



3-20-2017

Social Integration Therapy for Autism Spectrum Disorder

Ashley Bourgois

Follow this and additional works at: <https://commons.und.edu/nurs-capstones>



Part of the [Nursing Commons](#)

[How does access to this work benefit you? Let us know!](#)

Recommended Citation

Bourgois, Ashley, "Social Integration Therapy for Autism Spectrum Disorder" (2017). *Nursing Capstones*. 238.

<https://commons.und.edu/nurs-capstones/238>

This Independent Study is brought to you for free and open access by the Department of Nursing at UND Scholarly Commons. It has been accepted for inclusion in Nursing Capstones by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

Social Integration Therapy for Autism Spectrum Disorder

University of North Dakota

Ashley Bourgois, PMHNP graduate student

Social Integration Therapy for Autism Spectrum Disorder

Our society is constantly growing and changing with the advancements in scientific and medical knowledge. The lives of patients with debilitating illnesses are forever changed with ground breaking new treatments. Despite growing societal awareness and support for research, there remains no widely accepted or universally effective cure for Autism Spectrum Disorder.

The Diagnostic and Statistical Manual of Mental Disorders (DSM) currently defines the diagnostic criteria for Autism spectrum disorder to include “persistent deficits in social communication and social interaction across multiple contexts”. These social contexts are defined and listed in the DSM-V include social-emotional reciprocity, nonverbal communication involved in social interactions, and the developing, understanding and maintaining of relationships. Autism Spectrum Disorder is also characterized by “restricted, repetitive patterns of behavior, interests, or activities” (American Psychiatric Association, 2013). In 2013 the DSM-V re-defined Autism, Asperger’s disorder, pervasive developmental disorder and childhood disintegrative disorder to be all inclusive of Autism spectrum disorder.

Autism spectrum disorder is a condition based on social, behavioral and psychological dysfunction that is commonly initially discovered by medical providers. A full time pediatrician will care for approximately 11 individuals on the spectrum for every 1000 patients (Celia, Freysteinson & Frye, 2016). That number is only projected to increase. Screening begins as early as 18 months of age with a scheduled well child checkup. A formal diagnosis can be made as early as two years old. The Center for Disease Control and Prevention in 2016 estimated that 1 in every 68 children lives with Autism Spectrum Disorder, with an increased projection for boys (Celia, Freysteinson & Frye, 2016).

This diagnosis of ASD is complex and multi-faceted, making it difficult for a provider to diagnose and treat. Current research indicates that practitioners in pediatrics and primary care are more uncomfortable caring for the ASD patient than other chronically ill patients, due to the complexity of the disorder (Celia, Freysteinson & Frye, 2016). Despite its prevalence, experts have not yet come to an agreement on what the most appropriate and effective treatment is for this neurodevelopmental disorder.

Autism Spectrum Disorder, as the name suggests, lies on a wide spectrum of manifestations, ranging from severe debilitating behavioral, social and sometimes cognitive deficits. For the purposes of this paper, the focus will be on high functioning patients on the spectrum. It can make the individuals more susceptible to medical conditions as well as its marked behavioral, social and sometimes cognitive deficits. These patients are more vulnerable to sleep related disorders, neurological disorders, gastrointestinal related conditions, immunological disorders and neurological issues. It is estimated that seizures can be present in up to 35% of individuals (Celia, Freysteinson & Frye, 2016). Often treatment is sought for these medical treatments and Autism spectrum disorder is found secondary to the primary reason for the medical visit. These various comorbidities are more difficult to diagnose in patients on the spectrum than normal functioning individuals, when symptoms are not reported or missed due to speech and language deficits. Prevalence of other mental health disorders are significantly common in ASD. It is estimated that 70% or more individuals with ASD will have at least one comorbid psychiatric illness. Mental health services are most commonly sought when aggression and behavioral problems are present, especially in the child and adolescent populations. (Carter-Narendorf, Shattuck & Sterzing, 2011). The prevalence of comorbid psychiatric conditions is likely higher, as current data is limited to the patients that are seeking mental health services.

Autism Spectrum Disorder (ASD) has had significant attention in the modern day media. This relatively new light shed on the disorder has created positive opportunities in increased awareness, funding, and research. However, there continues to be a significant degree of mystery from the general public concerning ASD. This has lead to fear and misinformation surrounding this disorder. With all of the conflicting information available, it is essential for providers to know the facts. Advanced practice nurses have an essential role in the treatment of Autism spectrum disorder including medication therapy, cognitive behavioral therapy, coordination of supplemental specialty treatment, and, with enhanced knowledge, inclusion of social integration therapy. It is important for advanced practice psychiatric nurses (APPNs) to have a familiarity with social integration therapy to be able to confidently refer patients to appropriate services. Although there is no cure for Autism spectrum disorder, it is possible to guide integration into a social society while minimizing depressive and anxious symptoms. The inclusion of social integration therapy has the ability to significantly improve outcomes and enhance quality of life for patients with Autism spectrum disorder.

Purpose

Autism Spectrum Disorder (ASD) has become more increasingly prevalent in the psychiatric world. Comorbidities are commonplace and significantly change the difficulty and complexity of treatment. Research surrounding ASD is significantly growing and changing. With this growing knowledge, current practice is changing. There are a growing number of programs and treatments that and are available for the individual in the Autism Spectrum.

The purpose of this independent study is to expand the knowledge base of the advanced practice psychiatric nurse in the field of Autism Spectrum Disorder and its treatment with social integration therapy. This paper will explore social integration therapy and all of its facets. This

will guide in future referral as practitioners to these special therapy programs. Key terms will be explored and aspects of the disorder will be defined. Current methodology related to assessment and social integration treatment will be explored in their relation to the practical psychiatric and social aspects of interdisciplinary care. This study will synthesize current research on therapeutic methods to socially integrate ASD individuals. All of these elements combined will outline the treatment guideline for assisting patients with autism spectrum disorder to overcome social adversities and be successful in society.

Significance

Autism Spectrum Disorder is widespread across every population. Diagnosed in small children, it is seen in medical care from adolescence through old age. Comorbidities can be widespread from depression to schizophrenia and require particular consideration from advanced practice psychiatric nurses when providing care. Familiarity with the condition is important, not only for psychiatric providers, but also parents, families, teachers, spouses, classmates and friends of individuals on the spectrum. It is important that individuals and their loved ones are familiar with the condition and its treatment to ensure social adjustment and ease the anxiety experienced by the individual.

Autism Spectrum Disorder is characterized by a dysfunction in social fluency, and the development of social relationships. This difficulty causes a significant amount of anxiety in the individual. There is a perceived inability to relate to peers and form lasting, meaningful relationships in the social setting. Although the severity ranges, high functioning individuals with ASD can lead normal lives in a consistently social society. Subsequently this anxiety can lead to panic attacks, depression, and suicidality if not properly recognized and treated. Children with ASD are frequently prone to maladaptive behavior, especially in structured settings. Frequent

tantrums are common, as well as destructive and behavior and self harming (Amer, 2017). This behavior can affect psychological development, having significant effect on social growth and development. Maladaptive behavior quickly turns in behavioral patterns, when negative behavior is reinforced by a naïve teacher or parent, not certain of what else to do in response to negative behavior. Parents and providers well versed in social integration therapy have to tools to respond to maladaptive behavior to avoid development of behavioral pattern that will persistent into adolescence and adulthood (Amer, 2017). Knowing how to control one's own behavior or respond to behavior is the challenge of ASD. Social integration therapy contains the fundamental skills to optimize success in professional and personal relationships.

Theoretical Framework

The Social Cognitive Theory is utilized to explain learning in relation to a social context. The basis of the theory explains how we act as and behave on a psychological level is determined by what we perceive and learn from our social environments. We adapt from our environments. In a process of goal setting and attainment, individuals will vicariously or symbolically monitor others or their behavior in an effort to learn from their mistakes, triumphs or successes (Schunk & Usher, 2012). The Social Cognitive Theory outlines how individuals model their environment, adapt from observation and alter personal behaviors from revelations made from another person's perspective.

This theory is beneficial when initiating social integration therapy. Based on the conceptual framework of learned behavior, those with ASD can observe social functioning and learn to adapt their psychological patterns. Successful integration therapy should involve small groups, primary of 3-4, tasked in observation of social behaviors (Leaf, et. al., 2016). The utilization of small groups is beneficial particularly so each member gets a chance to act in role

play of socially acceptable behaviors observed. The facilitator can instruct the group on rationale for acceptable behaviors and formulate role playing scenarios to facilitate learning and committal to memory.

Utilizing the Social Cognitive theory as a basis, individuals with ASD can observe social behaviors in a controlled setting. Observation then turns into role playing these scenarios and internalizing these behaviors into learned patterns of behavior. Initiating therapy could include video examples of social interactions and role playing in small groups and build up to observation in a shopping mall or similar unstructured social setting.

Inclusion of the following three elements will provide the most learning conducive settings. The optimum setting would include a supportive environment, structured curriculum and procedural practicing (Amer, 2017). The supportive environment will include a facilitator in each small group, providing positive reinforcement for the participants. The therapy environment should be a nonthreatening in nature and familiar as possible. Structured curriculum should include functional social interactions (Stichter, et al., 2012). This should include conversations and interactions that demonstrate social cues, empathetic reaction and rationale for appropriate and inappropriate responses. Finally, the therapy should include a procedural practicing with these small groups to emphasize key concepts learned in the curriculum (Amer, 2017).

Social integration therapy should include goal setting and progress evaluation throughout each process. The social cognitive theory emphasizes goal setting to guide adaptive behaviors. Social comparison to others in the therapeutic setting will encourage motivation and self efficacy (Stichter et al., 2012). As goals are reached, motivation to continue the behaviors are reinforced. This guides the individual with ASD to continue with the process even after therapy is completed (Schunk & Usher, 2012).

Definitions

Theory of mind – the concept referring to the ability of an individual to recognize and conceptualize another's thoughts, values and point of view. Accepting that others have different a different outlook and experience life differently.

Nonverbal communication – Any part of communication that occurs without words. This may include gestures, use of touch, tone, eye contact, facial expressions, etc.

Social skills – collection of abilities necessary for communication and interaction with another individual. This may include verbal or nonverbal methods of communicating.

Emotional recognition – process of identifying emotions by means of interpreting gestures, facial expressions, and tone.

Early Intervention

Autism Spectrum Disorder is commonly diagnosed in the earliest years of life, when language skills, behavior and social skills are developing. When the disorder is diagnosed later than toddler and preschool ages, outcomes suffer severely (Daniels & Mandell, 2014).

Intervening as early as possible helps to prevent or reduce communication deficits. Language and communication deficits as a baby or toddler will come to negatively affect social interactions throughout formative developmental years and continue into adolescence and adulthood. Early behavioral interventions have produced great results in communication skills (Tager-Flusberg, 2016).

A study was conducted on toddlers with ASD, ages 18-30 months old. 48 children were involved in a randomized controlled trial studying the potential to improve outcomes by means of the Early Start Denver Model (ESDM). The children were required to meet criteria for autism based on the Toddler Autism Diagnostic Interview or the Autism Diagnostic Observation

Schedule and carry a clinical diagnosis based on the DSM-IV (Dawson, et al., 2010). The study lasted just over two years consisting of EDSM interventions from qualified therapists provided 15.2 hours per week on average. Parents worked on strategies 16.3 hours per week on average and the children were involved in other supportive therapies for an average of 5.2 hours per week (Dawson et al., 2010). Therapists were given two months of training in order to teach EDSM fundamentals using specified curriculum. Therapists were also given a detailed instructional manual. Parents received training with comprehensive instructions on EDSM techniques twice a month from the therapist. The control group did not participate in any interventions, they were solely monitored and assessed at the same time intervals. However, this group was given diagnostic information, intervention suggestions, and appropriate service recommendations in the community (Dawson et al., 2010).

Teaching methods were based on the psychological concepts of chaining, shaping and operant conditioning. The EDSM intervention includes interpersonal exchange, positive affect, incorporation of essential concepts into everyday activities, actively responding to the toddler's cues in a sensitive manner, universal developmental concepts, and a focus on both verbal and nonverbal interactions. Each toddler's plan was individualized and unique to him and his family (Dawson et al., 2010).

Outcomes were assessed at the one year and two year increments. A baseline assessment was completed to measure progress. At the one-year assessment the group receiving EDSM interventions had a significant improvement in cognitive ability and an average IQ increase of 15.4 points. The control group had an average IQ increase of 4.4 (Dawson et al., 2010). A test measuring fine motor skills, expressive and receptive language, and processing of visual stimulus indicated a gain of 5.6 points in the intervention group and a loss of 1.7 points in the control

group. After two years the EDSM group exhibited substantial gains in cognitive ability, quantified by a 17.6-point increase from baseline. Comparatively, the control gained 7 points from baseline (Dawson et al., 2010). Expressive and receptive language skills greatly improved, resulting in point increases about three times greater than the control. When measuring adaptive behavior, the EDSM group significantly gained points from baseline, while the control group's declined considerably from the initial score (Dawson et al., 2010). The control group also declined in measurements of socialization skills, fine and gross motor abilities and tasks of daily living. Comparatively the intervention group had significant gains in all of these areas (Dawson et al., 2010).

After the two- year period, 44% of the EDSM group no longer carried a diagnosis of autism. In contrast 29% of the control no longer met the criteria for autism (Dawson et al., 2010). The children participating in skills intervention had comparable rates of development throughout the study compared to normal child development. This group was still delayed with adaptive behavior but progressed appropriately. Conversely, the control group declined further from its delayed baseline compared to normal development (Dawson et al., 2010).

This was a pioneer study, unique in its young population. Significant gains were attained in many social and behavioral skills. The EDSM has proven to be a successful model to provide better outcomes for children diagnosis with ASD. The study was very long and intense compared to similar studies. However, that is a likely cause of its success. It has emphasized the importance of early assessment and intervention. A high level of parental involvement surely contributed to the successful outcomes. Sadly, this may not be a realistic opportunity for some parents. This study exhibited great concepts and information for providers to be familiar with in regards to treating and recommending services to parents and families.

Intervening in the formative early years of childhood has produced promising results but is difficult when diagnosis can be delayed for some children. Recognizing the commonalities in developmental deficits in Autism Spectrum Disorder allows for early intervention and better outcomes. Although deficits vary, delayed language development is a high risk factor, even if official diagnosis occurs at two years of age. Research shows that this can be one of the reliable tools in early diagnosis (Tager-Flusberg, 2016). Communication is a key element of social interaction and a deficit creates a significant impairment.

Little is known about early language development in infants. Examining high risk infants and their communication development has the ability to expand current knowledge and change practice. Comparing high risk infants, many later diagnosed with ASD, specific areas of the brain and impairments in connectivity between regions can be more specifically pinpointed. EEG data was analyzed during exposure to common speech stimulus. Infants high risk for ASD were found to have noticeable deficits in connectivity between brain hemisphere compared to normal developing infants, suggesting a marked communication impairment (Tager-Flugsberg, 2016). This difference was noted as early as 6 months, and even stronger at the 12-month interval. EEG data has found that these deficits are present as early as 3 months, possible prenatally. These findings have supported the accepted etiology behind the disorder regarding their genetic differences (Tager-Flusberg, 2016).

Research supports the idea that social deficits are inherent. However, communication and development of social skills is largely developed with upbringing. Emotional interaction between mothers and infants has a marked effect on language development. Reciprocal behavioral interactions between parent and ASD infant are different compared to their normally developing counterparts. A studied group of high risk 4-month old infants, later diagnosed with ASD, and

their caregivers found that there is a lack of emotional connection (Tager-Flusberg, 2016). Mothers were more directive in their interaction and less sensitive compared the the control group. Additionally, infants paid less attention to their mothers during play and were lacking in positive affect (Tager-Flusberg, 2016). These findings likely influenced one another; mothers were less emotionally reactive and more directive to their more distracted, less emotional infants. Moving forward to 13-18 months of age, ASD children made less nonverbal gestures in play with their caregivers. Mothers, in turn, had less verbal and nonverbal responsiveness, impairing the likeliness of children to expand vocabularies and increase social skills (Tager-Flusberg, 2016).

Two groups were distinguished from the high risk infants, those who developed ASD and those who did not. The mothers of children that did not develop ASD were shown to use significantly more gestures in communication with their children (Tager-Flusberg, 2016). These disparities in caregiver's communication styles were not indicative of poor parenting or a lack of nurturing, rather a response to their child's lack of emotional connectivity in social interaction. High risk children that were not later diagnosed with ASD had environments more strongly supportive of language and social development. Infant behavior is the driving force for maternal reactions and consequent shaping of their developmental environments (Tager-Flusberg, 2016).

Early detection of ASD has positive results on outcomes. A systematic review on this neurodevelopmental disorder was conducted and the findings suggest clinical practice needs improvement in terms of concrete diagnosis at the earliest age. A definitive diagnosis can be made at 24 months. Age of diagnosis for all inclusionary diagnoses now included in ASD ranged from 38 months-120 months, on average (Daniels & Mandell, 2014). Although this average is

decreasing over time, practitioners can recognize and diagnose ASD sooner with increased knowledge of key characteristics and inclusion criteria.

Intervening before behaviors occur play a part in preventing learning and development of social and behavioral difficulties. Prognosis is improved with early intervention and referral for appropriate services. Individuals exposed to medical and specialty services are diagnosed sooner (Daniels & Mandell, 2014). Educating parents and families, along with other providers will improve prognosis and affect public opinion (Hallahan, Kauffman & Pullen, 2012). Parents are more likely to attribute deficits to medical or behavioral problems. Educating caregivers prevents ignoring key characteristics of the disorder that would otherwise be red flags and promote need for professional involvement (Daniels & Mandell, 2014).

Most current research in ASD is completed in younger populations, involving relatively short term interventions with a follow-up within a year. Little is known about long term effects of interventions using short term interventions. Pickles et al. (2016) studied the long term effects of social skills therapy in 2-4 year olds. 152 participants were selected for a 12-month intervention, that was parent-mediated. 77 of these received the intervention and 75 comprised the control. The study effects were examined 6 years following the completion of the study (Pickles et al., 2016). The initial study was designed to target parent-child interaction by educating caregivers on improving communication techniques with their child. The one year long randomized control trial included 2 hour long monthly sessions for 6 months and 6 months of monthly supportive sessions. Daily practice sessions, lasting 20-30 minutes, were conducted by parents. Children also had professional follow-up sessions as needed. Assessments were conducted in a blind manner using a variety of assessment tools. Measured components included: communication between parent and child, child adaptive behavior, social affect,

repetitive behaviors and a non-blinded parental survey (Pickles et al., 2016). Improvements were made in each tested component from baseline and compared to the control group. Surveys from parents showed subjective symptom improvement from baseline measures. Repetitive behaviors, social affect and child adaptive behavior all improved after 6 years. Communication with parents had a slight improvement. Survey data from parental report had substantial comparative outcomes (Pickles et al., 2016). The researchers hypothesized the long term effects were due to maintenance of the intervention skills by parents and children over the 6-year period. The study suggests that directed learning of crucial social skills at an appropriate age, outcomes are sustained beyond the treatment period (Pickles et al., 2016)

This study was the first of its kind, measuring long term effects of a short term intervention. The sample size was appropriate for the intervention implemented. The assessment method was obtained with a blind method, but also contained parental input, which is crucial with this age group and population. With the large amount of information emerging on treatment of Autism Spectrum Disorder, it will be beneficial to see studies with a long duration, similar to this one.

Individuals from communities with greater ASD prevalence and public knowledge are diagnosed at an earlier age (Daniels & Mandell, 2014). Expanding community attitude on individuals with disabilities can improve community resources and foster friendships. Friendships are crucial to improve cognitive, social and behavioral skills (Finke, 2016). Companionship protect an individual from loneliness and depression. Friendships are an essential factor in healthy development and general individual well-being (Finke, 2016).

Positive Reinforcement

Positive reinforcement is a useful tool in behavior modification programs. When concerning social interactions and repeating learned behaviors, this tool is key. The impacts that ASD can make on a functioning social life include learning new skills and processing sensory information (Hallahan, Kauffman & Pullen, 2012). The ability to communicate effectively is grossly impaired in social settings. When learning new skills in educational settings, the common pattern involves learning the new material then eventually adapting this material into behavioral practice. Behavioral challenges are present in ASD when it comes to adapting to these new skills and only selectively taking in this surrounding information. With the sensory impairment, it becomes difficult to develop focus in the correct area without getting lost in sensory overload. This pours over into communication difficulties as well (Waters & Healy, 2012).

Early intervention training can help with difficulties in learning new skills for ASD patients. Referral to a third party specialty program by providers promotes early diagnosis (Daniels & Mandell, 2014). The special education programs available seek to allow those individuals with disabilities to perform to their maximum capacity in order to ensure the most independent lifestyle for the individual (Hallan, Kaufmann & Pullen, 2012). Tools educating the community, aiding in early screening and intervention include Autism A.L.A.R.M., First Signs and “Learn the Signs. Act Early” campaign introduced by the Center for Disease Control (Daniels & Mandell, 2014). These public education tools allow caregivers to recognize the signs and seek appropriate services.

Children with ASD can obtain have disruptive behaviors. This may include angry outbursts, tantrums, periods of self inflicting injury and injury to others. These behaviors can be detrimental to proper growth and development and pose a significant safety risk (Amer, 2012). These behaviors have been known to limit opportunities, pose as a barrier for independence and

sacrifice opportunities to function in least serviced environments (Waters & Healy, 2012).

Teachers, specialists and practitioners all have the same goal with behavioral and social training: to immediate strategies to reduce these maladaptive behaviors to optimize independence (Waters & Healy, 2012).

The concept of Positive Behavioral Support (PBS) involves implementing specific behavioral interventions that are based on a functional evaluation, integrated with basic behavioral laws, while using the skills sets and resources of the one doing the assessment (Amer, 2012). This method is best utilized in educational settings, specifically special education programs and specialized therapeutic environments. However, its use can cross over into the home setting, health care settings and even community environments.

The goal of PBS is to assess and create a programming environment that will make a positive impact in student participation, education and social learning. The goal is that positive social skills and prevention of non-desirable behaviors that create inconsistencies in the learning and sharing environments (Grant & Crossen, 2014). Specific components of PBS include: individualized guidance and support from the teacher, curriculum consisting of basic social skills, communication skills, adaptive communication, problem solving in social settings, and positive alternatives to aggression (Amer, 2012).

PBS gives the educator an opportunity to provide positive support and reinforcement of positive skills due to the functional environment of the group setting. Teaching in this type of milieu allows for more focus and targeting of specific skills that can be shared with the group (Noonan & McCormic, 2014). This setting also allows instructors to reinforce positive behaviors in the group setting and teach ASD children how to be an appropriate group member. This includes sitting properly, waiting and listening while others are talking, appropriately answering

questions, waiting for and following instructions, raising hands, and appropriate times for participation (Noonan & McCormic, 2014).

Positive Behavioral Support has been found to increase the individual's functional behavior by learning to utilize positive social skills. It improves student performance in individual and group settings. Results of PBS include more classroom participation, improvement in self-management and a stronger ability to solve social problems in a variety of settings (Magyar, 2011).

Knowing the successful outcomes of PBS, a study was conducted to increase awareness of the PBS concept and determine how commonly it is being used in special education programs. Researchers interviewed special education teachers in centers and institutions with familiarity in teaching students diagnosed with ASD (Amer, 2012). The sample population included 100 special education teachers in Jordan, both male and female. The instructors had varied education levels and different levels of experience (Amer, 2012). A survey method was used, with questions focusing on the prevalence of PBS use in individual, group and classroom settings in the community. The results of the survey found that PBS strategies were used more frequently in bachelor's prepared instructors with more than five years of teaching experience (Amer, 2012). This teaching strategy was found to be used a moderate amount. Researchers suspect that other, more traditional methods were used instead due to social fears, lack of communication between educators in regards to a universal behavioral support plan, executive refusal due to some team members not wanting to institute the plan and lack of knowledge regarding the concept. PBS was found to be utilized most in the group setting (Amer, 2012).

This study explained the usefulness of Positive Behavioral Support in dealing with undesirable behaviors in ASD students and improving social skills. It's not surprising to find that

the tool is used most frequently in the group setting. Teachers with more experience used it the most. It sheds a light on the necessity of teachers and care givers to be familiar with useful tools to promote the best outcomes. The sample size was adequate and the survey method of collecting data was a good choice to prevent opinions of others affecting individual responses. The study was geographically focused to one area, which presents as a limitation. The PBS method would be a great tool to be used universally in an environment caring for children with ASD.

Role Playing

Role playing has become a successful intervention in behavior modification. Specifics on the etiology of ASD is not entirely clear, however one popular theory has had increased research and is a likely cause for the symptomology of ASD. The mirror neuron system is a collection of neurological cells in the posterior inferior frontal cortex and the interior inferior parietal lobe (Gutman, Raphael-Greenfield, & Salvant, 2012). Studies have shown that there is an apparent deficit in the mirror neuron systems in individuals with ASD across the lifespan. This would result in difficulty in “motor skills, language, empathy and social behavior”. (Gutman, Raphael-Greenfield, & Salvant, 2012). A study conducted by McIntosh et al. (2006) found that subjects with ASD that had impairment in their mirror neurons showed marked deficits in social interactions and the accepted rules and norms. The study participants had trouble distinguishing expressions in photographs, mimicking behaviors, understanding emotional meaning from photographs, and utilizing empathy (McIntosh et al., 2006). In a normal functioning brain these mirror neurons help us make connections and learn from the behaviors of others through observation, then imitation of those observed behaviors (Gutman, Raphael-Greenfield, & Salvant, 2012).

Utilizing this information, a study was created to explore effects of role playing on behavior and social skills. Three adolescent students with ASD were selected to participate in

this 6-week study involving role playing in situations that the subjects had verbalized had been difficult. The three subjects attended a specialized high school where the study took place. Each participant had to be of normal intelligence (based on an IQ test), must have a formal diagnosis of ASD, and no documented behavioral issues, aggressive tendencies or a history of violence (Gutman, Rahpael-Greenfield, & Salvant, 2012). The purpose of the study was to eventually advance the role playing in these stressful, uncontrolled settings that were perceived as frightening or initiated anxiety (Gutman, Rahpael-Greenfield, & Salvant, 2012).

This study lasting six weeks consisted of one hour sessions each week. They consistently included minimally structured warm-up activities, an educational curriculum and role playing games (Gutman, Rahpael-Greenfield, & Salvant, 2012). As the participants became more comfortable with the investigators of the study, the difficulty increased. Role playing started out as watching a video, for example, then acting out social behaviors together. As the students progressed, role playing was moved into unstructured settings like public places (Gutman, Rahpael-Greenfield, & Salvant, 2012). By the end of the study all participants retained the social skills that were taught in the study, even one more following (Gutman, Rahpael-Greenfield, & Salvant, 2012).

This study had great outcomes for the individuals involved. However, the sample selection was very small and all participants were high school students. The study only lasted 6 weeks long with a one-month checkup. The article described a desire to have a three month, six month, and a year following check up, but unfortunately that did not happen.

Role playing exercises have been found to be beneficial even in young children with ASD. Utilizing a small group of three or more students, social behaviors were taught and implemented in a study completed by the Autism Partnership foundation (Leaf et al., 2017). The

study utilized an intervention strategy called a social skills group which has had a history of success for ASD children. Social skills groups are used to teach a group of individuals, commonly students, useful social skills and desirable social behaviors simultaneously with other students in like groups with structured educational guidance (Soorya et al., 2015). Social skills groups have had success in educational settings and have been found to be particularly useful when teaching specific social skills to ASD children (Leaf et al., 2017).

A study conducted in 2012 by Kasari, Rotheram-Fuller, Locke & Gulsrud examined social skill interventions for children with high functioning ASD were examined in the general education environments. 60 children, ages 6-11, were selected for the target group. The group had to meet diagnostic criterion for ASD based on ADI-R and ADOS, standardized tests confirming a correct diagnosis the disorder; to prevent bias, the tests were administered by psychologists using a blind methodology (Kasari et al., 2012). 815 students without ASD were included as the control; all students in the study maintained an IQ of 65 or higher.

Students received treatments that were peer mediated (PEER), child mediated (CHILD) or both (Kasari et al., 2012). The PEER program involved three children selected by teachers and study aides instructed on strategies to involve other children with social difficulties. Two times per week for 20 minute sessions, an educated interventionist instructed the students on interventions to increase social interaction with ASD children. The PEER group were taught to seek out isolative children on the playground and engage them in a game or activity (Kasari et al., 2012). The CHILD group consisted of children with ASD. The intervention targeted individual deficits and strengths of the group to implement strategies to improve social skills. Teachers and parents provided feedback in conjunction with direct observed playground observations to create interventions. Interventionists directly instructed students for the same 20

minute, twice-weekly sessions to improve skills (Kasari et al., 2012). Both groups were taught interventions involving role playing, direct teaching and rehearsal. Interventions were aimed at improving social behaviors via playground games (Kasari et al., 2012).

Surveys were distributed to quantify social learning in the control and intervention groups at three points: before the intervention was introduced for a baseline measurement, at completion of the intervention and a 12-week follow-up point. Teachers, all students involved and research staff members observing playground behavior completed the surveys (Kasari et al., 2012). Minimal changes from baseline were observed in the CHILD group. The PEER group had marked changes from baseline. However, groups receiving both interventions had minimal results (Kasari et al., 2012).

The research of Kasari et al. (2012) introduced a concept that has rarely been studied in the past. Classroom peers were utilized to help children with ASD improve social skills. Interventions implements by teaching students directly, even in combination of peer involvement, were not successful. The results are useful in proving the importance of peer participation in improving social skills. These findings have important clinical implications. Educating families and the community on methods to enhance social skills in ASD can make a great difference. Educating students and siblings on ways to be a positive role model for peers can greatly impact social outcomes.

Involving individuals with ASD in a highly active task while in small, cohesive groups positively affects behavior. These social skills groups can be tasked with supportive activities such as game playing and acting out scenarios, such as pretend play. Soorya et al. (2015) examined the efficacy of these groups in enhancing social skills. 35 participants were involved in the intervention and 34 comprised the control. Children were involved in a weekly 90-minute

session led by child therapists (Soorya et al., 2015). The small groups maintained a 2:1 child to therapist ratio with 2-3 trained clinical psychologists per group. Three skills were targeted including nonverbal communication, emotional recognition and the concept of theory of mind. These interventions were successful in improving social skills. The highest improvement from baseline was found in distinguishing emotions, producing moderate increases in facial recognition testing (Soorya et al., 2015). Social cognition scores had improved in the intervention group, showing a significant developmental progress than the control group. The follow-up statistics illustrated no significant improvement after three months compared to measures obtained after completion of the intervention (Soorya et al., 2015).

Outcomes of the study outline specific practice recommendations for the future. The lack of improvement in the 3-month follow-up indicates that social skills education should include a review of the material after the completion of the intervention. Concepts should be reviewed and practiced after education is complete to ensure the best retention rates.

Role playing in small groups can have a variety of subject matter including social interactions, exchanging greetings, handling arguments in various situations, and changing subject matter in a conversation (Leaf et al., 2017). Outcomes of the small group sessions can increase an individual's observational learning, get students accustomed to a classroom learning setting, and can increase the efficiency of the learning environment (Leaf et al., 2016).

A study was conducted measuring the efficacy of these small group models in ASD. 28 children were selected from both middle school and high school that had been diagnosed with Autism Spectrum Disorder. The sessions were 90 minutes long and included 14 sessions (Laugeson et al., 2012). Each session a different social skill was taught. Examples included determining desirable characteristics in friends, handling arguments, dealing with bullying and

similar social situations. Sessions included didactic lessons, demonstrations and role playing. Homework was given when appropriate and parents were actively involved (Laugeson et al., 2012).

The same study model was piloted in 2009 utilizing the same small group design. The 2009 study involved thirty-three teenagers with a diagnosis of ASD. The 90 minute sessions lasted for 12 weeks (Laugeson et al., 2012). The study was repeated in 2012 with the same impressive results. Both studies resulted in a marked increase in appropriate social skills and behaviors (Leaf et al., 2017). These changes in positive behavior were observed 14 weeks following the conclusion of the intervention (Laugeson et al., 2012). Despite the positive findings, neither study included a blind evaluator. Parents evaluated the outcome and changes from the interventions (Laugeson et al., 2012). Without use of a blind evaluator, (an individual not personally involved in the intervention or having any personal relationship with the study subjects), it is not possible to eliminate bias from the research findings (Leaf et al., 2017).

In 2017 Leaf et al. conducted a study in conjunction with the Autism Partnership Foundation measuring the efficacy of social skills groups in children with Autism Spectrum Disorder. 15 participants were carefully selected using several components of inclusion criterion (Leaf et al., 2017). 25 respondents were screened via interview and included only if they met specific criteria. Each participant was required to have an IQ of 80 or higher, possesses average expressive and receptive language skills, show marked social deficits based on the Social Responsiveness Scale SRS), a formal diagnosis of ASD, and a diagnosis of Autism based on the Autism Diagnostic Observation Schedule (ADOS) and Autism Diagnostic Interview (ADI-R). All participants completed the same standardized tests. All children in the study were under the age of 7, with a mean age of 56.5 (Leaf et al., 2017). The setting of the study was set up to

resemble a kindergarten classroom with sectioned areas for play where two semi-structured sessions were conducted. One 20-minute community session took place in each individual's natural environment (Leaf et al., 2017). Teachers set up a variety of games, both indoors and outdoors. Instructions were given for the games but teachers refrained from providing any guidance or redirection for social behavior. Social skills were taught using a variety of games. Skills were introduced including rationale for the behavior. Teachers further broke down the skill into manageable components to aide in comprehension. Instructors then demonstrated the skill and students participated in role play following the demonstration. Feedback and positive reinforcement was provided after role playing the social skill (Leaf et al., 2017).

A level system was utilized throughout the study to provide an incentive and further reinforce learning. Small prizes were given when expectations were met. The level system involved small prizes and privileges. In terms of punishment, when behavior was inappropriate or the individual had an outburst, that person was given a time out. Once the child calmed down, the consequences involved sitting to the side and watching peers continue to role play (Leaf et al., 2017). Even with punishment, the children were able to sit aside and continue to learn the material and see it in played out.

Along with the level system a chart was utilized for reinforcement of learned behaviors. No specified parameters were outlined to determine what constituted going up or down a level (Leaf et al., 2017). However, teachers were able to move a child up or down on the chart, typically based on appropriate behavior. The highest level on the chart was called "superkid" and the lowest was called "miss a fun activity" (Leaf, et al., 2017). Level system rewards and punishments were explained previously.

This study was found to improve behaviors in children with ASD. Based on the statistical findings, improvements were made only after interventions were implemented. These changes were consistent after 16 weeks in both study groups and 32 weeks for one study group. Parents noted that the improvements lasted beyond the study and were very satisfied with the program itself and the changes in overall social behavior for their children (Leaf et al., 2017).

This study that utilized social skills groups for children with ASD is an incredible addition to the current research on the topic. The participants were all young children under 7 diagnosed with Autism Spectrum Disorder, which can be a tough population to find current literature on, let alone complete a study with. Blind evaluators were used which helps its validity.

One limitation of this study includes the unstructured areas of the curriculum and utilization of the reinforcement tool, the level system. Although it seemed to produce positive results in this instance, this makes the study itself more difficult to duplicate. The participant group was small as well. The outcome would have a bigger impact overall if it had been done with a larger participant population. I am hopeful that there will be future studies like this one; it has the ability to change the entire school and learning environments for children with ASD. I see the capabilities of an intervention such as this being able to greatly improve social behaviors on a long term basis for these children.

Methods

This comprehensive literature was conducted using the Harley E French Library through the University of North Dakota. Current literature regarding social integration therapy in Autism Spectrum Disorder was investigated utilizing four databases: CINAHL, PsychInfo, PubMed, and Psychiatry online. ClinicalKey was searched with no research data included in this paper. Key terms used included ‘autism spectrum disorder’, ‘asperger’s’ and ‘ASD’ in conjunction with

‘social therapy’, ‘social training’, ‘behavioral therapy’, and ‘treatment’ The search was refined to include current peer reviewed research from the last five years, 2012-2017.

Using the key search terms ‘autism spectrum disorder’ and ‘social therapy’ yielded 132 results in CINAHL. 7 of these results were systematic reviews, 8 were neurobiological studies, and an additional 8 were randomized control studies. Other results were not pertinent to the study, including medication trials, specialized therapies such as music and exercise, technological interventions and medical funding journals. 7 pertinent articles were discovered with this search, using the top 100 refined by relevancy. PsychInfo resulted in 302 results total, only the top 50 were searched refined by relevance. 2 systematic reviews were eliminated, 5 related to medication studies, 5 focused on cognitive behavioral therapy solely and an additional 6 that concerned music, technology and exercise therapies. 5 articles were used from this database. The top 60 results were analyzed from PubMed, eliminating the 6 reviews, medical related topics and other information not pertinent to the literature review. 8 articles were further investigated, choosing four to include in the study. 5 articles were chosen from the reference pages of selected journals. Psychiatry Online produced 2 journals utilized for the theoretical framework, using the search phrase “social cognitive theory”. A total of 19 peer reviewed resources were used in this comprehensive review. An additional 4 articles were examined to provide supportive information for the study.

Inclusion criteria for this review included interventions and educational material that would be useful for APPRN’s. Information included involved feasible interventions for psychiatric advanced practice nurses to not only utilize, but be able to teach individuals, parents and peers in practice.

Information obtained from the current research was synthesized and presented in the form of a PowerPoint presentation to expand knowledge and practice principles in Autism Spectrum Disorder (See Appendix). Available community resources were included in the presentation to provide colleagues with tools to better educate clientele and the community. This independent study was available to peer students in the Psychiatric Mental Health Nurse Practitioner program at the University of North Dakota. Additionally, the information was presented to psychiatric and social work staff at St. Alexius Medical Center in Bismarck, ND. The facility is one of two hospitals in the capital city of a rural state. The psychiatry unit of the hospital has 12 adult beds and 6 child/adolescent beds. The hospital also has a partial hospitalization program for adolescents and older. An outpatient clinic, Archway Mental Health Services, is affiliated with the facility. This study was presented to available staff of the inpatient, outpatient and partial hospitalization settings.

Results

Investigating the literature surrounding Autism Spectrum Disorder yielded a vast amount of information. There is an extensive amount of new treatments being implemented in current research. For the purposes of the described literature review, research was refined to include research concerned with social integration therapy in ASD from 2011-2017. The 19 included studies in the literature included a variety of quantitative data. Quantitative research consisted of 11 case control studies, 3 case reports, 1 meta-analysis, 1 systematic review and 3 cohort studies. 1 cohort study included is longitudinal. All case control studies were conducted with children, from infancy to late adolescence. The initial focus of this independent study was this population alone, however, in completion of the literature review, adult populations are infrequently studied in comparison to child populations. This independent study aims to provide information served

to meet the needs of the general population. Included information involved emphasis on early intervention in the disorder. A majority of the these are concerned with elementary and preschool age children. Inclusion criteria also included journals involving role playing, pretend play and behavior modeling. The large focus of information deals with education, a discovered key element for successful outcomes in ASD.

Discussion

Knowledge surrounding Autism Spectrum Disorder is vesting growing and changing. Current years have uncovered groundbreaking treatments, medications and therapies. Performing this literature review and discovering how much research is being done and is not available has been eye-opening. Social integration therapy is changing lives for people living with this disorder. This therapy has the ability to overcome social barriers, change behaviors and expand social learning. This study aims to expand knowledge for APPNs to better meet the needs of their treatment population and improve outcomes. Co-morbidities are commonplace and APPNs will work directly with this population, treating a variety of symptoms. The hope of this study is to increase awareness of social barriers in treatment, community and educational settings, so they may one day be eradicated. Findings from this literature review have significant implications in practice, research, education and health policy.

Nursing practice emphasizes the importance of importance of early diagnosis and intervention. The theoretical framework illustrated the importance of early assessment and treatment in ASD. This concept is not a new one, but increasingly important one. Practitioners familiar with the red flags of the disorder can intervene early and improve outcomes by treatment and referral to appropriate community resources. There may be a slight fear or lack of knowledge for new practitioners when treating this complicated disorder. Preventing this in treatment is a

matter of knowing what resources are available. Just like any psychiatric condition, involvement of other disciplines provides the most holistic care. Practice interventions to produce the best outcomes will likely include pharmacological, psychological, social, behavioral and medical interventions. APPNs have the unique task of mediating between the disciplines and referring clients to experts in their areas. The fears of new practitioners can be alleviated by the fact that this disorder necessitates a variety of treatment modalities and professionals working together as a team. Team work and communication in practice is an essential element of success.

The research of ASD is expanding rapidly and new recommendations are rapidly increasing. It was overwhelming to discover hundreds of articles containing current research on new treatments for ASD when completing this literature review. This can be challenging for a new practitioner, with such a wide variety of new treatments and therapies. There is a vast potential for new research in ASD. Many of the studies explored in the literature review involved small samples studied for short duration. The follow-up period ranged from a few weeks to a year. There is a lack of longitudinal studies for social integration therapy in this disorder. However, many of the research studies included this recommendation for practice, so it is a popular topic that will likely be researched in the future. Parents and teachers are used to evaluate efficacy of the interventions described for many research studies. Parents and teachers are closest to the individuals in the studies, and would be the first to notice changes. Including their input creates a level of bias in the results. Some of the research is making a point to utilize blind evaluators to eliminate bias. This is an important consideration to include in future research.

APPNs can make a great impact through education. The research findings in this independent study have show that early treatment and diagnosis can greatly impact outcomes.

Educating parents will affect developmental progress in ASD. Research supports that how a caregiver interacts with an infant and young child will affect development. Children with ASD typically use less nonverbal communication in play. Parents reacting to their child's behavior will also use fewer gestures and have less emotional connection with their infants that are not as emotionally responsive. Educating parents on the importance of using increased gestures, facial expressions and more verbal communication can increase the vocabulary and communication skills of ASD children.

Elementary school children respond to role playing and rehearsal of social skills. Teaching these skills and referring parents to experts will allow for greater development of positive social behaviors. Practicing with facial expressions and their meaning can be an entertaining game included in play for ASD children. Parents explaining social do's and don'ts of social interaction tailored to comprehension level is another useful example. Modelling appropriate behavior for their children will also guide in development of social skills. These skills can also be taught to siblings. A study outlined above exhibited the importance of peer involvement social behavior development. Older siblings can be educated and encouraged to involve their sibling with ASD in games and activities. Educating siblings on role playing and being a role model for social behavior is also important. Using positive reinforcement is a beneficial tool to aide in learning. Giving small rewards or implementing a reward system fosters motivation in learning. APPNs must emphasize the importance of targeting these key developmental skills at a young age.

The information outlined in this independent study has the ability to affect health policy. Educating the community on ASD can make a great impact on available resources. Providing education to the public will potentially increase funding for social programs. Increasing

awareness regarding potential treatment can guide existing programs on available interventions and hopefully create programs.

Information on social integration therapy can be a guideline for practice referral. Guiding facility policies into requirement of referral to ASD treatment services, once a diagnosis is made, can have a substantial effect on outcome. Prognosis would be greatly improved with facilities recommending their practitioners refer ASD patients to social therapy sessions.

Information outlined in this study can guide policy changes in terms of special education. Special education programs should involve social integration therapy for ASD children. Special education programs involving this mode of treatment have potential for great success. This could involve a matter of teaching special education professionals the importance of social skills interventions. Other professionals can be educated with in-service training.

Conclusion

Clinical practice is constantly adapting and changing with the development of new groundbreaking therapies. APPNs are tasked with determining the most effective, safest and cheapest options for therapy. Although additional research is necessary, the field of Autism Spectrum Disorder is vastly expanding. What we already know about social skills therapy can be life-changing. ASD treatment can be difficult with a wide array of co-morbidities, symptoms, social and behavioral challenges. Social integration therapy has been proven to improve outcomes on a social and behavioral level. Timely assessment, diagnosis and treatment is essential to ensure the best results and the most functional independence for the individual. Intervening early in development, as early as infancy, can produce substantial gains. Just as any Early diagnosis can mean the difference between disability and independent function.

Social skills are an essential asset in our increasingly social society. Social behaviors are influenced by many factors. Educating families, caregivers and professionals on the best intervention methods is a key to success in ASD. Role playing techniques and positive behavior reinforcement are two important concepts explained and emphasized in this study that create positive results. These interventions are beneficial to implement in home, school and community environments. APPNs have the potential to make a significant impact through education and referral to specialty services. Knowing the resources available is an essential part of being an effective patient advocate. Working together with other disciplines, APPNs can provide holistic care to improve the lives of individuals with ASD.

Appendix

SOCIAL INTEGRATION THERAPY IN AUTISM SPECTRUM DISORDER

ASHLEY BOURGOIS

UNIVERSITY OF NORTH DAKOTA

PSYCHIATRIC MENTAL HEALTH NURSE PRACTITIONER PROGRAM

AUTISM SPECTRUM DISORDER

- "PERSISTENT DEFICITS IN SOCIAL COMMUNICATION AND SOCIAL INTERACTIONS ACROSS MULTIPLE CONTEXTS
- DEFICITS INCLUDE
 - SOCIAL EMOTIONAL RECIPROCITY
 - NONVERBAL COMMUNICATION IN SOCIAL INTERACTIONS
 - DEVELOPING, UNDERSTANDING AND MAINTAINING RELATIONSHIPS

PREVALENCE

- 11 IN 1000 PATIENTS FOR A FULL TIME PEDIATRICIAN
- CDC ESTIMATES 1 IN EVERY 68 CHILDREN HAS AUTISM SPECTRUM DISORDER (2016)
- INCREASED SUSCEPTIBILITY TO SLEEP RELATED DISORDERS, NEUROLOGICAL DISORDERS, GASTROINTESTINAL RELATED CONDITIONS, AND IMMUNOLOGICAL DISORDERS
- 70% OF INDIVIDUALS WITH ASD WILL HAVE AT LEAST ONE COMORBID PSYCHOLOGICAL ILLNESS

ROLE OF ADVANCED PRACTICED NURSES

- MEDICATION THERAPY
- COGNITIVE BEHAVIORAL THERAPY
- COORDINATION OF SUPPLEMENTAL SPECIALTY TREATMENT
- SOCIAL INTEGRATION THERAPY

SIGNIFICANCE


- LACK OF APPROPRIATE TREATMENT MAY LEAD TO:
 - DEPRESSION
 - ANXIETY
 - PANIC ATTACKS
 - LACK OF MEANINGFUL RELATIONSHIPS
 - SOCIAL EXCLUSION AND ISOLATION
 - SELF-HARM
 - DESTRUCTIVE OR MALADAPTIVE BEHAVIORS
 - IMPAIRED SOCIAL GROWTH AND DEVELOPMENT

SOCIAL COGNITIVE THEORY

- “IN A PROCESS OF GOAL SETTING AND ATTAINMENT, INDIVIDUALS WILL VICARIOUSLY OR SYMBOLICALLY MONITOR OTHERS OR THEIR BEHAVIOR IN AN EFFORT TO LEARN FROM THEIR MISTAKES TRIUMPHS OR SUCCESSES” (SCHUNK & USHER, 2012)




SOCIAL COGNITIVE THEORY

- EXPLAINS LEARNING IN A SOCIAL CONTEXT
 - HOW WE BEHAVE IS LEARNED FROM SOCIAL ENVIRONMENTS
 - INDIVIDUALS MODEL THEIR ENVIRONMENT
 - ADAPTING FROM OBSERVATION OF OTHERS BEHAVIORS
- 



IMPORTANT DEFINITIONS

- THEORY OF MIND – ABILITY OF AN INDIVIDUAL TO RECOGNIZE AND CONCEPTUALIZE ANOTHER'S THOUGHTS, VALUES AND POINT OF VIEW
 - NONVERBAL COMMUNICATION – GESTURES, USE OF TOUCH, TONE, EYE CONTACT, FACIAL EXPRESSIONS OR ANY OTHER TYPE OF COMMUNICATION NOT INVOLVING WORDS
 - SOCIAL SKILLS – COLLECTION OF ABILITIES NECESSARY FOR COMMUNICATION AND INTERACTION WITH ANOTHER INDIVIDUAL
 - EMOTIONAL RECOGNITION – PROCESS OF IDENTIFYING EMOTIONS BY MEANS OF INTERPRETING GESTURES, FACIAL EXPRESSIONS AND TONE
- 

EARLY INTERVENTION

- 48 TODDLERS AGES 1—30 MONTHS
- 2 YEAR LONG INTERVENTION
- EARLY START DENVER MODEL (EDSM) USED, ABOUT 15 HOURS PER WEEK
- GAINS IN EXPRESSIVE AND RECEPTIVE LANGUAGE SKILLS, COGNITIVE ABILITY, SOCIALIZATION SKILLS, FINE AND GROSS MOTOR SKILLS
- INCREASE OF 15.4 IQ POINTS
- AFTER TWO YEARS 44% NO LONGER CARRIED DIAGNOSIS OF ASD

ASD IN INFANCY

- FOUR MONTH OLD HIGH RISK INFANTS
- CAREGIVERS DISPLAYED A LACK OF EMOTIONAL CONNECTIVITY AND SENSITIVITY
- INFANTS WERE MORE DISTRACTED AND UTILIZED FEWER NONVERBAL CUES
- HIGH RISK INFANTS HAD IMPAIRMENT IN VOCABULARY FORMATION AND SOCIAL SKILLS DEVELOPMENT
- MOTHERS WERE NOT LESS RECEPTIVE, CHANGED THEIR BEHAVIOR BASED ON INFANT'S BEHAVIOR



EARLY INTERVENTION FOR LONG TERM OUTCOMES

- ONE YEAR LONG STUDY WITH BI-MONTHLY SESSIONS
 - DAILY SESSIONS WITH PARENTS
 - IMPROVED SOCIAL AFFECT, REPETITIVE BEHAVIORS AND CHILD-ADAPTIVE BEHAVIOR ALL IMPROVED 6 YEARS FOLLOWING THE STUDY
 - LONG TERM EFFECTS WITH INVOLVED PARENTAL SESSIONS
 - INTERVENING AT CRITICAL DEVELOPMENT TIME DISPLAYED LONG LASTING SOCIAL SKILLS
- 



SCREENING TOOLS

- 'AUTISM A.L.A.R.M'
 - 'FIRST SIGNS'
 - 'CENTER FOR DISEASE CONTROL'S LEARN THE SIGNS. ACT EARLY'
- 

POSITIVE BEHAVIORAL SUPPORT (PBS)

- BEHAVIORAL INTERVENTIONS BASED ON FUNCTIONAL EVALUATION
- INTEGRATED WITH BASIC BEHAVIORAL LAWS
- MOST EFFECTIVE IN EDUCATION SETTINGS, SPECIAL EDUCATION PROGRAMS, THERAPEUTIC ENVIRONMENTS
- GOAL IS TO CREATE A POSITIVE ENVIRONMENT TO IMPACT SOCIAL LEARNING
- RESULTS IN MORE CLASSROOM PARTICIPATION, SELF-MANAGEMENT IMPROVEMENT AND STRONGER ABILITY TO SOLVE SOCIAL PROBLEMS

ROLE PLAYING

- SMALL GROUPS WITH INVOLVED INSTRUCTION
- MINIMALLY STRUCTURED WARM UPS, EDUCATIONAL CURRICULUM AND ROLE-PLAYING GAMES
- STEPS INCLUDED WATCHING A VIDEO, ACTING OUT SOCIAL BEHAVIORS IN CLASSROOM SETTING AND FINALLY UNSTRUCTURED SETTING ROLE PLAY
- RETAINED ALL SOCIAL SKILLS TAUGHT BY THE END OF THE STUDY

SOCIAL SKILLS GROUPS

- IDEAL GROUP OF THREE STUDENTS
- VARIETY OF SOCIAL SKILLS INTRODUCED AND THEN ACTED OUT WITH GROUP
- INTERVENTIONS TAUGHT BY PEERS WERE MORE USEFUL
- GREATLY IMPROVES SOCIAL LEARNING AND SOCIAL SKILLS
- IMPROVEMENTS IN EMOTIONAL RECOGNITION WERE MOST SIGNIFICANT
- PRACTICAL LESSONS TAUGHT INCLUDED DEALING WITH BULLYING AS EXAMPLE

METHODS AND RESULTS

- HARLEY E. FRENCH LIBRARY THROUGH UNIVERSITY OF NORTH DAKOTA
- DATABASES INCLUDED: CINAHL, PSYCHINFO, PUBMED AND PSYCHIATRY ONLINE
- LAST FIVE YEARS OF CURRENT RESERACH
- LITERATURE REVIEW CONTAINING 19 PEER REVIEWED JOURNALS
- 11 CASE CONTROL STUDIES, 3 CASE REPORTS, 1 META-ANALYSIS, 1 SYSTEMATIC REVIEW, 3 COHORT STUDIES, 1 LONGITUDINAL STUDY

DISCUSSION

- EXPANDING CONTENT SURROUNDING TREATMENT IN ASD
- SOCIAL INTEGRATION THERAPY CAN OVERCOME SOCIAL BARRIERS, CHANGING BEHAVIORS AND EXPAND SOCIAL LEARNING
- PURPOSE OF THE STUDY IS TO EXPAND KNOWLEDGE FOR APPNS TO BETTER MEET THE NEEDS OF THEIR TREATMENT POPULATION AND IMPROVE OUTCOMES
- RECOGNIZING KEY CHARACTERISTICS TO INTERVENE AND DIAGNOSE EARLY
- IMPROVING OUTCOMES BY EARLY REFERRAL AND INTERVENTION
- TEAMWORK WITH OTHER DISCIPLES TO PROVIDE THE BEST HOLISTIC CARE

RESOURCES

- AMER, A. F. (2017) THE LEVEL OF THE USE OF POSITIVE BEHAVIORAL SUPPORT STRATEGIES BY TEACHERS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS IN AMMAN. *COLLEGE STUDENT JOURNAL*, 51(1), 81-90.
- AMERICAN PSYCHIATRIC ASSOCIATION. (2013). *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (5TH ED.)*. ARLINGTON, VA: AMERICAN PSYCHIATRIC PUBLISHING
- CARTER-NARENDORF, S., SHATTUCK, P., & STERZING, P. (2011). MENTAL HEALTH SERVICE USE AMONG ADOLESCENTS WITH AN AUTISM SPECTRUM DISORDER. *PSYCHIATRIC SERVICES*, 62(8), 975-978.
- CELIA, T., FREYSTEINSON, W. W., & FRYE, R. E. (2016). CONCURRENT MEDICAL CONDITIONS IN AUTISM SPECTRUM DISORDERS. *PEDIATRIC NURSING*, 42(5), 230-234
- DANIELS, A. M., & MANDELL, D. S. (2014). EXPLAINING DIFFERENCES IN AGE AT AUTISM SPECTRUM DISORDER DIAGNOSIS: A CRITICAL REVIEW. *AUTISM: THE INTERNATIONAL JOURNAL OF RESEARCH AND PRACTICE*, 18(5), 583-597. DOI:10.1177/1362361313480277
- DAWSON, G., ROGERS, S., MUNSON, J., SMITH, M., WINTER, J., GREENSON, J., & ... VARLEY, J. (2010). RANDOMIZED, CONTROLLED TRIAL OF AN INTERVENTION FOR TODDLERS WITH AUTISM: THE EARLY START DENVER MODEL. *PEDIATRICS*, 125(1), E17-23. DOI:10.1542/PEDS.2009-0958
- DIAGNOSTIC CRITERIA. (2016, APRIL 18). RETRIEVED FEBRUARY 01, 2017, FROM [HTTPS://WWW.CDC.GOV/NCBDDD/AUTISM/HCP-DSM.HTML](https://www.cdc.gov/NCBDDD/AUTISM/HCP-DSM.html)
- FINKE, E. H. (2016). FRIENDSHIP: OPERATIONALIZING THE INTANGIBLE TO IMPROVE FRIENDSHIP-BASED OUTCOMES FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDER. *AMERICAN JOURNAL OF SPEECH-LANGUAGE PATHOLOGY*, 25(4), 654-663. DOI:10.1044/2016_AJSLP-15-0042

RESOURCES

- MAGYAR, C. I. (2011). *DEVELOPING AND EVALUATING EDUCATIONAL PROGRAMS FOR STUDENTS WITH AUTISM* (SPRING SCIENCE). NEW YORK, NY: SPRINGER.
- MCINTOSH, D. N., REICHMANN-DECKER, A., WINKIELMAN, P., & WILBARGER, J. L. (2006) WHEN THE SOCIAL MIRROR BREAKS: DEFICITS IN AUTOMATIC, BUT NOT VOLUNTARY, MIMICRY OF EMOTIONAL FACIAL EXPRESSIONS IN AUTISM. *DEVELOPMENTAL SCIENCE*, 9 (3), 295–302. DOI:10.1111/11467-7687.2006.00492.X
- NOONAN, M. J., & MCCORMICK, L. (2014). *TEACHING YOUNG CHILDREN WITH DISABILITIES IN NATURAL ENVIRONMENTS* (2ND ED.). BALTIMORE, MD: PAUL H. BROOKES PUBLISHING.
- PICKLES, A., LE COUTEUR, A., LEADBITTER, K., SALOMONE, E., COLE-FLETCHER, R., TOBIN, H., ... GREEN, J. (2016). PARENT-MEDIATED SOCIAL COMMUNICATION THERAPY FOR YOUNG CHILDREN WITH AUTISM (PACT): LONG-TERM FOLLOW-UP OF A RANDOMISED CONTROLLED TRIAL. *LANCET* (LONDON, ENGLAND), 388(10059), 2501–2509. DOI:10.1016/S0140-6736(16)31229-6
- SCHUNK, D., & USHER, E. (2012). SOCIAL COGNITIVE THEORY AND MOTIVATION. *THE OXFORD HANDBOOK OF HUMAN MOTIVATION* 9(12). DOI: 10.1093/OXFORDHB/9780195399820.013.0002
- SOORYA, L. V., WEINGER, P. M., BECK, T., SOFFES, S., HALPERN, D., GORENSTEIN, M., KOLEVZON, A., BUXBAUM, J., & WANG, A. T. (2015). RANDOMIZED COMPARATIVE TRIAL OF A SOCIAL COGNITIVE SKILLS GROUP FOR CHILDREN WITH AUTISM SPECTRUM DISORDER. *JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY*, 54(3), 208–216.E1. DOI: 10.1016/J.JAAC.2014.12.005
- STICHTER, J., O'CONNOR, K., HERZOG, M., LIEHEIMER, K., & MCGHEE, S. (2012). SOCIAL COMPETENCE INTERVENTION FOR ELEMENTARY STUDENTS WITH ASPERGER'S SYNDROME AND HIGH FUNCTIONING AUTISM. *JOURNAL OF AUTISM & DEVELOPMENTAL DISORDERS*, 42(3), 354–366. DOI:10.1007/S10803-011-1249-2
- TAGER-FLUSBERG, H. (2016). RISK FACTORS ASSOCIATED WITH LANGUAGE IN AUTISM SPECTRUM DISORDER: CLUES TO UNDERLYING MECHANISMS. *JOURNAL OF SPEECH, LANGUAGE & HEARING RESEARCH*, 59(1), 143–154. DOI:10.1044/2015_JSLHR-L-15-0146
- WATERS, P., & HEALY, O. (2012). INVESTIGATING THE RELATIONSHIP BETWEEN SELF-INJURIOUS BEHAVIOR, SOCIAL DEFICITS, AND CO-OCCURRING BEHAVIORS IN CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDERS. *AUTISM RESEARCH AND TREATMENT*, 1–7.

RESOURCES

- GRANT, M. C. CROSSEN, S. (2014). USING POSITIVE BEHAVIOR SUPPORT FOR AUTISM SPECTRUM DISORDER IN INCLUSIVE CLASSROOM. *PRIMARY BEGINNING SPEECH THERAPY AND INTERVENTION SERVICES*.
- GUTMAN, S. A., RAPHAEL-GREENFIELD, E. I., & SALVANT, S. (2012). THE EFFECT OF AN OCCUPATIONAL THERAPY ROLE-PLAYING INTERVENTION ON THE SOCIAL SKILLS OF ADOLESCENTS WITH ASPERGER'S SYNDROME: A PILOT STUDY. *OCCUPATIONAL THERAPY IN MENTAL HEALTH*, 28(1), 20–35. DOI:10.1080/0164212X.2012.650953
- HALLAHAN, D. & KAUFFMAN, J. & PULLEN, J. (2012). *EXCEPTIONAL CHILDREN: AN INTRODUCTION TO SPECIAL EDUCATION*. BOSTON: ALLYN & BACON.
- KASARI, C., ROTHERAM-FULLER, E., LOCKE, J., & GULSRUD, A. (2012). MAKING THE CONNECTION: RANDOMIZED CONTROLLED TRIAL OF SOCIAL SKILLS AT SCHOOL FOR CHILDREN WITH AUTISM SPECTRUM DISORDERS. *JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY, AND ALLIED DISCIPLINES*, 53(4), 431–439. DOI:10.1111/J.1469-7610.2011.02493.X
- LAUGESON, E. A., FRANKEL, F., GANTMAN, A., DILLON, A. R., & MOGIL, C. (2012). EVIDENCE-BASED SOCIAL SKILLS TRAINING FOR ADOLESCENTS WITH AUTISM SPECTRUM DISORDERS: THE UCLA PEERS PROGRAM. *JOURNAL OF AUTISM DEVELOPMENTAL DISORDER*, 42, 1025–1036. DOI:10.1007/S10803-011-1339-1.
- LAUGESON, E., GANTMAN, A., KAPP, S., ORENSKI, K., & ELLINGSEN, R. (2015). A RANDOMIZED CONTROLLED TRIAL TO IMPROVE SOCIAL SKILLS IN YOUNG ADULTS WITH AUTISM SPECTRUM DISORDER: THE UCLA PEERS PROGRAM. *JOURNAL OF AUTISM & DEVELOPMENTAL DISORDERS*, 45(12), 3978–3989. DOI:10.1007/S10803-015-2504-8
- LEAF, J. B., TSUJI, K. H., LENTEL, A. E., DALE, S. E., KASSARDJIAN, A., TAUBMAN, M., MCEACHIN, J., LEAF, R., & OPPENHEIM-LEAF, M. L. (2013). A COMPARISON OF DISCRETE TRIAL TEACHING IMPLEMENTED IN A ONE-TO-ONE INSTRUCTIONAL FORMAT AND IN A GROUP INSTRUCTIONAL FORMAT. *BEHAVIORAL INTERVENTIONS*, 28, 82–106. DOI:10.1002/BIN.1357.
- LEAF, J. B., LEAF, J. A., MILNE, C., TAUBMAN, M., OPPENHEIM-LEAF, M., TORRES, N., & ... YODER, P. (2017). AN EVALUATION OF A BEHAVIORALLY BASED SOCIAL SKILLS GROUP FOR INDIVIDUALS DIAGNOSED WITH AUTISM SPECTRUM DISORDER. *JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS*, 47(2), 243–259. DOI:10.1007/S10803-016-2949-4

Resources

- Amer, A. F. (2017) The Level of the Use of Positive Behavioral Support Strategies by Teachers of Children with Autism Spectrum Disorders in Amman. *College Student Journal*, 51(1), 81-90.
- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing
- Carter-Narendorf, S., Shattuck, P., & Sterzing, P. (2011). Mental Health Service Use Among Adolescents With an Autism Spectrum Disorder. *Psychiatric Services*, 62(8), 975-978.
- Celia, T., Freysteinson, W. W., & Frye, R. E. (2016). Concurrent Medical Conditions in Autism Spectrum Disorders. *Pediatric Nursing*, 42(5), 230-234
- Daniels, A. M., & Mandell, D. S. (2014). Explaining differences in age at autism spectrum disorder diagnosis: A critical review. *Autism: The International Journal of Research and Practice*, 18(5), 583–597. doi:10.1177/1362361313480277
- Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., & ... Varley, J. (2010). Randomized, controlled trial of an intervention for toddlers with autism: the Early Start Denver Model. *Pediatrics*, 125(1), e17-23. doi:10.1542/peds.2009-0958
- Diagnostic Criteria. (2016, April 18). Retrieved February 01, 2017, from <https://www.cdc.gov/ncbddd/autism/hcp-dsm.html>
- Finke, E. H. (2016). Friendship: Operationalizing the Intangible to Improve Friendship-Based Outcomes for Individuals With Autism Spectrum Disorder. *American Journal Of Speech-Language Pathology*, 25(4), 654-663. doi:10.1044/2016_AJSLP-15-0042
- Grant, M. C. Crossen, S.(2014).Using Positive behavior support for Autism Spectrum Disorder in Inclusive Classroom. Primary Beginning Speech Therapy and Intervention Services.
- Gutman, S. A., Raphael-Greenfield, E. I., & Salvant, S. (2012). The Effect of an Occupational Therapy Role-Playing Intervention on the Social Skills of Adolescents With Asperger's Syndrome: A Pilot Study. *Occupational Therapy In Mental Health*, 28(1), 20-35. doi:10.1080/0164212X.2012.650953
- Hallahan. D. & Kauffman, J. & Pullen, J. (2012). Exceptional Children: An Introduction to Special Education. Boston: Allyn & Bacon.
- Kasari, C., Rotheram-Fuller, E., Locke, J., & Gulsrud, A. (2012). Making the Connection: Randomized Controlled Trial of Social Skills at School for Children with Autism Spectrum Disorders. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 53(4), 431–439. doi:10.1111/j.1469-7610.2011.02493.x
- Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: The UCLA PEERS program. *Journal of Autism Developmental Disorder*, 42, 1025–1036. doi:10.1007/s10803-011-1339-1.

- Laugeson, E., Gantman, A., Kapp, S., Orenski, K., & Ellingsen, R. (2015). A Randomized Controlled Trial to Improve Social Skills in Young Adults with Autism Spectrum Disorder: The UCLA PEERS Program. *Journal Of Autism & Developmental Disorders*, 45(12), 3978-3989. doi:10.1007/s10803-015-2504-8
- Leaf, J. B., Tsuji, K. H., Lentell, A. E., Dale, S. E., Kassardjian, A., Taubman, M., McEachin, J., Leaf, R., & Oppenheim-Leaf, M. L. (2013). A comparison of discrete trial teaching implemented in a one-to-one instructional format and in a group instructional format. *Behavioral Interventions*, 28, 82–106. doi:10.1002/bin.1357.
- Leaf, J. B., Leaf, J. A., Milne, C., Taubman, M., Oppenheim-Leaf, M., Torres, N., & ... Yoder, P. (2017). An evaluation of a behaviorally based social skills group for individuals diagnosed with autism spectrum disorder. *Journal Of Autism And Developmental Disorders*, 47(2), 243-259. doi:10.1007/s10803-016-2949-4
- Magyar, C. I. (2011). *Developing and evaluating educational programs for students with autism* (Spring Science). New York, NY: Springer.
- McIntosh, D. N., Reichmann–Decker, A., Winkelman, P., & Wilbarger, J. L. (2006). When the social mirror breaks: Deficits in automatic, but not voluntary, mimicry of emotional facial expressions in autism. *Developmental Science*, 9 (3), 295–302. doi:10.1111=j.1467-7687.2006.00492.x
- Noonan, M. J., & McCormick, L. (2014). *Teaching young children with disabilities in natural environments* (2nd ed.). Baltimore, MD: Paul H. Brookes Publishing.
- Pickles, A., Le Couteur, A., Leadbitter, K., Salomone, E., Cole-Fletcher, R., Tobin, H., ... Green, J. (2016). Parent-mediated social communication therapy for young children with autism (PACT): long-term follow-up of a randomised controlled trial. *Lancet (London, England)*, 388(10059), 2501–2509. doi:10.1016/S0140-6736(16)31229-6
- Schunk, D., & Usher, E. (2012). Social Cognitive Theory and Motivation. *The Oxford Handbook of Human Motivation* 9(12). doi: 10.1093/oxfordhb/9780195399820.013.0002
- Soorya, L. V., Weinger, P. M., Beck, T., Soffes, S., Halpern, D., Gorenstein, M., Kolevzon, A., Buxbaum, J., & Wang, A. T. (2015). Randomized Comparative Trial of a Social Cognitive Skills Group for Children With Autism Spectrum Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 54(3), 208–216.e1. doi: 10.1016/j.jaac.2014.12.005
- Stichter, J., O'Connor, K., Herzog, M., Lierheimer, K., & McGhee, S. (2012). Social Competence Intervention for Elementary Students with Aspergers Syndrome and High Functioning Autism. *Journal Of Autism & Developmental Disorders*, 42(3), 354-366. doi:10.1007/s10803-011-1249-2
- Tager-Flusberg, H. (2016). Risk Factors Associated With Language in Autism Spectrum Disorder: Clues to Underlying Mechanisms. *Journal Of Speech, Language & Hearing Research*, 59(1), 143-154. doi:10.1044/2015_JSLHR-L-15-0146

Waters, P., & Healy, O. (2012). Investigating the Relationship Between Self-injurious Behavior, Social Deficits, and Co-occurring Behaviors in Children and Adolescents with Autism Spectrum Disorders. *Autism Research and Treatment*, 1-7.