otherwise specified should be given the diagnosis of autism spectrum disorder. Individuals who have marked deficits</p>

in social communication, but whose symptoms do not otherwise meet criteria for autism spectrum disorder, should be evaluated for social (pragmatic) communication disorder.

*Specify if:*

**With or without accompanying intellectual impairment**

**With or without accompanying language impairment**

**Associated with a known medical or genetic condition or environmental factor**  
(**Coding note:** Use additional code to identify the associated medical or genetic condition.)

**Associated with another neurodevelopmental, mental, or behavioural disorder**  
(**Coding note:** Use additional codes to identify the associated neurodevelopmental, mental, or behavioural disorder[s]).

**With catatonia** (refer to the criteria for catatonia associated with another mental disorder, pp. 119-120, for definition) (**Coding note:** Use additional code 293.89 [F06.1] catatonia associated with autism spectrum disorder to indicate the presence of the comorbid catatonia.)

As the child's life progresses a larger array of symptoms can start to emerge. Repetitive motor movements, echolalia, ritualized behaviours, narrow interests and hypo- or hyperactivity to sensory input (American Psychiatric Association, 2013). Specifiers can include intellectual impairment although some children on the spectrum could be considered intellectually gifted (American Psychiatric Association, 2013). Females tend to display more intellectual difficulty, although males are diagnosed almost four times more frequently than females (American Psychiatric Association, 2013). Some individuals may experience catatonia or co-morbidity with another disorder (American Psychological Association, 2013). The effects of the disorder and its symptoms are seemingly ubiquitous starting at an early age. They are present and relatively stable throughout different contexts and relationships over time. The most commonly observed symptoms among those on the autism spectrum are the pronounced differences in social learning of these young people.

**Social deficits.** The focus of this analysis is based on the social impairments seen in those diagnosed with ASD relative to peers in similar environments. According to the American Psychological Association (2013), "the essential features of autism spectrum disorder are

persistent impairment in reciprocal social communication and social interaction” (p. 53). The social deficits can range from poor verbal and non-verbal reciprocity, difficulties in the sharing of emotions, deficits in eye-contact and body language, poor understanding of facial expressions to a lack of use of facial expression, and little interest in developing or maintaining relationships (American Psychological Association, 2013). It is important to note that these symptoms are in comparison to their culture norms, each individual on the spectrum will display varying severities of each symptom, and not every individual will display all known symptoms.

**Etiology.** Thus far the etiology of ASD is still unclear. Approximately 15% of the cases of ASD can be attributed to genetic mutation (American Psychological Association, 2013). There are also a variety of environmental risk factors such as low birth weight, exposing the fetus to valproate, having children later in life (American Psychological Association, 2013), as well as exposure to air pollution and pesticides (McPartland et al., 2016). In the past, there were claims about autism being caused by a mothers’ coldness toward her child (Harris, 2009). It is now more widely understood that the disorder is a neurodevelopmental disorder with varying causes and abnormalities within the brain. Based on the information known about poor social skill development, the coldness seen among mothers was probably a reaction to the child’s behaviour (Harris, 2009). Unfortunately, there is still a lot of instance on the environmental causes of the disorder as opposed to the genetic causes.

Each person on the autism spectrum is an individual and displays each symptom as though the symptoms are on a spectrum themselves. Many researchers today believe that “autism is not a single unified entity but a cluster of underlying conditions” (Silberman, 2016, p. 469). This is the reasoning behind the different manifestations of traits and behaviours that is seen

among those with autism. Silberman (2016) also claims that due to the current prevalence in our world, people with autism create one of the largest minorities throughout the planet.

**Theory of mind.** During typical development, children around the age of three to four begin to develop what is known as theory of mind (Harris, 2009). Based on the direction of a persons' gaze and their facial expression, one can approximate what is going on in another person's mind. Because this is a skill that we often take for granted, developmentalists took a long time to notice them (Harris, 2009). In contrast, children with autism seem to lack theory of mind. They "don't seem to realize that the eyes are the window to the soul – in fact, they don't seem to realize that other people *have* souls" (Harris, 2009, p.96). Harris (2009) believes that the reason people with ASD have so much difficulty with both spoken language and nonverbal communication is because they have trouble understanding that the purpose of communication is to put thoughts into the minds of others and in turn obtaining thoughts from the mind of another.

**Neurodiversity.** We are moving toward an era of neurodiversity. Humans are known to be diverse among a variety of characteristics and the same is true for psychological characteristics. We are moving beyond the concept of mental illness being some sort of disorder needing a cure toward the idea that these diversities in our cognitive processes are part of the extensive list of our differences. Neurodiversity is "the notion that conditions like autism, dyslexia, and attention-deficit/hyperactive disorder (ADHD) should be regarded as naturally occurring cognitive variations with distinctive strengths that have contributed to the evolution of technology and culture rather than a mere checklist of deficits and dysfunctions" (Silberman, 2015, p. 16). These conditions are becoming part of human society and colour the world just as physical appearances and personalities do. The present analysis is not meant to cure children

who present with social difficulties, but to make life a little bit easier for themselves and the ones in their lives as they navigate the inevitably social world we live in.

**Capabilities and opportunities.** The capability approach fights for human rights and social justice with the goal “to make people able to function in a variety of areas of central importance” (Nussbaum, 2007, para. 1). The rights of the poor and the rights of women have been strongly pushed over the years, until recently the rights of people with disabilities has been analyzed (Nussbaum, 2007). In terms of ASD, the level and label of disability belongs to the individual themselves. Nussbaum (2003) describes a list of ten central human capabilities including life, bodily health, bodily integrity, senses/imagination/thought, emotions, practical reason, affiliation, interaction with other species, control over ones’ environment, and play. These capabilities are “what people are actually able to do and able to be” (Nussbaum, 2003, p.33). The purpose of promoting these capabilities among individuals is to produce “a world in which all children grow up with a decent set of opportunities” (Nussbaum, 2007, para. 4). For those on the autism spectrum, the purpose is to adapt therapeutic opportunities to the individual in order for them to develop to their full potential in capabilities such as health, emotions, and play.

**Motivation.** Motivation to seek and sustain social relationships is a factor that may be contributing to the differences seen in those with ASD. In a study comparing 14 socially anhedonic male adults to 20 male adult controls, Carré et al. (2015) deduced that an evolutionary-related brain and behavior circuit as outlined by Panksepp could be the root of the impairments in social bonding seen in those with ASD. Playfulness and joy, which includes having fun, humor, laughter, physical contact and playing games, are considered to be fundamental in interpersonal bonding and therefore hold a key to pathologies in bonding (Carré

et al., 2015). Carré et al. (2015) state that “acting on the development of the PLAYFULLNESS system early on might thus have a positive impact on the development of the social brain” (p. 3359). Therefore, using techniques such as humor and games in a clinical setting may help to promote the intrinsic motivation necessary to form relationships. Perhaps these unique children have not been given the opportunities to learn the skills or acquire the motivation fitting for them to develop these social relationships.

**Influence of peers.** With the argument that play is fundamental in a child’s development comes an associated argument that a child learns and develops more through the influence of their peers than from the influence of their caregivers (Harris, 2009). An obvious example is how children most often adopt the accent of their peers, rather than their parents when, raised in an environment outside of the parents’ native land (Harris, 2009). Conversely, children with autism will obtain the accent of their parents rather than their peers due to poor identification with those around them (Harris, 2009). Knowing the importance of play and the influence of peers, children on the autism spectrum may need both play and social interaction to aid in their development.

### **Overview of Play Therapy**

Play is involved in the development of cognitive and socio-emotional skills in children (Kosyvaki & Papoudi, 2016). It is considered to be an intrinsically motivated, voluntary, and pleasurable mode of engagement for development in children (Kosyvaki & Papoudi, 2016). Children learn social, cognitive, symbolic, and functional skills through play which can all be delayed or absent in children with ASD. Through teaching children on the spectrum how to play they may in turn begin to develop the social skills that are lacking or absent.

Play itself can prove to be difficult for children on the autism spectrum. Children with ASD are more likely to experience difficulties in functional play, symbolic play, and interactive

social play (Kossyvaki & Papoudi, 2016). Play can often be stereotyped, repetitive, and lack imagination (Kossyvaki & Papoudi, 2016) which can impact a child's ability to develop and maintain social relationships. For children with ASD, play therapy is an intervention that, theoretically, has been shown to increase social skills as well as increasing play abilities which can in turn have an effect on social skills as well.

There are a variety of modalities of play therapies including those that utilized puppets, sandtray, dollhouse, art, clay, music, and many others. In addition, play therapy can be carried out both in individual sessions or in groups. Individual therapy allows for more time with the therapist, and group therapy allows for more interaction with peers. White et al. (2007) believe that because of the lack of opportunities for peer interaction and the lack of social skills, group intervention for this population is most rational. Conversely, being one-to-one with a therapist allows more time and focus for the teaching and development of specific desired skills.

### **Play Therapy used to Increase Social Skills**

#### **Research Problem and Question**

Knowing that play therapy is a developmentally appropriate intervention for children and has been shown to aid in the development of social skills, it is the focus of intervention for this specific best practice analysis. The research problem seeks to determine whether group or individual play therapy shows the most effectiveness in increasing social skills in children aged four to seven with autism. The research question includes the exploration of the differences between various art and play modalities. The independent variable in this review is the play therapy intervention and the dependent variables are the comparable outcomes demonstrated through the changes in social skills as reported by each study. This thesis will not introduce new data linking these variables but it will offer a synthesis and analysis of existing data sets, all

focused on identifying how play therapy can be applied in support of optimal social functioning for those with ASD. From there, suggestions on further analyses of best practice and controlled studies can be outlined.

### **Purpose of the Study**

From a neurodiversity standpoint, Silberman (2016) suggests that we help children and families affected by the disorder live happier lives, rather than investing the money into finding out the specific cause and creating a cure. The purpose of the present analysis is to do that exact thing; to help children say ‘I love you’ again to their families, to ease the transition into school, and to help them form the rich social connections that we desire for ourselves and our children. Rather than changing who they are the purpose is to enhance the life and unique skills they were given.

This analysis is catering to the people of the 21<sup>st</sup> century who are generally looking for quick and cost-effective solutions to their issues. Endless therapies and diets that parents try with their children on the spectrum can be costly. The purpose of this analysis is to help parents and therapists save both time and resources in searching for the best therapy to specifically target the development of social skills in their children. This analysis will by no means be a solution for all those with autism, but may help those who fall within the scope of the analysis.

### **Definitions**

This analysis refers to specific terms that need to be explained for full and clear understanding throughout the rest of the thesis.

**Best practice.** The methodology being used in this thesis is best practice analysis. In this method, the role of the researcher is to increase the readers’ knowledge and understanding of cause and effect and how they can be manipulated (Bretschneider, Marc-Aruele, & Wu, 2004).

The term *best practice* means that when an intervention is compared to alternative forms it proves to be the best option and that “it is a practice designed to achieve some deliberative end” (Bretschneider et al., 2004, p. 309) which in this case will be to narrow down the most effective play therapy intervention. Best practice also means that no better cases are represented outside of the sample for the given parameters and the cases within the sample must be comparable (Bretschneider et al., 2004). For this specific analysis, all cases that fall within the cited limitations following will be included and the results of the best practice will be determined based on the relative and comparable increases in social skills as defined by the dependent variable section.

**Independent variables.** The independent variable is the mode of art or play therapy. The major difference in modality of intervention is group versus individual therapy because of the vast differences in social context. Individual consists of one-to-one sessions with one or more professional interventionists. The group format consists of two or more children participating in intervention with one or more professional interventionists. The differences in specific modality of intervention are not relevant due to the limited amount of studies and the fact that the dependent variables are comparable.

**Dependent variables.** The dependent variables are determined based on the comparability between cases. The comparable dependent variables are the changes in verbal social behaviour (sharing, expression of needs, verbal imitation, verbal response, questioning), the changes in non-verbal social behaviour (touch, eye contact, joint attention, imitation, waiting, initiation, following instructions, response), and the changes in non-social behaviours (isolation, expression of symptoms, negative behaviours).

### **Demographic**

For this best practice analysis, the chosen demographic includes both females and males between the ages of four and seven diagnosed with ASD. This age range is a transition period between the standard preschool age (2-5 years) and school age levels (6-12 years). Transitions can be difficult for those on the autism spectrum, therefore finding a modality of play to help with social skills during this transition period may be important for parents, teachers, and therapists alike. Not only may the specific therapy help the transition into school, but it is assumed that the therapy will help the child once they are integrated into the school system where the concrete social functioning they often lack relative to peers can be important for application. The limits and scope of the study will delve deeper into the specific demographic population examined.

### **Limits**

In order to be analyzed in this thesis the criteria for eligibility includes : (a) to consist of empirical evidence; (b) to be published in a journal and peer reviewed; (c) to be published between the years 2012 and 2017; (d) to include only participants with a diagnosis of autism spectrum disorder; (e) to be written in English; (f) to consider the therapy modality to be the independent variable of the study; (g) to consider the changes in verbal social behaviours, non-verbal social behaviours, and non-social behaviours to be the dependent variables for comparison; (h) to be conducted by a trained therapist or counsellor; (i) to include only studies that used an intervention for one year or less; (j) to include children that fall within the limits of four and seven years of age during the time of intervention; and (k) to only consider modalities of play that are in groups of children or individually delivered.

There are variables that are beyond the scope of this best practice analysis, but can be addressed in future studies. Age groups beyond the set limits of ages four and seven will not be

addressed. Differences between the male and female gender will not be addressed. This analysis will not be taking into account those who have co-morbid disorders or children on the spectrum who have difficulties that prevent them from engaging in play therapy sessions (e.g. extreme violence, muteness etc.).

### **Significance of this Analysis**

**Societal significance.** After the discovery of ASD in the mid-40's, the prevalence of the disorder was relatively stable at about four or five diagnoses for every ten thousand children (Silberman, 2015). Throughout the 80's and 90's the rates of diagnoses began to increase (Silberman, 2015), which provoked the blaming of vaccinations for causing the disorder. Now, according to the American Psychological Association (2013) the prevalence of ASD has increased to about one percent (one in one hundred) of the population within the United States and other countries. It has been stated that even closer to one in 68 American individuals are diagnosed with the disorder (McPartland et al., 2016) and Blumberg et al. (2013) suggest that the prevalence is closer to one in 50. This increase in prevalence may be due to an array of factors including expansion of diagnostic criteria from the DSM-IV to the DSM-5 with the inclusion of Asperger Syndrome, childhood disintegrative disorder, and pervasive developmental disorder – not otherwise specified (PDD-NOS) into diagnostic criteria (McPartland et al., 2016). The increase of prevalence may also be due to increased awareness or even simply an increase in the disorder itself without specific cause (American Psychological Association, 2013).

The increase in prevalence of the disorder has an effect on society and calls for greater understanding of the disorder which includes an understanding of the available and effective interventions. As an increasingly large minority this disorder affects the global community and what smaller communities can provide to those affected by the disorder. At an individual level,

those affected by the disorder, the ones closest to them, as well as professionals such as counsellors and teachers all can benefit from the results of this best practice analysis.

**Individual significance.** The parents and caregivers of children on the autism spectrum are the ones who understand the difficulties and are affected by them the greatest. In the words of Harris (2009), “babies with autism don’t look their parents in the eye, don’t smile at them, don’t seem glad to see them” (p. 25). Unfortunately, this is the sad truth embedded in what parents’ experience with these amazing individuals. These children need opportunities adapted to them that enable the development of these social skills.

Social skills are important to develop at a young age because “impairment and distress may increase as children approach adolescence because the social milieu becomes more complex and the child becomes more aware of their social disability” (White et al., 2007, p. 1858). Youth with autism often describe poor social supports and more loneliness than those who are neurotypical and even when they are integrated with mainstream classrooms they are more likely to experience peer rejection (White et al., 2007). For people of all ages on the autism spectrum, developing friendships is often the most important goal (Kasari & Patterson, 2012).

The lack of social skills has also been linked to academic and occupational achievement as well as mood and anxiety problems (White et al., 2007). This can product further issues as far as employment, grocery shopping, taking public transit and other activities of daily living. If an effective intervention is determined at a young age, it can be adapted and utilized throughout the individual’s life to assist in social development throughout all stages of life.

**Professional significance.** Because of the rising prevalence, the interaction with those on the spectrum is more likely to occur in various fields such as medicine, education, and psychotherapy. In addition, “the emphasis on the inclusion of students with special needs in

regular education classrooms, schools and clinicians can expect to be increasingly called upon to enhance the social deficits of school-age children and adolescents with ASD” (White et al., 2007, p. 1859). For those working in the field of play therapy, the results of this analysis may prove to be helpful in quickly determining the best intervention for a client.

### **Overview of Literature**

Based on previous reviews on play therapy and empirical studies themselves there seems to be a general consensus that it is an effective intervention for children on the spectrum and those who are neurotypical. Thus far, the research conducted on ASD has been focused on males as it occurs almost five times more often in males than females (McPartland et al., 2016). In addition, many studies including participants on the autism spectrum evaluate the effects of Applied Behavioural Analysis (ABA) on functional communication and the decrease of problematic behaviours, but few studies look at the therapeutic interventions that specifically look at the social deficits (White et al., 2007). The therapeutic studies looking at social deficits that were conducted focused on common elements such as eye contact, initiation of conversation, and greetings (Kasari & Patterson, 2012).

Studies in the past have included measures from parent report, teacher report, child report, as well as direct observation of behaviour (White et al., 2007) to evaluate the extent of improvement. There may be evidence that social skills demonstrated in the clinical setting are not transferrable to the natural environment of daily life (White et al., 2007, Kasari & Patterson, 2012). White et al. (2007) describe weaknesses in prior research that has “inadequate measurement of social skills and deficits associated with ASD, small and poorly characterized samples, and minimal examination of the degree to which learned skills generalize” (p.1865). In

addition, many interventions are implemented with groups of unfamiliar children (Kasari & Patterson, 2012) which may hinder initial social connection.

People with ASD are not lacking the social skills that neuro-developmental people have, they just may not have been given the appropriate opportunities for their unique development. From a capabilities approach stand-point we can advocate for those with disabilities to receive the opportunities they deserve in areas of education (Nussbaum, 2007), which includes the importance of and the right to play, all while maintaining the concept of neurodiversity among the human species. The next chapter of this thesis will review the existing literature on the use of play therapy for the support of social development in children on the autism spectrum.

## **Chapter 2 – Literature Review**

### **Introduction**

#### **Content Overview**

The purpose of the present literature review chapter is to set up a context and baseline for interventions used in the past for the development of social skills in children with autism for comparison to the present analysis. This is carried out by the investigation of existing analyses of best clinical practice, followed by the review of empirical studies on various interventions, and finished with the review of play therapy interventions. Applied Behavioural Analysis (ABA) is outlined as a baseline comparison to play therapy and other modalities because of its common and widespread use in both research and practice (Leaf et al., 2015). The prior research conducted emphasizes the gaps in knowledge that has led to the desire for a best practice analysis to determine the play therapy modality that has the greatest effect on social skills in children with autism. Based on the literature findings the rationale for method of this thesis is provided and in the final chapter recommendation for future research beyond the scope of this thesis is given.

#### **Literature Search**

The research conducted for this literature review included existing literature published between 2007 and 2017 and was found between January and April 2017 including reviews, empirical studies, and previous analyses of best practice throughout the CityU Library, ESCBOhost, PSYCinfo via ProQuest, and Google Scholar including different variations of the key words autism, reviews, social skills, analysis, best practice, cases, children, and play therapy. Studies using modalities other than play therapy were included to set a context for the advances in various interventions over the past ten years. This ten-year gap was chosen to be able to examine the changes in the world of autism over time, without moving too far back in time to

when the prevalence of the disorder was much lower. The search was then narrowed down to the past five years of play therapy in order to lessen the amount of search results and provide current relevant information on play therapy as it is the focus of this thesis. Studies that were excluded from this literature review included those focusing on dependent variables other than the change in social skills or those focused primarily on neurotypical children.

### **Overview of Interventions**

There is a myriad of interventions that can be implemented with people on the autism spectrum such as ABA, occupational therapy, medication, counselling and many others, all which can target different treatment goals and can be in combination with one another. With all the variations in severity of symptoms of those on the autism spectrum there is a broad range of interventions available. Many behavioural and comprehensive approaches address difficulties such as cognitive abilities and functional behaviour but often show the least effectiveness in addressing the social development of people with ASD (Kasari & Patterson, 2012). The complexity and uniqueness of social skills among those with autism can make intervention daunting. For example, a child may have the skills to initiate a social interaction but the quality of that interaction can be so limited that the attempt is ignored or avoided (Kasari & Patterson, 2012). Finding the appropriate personalized intervention strategy for each individual is key, although can prove to be difficult.

**Literature at a glance.** The searches in literature to formulate this review have been variable. There appears to be very few existing analyses of best practice looking at the development of social skills in children with autism. In addition, much of the literature is focused on ABA and school-based interventions, many of which have involved individual intervention rather than group-based interventions (Leaf et al., 2015), all with varying results. Over time there

has been an increased number of group design studies with random control trials looking at a broader range of topics and age groups that include family members and the environment outside the intervention facility (Kasari & Patterson, 2012).

### **Review of the Research Problem**

This thesis seeks to determine the best clinical practice for the development of social skills in children aged four to seven previously diagnosed with autism spectrum disorder. The research question involves the determination of the differences between the independent variables of individual and group therapies and the differences in the dependent variables which are the comparable changes in social skill development. With the rising prevalence of autism and the increasingly accepted view that it contributes to human diversity, the results from this thesis are meant to enrich the lives of those on the spectrum as well as the people in their lives rather than provide a cure. The purpose of the literature review is to establish a context of interventions used in the past ten years for the development of social skills in children with autism then to highlight the gaps in research that have led to a need for the present thesis on best clinical practice.

### **Previous Analyses of Best Clinical Practice**

#### **Review of Best Practice Methodology**

The purpose of a best practice analysis is to increase the readers' understanding of certain cause and effect linkages and how they can be manipulated (Bretschneider et al., 2005). This is carried out by comparing multiple clinical courses of action to determine which is the best approach (Bretschneider et al., 2005). All possible cases must be included because if a better practice is found outside the given sample then the analysis of best practice is invalid (Bretschneider et al., 2005). The process must include comparable actions that have a linkage

between action and an outcome or final goal (Bretschneider et al., 2005). For this thesis, comparing the outcome in social skill development will determine the best practice in play therapy in terms of group verses individual clinical approaches.

### **Search Experience**

In April of 2017 a PsycINFO search through ProQuest including the keywords autism, best practice, and social skills since 2007 revealed 139 peer reviewed, English, empirical studies on children (with the exclusion of infants, adolescents, adults and seniors) and the exclusion of attention deficit hyperactivity disorder (ADHD). When narrowed down to the past five years, 79 results with full text included were yielded. Because of the limited number of analyses of best practice that were found in the past five years, the inclusion criteria remained to include the past ten years of research. Sorting through the existing literature lead to two final analyses of best practice examining social skill interventions with children with autism differing in age group.

### **Best Practice in Interventions with Children with Autism**

**Kindergarten interventions.** In Levine's (2012) dissertation she explored the options for best practice in working with kindergarten-aged students with Asperger's Syndrome and High Functioning Autism implemented by their teachers in a school setting. Levine (2012) concluded that early intervention is essential, specifically from multiple professional and multiple modes of intervention to create a multifaceted clinical approach, including both large and small group social skills training in combination with both individual and peer-mediated approaches. It was determined that behavioural techniques such as pivotal response training are useful to acquire social skills in the classroom in addition to peer buddy systems, video modelling, and power cards (Levine, 2012). The dissertation does not take into account gender differences or children with ASD who are older than kindergarten age, providing a need for further exploration. In

addition, there is a need to explore interventions specific to play therapy in settings outside of the school and the comparison of peer groups to individual intervention strategies.

**Multiple age group interventions.** In the second appropriate finding, Reichow and Volkmar (2010) conducted a best evidence synthesis of various interventions over multiple age groups of individuals with autism to increase social behaviour over a total of 66 studies. The most frequently used intervention for preschool-aged children was ABA, in addition to peer training and naturalistic technique (e.g. parent-child interactions), most commonly targeting an increase in social interaction (Reichow & Volkmar, 2010). Interventions with school aged children most often included ABA in addition to peer training with video modelling and visual techniques also to increase social interactions (Reichow & Volkmar, 2010), covering both individual and group approaches. Most of the interventions with these age groups were completed in the school setting. Adolescent and adult studies were also analyzed. What was concluded was there is much evidence in the support of treatment for the social differences in those with ASD, although the results indicated that none of the treatments were superior to the rest (Reichow & Volkmar, 2010).

### **Summary of Existing Analyses of Best Practice**

Although many reviews on the topic of social skills interventions for children on the autism spectrum arise with the search experience, very few actually compare interventions to determine best practice. Neither Levine (2012) nor Reichow and Volkmar (2010) came to a consensus on a specific clinical intervention that rises above the rest in terms of developing social skills in individuals with autism and both looked largely at school-based interventions. This may be due to the unique characteristic and needs of each individual making research

difficult in terms of finding an overarching intervention. Perhaps with the more streamline focus on solely play therapy the results of this thesis may have a clear conclusion.

### **Overview of Social Skills Interventions**

#### **Search Experience**

Throughout the search experience, some of the re-occurring themes in intervention included video modeling, theory of mind training, family and peer assisted interventions, ABA, and social stories, many of which were included in the two previous analyses of best practice. These most frequently studied modalities of intervention will be outlined based on research over the past ten years with focus on what has happened in the past five years in terms of play therapy specifically.

#### **Individual-Based Interventions**

**Applied Behavioural Analysis.** One of the most widely used and researched intervention for children with autism is Applied Behavioural Analysis (ABA) (Leaf et al., 2015). Because of its popularity among researchers and clinicians, ABA will serve as a baseline reference for comparison through description and review of other intervention approaches. Dr. O. Ivar Lovaas, the creator of ABA, has 40 years of research and published studies that have contributed to his ABA approach to working with children diagnosed with autism (Lovaas Institute, 2017). Although ABA can be implemented in a group format, most of the research has been conducted in one-to-one format (Leaf et al., 2015). Applied behavioural analysis has been shown to improve less desirable behaviours such as aggression and is known to improve functional communication skills (White et al., 2007). There are claims that ABA has the potential to save the government hundreds of thousands of dollars per individual throughout life and that a certain

percentage of the children receiving this treatment become indistinguishable from their peers, making ABA both efficient and effective (Leaf et al., 2015).

Applied behavioural analysis is highly structured and stays away from following the natural choices of the child client. The first step always involves establishing rapport with the child. Once the child has become more comfortable with the clinician, lessons followed by brief breaks are given at a rapid pace (Harris & Weiss, 2007). Naturalistic methods that may appear as play are used to encourage spontaneous interaction, while Discrete Trial Instruction (DTI) are used when repetition is required, for instance in the learning of a name for an object (Harris & Weiss, 2007).

There are strict parameters involved with the implementation of ABA. This intervention is recommended to be carried out 25-40 hour per week and functions to address a variety of areas such as academics, self-help, language, social skills and play (Leaf et al., 2015, Harris & Weiss, 2007). The behavioural interventionist analyzes behaviour and interactions with the environment on a moment-to-moment basis in order to assess current functioning of behaviours (Leaf et al., 2015). This allows the determination of the most appropriate shaping or prompting strategy to modify a certain behaviour such as teaching an interaction using re-enforcers like food (Leaf et al., 2015).

***Critiques of ABA.*** Despite the research showing its effectiveness, there are various critiques associated with ABA. The gains of behaviour are slow, often taking multiple trials to teach a specific word (Mohammadzadzaheri, Koegel, Rezaee, & Rafiee, 2014). The targets are often rote or memorized desired behaviours as opposed to internally motivation and genuine. In addition, the gains that do occur often cannot be generalized outside the therapeutic environment and children find difficulty in being motivated during intervention (Mohammadzadzaheri et al.,

2014), which is understandable due to the use of rewards and re-enforcers in session which does not tap into intrinsic motivation. Finally, the amount of time spend in ABA therapy can also prove to be difficult for children and caregivers, both in time and other resources. As every child on the autism spectrum is unique, this popular modality of intervention may not be appropriate for every child.

**Medication and ABA.** There have not been consistent outcomes in research on the efficacy of either medication or ABA as interventions for those with ASD (Du et al., 2015). Knowing this, Du et al. (2015) investigated the effects of combining bumetanide (a selective blocker of NKCC1 chloride importer reported to have decreased autistic behaviors) with ABA in 60 children with a mean age of 4.5 years. The single treatment group obtained ABA only (n=28) and the combined treatment group received ABA and the oral medication (n=32) (Du et al., 2015). What the researchers concluded was that both therapy options yielded positive results in various domains (e.g. language, emotional response, non-verbal communication etc.), but that there was no significant difference seen with the medication group (Du et al., 2015).

**Early Intensive Behavioural Intervention (EIBI).** Early Intensive Behavioural Intervention (EIBI) is a common and frequently helpful intervention option for those with ASD based off the principals from ABA and operant conditioning (Smith, Klorman, & Mruzek, 2015). The term *early* generally indicates implementation before the child turns five with preference as young as possible (Harris & Weiss, 2007). The intervention is labelled *intensive* due to the number of hours required per week and *behavioural* due to the use of applied behavioural analysis (Harris & Weiss, 2007).

**EIBI in comparison to ABA.** Eikeseth, Klintwall, Jahr and Karlsson (2012) compared a group of 35 participants aged two to six who received EIBI to a group of 24 children with autism

receiving treatment as usual. The experimental group engaged in 15 to 37 hours of one-to-one work with their interventionist at school using some ABA approaches to teach new skills and reduce behaviours that are considered to be interfering (Eikeseth et al., 2012). After one year, the children in the EIBI group scored significantly higher on skills of communication, socialization, and activities of daily living (Eikeseth et al., 2012).

### **Individual-based Naturalistic Interventions**

During naturalistic intervention strategies, an appealing environment with toys and activities that the child enjoys is set up (Harris & Weiss, 2007). The intervention space is as comfortable and natural for the child as possible. There is also interspersing with items that the child knows, mixed with new material (Harris & Weiss, 2007).

**Pivotal Response Treatment.** Pivotal Response Treatment (PRT) is a modality of intervention based off principles in ABA targeting social skills and communication in terms of responsiveness, rate of response, and attaining positive affect (Mohammadzadzaheri et al., 2015). In contrast to ABA, PRT uses natural consequences, child choice, and variation of tasks (Mohammadzadzaheri et al., 2015). The child is taught skills that are pivotal to learning other new behaviours, targeting the increase of motivation and the ability to use various cues (Harris & Weiss, 2007).

***PRT compared to ABA.*** Mohammadzadzaheri et al. (2015) conducted a study to determine the differences in effectiveness between individual-based ABA and PRT in the improvement of communication difficulties in children aged 6-11 (18 males and 12 females) with autism. They analyzed the gains in mean length of utterances and the generalization of these gains in areas that the treatment did not occur as reported by the children's' parents and teachers (Mohammadzadzaheri et al., 2015). What the researchers found was that the PRT group

improved their mean length of utterances with a mean of 3.20 (up from 2.76) words and the ABA group improved their mean length of utterances by 2.79 (up from 2.77) words and the PRT group also experienced larger gains in the generalization of their verbalizations (Mohammadzadzaheri et al., 2015). The researchers suggest that the improvement seen with the PRT group can be attributed to the context of natural play and preferred activities (Mohammadzadzaheri et al., 2015), which may be associated with intrinsic motivation for speech.

### **Group-based Naturalistic Intervention**

**Social skills training.** Group based social skills training (SST) is an appealing approach as it allows the child client to use the skills they learn in individual SST sessions in a more appropriate setting with peers (White et al., 2007). Specific skills such as initiating conversation and maintaining eye contact are taught to children who have various childhood disorders (White et al., 2007). White et al (2007) deduced that the common goals among SST groups are the increase in social motivation, social initiations, appropriate social responding, and skill generalization along with the goal to decrease interfering behaviours. Generalization into natural settings outside of the laboratory or clinical environment seems to be a challenge with this intervention (White et al., 2007).

**Theory of mind training.** As reviewed in the first chapter, Theory of Mind refers to the ability to understand that other people have mental states and thoughts that differ from one's own. A Theory of Mind skills approach to treatment is appealing for those on the autism spectrum because of their impairments with Theory of Mind (Begeer et al., 2011). Theory of Mind is a manualized program that requires 16 weekly 1.5-hour sessions in groups of 5-6 children with an age difference that does not go beyond three years within a given group (Begeer

et al., 2011). The group works on skills such as listening to others, deciphering between reality and fantasy, and learning to assess social situations which can be tested by a 72-item Theory of Mind test (Begeer et al., 2011). In a randomized clinical trial consisting of 36 children between the ages of eight and 13 with ASD, Begeer et al. (2011) found that the conceptual understanding of Theory of Mind improved for those in the treatment group compared to the control group, although social skills as reported by parents and empathy as reported by the subjects were not affected, suggesting that the approach may be more suitable for those who have a higher functioning autism.

**Family-centred approaches.** Family-centred approaches to intervention with those on the autism spectrum has become a dominant philosophy in the field due to the belief that strong parent-child relationships promote development of social communication (Thompson, McFerran, & Gold, 2013). Familial relationships are often the most naturalistic and can be implemented in a variety of ways and environments. Family-centred music therapy has been shown to improve parent-child relationships, but failed to increase language skills or general social responsiveness in children aged three to five with severe ASD (Thompson et al., 2013). Wetherby et al. (2014) concluded that individual parent coaching in home allowed a more rapid improvement of social communication for their children compared to group coaching in the community, suggesting the importance of the natural environment to the development of social skills when the family is involved.

**Video modelling.** In video modelling, a desired behaviour is demonstrated in a video that is shown to an individual for the purpose of imitation of that behaviour (Alzyoudi, Sartawi, & Amurhiri, 2015). In a study including five boys with autism between the ages of five and seven, Alzyoudi et al. (2015) concluded that the use of video modelling is effective in improving social

skills in children with autism. In a semi-naturalistic room in their school, the boys watched videos that included a role play between a therapist giving cues, and a child demonstrating desired social behaviors (Alzyoudi et al., 2015). The skills that were targeted were social initiations, conversation skills, answering and asking questions, and non-verbal communication (Alzyoudi et al., 2015).

In contrast to much of the current literature, Wilson (2013) concluded that some students may learn more efficiently when presented with in vivo or live modeling and even a combination of in vivo and video modelling. This was concluded in a study examining four pre-school aged children on the autism spectrum with target behaviours consistent of items such as gesturing to an adult and pointing to share interest or wanting of an object (Wilson, 2013).

**Peer-training.** Peer-mediated interventions consist of teaching neurotypical peers how to interact with their peers who have autism, ways of modeling desired behaviours, and how to reinforce that desired behaviour (Simpson & Bui, 2016). Much of the existing empirical studies examine the effects of this intervention on adults and adolescents with ASD.

In a study with eight students with autism aged five to eight and 24 neurotypical peers, Simpson and Bui (2016) found that a reading-buddy intervention between two children did not increase the amount of social initiations in the child with autism, but increased the initiations in the neurotypical children. In turn, this lead to three or four of the children with ASD to increase their social responses to the neurotypical child but the results were not consistent (Simpson & Bui, 2016).

## **Conclusion**

The results of this portion of the literature review examining multiple interventions in the past ten years has been variable. In terms of effectiveness between individual and group based

interventions, both have shown to be effective as well as in collaboration with one another. The collaboration of multiple types of interventions with multiple professionals appears to be an emerging theme of conclusion in the existing literature. Many of the interventions include naturalistic environments and people to facilitate the development of social skills, which often includes the use of play as it often comes as a natural choice for children. The next portion of the present literature review will examine play therapy interventions that have been implemented with children on the autism spectrum over the past five years.

### **Overview of Play Therapy**

Play therapy is a modality of counselling intervention most often used with children. It is a developmentally appropriate way of meeting the emotional needs of children in a clinical setting (Ray et al., 2013). Children face more difficulty with spoken language than the average adult, therefore this non-verbal mode of communication may allow the expression of feeling and emotions without the pressure of having to verbalize them. Because of the added difficulties with language that people with autism experience, play therapy is one of the best intervention options. The use of sandbox, sand tools, art, paint, and crafts are often the most frequently used intervention tools in the play therapy environment (Ray et al., 2013). Other may include variations of water play, dress-up clothing, dollhouses, Play-Doh, stuffed animals, and many more in the categories of expressive, pretend/fantasy, family/nurturing, and aggressive/scary (Ray et al, 2013).

### **Play Therapy Modalities**

**Child-centred play therapy.** Child-centred play therapy (CCPT) is a non-directive intervention in which the therapist portrays unconditional positive regard, empathy, and genuineness with their clients to promote the expression of emotions, learn coping skills,

increase self-esteem and decision-making abilities, and develop responsibility (Ray et al, 2013).

The behaviour of the child in the clinical setting is not directed and their choices and independent problem solving are respected without judgement (Ray et al., 2013). This modality has been used with neurotypical children and has been proven to decrease disrupted behaviours in a study implementing short-term CCPT (Ritzi, Ray, & Schumann, 2017).

It has also been shown that the use of CCPT with children with autism can improve social engagement and communication, natural play, academic participation, autonomy, emotional state and repetitive behaviours (Carrizales, 2015). These findings are consistent with a case study of a girl between the time she was six and eight that found the use of CCPT to be associated with the increase of spontaneous symbolic play and communication skills (Morgenthal, 2015).

**Art therapy.** Art therapy is a variation of play therapy in which art and craft supplies are used as a medium for conveying emotions. In a case study with a 12-year-old male with ASD, Durrani (2014) found that through weekly art therapy sessions over a one-year period, his verbal and non-verbal communication improved in the sessions with the therapist and his self-stimulatory behaviours decreased. The findings were limited due to the limited number of subjects and poor generalizability outside of the therapeutic environment.

## **Conclusion**

There seems to be minimal clinical trials examining the effects of play therapy on the social skill development in children with autism which may be overshadowed by the more standardized interventions like ABA and EIBI. A portion of the studies excluded from this literature review meet the criteria for this best practice analyzed within the results portion of this thesis.

## **Relationship to Present Study**

Based on the limited number of best practice analyses looking at current empirical studies and the varying results in the comparison of individual and group design there is a need to determine the best clinical practice for play therapies to increase social skills in children with autism at the transitional ages between four and seven. The reviewed analyses of best practice largely looked at school-based settings and a majority of the empirical studies have evaluated ABA or variations of that.

### **Rationale for the given Method of Present Thesis**

A best practice analysis examining group verses individual play therapy will supplement the literature as there is no existing analysis looking specifically at play therapy, and there does not appear to be a consensus on whether group or individual modalities are more effective. This thesis will also help to lay the foundation for future empirical controlled studies looking at group verses individual modalities of play therapy.

### **Conclusion**

Based on this review on the existing literature and empirical work and the gaps in analyses of best practice, the need to determine best clinical play therapy practice for the development of social skills in children with autism is determined. Research based interventions such as ABA have taken the forefront in the realm of autism. Among the various interventions, play therapy appears to be one of the most natural and developmentally appropriate approaches to targeting social skills in among the given demographic, therefore it is the chosen approach for this analysis of best clinical practice.

## **Chapter 3 - Method**

### **Introduction**

The present chapter explains and justifies the use of best practice methodology in this thesis. First, because research in best practice has not been consistent or standardized (Vesely, 2011), the specific definitions and approach for this particular thesis are outlined. The search process for the studies being analyzed is outlined to include the limits and exclusion criteria. The specific limits are set to narrow down the search results and obtain an almost complete sample to be used to determine best clinical practice in the following chapter. Finally, the treatment procedure including the concepts and variables to be measured is laid out. This specific analysis of best clinical practice seeks to determine the most effective option of play therapy to be implemented with children aged four to seven on the autism spectrum based on existing scientific literature.

### **Design and Approach**

#### **Best Practice Analysis**

**Overview.** Literature in the past on the topic of best practice comes from management consultants and has since expanded into a range of other academic fields (Bretschneider et al., 2005). The logical appeal of conducting a best practice analysis is consistent throughout many fields such as medicine, computer science, and law (Bretschneider et al., 2005). It is based on the need to know how to improve performance through the identification of the best possible practice (Bretschneider et al., 2005). Unfortunately, the literature on best practice methods is confusing and inconsistent and there seems to be little consensus on what best practice research is and how it should be carried out (Vesely, 2011). Because of this, specific definitions and method for the present best practice analysis are presented to avoid assumption by the reader.

The purpose of a best practice analysis is to focus on extremes of the sample being analyzed rather than the mean of the sample for the goal of arriving to a specific practical conclusion. Best practice research is based on the idea that rather than determining an abstract ideal to reach, society should implement what has worked in the past based on existing research (Veselý, 2011).

**Definition.** The method for this thesis is based off of Bretschneider et al.'s 2005 article titled "*Best Practices*" Research: *A Methodological Guide for the Perplexed*. An analysis of best practice is a method of research that aims to determine the best clinical practice through comparison of existing empirical qualitative and/or quantitative data. The term *best practice* indicates that "it is best when compared to any alternative course of action and that is a practice designed to achieve some deliberative end" (Bretschneider et al., 2005, p. 309). Despite the inconsistencies in definitions and best practice approach, there is somewhat of a consensus that the research in best practice is oriented toward constant learning, feedback, and reflection of what works, what does not work, and why (Veselý, 2011).

**Best practice characteristics.** According to Bretschneider et al. (2005), the analysis must (a) include comparable cases, (b) describe an action, and (c) demonstrate a linkage between an action and a goal. The cases being examined must be comparable across both action and outcome (Bretschneider et al., 2005). For this thesis, two variations of play therapy will be compared in their given effects on social development. In addition, the analysis has to include all relevant comparable cases because if a better case is found outside the sample then the analysis is invalid (Bretschneider et al., 2005). Including all relevant cases indicates completeness, but "while completeness is the goal, it will rarely be obtained" (Bretschneider et al., 2005, p. 311). This thesis will narrow down studies temporally and with other variables to come close to completeness. The second characteristic, to describe an action, involves the use of play therapies

within the existing empirical studies. The third characteristic, demonstrating the linkage between the action and goal, is often complex, difficult, and multidimensional, especially in the social science (Bretschneider et al., 2005), and is even more difficult in the field of autism which demonstrates so many variations within and between individuals on the spectrum. In this thesis, the link between play therapy modality and social skill development will be demonstrated.

**Theory.** According to Bretschneider et al. (2005), the theory behind best practice analyses is production theory from economics. In general terms, it links inputs to outputs and compares how inputs are transformed to outputs in order to determine the best practice (Bretschneider et al., 2005). There is an assumption within production theory that an optimal situation for converting inputs to outputs exists (Bretschneider et al., 2005). This thesis looks at the input of play therapy and the output of social skill development under the assumption that an optimal modality exists.

**Role of the researcher.** Bretschneider et al. (2005) consider that in a best practice analysis, the role of the researcher is to increase the readers understanding of specific cause and effect linkages and how they can be manipulated. For this specific thesis, the role of the author is to increase the readers' understanding of the link between play therapy and social skills in children with autism between the ages of four and seven.

**Comparison approach.** According to Bretschneider et al. (2005), statistical models and human judgment are the two approaches that can be taken towards determining best practice. Similar to the present thesis, "one can envision a situation where a small sample of comparable cases are enumerated, but the nature of the cause/effect relationships are so highly complex that human judgment techniques are a reasonable approach to develop rankings and identify a 'best practice'" (Bretschneider et al., 2005, p. 311), which opens up space for criticism. In the field of

autism, the variability between individuals and their receptivity to intervention makes this best practice analysis highly complex and easiest to approach as a case-by-case basis through relevant empirical studies. Because there is anticipation that the data from the resulting empirical studies will be complex and a mixture of qualitative and quantitative, the human judgment approach is the most logical method of comparison.

**Justification for given method.** Play therapy for the development of social skills is an intervention that has not received as much investigation as other approaches. The analysis of existing play therapy modalities will allow the determination of the best clinical practice in terms of what already exists, and will pave the way for future empirical studies comparing group and individual play therapy, as well as further concepts in the area of social skill development for children with ASD. Because the cases are so complex and different in terms of the children being examined, the specific intervention, and the measures used in each of the resulting empirical studies, the human judgment approach will be used to analyzing the various empirical studies.

### **Setting and Sample**

#### **Demographic**

As described in the first chapter, the demographic for this analysis of best practice consists of both males and females between the ages of four and seven with a diagnosis of autism spectrum disorder at the time of intervention. The interest in autism spectrum disorder is due to the rise of prevalence and the specific age group is meant to target those children transitioning into full time school who may be experiencing social difficulties. Males and females were both included in the limits to preserve generalizability.

#### **Sampling Method**

**Search specifications.** Between the months of January and May 2016, the search engines CityU Library, ESCBOhost, PSYCinfo via ProQuest, and Google Scholar were used with the key words play therapy, children, autism, and social skills. As mentioned in the first chapter, the criteria for inclusion of each study being analyzed are: (a) to consist of empirical evidence; (b) to be published in a journal and peer reviewed; (c) to be published between the years 2012 and 2017; (d) to include only participants with a diagnosis of autism spectrum disorder; (e) to be written in English; (f) to consider the therapy modality to be the independent variable of the study; (g) to consider the changes in verbal social behaviours, non-verbal social behaviours, and non-social behaviours to be the dependent variables for comparison; (h) to be conducted by a trained therapist or counsellor; (i) to include only studies that used and intervention for one year or less; (j) to include children that fall within the limits of four and seven years of age during the time of intervention; and (k) to only consider modalities of play that are in groups of children or individual based. Anything outside of this specific scope will not be evaluated, but will be explored in the discussion chapter.

**Exclusion criteria.** To be able to obtain a close to complete sample of current empirical studies, there will be some exclusion criteria implemented during the search process.

**Age differences.** Studies that contain age groups that do not include subjects between the ages of four and seven will not be included. Although, if the group of subjects goes beyond the age limit, but still includes subject, within the age limits, they will be included. For example, if the age range for a study is between the ages of five and eight years, the study will fall within the limits of the present best practice analysis of four to seven years.

**Gender differences.** In addition, although there are gender differences between males and females on the autism spectrum (American Psychiatric Association, 2013), these differences will

not be examined in terms of intervention or social skill outcome. In terms of the search experience, this means that studies with males, females, and both males and females will be included in the final sample in addition to any studies that mention children who identify as gender con-conforming or any other gender.

*Co-morbidity of disorders and other difficulties.* This analysis will not take into account those who have co-morbid disorders. The search criteria also exclude specifically those who also have a prior diagnosis of ADHD. In addition, any studies with participants who have difficulty engaging in play therapy sessions due to muteness, extreme violence, or other behaviour issues will also be excluded from the sample.

*Treatment approach.* Differences in the type of interventionist will not be included. This means that studies including teachers, counsellors, occupational therapists, and so on, are eligible for inclusion. In addition, there is no upper or lower limit on the number of play therapy sessions carried out in each study or the length of intervention over time. The specific location is irrelevant as well which means that studies in the home, at school, or in a therapy room will all be included. The modality of play therapy will not be taken into account either. Each study will have a slightly different variation in the intervention delivery and process.

### **Sample Size**

The size of the sample of studies to be analyzed will depend on the search experience. Because a true best practice analysis must include all relevant applicable cases, all studies that fall within the limits must be included in the analysis. The sample size is anticipated to be between three and five studies of both group and individual-based studies and the small number is due to the strict limits.

### **Treatment Procedure**

The studies will be separated into two distinct groups based on whether they included group-based or individual-based treatment interventions at the time of research. Studies assessing and comparing both treatment approach in the same article will not be included in the best practice analysis, but will be touched on for comparison to the findings of this analysis. Each study has a different variation on the type of play therapy used, but the comparability of social outcomes allows analysis between the group of individual-based studies and the group of group-based studies to be carried out

### **Concepts and Variables Analyzed**

The concepts analyzed in this thesis are the different outcomes in social skills of the subjects reported in each study based on the respective approach to play therapy. These differences in social development are the comparable dependent variables that allow the analysis of best practice to be carried out.

**Operationalization of independent variable.** The independent variable in this thesis is play therapy intervention. The independent variable is split up into two distinct groups; one including individual-based intervention and one including group-based intervention. Individual-based interventions include one-to-one sessions between a child and a professional interventionist in a play or art therapy environment. Group-based interventions include groups of two or more children with a professional interventionist in a play or art therapy environment. There will be differences in exact therapy treatment approach within the individual and group-based samples due to variations such as location and intervention, but these differences are irrelevant because the dependent variables are comparable.

**Operationalization of dependent variable.** The dependent variables are based on the reported changes in social skill development of each study. The comparable dependent variables

are the changes in verbal social behaviour (e.g. sharing, expression of needs, verbal imitation, verbal response, questioning), the changes in non-verbal social behaviour (e.g. touch, eye contact, joint attention, imitation, waiting, initiation, following instructions, response), and the changes in non-social behaviours (e.g. isolation, expression of symptoms, negative behaviours).

The comparable dependent variable to be determined will depend on which social skills are consistently noted throughout all studies. Based on the studies that will qualify to be analyzed under the limits, these dependent variables will be examined in terms of their relative improvements over time between the different modalities of play. The differences seen in social development over time between the individual and group-based treatment styles will indicate the better practice between the two.

### **Calculation of Score**

The data provided from each of the studies based on the development observed in their participants will be compared in table format in the following chapter. There will be three tables included. The first table, titled Table 1 Group Interventions will give a broad overview of the group-based interventions found. Table 2 Individual Interventions will give a broad overview of the individual-based interventions. Finally, Table 3 Comparison of Group and Individual Interventions will have a more refined scope of the dependent variables for comparison.

Depending on the studies that arise with the search experience, the data may be qualitative, quantitative, but most likely a combination of both. As noted, the human judgment approach will be used to conceptualize the complex data in order to come to a conclusion for best practice in play therapy.

### **Reliability and Validity**

Because of the strict limits set in terms of the demographic, geographical location, diagnoses, language, temporal limits, and so on, a best practice analysis has “limited generalizability of results or problematic external validity” (Bretschneider et al., 2005). The results may be externally valid when implemented with the same demographic and inclusion criteria that is being studied in the present analysis. Unfortunately, it is difficult to determine the reliability of a study when the results are dependent on human judgment. In addition, reproducing the study through the judgment of a different human may affect the outcome. It is important to keep in mind that despite the results that do come of this analysis, it does not indicate overarching treatment or cure for those on the autism spectrum due to the vast differences seen in portrayal of the disorder and individual differences. The reliability and validity are compromised just due to the fact that this disorder itself is so complex and variable. Despite the concerns, the results of the study may be highly relevant and important for those on the spectrum and the people working with them.

### **Conclusion**

The method for the present thesis is a best practice analysis based on characteristics outlined by Bretschneider et al. (2005) that aims to isolate extremes in a given sample. The purpose for this method is to determine the best clinical practice among existing play therapy modalities for children with autism between the ages of four and seven given exclusive search criteria. Based on the search results, the studies will be broken up into two groups; individual-based empirical studies and group-based empirical studies. From there, the comparable changes in social skill development among the participants in the given studies will allow the determination of best practice.

The concept of neurodiversity is salient throughout this process and indicates that each child on the spectrum is unique and that needs to be respected. Although a best practice will emerge in conclusion, it is not a cure for autism. What this method will do is open opportunities for intervention that allow the emergence of the child's social capabilities.

## Chapter 4 – Results

### Introduction

#### Content Overview

The body of the present chapter consists of three distinct segments. First, the process of data collection is outlined. Then, the results of the data collection process are explained in detail in terms of specific studies found. To conclude, an examination of patterns and differences is conducted and laid out in table format. To review, the research question at hand seeks to determine whether individual-based or group-based play therapy are superior to the other for children between the ages of four and seven with autism in terms of the efficacy in the development of social skills which will yield a best practice in play therapy for this specific demographic.

#### Major Themes in Research

Throughout both the individual based methods and group based methods of play therapy for the development of social skills, all studies observed non-verbal communication, and more specifically joint attention and/or eye contact, as an indicator of social interaction and development. This was in addition to many other indicators of social interaction such as sharing, waiting, play abilities, vocalizations, and many more, which were not as consistent between studies. Bretschneider et al. (2005) would agree that the consistency in the play therapy, or action, and joint attention and eye contact, or outcome, makes the studies comparable.

**Definition of joint attention and eye contact.** Joint attention is a form of non-verbal communication and is defined as “instance of gaze checking (looking at another person, looking at where their gaze is directed and back) and shared attention (jointly attending to an object), or

showing/pointing for others” (LaGasse, 2014, p. 258), which encompasses the act of making eye contact with another person and looking at the same object with another person.

### **Process of Data Collection**

The key words autism, social skills, and play therapy were inputted into multiple search engines looking for empirical studies over the past five years that included male and female children between the ages of four and seven with autism in group- and individual-based play therapy interventions for the purpose of increasing their social skills. This encompassed therapy interventions involving music, art, and animals as well. Only empirical studies will be chosen to ensure that the studies being analyzed have included real therapeutic interventions rather than reviews of previous studies.

As described earlier there were specific guidelines and limits to the scope of this analysis of best practice. The temporal limit of the past five years ensures the empirical studies are current and relevant to the growing population of those on the autism spectrum, which is the chosen minority demographic due to the increasing prevalence. In addition, an intervention length of a year or less ensures that the study is current and factors out longitudinal studies. The changes in social behaviours are the desired variables because social deficits are a common trait among those with ASD. As mentioned, the age range between four and seven is a transition point between pre-school and elementary school when social relationships and skills in the classroom become of increasing importance. A person trained to administer the therapy is preferred over a researcher or data collector who may not have the same expertise. Comparing only individual therapy and group play therapy will help to factor out family therapy for example, which could complicate outcomes because of pre-established attachments. Finally, ASD is not exclusive to any nationalities so there are no limits on the home country of the subjects.

## Results of Data Collection

### Individual-based Empirical Studies

As anticipated, the results of the literature search of existing and recent empirical studies indicated that only three qualified and fit within the limits in terms of individual administration of treatment for social skill development. All three utilized different modalities of intervention; animal-assisted play therapy (AAPT), child-centred play therapy (CCPT), and a developmental module for play therapy. This number is small due to the strict limits of research in addition to the overwhelming amount of studies on ABA rather than the less manualized interventions such as art and play therapy.

**Animal-assisted play therapy.** In 2015, Fung published a study titled *Increasing the Social Communication of a Boy With Autism Using Animal-assisted Play Therapy: A Case Report*. This modality is based off the idea that animals are socially attractive to children who display withdrawn behaviours (Fung, 2015). The inclusion of animals in a therapeutic context is considered to be an additive to the already established intervention (Fung, 2015). The purpose of this case study was to examine the effectiveness of AAPT on the social communication of the participant in terms of verbal and non-verbal behaviour displayed.

**Participants.** This case study examined a seven-year-old boy diagnosed with autism from Hong Kong, China who was recruited from a special primary school (Fung, 2015). Prior to intervention the boy, Charles, did not display engagement with peers, joint attention, or emotional expression, among other autistic features (Fung, 2015). In addition, Charles showed a mild delay in verbal skills prior to the intervention (Fung, 2015).

**Method.** The intervention included a nine-year-old therapy dog incorporated into an adopted ABA-style play intervention with a therapist in a multipurpose room at the participants'

school. There were three baseline sessions, 14 treatment sessions, and three post-treatment sessions as well as three follow up assessments one month following the post-treatment sessions which were conducted by an unfamiliar adult. The AAPT with Charles was carried out three times per week for 20-minute sessions with lessening amounts of time with the therapy dog present. A manual with time allocation, dialogue standards and play material pictures was created although not included in the article. Other than the use of the therapy dog the specific play modalities used in each session were not outlined.

Two undergraduate students coded the frequency of target behaviours in 15-second intervals during each session. Social behaviour was broken down into verbal (questioning, response, imitation, need expression, and sharing) and non-verbal (eye contact, touch, following instruction, imitation, joint attention, waiting, initiation, and response). Non-social behaviour was categorized as isolation, autistic features, and negative behaviours. These behaviours were graphed based on the percentage of intervals during a session that the behaviours were displayed.

**Results.** Charles' non-social behaviours decreased in average percentage of 15-second intervals during each session between baseline (85%) and follow-up (66.3%), and his social behaviours increased from baseline (15%) to follow-up (33.4%) (Fung, 2015). Findings were inconsistent among specific verbal social behaviours, although sharing increased in percentage of intervals from about 6% to 9% (Fung, 2015). The only non-verbal social behaviour to increase from baseline to follow up in the 15-second intervals of each session were joint attention (from 4% to 10%) and waiting (from 1% to 12%) (Fung, 2015). The only non-social behaviour Charles displayed was isolation, which was at 83.4% of intervals at baseline and decreased to 70% of intervals at follow-up. It was determined that the social behaviour at post-treatment was 1.2 times higher than at baseline.

Although joint attention rose in percentage of intervals and stayed high at follow-up, eye contact showed a different trajectory. Between sessions 5 and 10 the subjects eye contact spiked up to 10% of intervals from approximately 1% at baseline, then decreased back down to the minimal percentage at follow-up meaning that the child struggled with eye contact with the adult but was able to pay attention to the same object as the adult more frequently. This begs question to the relationship that joint attention and eye contact have. Although eye contact can be included in the definition of the ability for joint attention, they may not necessarily co-occur as skills.

Throughout the phases of therapy, it was determined that the more involved the therapy dog was in session, the more social behaviour was shown which was displayed by the spike in social behaviours, then decrease over time, while still showing an overall increase from baseline to follow-up. The therapy dog “seemed to play the therapeutic role of social ice-breaker” (Fung, 2015, p. 31), allowing decrease in isolation, increase in waiting, sharing, and joint attention. The condensed summary of the study can be found on Table 1.

**Limitations.** Unfortunately, play therapy with animals is subject to difficulties in terms of allergy to or fear of animals. In addition, the social skills that did improve were not mentioned in terms of generalizability outside of working one-to-one with a professional. Finally, because this was an individual case study, the generalizability is also limited.

**Child-centred play therapy.** In 2016, Salter, Beamish and Davies published a study titled *The Effects of Child-Centred Play Therapy (CCPT) on the Social and Emotional Growth of Young Australian Children With Autism*. Child-centred play therapy involves engaging the child in activities of their choice which allows them to establish attachment with the therapist, improves self-concept, and addresses emotional and behavioural distress, all drawing from the Rogerian principle of using unconditional positive regard (Salter et al., 2016). This mode of play

therapy has been shown to produce desirable social behaviour results by addressing joint attention, imitation, theory of mind, and symbolic and functional play (Salter et al., 2016). The purpose of the study was to determine the effects of CCPT on the social and emotional development of children with autism.

**Participants.** Three boys between the ages of 5.5 and 6.5 from Queensland, Australia all with a diagnosis of autism participated in this study (Salter et al., 2016). One of the boys did have a co-morbid diagnosis of ADHD and epilepsy (Salter et al., 2016), but because of his ASD diagnosis the empirical study is still being included. All of the participants had fluent expressive and receptive language skills prior to the intervention (Salter et al., 2016).

**Method.** Each child attended individual weekly 50-minute sessions for 10 weeks with the same trained therapist. Two formal assessments were used post- and pre-intervention; the Adaptive Behaviour Assessment System, Second Edition, Parent Form (ABAS-II) and the Developmental Behaviour Checklist – Parent/Carer (DBC-P) (Salter et al., 2016). The ABAS-II measures practical independent functioning in 10 different areas including communication and social measures to obtain a General Adaptive Composite (GAC) score (Salter et al., 2016). The DBC-P assesses emotional and behavioural difficulties in children and youth with developmental disabilities with 5 subscales including communication/disturbance, disruptive/anti-social, and social relating to obtain a Total Behavioural Problem Score (TBPS) (Salter et al., 2016). In addition, three informal assessments including perceived behaviour changes by parents in the form of a rating scale called the Goal Attainment Scale (GAS) representing baseline to full attainment of a given goal (Salter et al., 2016). The final two informal assessments included written parent reflections and ongoing therapy notes by the interventionist (Salter et al., 2016). All measures assessed very broad social functioning of the child.

**Results.** In summary as reported by the researchers, all three boys improved in their social communication skills and joint attention (Salter et al., 2016). Each child developed from having an ego-centric state of mind to acknowledging the perspectives of others as a form of theory of mind (Salter et al., 2016). In addition, other life skills such as self-care and home living improved over the course of treatment in addition to problematic behaviour (Salter et al., 2016). The boys were compared to a normative sample indicating the percentage of neurotypical children who function higher than the subject with ASD on a given social measure.

Based on the GAS graph including all three participants, only two of the three improved over the 10 weeks, both with improvements and regressions throughout, although neither of the boys who did improve made it to the point where their caregivers considered their personal therapy goals to be fully attained. The social measures from the ABAS-II increased in two of the boys and stayed the same in one boy, all resulting measures still being below average. The communication measures from the ABAS-II increased in one boy and decreased in two, still being below average as well. It is unclear what exactly the social and communication measures examined. The disruptive/antisocial, communication/disturbance, and social relating measures of the DBC-P showed improvements in functioning or the same functioning, with only one boy regressing in his measure of disruptive/antisocial behaviour. The summary of this study is outlined on Table 1.

**Limitations.** Unfortunately, the researchers did not look specifically at joint attention or eye contact, but it is assumed that because CCPT is an intervention that specifically addresses joint attention (Salter et al., 2016), then joint attention can be included in the social and communication measures. Communication is a broad term encompassing both verbal and non-verbal, therefore the results indicating that communication improved are limited and subject to

interpretation. The researchers stated that “through the lens of joint attention, each child improved his social interactions; moving from having an intense focus on an interest area to having a more open view that enabled greater responsiveness to the therapist and parents” (Salter et al., 2016, p.88). With a more specific focus of dependent variable this study may have proven to yield more targeted and generalizable results.

**Developmental module for play therapy.** In 2013, Banerjee and Ray published an article titled *Development of Play Therapy Module for Children with Autism*. This method was aimed to facilitate total development in children with autism by separating the early years of play development into four categories, mostly free of cultural bias (Banerjee & Ray, 2013). The purpose of this study was to determine the effects of a development-based module based on infant social development for children with autism.

**Participants.** The sample consisted of 12 boys and 8 girls between the ages of four and 14 diagnosed with mild to moderate ASD diagnoses and were all from Kolkata, India (Banerjee & Ray, 2013). The sample was split into a control group and an experiment group based on age, sex, degree of autism, and behaviour profile to ensure close to matching groups (Banerjee & Ray, 2013).

**Method.** The children in the experimental group (n=10) received individual play therapy in the stages described for ten sessions at two sessions per week for approximately 30-40 minutes per session over a total of five weeks (Banerjee & Ray, 2013). This was repeated for each of the four phases outlined below (Banerjee & Ray, 2013). Follow-up was conducted after one month of no treatment. The control group did not receive any treatment, but both groups did continue their regular intervention programs throughout the study (Banerjee & Ray, 2013). The different programs each of the children continued to participate in were not elaborated upon.

*Developmental phases.* The first developmental stage is sensori-motor play which typically develops between 6 and 8 months of life in which joint attention, eye contact, and motor skills are developed (Banerjee & Ray, 2013). The second stage is organizational/constructive play which typically develops between 6 and 9 months of life in which imitation of behaviour, creativity, and social communication are further developed (Banerjee & Ray, 2013). The third phase is functional play which typically arises throughout 9 and 12 months of life and is characterized by object-oriented behaviour and identification of objects such as foods or body parts (Banerjee & Ray, 2013). Finally, the fourth stage is pretend play which typically develops beyond 18 months of age in which theory of mind and self-awareness is developed to encourage appropriate social interactions and communication (Banerjee & Ray, 2013). The researchers stated that “the stages are interrelated and total development would be incomplete in absence of any one” (Banerjee & Ray, 2013, p. 247). Children with autism often have difficulty in one or more of these stages therefore the researchers structured play therapy sessions in order of the typical developmental stages based on the notion that children with ASD are delayed in development and many need support through those specific phases.

**Results.** The researchers concluded that the regular intervention programs that both groups received was significant enough to produce changes in cognition, socialization, and communication throughout the first stage, sensori-motor, although at the follow-up the experimental group maintained higher levels of improvement (Banerjee & Ray, 2013). Throughout the second phase, organizational/constructive play, there were no significant differences between the groups in terms of communication or problematic behaviour (Banerjee & Ray, 2013). The third phase, functional play, showed improvements in communication for the

experimental group which translated in to the fourth phase, pretend play, as well compared to the control group (Banerjee & Ray, 2013). The overview of results can also be found on Table 1.

**Limitations.** The findings of this study were poor and insignificant. Although the researchers touched on joint attention as being an important part of the sensori-motor phase, both the control and experiment group improved in communication and socialization at this stage, therefore the improvement cannot be attributed to the developmental module of play therapy. The results of communication and socialization were not broken down into distinct behaviours or patterns. It was concluded by the researchers that perhaps 10 sessions per phase is not sufficient. Perhaps the results were not significant enough because children with ASD may not follow the same trajectory of development as neurotypical children.

**Themes and patterns among individual therapy studies.** The tracking of joint attention was mentioned in all three of the individual studies. This may be easier to teach and learn on a one-to-one basis rather than in a group setting as the therapeutic professional would have more time with the client in a given session. All studies contained outcome measures that differed, therefore the written qualitative outcomes were relied on to allow consistency and comparability. The generalizability of these skills developed in an individual-based intervention are poor in terms of joint attention outside of the therapeutic relationship, especially with peers.

**Table 4.1 – Individual-based Empirical Study Overview**

Authors	Play Modality	Duration	Age	Gender	Location	Purpose of Study	Improvements	Minimal to No Improvements
Fung (2015)	ABA, AAPT	3 baseline sessions, 3 x 20-min sessions/ week for 5 weeks (14 sessions), with follow-up one month post-treatment (3 sessions)	7	Male (n=1)	China	Examine effectiveness of AAPT in terms of verbal and non-verbal behaviour for a child with ASD	Sharing, waiting, joint attention (baseline to follow-up) with clear results (although small sample size)	Expression of needs, verbal response, questioning, verbal imitation, eye contact, touch, following instruction, non-verbal imitation, initiation, response, autistic features (baseline to follow-up) with inconsistent results
Salter, Beamish & Davies (2016)	CCPT	1 x 50-min sessions/ week for 10 weeks	5.5-6.5	Males (n=3)	Australia	Determine effects of CCPT on social and emotional growth in children with ASD	Disruptive/antisocial, communication/disturbance, social relating, social measures (assumption of joint attention) with unclear and inconsistent results	Communication is inconsistent in outcome
Banjeree & Ray (2013)	Developmental Module	2 x 30-40-min sessions/week for 5 weeks (10 sessions) for each of the four stages, with one month post-treatment follow-up after each stage	4-14	Males & Females (n=20)	India	Determine the effects of a developmental module for children with ASD in relation to typical infant social development	Cognition, socialization, and communication (phase 1 with the inclusion of joint attention and eye contact) with poor results	Problem behaviour not improved by play therapy (same as control)

### Group-based Empirical Studies

Similar to the studies including subjects who participated in individual therapy, the results of the literature search of existing and recent empirical studies indicated that only three qualified and fit within the limits in terms of group administration of treatment for social skill development. All three utilized different modalities of intervention; the ‘Learn to Play’ program, music therapy, and art therapy.

**Learn to Play.** In 2012, Stagnitti, O’Connor and Sheppard published a study titled *Impact of the Learn to Play program on play, social competence and language for children aged*

5-8 years who attend a specialist school. The 'Learn to Play' program aims to improve the play abilities of children with developmental disorders with the understanding that pretend play is significantly correlated with expressive and receptive language (Stagnitti et al., 2012). 'Learn to Play' is a child-lead play based intervention aimed at developing self-initiate play and pretend play so that children can fulfil their role as a 'player' (Stagnitti et al., 2012) and can subsequently form social relationships. The purpose of this study was to investigate the changes in the relationship between play, language, and social skills in children before and after the 'Learn to Play' intervention (Stagnitti et al., 2012). The hypotheses being tested in this study were meant to determine the relationship between play and social skills, the relationship between symbolic ability in play and language, and the strength of these relationships over the course of the 'Learn to Play' program (Stagnitti et al., 2012).

**Participants.** There were a total of 19 children from a specialist school in Victoria, Australia and were between the ages of five and six. This included 11 males and 8 females, in which 10 of the 19 children had an autism diagnosis. All of the children had intellectual disability and the ones without an autism diagnosis were considered to have developmental delay (Stagnitti et al., 2012). All children were participating in other curriculum and therapeutic activities and the 'Learn to Play' program was supplement for the experiment group (Stagnitti et al., 2012).

**Method.** The skills in focus were sequences of play actions, object substitutions, play scripts, doll and teddy play, social interactions and role play starting at the child's developmental level and gaining attention at the play task, talk about play, emotionally engage, build logical sequencing of play and using symbols to create a story with figurines (Stagnitti et al., 2012). This was carried out through the use of dolls, transportation toys (i.e. trains, cars), construction toys

(i.e. Lego, bricks), and a home corner. The groups were one hour long and took place twice a week for six months. Four to seven children were placed in groups with two adults per group. Two teachers, one occupational therapist, two speech pathologists and four students were involved in the data collection (Stagnitti et al., 2012). Video modelling was used involving the therapists and teachers acting out play sequences (Stagnitti et al., 2012).

The instruments used were the Child-Initiated Pretend Play Assessment (ChIPPA), the Preschool Language Scale 4<sup>th</sup> Edition (PLS-4), and the Penn Interactive Peer Play Scale (PIPPS) (Stagnitti et al., 2012). The ChIPPA assesses the ability of the child to initiate pretend play. The PLS-4 assesses language skills in terms of auditory comprehension and expressive communication. Finally, the PIPPS is a rating scale that examines the interactive peer play competencies of a child.

**Results.** The testing instruments were used before the intervention started then again after six months of therapy. Both hypothesis being tested were supported by the data in that the relationship between social skills and play was strengthened throughout the intervention and the relationship between language and symbolic play was strengthened throughout the intervention (Stagnitti et al., 2012). Overall, the ‘Learn to Play’ program increased social interactions and language, and decreased the children’s’ social disconnection (Stagnitti et al., 2012). The overview of results can be found on Table 2. The results were broad and indicated increase in social connection and decrease in social disconnection, therefore it can be assumed that eye contact and joint attention are factors in the resulting increase in social skills.

**Limitations.** There were no measures specifically addressing the joint attention or eye contact associated with the increase in non-verbal language and social skills, but because the results were so broad the non-verbal skills can be assumed. Because the experiment group was

still participating in other therapies it is difficult to determine the exact influence of the ‘Learn to Play’ program on the observed changes in social skills (Stagnitti et al., 2012).

**Music therapy.** In 2014 LaGasse published a study titled *Effects of a Music Therapy Group Intervention on Enhancing Social Skills in Children with Autism*. Because people with ASD may have enhanced pitch and/or melodic perception, music therapy can potentially increase engagement for learning by helping children with ASD to “organize, predict, and respond to their environment” (LaGasse, 2014, p. 253). Past interventions have demonstrated the improvement of social skills within groups of children. The purpose of the study was to measure the effects that a music therapy group had on the social skills in children with autism.

**Participants.** A final sample of 17 participants including four females and 14 males acted as subjects and ranged in age from six to nine years old (LaGasse, 2014). All participants had a diagnosis of ASD without dual diagnoses and lived in a large metropolitan area of the United States.

**Method.** The purpose of this study was to measure the effect of a music therapy group intervention on the social development of children with ASD as compared to a typical group skills training, specifically looking at eye gaze, joint attention, initiation of communication and response to communication. Through random selection the participants were separated into either the music therapy group (n=9) or the social skills group (n=8) in groups of three to four children. Each group met twice a week for 50-minutes each session for a total of five weeks and ten sessions. The two different groups were functionally similar but the role of the music was to provide cues to practice social skills. Both groups were designed to target the development of social skills.

In combination with behavioural observation, the Social Responsiveness Scale (SRS) and the Autism Treatment Evaluation Checklist (ATEC) were used as measures (LaGasse, 2014). The SRS was completed by each child's caregiver before and after the intervention. It is a 65-item rating scale that determines the level of social impairment in a child. The ATEC was used to track changes throughout the 5-week intervention evaluating speech and communication, sociability, sensory/cognitive awareness, and health/physical behaviour through a 77-item checklist (LaGasse, 2014). This was completed by parents before the intervention and after the second, fourth, and sixth session, then again three days and three weeks after the intervention was completed. The ATEC was also completed by the lead therapist after the second, fourth, eighth, and tenth sessions. Video recordings of the children were carried out during the third and tenth session to track and code for eye gaze, joint attention, and communication (LaGasse, 2014).

**Results.** There were significant differences between groups favoring the music therapy group in joint attention and eye gaze, although no significant differences between groups in communication. The SRS scores for the music therapy group experienced significant differences, decreasing from a mean of 114.25 to 93.5, indicating an increase of functioning (LaGasse, 2014). The typical social skills control group did not experience significant differences in their mean. Similar results were found with the ATEC as well between pretest and three weeks post-test. Eye gaze toward people and joint attention with peers increased between the third and tenth session for the music therapy group (LaGasse, 2014). Interestingly, the music therapy group increased joint attention with peers and decreased joint attention with adults, while the social skills group maintained interactions with adults but decreased peer interactions. The results support the development of social skills between peers using music during therapeutic intervention. These results can be found summarized on Table 2.

**Limitations.** There was no significant difference between groups in terms of joint attention with adults, initiation of communication with another child, response to communication or social withdraw. (LaGasse, 2014).

**Art therapy.** In 2016, Chou, Lee and Feng published a study titled *Use of a Behavioural Art Program to Improve Social Skills of Two Children with Autism Spectrum Disorders*. Art therapy allows children to express themselves in a way that may be more accepted by their peers, which may in turn decrease anxiety or social rejection (Chou et al., 2016). In addition, the use of art allows expression of feelings without the pressure of using words which many people on the spectrum experience difficulty with. The purpose of the study was to investigate the effectiveness that a behavioural art program had on the social skills of children with autism.

**Participants.** Two six-year-old boys from Taiwan were the subjects in this study. One of the boys was diagnosed solely with ASD while the other boy had an ASD diagnosis as well as an ADHD diagnosis. The boys were placed in a group-based art therapy program, but the authors were unclear in terms of the details of the art therapy group and whether or not the two subjects were in group together or in separate therapy groups, or the demographics of the groups.

**Method.** In order to study the participants' verbal communication, presentation of artwork, and eye contact, the boys participated in 17 one-hour art sessions in group format facilitated by an art instructor. The authors were unclear about how frequently these sessions were taking place. Creative art materials were provided including pens, pencils, paint, tape, glue, pictures, scissors etc. and each child was provided with a sheet of drawing paper. Each one-hour session was divided into 240 intervals to track the dependent variables displayed by each child during the intervals, such as asking questions or responding to communication by others. Parent

and teacher perception was used as a measure before and after treatment with scope specific to expressive language, interpersonal relationships, play and leisure time, and coping skills.

**Results.** The researchers concluded that both boys displayed an increase in verbal communication, presentation of their artwork, and eye contact with the instructor (Chou et al., 2016). Their performance on these variables was maintained even after the three-week post-test and were generalized to different settings and different instructors (Chou et al., 2016). The differences in the children’s’ behaviour was perceived by the therapists and the children’s’ parents (Chou et al., 2016).

**Limitations.** Because of the minimal explanation that the authors used to describe what went on during each of the sessions or what the group demographic and process looked like the reproduction of this study would be difficult.

**Themes and patterns among group therapy studies.** The group-based studies all looked at the effects of the given play therapy modality on either joint attention and/or eye contact. Eye contact can be defined as a type of joint attention making the dependent variables between all studies consistent.

**Table 4.2 – Group-based Empirical Study Overview**

Study	Play Modality	Duration	Age	Gender	Location	Purpose of Study	Improvements	Minimal to No Improvements
Stagnitti et al. (2012)	‘Learn to Play’	2x 1hr sessions/week for 6 months	5-6	Males & Females (n=19, 10 with autism)	Australia	Investigate changes in relationship between play, language and social skills of children	Relationship between play and social skills, relationship between symbolic play ability and language, increase in social interactions and language, decreases in social disconnection, all broad definitions of improvement (all in addition to other therapies)	N/A

LaGasse (2014)	Music Therapy	2x 50 min sessions/week for 5 weeks	6-9	Males & Females (n=17)	USA	Measure the effects of a music therapy group intervention on the social skills of children with autism compared to a typical group-based skills training, specifically identifying eye gaze, joint attention, initiation, and response to communication	Eye gaze toward people and joint attention with peers which were displayed post-treatment	Joint attention with adults, initiation of communication with another child or adult, or response to communication
Chou et al. (2016)	Art Therapy	17x 1hr sessions	6	Males (n=2)	Taiwan	Investigate the effectiveness of a behavioural art program aimed to improve the social skills of two children with ASD	Spontaneous verbal communication, presentation of artwork, and eye contact, maintained three weeks post-treatment	N/A

**Comparison of Individual- and Group-based Interventions**

The comparison of individual and group interventions is displayed on Table 3. The results of the present thesis indicate that perhaps for the purpose of developing joint attention and eye contact with adults, individual intervention is appropriate, while for the purpose of developing joint attention and eye contact skills with peers, group interventions are more appropriate. This is logical as spending time one-to-one with an adult can increase practice time and learning of cues to develop non-verbal social skills with adults. Similarly, spending time in groups of peers would be more likely to facilitate the learning of cues and skills to communicate non-verbally with peers. In other terms, as humans, we become proficient at what we do. Depending on the individual needs of the child either individual or group therapy can be implemented, or both, which may facilitate a broader range of contexts to practice in and a

broader range of individuals to practice with, strengthening the generalizability outside of the therapeutic environment. The modality of intervention would depend on the personal interest of the child to develop intrinsic motivation and whether or not using animals, art, music, etc. would be appropriate for the individual. The neurodiversity among this population should be honoured within the results found in order to most effectively offer opportunities for the individual to develop their true capabilities.

### **Inconsistent Findings among Studies**

Unfortunately, there were inconsistencies among method, measures and tools used, the number and age range of participants, and the definitions of dependent variables, specifically what non-verbal communication is and how it encompasses eye contact and joint attention. This made the human judgement approach the most appropriate option for analysis and a process that was not simple.

### **Patterns and Themes among Studies**

The major theme throughout the individual and group studies was the observation of non-verbal communication in children with autism, specifically communication through joint attention and/or eye contact. This is an important developmental milestone for children with autism as Theory of Mind is often a difficulty. With the development of joint attention and eye contact, the hope is that these children are gaining a better understanding that a world exists within everyone, not just themselves. Because of these non-verbal themes in communication throughout the studies analyzed, these studies were comparable in their outcomes through the human judgement approach.

**Table 4.3 – Comparison of Individual- and Group-Based Interventions**

<b>Modality</b>	<b>Independent Variables</b>	<b>Dependent Variable (joint attention and eye contact)</b>	<b>Joint Attention/ Eye Contact with Peers</b>	<b>Joint Attention/ Eye Contact with Adults</b>	<b>Number of Participants</b>	<b>Follow-up</b>
<b>Individual</b>	AAPT, CCPT & Developmental Module	Inclusion with broad communication & social measures, not a direct dependent measure	N/A in therapeutic environment & poor generalizability	Increased	1-20	Only AAPT study conducted follow-up which was successful in the maintenance of joint attention with adults
<b>Group</b>	'Learn to Play', music therapy, art therapy	Overall more specific measure of joint attention and eye contact	Increased	Decreased	2-17	Results were maintained post-treatment

### **Conclusion**

Overall, through examining three group-based and three individual-based play therapy modalities that aimed to increase social skills in children with autism aged four to seven, the comparison was somewhat unclear due to inconsistencies between studies, but through the consistency of joint attention and eye contact throughout all six studies, it can be concluded that individual therapy may help to increase joint attention and eye contact with adults while group therapy may help to increase joint attention and eye contact with peers, independent of the modality of play therapy implemented, the context, the length of treatment, or the trained professional delivering the intervention. The results cannot be assumed for each person on the autism spectrum, as it is a spectrum of neurodiversity in which development may not follow the trajectory of a neurotypical child, or even that of another child with autism.

### **Discussion**

The following and final chapter will go into detail of the interpretations of the current thesis, the limitations of it, the experience of the research process, implications for further research, and finally recommendations for further professional action.

## **Chapter 5 - Discussion**

### **Introduction**

Through the lens of neurodiversity and the human capabilities approach, the present and final chapter will review of the purpose of the study, interpret the results and the role of the results in the existing literature, discuss further research, limitations, and finally the research experience.

### **Interpretation**

#### **Purpose of the Study**

The purpose of the present thesis was to determine whether group-based or individual-based variations of play therapy modality were more effective to facilitate the development of social skills in children with autism aged four to seven through the determination of a best clinical practice via the human judgment analysis approach. This was completed by the comparison of three group-based and three individual-based empirical studies carried out in the past five years in terms of their comparable dependent variable of joint attention and eye contact. The results of the study may save resources for parents looking for an intervention for social skills, and may save time for clinicians looking for the most effective way to increase these specific non-verbal communication skills.

#### **Research Question**

The research question of the present thesis included the exploration of the difference between individual-based and group-based play therapy interventions for the development of social skills in children with autism aged four to seven for the purpose of yielding a best clinical practice. The independent variables were the play and art therapy interventions used between the

six different studies and the dependent variables were the comparable outcomes of eye contact and joint attention development among the participants.

### **Results Discussion**

In the search for the best clinical practice through the comparison of existing empirical qualitative data by the human judgement approach, it was concluded that in order to yield a desired non-verbal communication skill, a specific therapeutic approach may be necessary. For the development of joint attention and eye contact with adults, one to one individual play or art therapy may be more effective in learning this specific behaviour. For the development of joint attention and eye contact with peers, group play or art therapy may be more effective the development of this social behaviour.

**Context in current literature.** The findings of this thesis are consistent with Kasari and Patterson's (2012) findings which concluded that "interventions addressing joint attention/joint engagement appear to facilitate significant improvements in skills that are core developmental challenges for children with ASD" (p. 7). In addition, it has been found in the past that preschool children with autism may benefit from both group and one to one joint attention and play interventions (Kasari & Patterson, 2012). Also found that strategies addressing joint attention improve social communication with youth children with ASD in addition to parent-mediated interventions (Tanner, Hand, O'Toole & Lane, 2015), which is an area of research that can be further explored beyond this thesis. It would be interesting in further research to investigate the effect that joint attention or eye contact specific interventions had on the development of other areas of social skills.

Research on art and play therapy has been overshadowed by the more manualized ABA approach to social skill development in children with autism. In terms of the existing literature

on art and play therapy, there are multiple different factors that contribute to variations in treatment that make comparability and replication complicated, all within a small sample of empirical studies that have been conducted. This thesis adds to the number of studies analyzing the effects of play therapy on the demographic at hand, but more empirical studies can be added to the existing literature. Because of the diverse nature of the participants in the empirical studies the use of the human judgment approach for analysis of the empirical studies the results are not explicit, but are foundation for future practice and research.

**Context in themes of the paper.** Social deficits are one of the most commonly occurring traits in those on the autism spectrum. It may not be that the motivation for social connectedness is not there, but the individual may not be given the appropriate opportunities for the development of the capabilities that they do innately poses. The results take into consideration the concept of neurodiversity, which does not allow for concrete answers in research on autism, but does allow for the respect and recognition that those who have an autism diagnosis do not fall into one category of personality, skills, or development. The results indicate that the most commonly affected communication method through play and art therapy is joint attention and eye contact. It could be inferred that these skills are building theory of mind in these children. Harris (2009) says that “the eyes are the window to the soul” (p. 96), and that children with autism generally do not seem to understand this. Perhaps by increasing eye contact and joint attention with either peers or adults, perhaps the child is also strengthening their theory of mind.

### **Further Research**

#### **Analyses of Best Practice**

Because of the complexity of ASD and the spectrum that is seen among those on it, determining an overarching intervention for any given goal will be difficult, if not impossible. In

possible future analyses of best practice there may be more studies to draw from comparing individual and group interventions. This would require the number of existing empirical studies to increase.

### **Controlled Clinical Trial**

A controlled clinical trial examining the exact differences between group and individual play therapy on the effects of joint attention and eye contact may help to yield clearer results. This would need to be carried out with three close to identical groups, one obtaining group intervention, one receiving individual intervention, and one control group receiving no extra intervention. With most studies, the more subjects the better. The context, length of treatment, and interventionist should all be the same if not similar to cut down on the extraneous variables that naturally associate with children on the autism spectrum. It would be of interest and importance to understand client and therapist experiences through a controlled clinical trial.

### **Further Professional Action**

For professionals in the field it is most appropriate to approach intervention with a curious, open, and accepting neurodiversity standpoint. From there, implementing a therapeutic intervention for a desired outcome can begin with the understanding that not every intervention will work and that the feelings and opinions of the individual should be in the forefront.

### **Limitations**

#### **Demographics**

The results are limited to a small age bracket with an ASD diagnosis and who are capable of accessing intervention services like the ones reviewed both because of resources available and capacity to engage in these interventions. In addition, gender differences and interventions with family members were not included, neither were interventions using electronic devices to aid

social development. Through these limitations further research can be conducted to fill the gaps that this present thesis has left. The results are not limited to one specific area of the world or one gender and are not limited to a singular diagnosis based on the limited number of studies reviewed that encompassed different countries and children with dual diagnoses of ASD and ADHD.

### **Human Judgement Approach**

Because of the complexity of ASD itself and the vast differences in methods and measurements used, the human judgement approach was used to determine the best clinical practice between individual and group interventions. As anticipated, there was a mix of qualitative and quantitative data in each study that added a complexity to the already unique characteristics of those on the spectrum. In studies of best practice, the results are based on “the author of the judge, and it is inherently antiscientific and, therefore, unreproducible” (Bretschneider et al., 2004, p. 211), unless of course the same author reproduces the work themselves. Because the lack of consistency among the quantitative measured used the human judgement approach was the logical decision. There is also often “limited generalizability of results or problematic external validity” (Bretschneider et al., 2004, p. 312) due to the limited scope temporally and demographically.

## **Conclusion**

### **Experience of Research Process**

Overall the research process was somewhat disappointing in terms of the limited amount of empirical studies on the use of play therapy for social skill development in children with autism and the limited number of analyses of best practice that exist in the current literature. A

silver lining to this is that it creates motivation for research and curiosity for practice moving forward.

### **Re-naming Best Practice**

**Smart practice.** Veselý (2011) suggests that perhaps rather than naming the methodology to be ‘best practice’, it should be titled ‘smart practice’, as previously stated by Bardach. This is because of the belief that using the term ‘best practice’ indicates the optimal option of whatever goal we are trying to reach even though a best clinical practice may be appropriate in one setting, but not appropriate in another. Therefore, Veselý (2011) describes how a more appropriate term would be to use ‘smart practice’.

**Capable or opportune practice.** The term ‘best practice’ for this thesis gives the best practice given a specific demographic and temporal restraints for a specific goal, meaning that the results are only appropriate in specific contexts. Therefore, the argument is that methodological label would more appropriately summarize the process and outcome with the title ‘capable practice’ or ‘opportune practice’ rather than ‘best practice’. This would also highly the importance of individuality and autonomy in the autism community and move away from the idea that there is an overarching cure for these people.

### **Summary**

The human race is colored with diversity, both externally and internally. This diversity should be honored, even with therapeutic intervention. A diagnosis of autism does not categorize a person, but holds them on a spectrum of abilities and challenges as unique as they are. Interventions should address the interests and abilities of each individual, but having an understanding of where to start with intervention can help save resources for parents and professionals. As this thesis concluded, joint attention and eye contact with peers and adults can

be targeted through different deliveries of art and play therapy, perhaps facilitating the emergence of theory of mind in children with autism. The purpose is not to cure, but to make life more rich and enjoyable for people with autism and those in their lives.

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