

UTILIZING PARTICIPATORY ACTION RESEARCH TO IMPLEMENT EVIDENCE-
BASED SOCIAL SKILLS INTERVENTIONS FOR ELEMENTARY STUDENTS WITH
HIGH FUNCTIONING AUTISM IN INCLUSIVE CLASSROOM SETTINGS

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Tracey Silveira-Zaldivar

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Major Professor: Dr. Heidi Curtis

AUTHORIZATION TO SUBMIT
DISSERTATION

This dissertation of Tracey Lynne Silveira-Zaldivar, submitted for the degree of Doctor of Philosophy in Education with a major in Educational Leadership and titled "Utilizing Participatory Action Research to Implement Evidence-Based Social Skills' Interventions For Elementary Students With High Functioning Autism in Inclusive Classroom Settings," has been reviewed in final form. Permission, as indicated by the signatures and dates given below, is now granted to submit final copies.

Major Professor Heidi Curtis Date 4/12/19
Dr. Heidi Curtis

Committee Members Ashley Fowers-Coils Date 4/12/19
Dr. Ashley Fowers-Coils

John Erratt Date 4/12/19
Dr. John Erratt

Doctoral Program Director Heidi Curtis Date 4/12/19
Dr. Heidi Curtis

Discipline's College Dean Michael C. Pitts Date 4/12/2019
Dr. Michael Pitts

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DEDICATION

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ABSTRACT

More students with High Functioning Autism (HFA) are in inclusive settings than ever before, however, the physical combination of students with HFA and their typical peers alone is insufficient to address the social deficits of students of students with HFA. Students with HFA in inclusive settings require evidence-based practices (EBPs) for social skills to be as successful as possible in mainstream settings and life in general, but these EBPs are seldom being implemented in school settings. A participatory action research (PAR) mixed-methods study was conducted to bridge the gap between research and practice in inclusive settings. Data collection methods included three surveys, four focus/training groups, field notes, pre and post intervention assessments, open-ended questions, and interviews. Focus/training groups ($n = 12$) centered on capacitating stakeholders, obtaining stakeholder input, and developing a district-wide plan to implement EBPs. The surveys ($n \Rightarrow 30$) explored the barriers to the implementation of EBPs, stakeholder perceptions of the relevance of social skills, and staff-reported awareness of EBPs for social skills. Three primary themes emerged from this study regarding the implementation of EBPs for social skills in inclusive settings: (a) there is a need for preparation, (b) there is a need for support, and (c) there continues to exist underlying tension regarding the mandate of inclusion. Training, time, support, prioritization, materials, and staff mindset were the top six barriers to the successful implementation of social skills as identified by elementary inclusion stakeholders. The results of the EBP survey revealed that inclusion staff are unfamiliar with four out of six different EBPs for social skills. District job title significantly impacted one's awareness, competency, and utility of EBPs for social skills. Regular education teachers were identified as needing the most training and support of all inclusion staff. Results of the relevance survey indicated that staff value social skills and support interventions for students with HFA in

schools. During post participation focus/training groups, significant gains were noted in the group's awareness and competency with EBPs. Following the focus groups and direct observations of three students with HFA in inclusive settings, the researcher implemented a pivotal response training (PRT) social skills intervention ($n=1$) and a peer mediated intervention (PMI) social skills comprehensive intervention (consisting of two students with HFA and two typical peers) via single-subject design over multiple baselines and participants. The two students with HFA in the PMI program showed significant improvement in Social Skills Improvement System (SSIS) domains and domains in the Social Skills Checklist. Qualitative data supported the intervention for all students. Findings of the study suggest that PAR methods can be utilized successfully to bridge the gap between research and practice regarding the implementation of EBPs for social skills for students with autism in inclusion school settings.

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Chapter I: Introduction

Autism is a neurological developmental disorder that has no cure and that has been growing at alarming rates over the past couple of decades (Centers for Disease Control and Prevention [CDC], 2014; Matson & Kozlowski, 2011). In 2014, the CDC's *Autism and Developmental Disabilities Monitoring Network* (ADDM) estimated the prevalence of Autism Spectrum Disorder (ASD) to be 1 in 68 individuals, compared to 1 in 2000 in the 1970s (CDC, 2014). Given the rise in the number of individuals diagnosed with autism, there are more students with ASD in classrooms, and school districts are increasingly called upon to provide care and services to students with autism. Over the last few years, there has been a trend toward full inclusion of individuals with autism in mainstream, regular education classes (Cassady, 2011; Horne & Timmons, 2009; Lindsay, Proulx, Thomson, & Scott, 2013; Majoko, 2015; Simpson, De Boer-Ott, & Smith-Myles, 2003). Many of the students with autism in full inclusion classes are considered to have high functioning autism (HFA). Students with HFA typically possess average to above average intelligence and independent functioning of basic self-help skills (Fitzgerald, 2015). While there are many benefits to inclusion, the inclusion of students with autism in the regular education classroom can pose significant challenges for students and for regular education teachers (Boujut, Dean, Grouselle, & Cappe, 2016; Lindsay et al., 2013; Majoko, 2015).

Regular education teachers of inclusion classroom settings have expressed many concerns about the presence of students with autism in their classrooms, such as: the students' lack of social skills, the prevalence of maladaptive behaviors, the provision of curriculum modifications, and the lack of training and ongoing supports that they receive to meet the students' needs (Boujut et al., 2016; Cassady, 2011; Horne & Timmons, 2009; Locke et al.,

2015, 2016). Maladaptive behaviors are the most commonly cited barrier to the inclusion of children with ASD in regular education settings (Brown & McIntosh, 2012; Fulton, Eapen, Črnčec, Walter, & Rogers, 2014). Research has established a firm relationship between maladaptive behaviors and deficits in communication and social skills, underscoring the need for intervention strategies that target these primary deficits (Fulton et al., 2014; Myers & Johnson, 2007; Vismara & Rogers, 2010). A student's manifestation of autism characteristics, such as the student's unique challenges in social functioning, can, in turn, impact the success of that student in a full inclusion classroom (Lauderdale-Litten, Howell, & Blacher, 2013; Vismara & Rogers, 2010). Therefore, it is necessary to pinpoint and address the factors that affect the success of students with autism. One of the greatest contributing factors to the autistic individual's success is the student's social functioning (Estes, Rivera, Bryan, Cali, & Dawson, 2010; Hendricks, 2010; Ostmeyer & Scarpa, 2012).

For young individuals with autism, deficits in social skills and communication underscore a myriad of challenges and lost opportunities across a lifetime (Cidav, Marcus, & Mandell, 2012; Ingersoll, Schreibman, & Stahmer, 2001). Studies have demonstrated that children with ASD face increased levels of social difficulties in their daily lives (Koegel, Koegel, Ashbaugh, & Bradshaw, 2014a; Rao, Beidel, & Murray, 2008; Stichter, O'Connor, Herzog, Lierheimer, & McGhee, 2012). Those social difficulties may negatively impact academic performance (Estes et al., 2010; Rabiner, Godwin, & Kenneth, 2016); school attendance (Munkhaugen, Gievik, Pripp, Sponheim, & Diseth., 2017) emotional well-being (Bellini, 2006; Hillier, Fish, Siegel, & Beversdorf, 2011; Mazurek, Kanne, & Wodka, 2013; Patton, Hong, Patel, & Kral, 2016; Santomauro, Sheffield, & Sofronoff, 2016; and classroom behavior (Lauderdale-Litten et al., 2013; Roberts & Simpson, 2016). Furthermore, deficits in social skills can have a significant

impact on future life success, affecting job outcomes, relationships, mental health, and higher education (Denham & Brown, 2010; Montroy, Bowles, Skibbe, & Foster, 2014; Welsh, Parke, Widaman, & O'Neil, 2001; Zins, Weissberg, Wang, & Walberg, 2004). Children with ASD have fewer friends and/or lower quality of friendships than typical peers (Calder, Hill, & Pellicano, 2013; Cook, Ogden, & Winstone, 2017; Kasari, Locke, Gulsrud, & Rotheram-Fuller, 2011; Kohler, Strain, & Goldstein, 2005), and they experience increased isolation or loneliness (Goldstein, Kaczmarek, Penningon, & Shafer, 1992; Kasari et al., 2011; Locke, Ishijima, Kasari, & London, 2010). On average, students with autism spend 30% of recess time alone, while typical peers spend 9% of recess alone (Locke et al., 2016). Students with autism also experience greater rejection and/or bullying from others (Hebron, Humphrey, & Oldfield, 2015; Schroeder, Cappadocia, Bebko, Pepler, & Weiss, 2014). Furthermore, they report less satisfaction in their own social functioning and interpersonal relationships compared to typical peers (Friend & Bursack, 2009; Magiati, Tay, & Howlin, 2013). Positive interpersonal relationships have been linked to physical and emotional well-being (Baumeister & Leary, 1995; Kok et al., 2013; Seppala, Rossomando, & Doty, 2013).

Public schools are mandated to provide services to individuals with special needs. In addition, early intervention is widely accepted as being a key factor to future success of individuals with autism (Koegel et al., 2014a; Dawson, Rogers, & Munson, 2010), and school participation allows for daily social interaction (Koegel, Matos-Freden, Lang, & Koegel, 2012a; Koegel, Vernon, Koegel, Koegel, & Paullin, 2012b). Therefore, public schools are the ideal setting to focus on the development of social skills for children with autism. Furthermore, since more students with autism now participate in inclusion programs, finding ways to enhance social skills of students within inclusion settings would likely benefit both the students and educators

who are involved. While many evidence-based interventions have been identified to address the social skills of children with autism, research has indicated that many public schools have not wholly embraced or successfully implemented these evidence-based practices (Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010; Locke et al., 2015; Locke et al., 2016; Owens et al., 2014; Stahmer et al., 2015).

Statement of the Problem

Children with autism often struggle to meet daily social demands such as interacting appropriately with peers and adults, creating and maintaining friendships, and interpreting environmental social cues (Koegel et al., 2012a, 2012b; Makin, Hill, & Pellicano, 2017; Øien & Eisemann, 2015). Considering the correlation between social skills and future academic and/or social progress, interventions that successfully improve social skills in students with autism are vital (Marder & DeBettencourt, 2015; Wong et al., 2015). Ostmeyer and Scarpa (2012) emphasized that deficits in social skills for students with HFA are directly correlated with academic functioning, emotional well-being, and future functioning. Furthermore, research has demonstrated that early intervention for students with autism is highly correlated with future life success (Fulton et al., 2014; Landa & Kalb, 2012; Makrygianni, & Reed, 2010), therefore signaling the dire need for intervention in preschool and elementary school years. While the need to implement social skills intervention programs in the public- school setting is evident, there is a paucity of school-based programs in public schools today, and a lack of research supporting such programs (Ostmeyer & Scarpa, 2012; Tincani, Cucchiarra, Thurman, Snyder, & McCarthy, 2013).

While many evidence-based practices have been identified to enhance the social functioning of individuals with autism, research has indicated that few public schools

successfully utilize and/or implement evidence-based interventions for autism (Locke et al., 2015; Locke et al., 2016; Owens et al., 2014; Stahmer et al., 2015; Tincani et al., 2013). Public schools face a multitude of challenges in implementing appropriate evidence-based interventions such as: lack of funding, lack of knowledge, lack of training, lack of support, and lack of time (Grindle et al., 2009; Langley et al., 2010; Locke et al., 2015; Miller, 2017; Owens et al., 2014; Williams, Keonig, & Scahill, 2007). A skewed relationship exists between research and practice. Therefore, when educators attempt to implement evidence-based interventions, they often do so without fidelity and/or consistency; or they avoid evidence-based practices altogether and cling to comfortable, non-established interventions (Owens et al., 2014; Stahmer et al., 2015). Even when provided with support and training, interventions in the schools can still be lacking (Cidav, et al., 2012).

Another reason that school-based social skills and/or mental health programs fail is that the programs being administered often lack stakeholder support (i.e. teachers, administrators, parents, and students), (Kucharczyk et al., 2015; Locke et al., 2015). It is frequent practice for a well-meaning itinerant school professional such as a school psychologist, counselor, or speech therapist, to attempt to implement an evidence-based mental health program (such as a social skills program) while the teachers and/or administrators involved do not fully understand, agree with, or support the program (Splett, Fower, Weist, McDaniel, & Dvorsky, 2013).

This mixed-methods study is designed to determine the barriers that impede the successful implementation of an evidence-based social skills program for high functioning students with autism in elementary inclusive school settings. In addition, the study seeks to motivate districts to develop a plan to implement evidence-based social skills interventions for all students with autism in inclusive settings. After providing training and support via focus

groups, the researcher intends to develop and implement evidence-based social skills interventions for students with HFA via input and/or direct involvement of the stakeholders: teachers, students, administrators, school professionals, and parents of students with autism. To achieve this end, participatory action research (PAR) will be a guiding method utilized in the study. PAR is a collaborative method that involves the researcher with stakeholders to solve a problem or issue facing a community (Hourcade, 2014; Jacobs, 2010; Jivraj, Sacrey, Newton, Nicholas, & Zwaigenbaum, 2014; McNiff & Whitehead, 2011; Nastasi, Varjas, Sarkar, & Jayasena, 1998; Ostmeyer & Scarpa, 2012; Wright, Wright, Diener, & Eaton, 2014). McNiff and Whitehead (2011) posit that the production of knowledge is a collaborative process that entails collegial interaction, active participation, and stakeholders' shared problem solving at all stages in the study. Ivankova (2015) asserts, "In action research, practitioners and researchers co-create knowledge, policy and practice through an iterative process of action and learning" (p. 56). Building on Ivankova's (2015) premise of action research, the researcher of this study seeks to actively involve stakeholders in the public-school system to draft a model for implementing evidence-based social skills intervention for elementary school students with autism in inclusive settings.

Background

Since its inception in 1975, the predecessor to the Individuals with Disabilities Act (IDEA) has mandated that students with special needs be placed in the least restrictive environment (LRE). Students with special needs must be exposed to their typical peers and the general education setting as much as possible. Therefore, inclusion settings have become increasingly more popular over the decades. Students with autism now spend more time in the regular education program than ever before (National Center for Education Statistics [NCES],

2015). The mere co-habitation of general education students with students of ASD has done little, however, to improve the social and friendship making skills of individuals with autism (Chamberlain, Kasari, & Rotheram-Fuller, 2007; Humphrey & Symes, 2013; Kasari, Rotheram-Fuller, Locke, & Gulsrud, 2012). Social skills have a greater impact on the quality of life for individuals with high functioning autism than do any specific diagnoses and/or cognitive advantage (Mordre et al., 2012; Szatmari, Bryson, Boyle, Streiner, & Duku, 2003). Therefore, developing and implementing evidence-based practices to enhance social skills is vital to the future success of children with autism (Dingfelder & Mandell, 2011; Kasari & Patterson, 2012; Koegel et al., 2014a; Wong et al., 2015).

The Autism Evidence-Based Practice Review Group at Frank Porter Graham Child Development Institute identified some of the evidence-based practices for social skills, as follows: peer mediated interventions (PMI), social narratives, social skills training (SST), structured play group (SPG), Pivotal Response Training (PRT), and video modeling. In a variety of studies reviewed, the strategies incorporated in PMI of modeling, prompting, and reinforcement are considered the most effective procedures for teaching social skills (Cole & McCurdy, 2014; Kamps et al., 2014, 2015). While evidence-based practices have been identified to enhance the social functioning of students with autism, school districts have been slow to implement such practices (Kasari & Smith, 2013; Langley et al., 2010; Locke et al., 2015). Furthermore, if/and when implemented, social skills interventions in the school districts occasionally fail because they are implemented inappropriately and/or without the input of the district stakeholders (Flaherty, Weist, & Warner, 1996; Locke et al., 2015; Ostmeyer & Scarpa, 2012).

The Research Questions

The purpose of the study is to explore the implementation of evidence-based social skills interventions for students with HFA in inclusive elementary school settings. The study will seek to identify what a district needs to develop and embrace a plan to implement evidence-based social skill interventions for students with autism. The following research questions will offer guidance and provide focus in exploration:

1. What are some of the reported barriers that a school district encounters when implementing evidence-based practices for social skills interventions for elementary school students with HFA in the inclusive setting?
2. What are some of the needs and desires of public- school stakeholders regarding social skills interventions for students with HFA that will facilitate the successful implementation of evidence-based practices in elementary school inclusive settings?
3. What are some of the social difficulties and behaviors of concern exhibited by students with HFA in inclusive school settings?
4. How effective is a short-term evidence-based social skills program for students with HFA in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing maladaptive problem behaviors?

Description of Terms

The Autism Speaks Organization published their online glossary of terms related to Autism in 2018. The document is titled *Autism Speaks Glossary of Terms*. This list is

contemporary, comprehensive, and research based. Most of the definitions come from Autism Speaks; however, there are several exceptions. These definitions provide support for the terms utilized in this study.

Applied behavior analysis (ABA). A style of teaching using series of trials to shape desired behavior or response. Skills are broken into small components and taught to child through a system of reinforcement (ASGT, 2018).

Asperger syndrome: A developmental disorder on the Autism spectrum defined by impairments in communication and social development and by repetitive interests and behaviors, without a significant delay in language and cognitive development. The diagnosis is no longer used in DSM-5, but DSM-5 indicates that individuals with a well-established diagnosis of these conditions should be given the diagnosis of autism spectrum disorder (ASGT, 2018).

At risk: A term used to describe children vulnerable to problems with their development (ASGT, 2018).

Attention deficit hyperactivity disorder (ADHD): A disorder that affects approximately 1 in 5 children with autism. Symptoms include chronic problems with inattention, impulsivity, and hyperactivity (ASGT, 2018).

Autism spectrum disorder and autism: Both are general terms for a group of complex disorders of brain development. These disorders are characterized, in varying degrees, by difficulties in social interaction, verbal and nonverbal communication, and repetitive behaviors. With the May 2013 publication of the DSM-5 diagnostic manual, all autism disorders were merged into one umbrella diagnosis of ASD (ASGT, 2018).

Cognitive skills: Any mental skills that are used in the process of acquiring knowledge; these skills include reasoning, perception, and judgment (ASGT, 2018).

Compulsions: Deliberate repetitive behaviors that follow specific rules, such as pertaining to cleaning, checking, or counting. In young children, restricted patterns of interest may be early sign of compulsions (ASGT, 2018).

Developmental disorder: Refers to several disorders that affect normal development. May affect a single area of development (specific developmental disorders) or several (pervasive developmental disorders) (ASGT, 2018).

Diagnostic and statistical manual of mental disorders (DSM-5): The official system for classification of psychological and psychiatric disorders published by the American Psychiatric Association (APA) in 2013 that, among other changes, established new criteria for an autism diagnosis, eliminated the previously separate subcategories on the autism spectrum, including Asperger Syndrome, PDD-NOS, Childhood Disintegrative Disorder, Rett syndrome, and Autistic Disorder. A new category called Social Communication Disorder (SCD) was added (ASGT, 2018).

Evidence-based practices (EBP): “EBP is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research” (Sackett et al., 1996, p. 31).

Expressive language: Is communication of intentions, desires or ideas to others, through speech or printed words and includes gestures, signing, communication board and other forms of expression (ASGT, 2018).

Free appropriate public education (FAPE): Means that education must be provided to all children ages 3 to 21 at public expense (ASGT, 2018).

General Education Teacher: This term is synonymous to a regular education teacher and utilized interchangeably throughout this dissertation.

Gestures: Hand and head movements, used to signal to someone else, such as give, reach, wave, point or head shake. They convey information or express emotions without the use of words (ASGT, 2018).

High functioning autism (HFA): Individuals with HFA have average or above average intelligence but may struggle with issues related to social interaction and communication (ASGT, 2018).

Individualized education plan (IEP): Identifies students' specific learning expectations, how school will address them with appropriate services and methods to review progress. For students 14 and older, and IEP must contain plan to transition to postsecondary education or the workplace or to help the student live as independently as possible in the community (ASGT, 2018).

Individuals with disabilities education act (IDEA): The U.S. law mandating the Free and Public Education of all persons with disabilities between ages 3 and 21 (ASGT, 2018).

Inclusion: Involves educating all children in regular classrooms, regardless of degree or severity of disability. Effective inclusion takes place with planned system of training and supports; involves collaboration of multidisciplinary team including regular and special educators (ASGT, 2018).

Joint attention: Sharing attention on objects (such as glancing at an object and then glancing towards an individual and then back to the object) often leads to shared enjoyment of an object and/or activity (ASGT, 2018).

Least restrictive environment (LRE): The setting that least restricts opportunities for child with disabilities to be with peers without disabilities. The law mandates that every child with a disability be educated in a Least Restrictive Environment (ASGT, 2018).

Mainstreaming: Where students are expected to participate in existing regular ed classes, whereas in an inclusive program classes are designed for all students. May be gradual, partial, or part-time process (e.g., student may attend separate classes within regular school or participate in regular gym and lunch only) (ASGT, 2018).

Nonverbal behaviors: Things people do to convey information or express emotions without verbal articulation, including eye gazes, facial expressions, body postures, and other gestures (ASGT, 2018).

Occupational therapy: Assists development of fine motor skills which aid in daily living. May focus on sensory issues, coordination of movement, balance, and self-help skills such as dressing, eating with a fork, and grooming. May address visual perception and hand-eye coordination (ASGT, 2018).

Participatory action research (PAR): According to Bergold and Thomas (2012), participatory research methods are geared towards planning and conducting the research process with those people whose life-world and meaningful actions are under study. Consequently, this means that the aim of the inquiry and the research questions develop out of the convergence of

two perspectives—that of science and of practice. In the best case, both sides benefit from the research process.

Peer mediated intervention (PMI): Peer to peer interventions typically involve a typical peer modeling appropriate behavior and prompting, reinforcing, and rehearsing desired behavior for a targeted peer (Thiemann & Goldstein, 2004).

Pivotal response treatment (PRT): A therapeutic teaching method using incidental teaching opportunities to target and modify key behaviors related to communication, behavior, and social skills (ASGT, 2018).

Pragmatics: Social rules for using functional spoken language in a meaningful context or conversation. Challenges in pragmatics are a common feature of spoken language difficulties in children with ASD (ASGT, 2018).

Prevalence: Is the current number of people in a given population who have a specific diagnosis at a specified point in time. As of May 2014, the U.S. Centers for Disease Control and Prevention estimated autism prevalence as 1 in 68 children, including 1 in 42 boys and 1 in 189 girls (ASGT, 2018).

Priming: An intervention method that provides a child with a preview of information or activities to be presented (Wilde, Koegel, & Koegel, 1992).

Prompting: Supplemental antecedent stimuli that are provided to increase the likelihood that a desired behavior will occur, but that are not a part of the final desired stimulus to control that behavior (Martin & Pear, 2003).

Psychologist: A professional who diagnoses and treats diseases of the brain, emotional disturbances, and behavior problems. May have a master's degree (M.A.) or doctorate (Ph.D.) in psychology. May have other qualifications, including Board Certification and additional training in a specific type of therapy (ASGT, 2018).

Reinforcement or reinforcer. Any object or event following a response, increasing or maintaining the rate of responding. Positive reinforcer may be produced by or added after a response (ASGT, 2018).

Self-regulation and self-control: Related but not the same. Self-regulation refers to both conscious and unconscious processes which have an impact on self-control, but regulatory activities take place more or less constantly to allow us to participate in society, work, and family life. Self-control is a conscious activity (ASGT, 2018).

Special needs: A term which describes a child with a mental or physical disability who requires special services or treatment (IDEA, 2004).

Social skills training (SSGT): Structured evidenced group methods of teaching social skills (ASGT, 2018).

Social stories: Developed by Carol Gray, are simple stories that describe social events and situations that are difficult for a child with a PDD to understand. For example, a social story might be written about birthday parties if the child appears to have a difficult time understanding what is expected of him or how he is supposed to behave at a birthday party (ASGT, 2018). Another common term for a social story is social narrative.

Special education: Is specially designed instruction, at no cost to families, to meet unique needs of child with disability, including instruction conducted in the classroom, in the

home, in hospitals and institutions and in other settings and instruction in physical education (ASGT, 2018).

Stereotyped behaviors: Refer to an abnormal or excessive repetition of an action carried out in the same way over time. May include repetitive movements or posturing of the body or objects (ASGT, 2018).

Stereotyped patterns of interest or restricted patterns of interest: Refers to a pattern of preoccupation with a narrow range of interests and activities (ASGT, 2018).

Symbolic play: Where children pretend to do things and to be something or someone else. Typically develops between the ages of 2 and 3. Also called make believe or pretend play (ASGT, 2018).

Syndrome: A set of signs and symptoms that collectively define or characterize a disease, disorder, or condition (ASGT, 2018).

Typical development (or healthy development): Describes physical, mental, and social development of a child who is acquiring or achieving skills according to expected time frame. Child developing in a healthy way pays attention to voices, faces and actions of others, showing and sharing pleasure during interactions and engaging in verbal and nonverbal back-and-forth communication (ASGT, 2018).

Significance of the Study

Research has demonstrated the correlation of social skills with academic success, interpersonal relations, behavior, and social competence later in life (Montroy et al., 2014; Zins et al., 2004). Children with autism often struggle to meet daily social demands such as interacting appropriately with peers and adults, creating and maintaining friendships, and

interpreting environmental cues. School districts are natural settings for social skill interventions due to the access to typical peers, the opportunity for peer-to-peer social interaction, and enhanced probability of generalization of social skills (Chan et al., 2009; Williams, Johnson, & Sukhodolsky, 2005). An added benefit of conducting social skills interventions in the natural school environment is enhanced generalization of the skills to that environment (Otero, Schatz, Merrill, & Bellini, 2015). Therefore, focusing on social skills interventions in schools is imperative. Furthermore, finding ways to successfully implement evidence-based practices in the school system is also imperative considering that research has routinely indicated that school systems are challenged when implementing evidence-based practices (Locke et al., 2015, 2016; Owens et al., 2014; Stahmer et al., 2015).

While research has identified many evidence-based social skills interventions for students with autism, evidence-based interventions have been implemented with only marginal success or not implemented at all in the public-school system (Locke et al., 2016; Miller, 2017). Therefore, research needs to go beyond the identification of evidence-based practices, to actively assisting school districts with successful implementation of these practices. Rather than simply identifying what interventions work, researchers need to find a way to motivate school districts to implement evidence based social interventions and to provide them with the tools necessary to sustain the interventions over time.

Ironically, participatory action research method has seldom been used with autism research in community settings. In a literature review of PAR studies involving community settings with autism, Wright et al. (2014) found only seven studies. Dating back to 2008, there is a study in which PAR methods were utilized successfully to assist two young students with autism in public school settings (Bevan-Brown et al., 2008) and only a handful of sporadic

additional studies thereafter. One of the most recent studies involving PAR and students with autism was a 2014 study conducted in Thailand by Runcharoen. Runcharoen, (2014) conducted a study of high functioning students with autism in inclusive educational settings in which PAR methods were effectively utilized to promote three productive outcomes: increased social development in communication and group settings, increased acceptance of the students with autism by their typical peers, and enhanced parent-teacher collaboration.

Eder, Tobin, Proser, and Shin (2012) posit that the involvement of individuals with ASD, along with their families, school and workplace representatives moves research closer to a "community-engaged" endeavor and helps to build a stronger science that is translational and sustainable (p. 227). This study will expand upon the work that others have presented by utilizing the PAR method to encourage school districts to implement evidence-based social skills interventions (Ostmeyer & Scarpa, 2012). By involving the school district's stakeholders in the process of identifying the evidence-based practice or practices that best fit the needs of the stakeholders, it is hoped that school districts will be more willing to embrace and implement evidence-based social skills programs for students with autism in inclusive settings.

It is anticipated that this study will lend further credibility and utility to the collaborative PAR model that Ostmeyer and Scarpa (2012) proposed to address the obstacles to implementing evidence-based practices in the school setting. In an online discussion of action research in education, an education researcher, Andrea Decker (2014) proposed two primary criticisms of the Ostmeyer and Scarpa (2012) study: 1) the study lacked the participatory voice and direct involvement of the students with autism; and 2) and the study lacked action - the study seemingly failed to propose any actual plan and/or solution to implementing social skills interventions at a school. This study addresses those concerns by increasing the direct

participation of students with autism in the study and by presenting the implementation plan that the district develops in the results section of the study. The study will further expand upon Ostmeier & Scarpa (2012) by implementing the social skills interventions developed and chosen by the lead researcher in collaboration with district stakeholders over a brief period (approximately four weeks) and evaluating the efficacy of the interventions. By focusing on improving the social functioning for young students with high functioning autism in inclusive settings, school personnel may increase the likelihood of a successful secondary and post-secondary outcomes for high functioning students with autism in inclusive settings.

Overview of Research Methods

The study employed a mixed methods design featuring participatory action research as a guiding methods framework to identify barriers to implementing evidence-based practices (EBPs) for social skills interventions; and, to assist the Sunny Side Unified School District (pseudonym) in the implementation of evidence-based social skills interventions for students with high functioning autism in inclusive settings. Mixed methods are commonly utilized in action research as both methods tend to employ both qualitative and quantitative data (Creswell, 2012; Mills, 2014; Wright et al., 2014). Participatory action research methods historically draw upon behavior theories to affect a needed and desired change in a community (Kemmis, 2016).

The most effective method to obtain insight into the barriers that impede the implementation of social skills for students with autism in the school setting is via semi-structured interviews and/or focus groups involving the stakeholders. Qualitative measures such as interviews provide a humanistic perspective that cannot be replicated via other types of design measures. Qualitative measures are conducive to obtaining the perceptions of the various stakeholders regarding the social functioning of students with autism in inclusive settings and the

implementation of evidence-based social skills interventions in the public-school setting. The inclusion related stakeholders involved in this study consisted of regular education teachers, special education teachers, students with high functioning autism, typical peers, parents, behavior support staff, school psychologists, speech therapists, and semi-administrative staff members. The use of semi-structured interviews and focus groups allows the invested stakeholders an opportunity to share their opinions (Marshall & Rossman, 2016; Maxwell, 2013). Participatory research is predicated upon the willingness of research participants to share their personal views of a situation without fear of reproach. Participatory research thus provides a safe place for participants to share concerns and opinions (Kemmis, 2016; Stringer, 2014). The freedom to dissent is central to the success of participatory action research as it promotes understanding. The successful implementation of focus groups and interviews allows for that crucial sharing.

The study applied various traditional *Participatory Action Research* methods, including focus/training groups comprised of stakeholders, direct observations in the natural setting, interaction with participants, collaboration with interested parties, field memos, interviews, and questionnaires. Information gleaned from focus groups, interviews, field notes, open-ended questions, and observations were coded for themes. Information gained from surveys and/or questionnaires were analyzed via both quantitative and qualitative methods. The focus group participants completed pre and post survey questionnaires regarding their awareness, competency, and utility of evidence-based social skills interventions. Stakeholder demographic data (such as one's job description/title) was analyzed for associations with one's awareness and use of evidence based social skills interventions. Statistical analysis was applied to determine if participation in the focus/training groups resulted in a measurable effect on the evidence-based

practice survey responses of the focus group participants. Naturalistic observations provided insight into both the social functioning of students with autism in inclusive settings and the support needs of the students and their teachers. Information gathered from the direct observations was also utilized to guide the focus of the evidence-based social skills interventions that were implemented for the students with HFA.

Following the focus groups, observations, interviews and questionnaires, the researcher collaborated with the stakeholders to implement evidence-based social skills interventions for use with three HFA students in the inclusive setting. The evidence based social skills interventions were carried out at two different schools with students with HFA in inclusive settings in early primary grades. At one school, the lead researcher primarily implemented pivotal response training techniques twice weekly over a month. At the other elementary school, the lead researcher implemented a peer mediated social skills intervention during lunch for two students with HFA and two typical peers. Both interventions were comprehensive in nature. The evidence-based social skills practices chosen for implementation by the stakeholders and the lead researcher, accounted for the stakeholders' concerns regarding time, resources, feasibility, and impact on the daily routine (all factors considered within the Fogg Behavior Model (FBM), the theoretical framework underlining this study). A mixed study single-case study design across multiple participants and across multiple baselines was developed to assess the efficacy of the respective evidence based social skills intervention for the HFA participants of the study.

Beyond seeking the perspectives of stakeholders regarding EBPs for social skills for students with HFA in inclusive settings, the study sought to provide actual and active solutions to the challenge presented (the gap between research and practice regarding EBPs for social skills). The solutions were developed via a collaborative process that resulted in the successful

implementation of evidence-based social skills interventions for students with high functioning autism in inclusive settings for three elementary students. Via the mixture of qualitative and quantitative practices, the researcher served as a facilitator of behavior change: the facilitator provided the sufficient motivation, training, and support to school district personnel to empower staff with the desire, the ability, and the means to address the deficits of social functioning that inclusive students with autism possess.

Chapter II: Research of the Literature

Introduction

Considering the correlation between social skills and future academic and/or social progress, interventions that successfully improve social skills in students with autism are vital. Early intervention for students with autism has been confidently linked to superior outcomes (Fulton et al., 2014; Landa & Kalb, 2012; Makrygianni, & Reed, 2010). There are many reasons that the public school setting is the logical, perhaps the ideal setting for the implementation of social skills interventions: (a) public schools afford the opportunity for early intervention; (b) public school districts are obligated to provide services to students with special needs from the ages of 3 to the age of 22 (if warranted) which allows for ongoing intervention through the transition to adulthood; (c) the daily classroom routine affords numerous opportunities and/or demands for social skills (Chan et al., 2009; Tutt, Powell, & Thornton, 2006; Williams et al., 2005); (d) students with autism benefit from exposure to typical peers (Chan et al., 2009; Dybvik, 2004; Marshall & Goodall, 2015; Williams et al., 2005); and (e) conducting social skills interventions in the natural setting has been correlated with enhanced generalization (the spreading of social skills to other individuals and environments) (Otero et al., 2015). Fitzgerald (2015) indicated, “The school setting provides the opportunity to observe children’s abilities to interact interpersonally as they cooperate with others to complete daily tasks and resolve conflicts” (p. 2283).

As previously mentioned, since 1975, IDEA has mandated that all special education students be placed in the least restrictive environment (IDEA, 2004). Special education students should be exposed to their typical peers in the general education setting as much as possible (IDEA, 2004). While efforts of inclusion have proceeded that mandate, research has found that

the mere co-habitation of general education students with students of ASD has done little to improve the social and friendship making skills of individuals with autism (Chamberlain et al., 2007; Humphrey & Symes, 2013; Kasari et al., 2012). While the need for improving the social functioning of students with autism is apparent, even when students are placed in inclusive settings, school districts have been challenged with successfully implementing sufficient social skills' interventions for students with autism (Locke et al., 2016; Miller, 2017). The significant gap between research and practice has been well documented and well examined in literature over several decades (Carnine, 1997; Cook, Cook, & Landrum, 2013; Cook, Smith, & Richards-Tutor, 2010; Koegel, Robinson, & Koegel, 2009; Odom et al., 2005; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010; Rynes, Bartunek, & Daft, 2001; Thomeer, McDonald, Rodgers, & Lopata, 2019; Wei, Wagner, Christiano, Shattuck, & Yu, 2014). Research is needed to explore avenues to close the gap between research and practice in school districts (Cook et al., 2013; Koegel et al., 2009; Locke et al., 2016; Parsons et al., 2013; Wood, McLeod, Klebanoff, & Brookman-Fraee, 2015).

According to Parsons et al. (2013):

While the last 10 years have seen a significant increase in research published on early intervention and autism, there is a persistent disconnect between educational research and practice. Governments have invested significant funds in autism education, and a range of approaches have been implemented in schools, but there is limited research exploring whether these educational strategies are effective and a lack of involvement of teaching professionals in the research (p. 269).

Specifically, researchers need to explore how public-school districts can be motivated to action regarding the implementation of evidence-based social skills interventions for students with autism (Koegel et al., 2009; Locke et al., 2015; Parsons et al., 2013; Wong et al., 2015).

Theoretical Framework

The theoretical framework provides the foundation of a study – it is the premise underneath the researcher’s vision. A theoretical framework serves as the structure and support for the rationale of the study (Grant & Osanloo, 2014; Luse, Mennecke, & Townsend, 2012).

Lysaght (2011) illuminated the need for a theoretical framework:

A researcher’s choice of framework is not arbitrary but reflects important personal beliefs and understandings about the nature of knowledge, how it exists (in the metaphysical sense) in relation to the observer, and the possible roles to be adopted, and tools to be employed consequently, by the researcher in his/her work (p. 572).

The theoretical framework that underlines this study is the Fogg Behavior Model (FBM). In 2003, Fogg proposed a new theory explaining human behavior as being comprised of three essential parts: motivation, ability, and triggers (Fogg, 2003). In 2018, Fogg began to refer to triggers as prompts (Fogg, 2018). The FBM purports that for a target behavior to happen, a person must have sufficient motivation, sufficient ability, and an effective trigger (Fogg, 2009). Conversely, behaviors will “not occur” if one of these three elements were missing (Fogg, 2009, p.1). Fogg’s Behavior model is a tool for researchers and educators to better understand the mechanics of change. This study seeks to encourage public school district employees to implement evidence-based social skills practice for students with high functioning autism

successfully and consistently. Hence, this study is hoping to change the behavior of public-school staff members who are currently not implementing and/or are reluctant to implement, evidence-based social skills programs for students with inclusive students with autism.

Considering Fogg's Behavioral Model, for behavior change to occur, one must examine the school district's motivation, ability, and trigger(s) regarding implementing social skills evidence-based practices for inclusive students with autism. In addition to providing a guide in which to stimulate the change in behavior that the researcher of this study is seeking (that public-school districts routinely and successfully implement evidence-based practices for inclusive students with autism), the Fogg Behavioral Model will also assist in the identification of the barriers to this behavior change.

Each one of the three basic underlying concepts of the Fogg Behavior Model have additional elements. Motivation, for example, is comprised of the following three factors: pleasure/pain, hope and fear, and social acceptance and rejection (Fogg, 2009). Pleasure and pain are described as primitive responses that serve as powerful motivators – when researchers are seeking to implement a change in behavior, the researcher needs to explore how embracing the desired target behavior of change will either embody pleasure or avoid/reduce pain for the participant. For school districts to regularly implement evidence-based social skills for students with autism, there must be a pay-off for the employees – they must obtain some type of positive and/or pleasurable benefit from it (such as the reduction of the student's inappropriate behaviors and/or a smoother run classroom). The second core factor in the motivation FBM is hope/fear (Fogg, 2009). School district employees need to anticipate something good is going to come from implementing evidence-based social skills programs. The third core factor in the motivation FBM is social acceptance/rejection – people do things to: a) obtain social acceptance,

and/or b) to avoid being rejected (Fogg, 2009). If more district employees routinely implemented social skills programs, then social norms would dictate that it was the appropriate thing to do. Furthermore, if administrators and other stakeholders (such as the parents of children with autism) embraced district staff who implemented evidence-based practices for social skills warmly, this could propel more staff to do the same.

Increasing ability is another key concept underlying the FBM. According to the FBM, even if one is highly motivated to change, change will not occur unless one has the ability to change (Fogg, 2003). Ability encompasses the training, knowledge, and resources that are necessary to effect a change in behavior. People resist training as it requires mental effort. According to Fogg, to increase ability, then, one must consider simplicity (Fogg, 2009). The following are the key elements that comprise the ability/simplicity factor of the FBM: time, money, physical effort, brain cycles, social deviance, and non-routine (Fogg, 2009). People will avoid learning new skills and/or engaging in a new behavior: (a) if it costs too much; (b) if it requires too much time or physical effort; (c) if it goes against society's values; (d) and/or if the change is too difficult to fit into their daily routine. Therefore, when we ask public school employees to engage in something new, such as to regularly implement an evidence-based social skills program— we must consider: (a) how time effective the program is; (b) how cost-effective it is; (c) how it will fit into their daily routine; and (d) how much effort it will require from them personally.

Triggers or prompts are the final factor within the FBM. Triggers are comprised of three elements: sparks, facilitators, and signals (Fogg, 2009). According to Fogg, “When a person lacks motivation to perform a behavior, a trigger should be designed in tandem with a motivational element” (2009, p. 6). Fogg calls this trigger the spark, the impetus to the

behavioral change (Fogg, 2009). The second element of the trigger is known as the facilitator, someone or something that will make a task easier. Examples of triggers range from use of an online scheduling application, to a new software package, to a person or persons providing support and/or training to make a project seem “easier and/or feasible. In the current study, the researcher hopes to act as the primary facilitator – modeling how to make implementing social skills “easier” to staff who may be reluctant to consider implementing social skills. The final element of trigger factor is the signal. The signal functions optimally if individuals have both the ability to do something and the desire (the motivation) to do it (Fogg, 2009). The signal acts as a reminder to continue to engage in a new behavior. A program coordinator reminding a special education teacher to make sure that all inclusive students with autism participate in evidence-based social skills programs is an example of a signal in a school setting.

The Fogg Behavioral Model was initially created to address persuasive technology (Fogg, 2009). The Fogg Behavioral Model has been predominantly utilized in behavior intervention technology research as a guiding force to translate the gathering of behavioral data via devices to promote healthier lifestyle changes (Baskerville, Dash, Wong, Shuh, & Abramowicz, 2016; Burner, Menchine, Taylor, & Arora, 2013; Mohr, Schueller, Montague, Burns, & Rashidi, 2014; Rabbi, Pfammatter, Zhang, Spring, & Choudhury, 2015). Lee, Koopmeiners, Rhee, Raveis, and Ahluwalia (2014) implemented tenets of the Fogg Behavior Model utilizing phone messages to effectively encourage women to be screened for cervical cancer. The Fogg Behavioral Model has also been applied successfully to sustainability in the workplace (Yun, Scupelli, Aziz, & Loftness, 2013). To date, there is only one study applying persuasive technology and the Fogg Behavioral Model tenets to the educational setting (Mintz & Aagaard, 2012). Mintz and Aagaard (2012) posited that the Fogg Behavioral Model has great potential for application in educational

settings and the study referenced the success of the HANDS project specifically. The HANDS project developed and utilized mobile application to effect positive behavioral change in children with autism (HANDS, 2010). The Fogg Behavioral Model is relatively new, which might explain why its utilization across broader disciplines and settings is in the emerging phase. Figure 1 provides a visual explanation of the FBM:

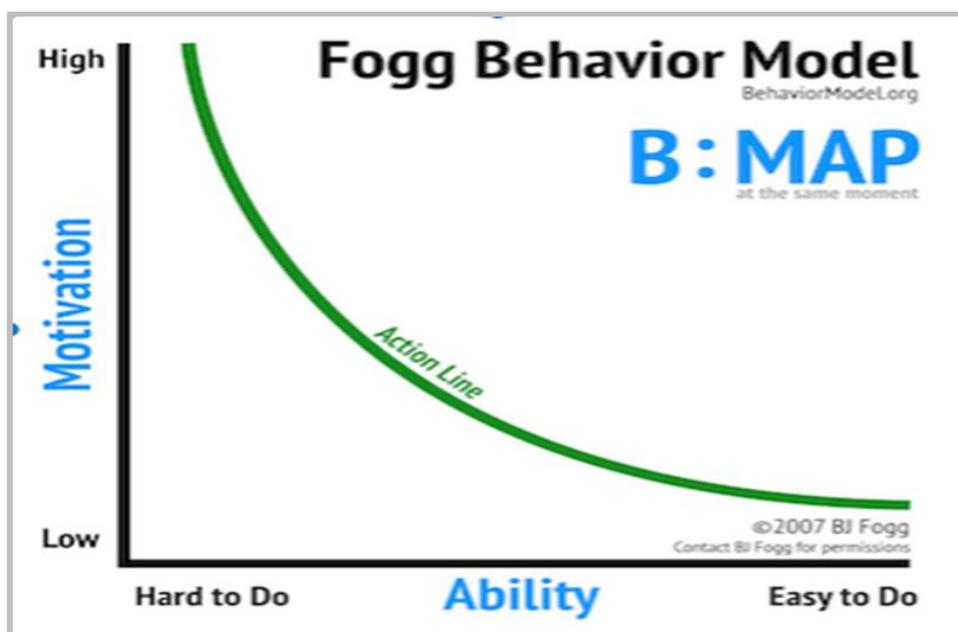


Figure 1. Theoretical Framework – Fogg Behavior Model (FBM). [Sourced from (Fogg, 2009). Reprinted with permission (see Appendix S).]

Within Figure 1, motivation is represented on the Y axis from a scale of low to high, while ability is represented on the X axis on a scale of hard to easy to do with the action line representing the combination of motivation and ability. A key component of the Fogg Behavioral Model is the activation threshold (AKA the action line). Per Fogg (2009):

When the combination of motivation and ability places a person above the behavior activation threshold, then a trigger will cause that person to perform the

target behavior. If a person is underneath this threshold, then a trigger will not lead to the target behavior (p. 3).

The curved line sweeping across Figure 1, the graphic description of the Fogg Behavioral Model, represents that activation threshold.

History of Autism

Leo Kanner diagnosed autism in 1943 as a developmental brain disorder characterized by social deficits, communication deficits, and narrow or repeated patterns (i.e. easily upset by changes in routine) (Freeman, 1997; Jacobson, Mulick, & Green, 1998; Kanner, 1943). Kanner (1943) paraphrased the self-centeredness tendencies of children with autism as the children's autism and self-centeredness was noted as the hallmark deficit of the disorder. A related syndrome, Asperger syndrome, was characterized and defined by Hans Asperger in 1944 (Asperger, 1944). To be identified with Asperger syndrome, the individual presenting with autistic characteristics had to possess at least average intelligence and present with atypical social interactions. While Kanner presented autism as a disorder of the brain; other scientists regarded autistic characteristics as childhood schizophrenia during the 1950s and 1960s (Baker, 2013; Sole-Smith, 2015). Until the 1970s, medical and mental health professionals commonly blamed the autistic child's mother, disparaging her with the term refrigerator mom (Malkowski, 2016; Tomeny, 2016). At the time, professionals suspected that autism was the result of an indifferent or detached mother. In the 1960s, some in the medical field, such as Dr. Rimland, challenged this notion and provided evidence that autism was a biological condition (National Alliance for Autism Research, 2005). Further progress was made in the 1970s as scientists began to view the disorder as a developmental/neurological brain disorder (Baker, 2013; Rutter, 1978; Sole-Smith, 2015).

Autism first appeared in the Diagnostic and Statistical Manual of Mental Disorders (DSM) in 1980 as infantile autism and Kanner's autism. Autism was officially separated from childhood schizophrenia in that 1980 DSM description (Baker, 2013; CDC, 2015). The DSM was revised in 1994 to include the addition of Asperger syndrome. A few years later, in 1998, the DSM provided the first diagnostic checklist for identifying individuals with autism (Baker, 2013). The most recent version of the DSM, the 5th edition, (APA, 2013) removed Asperger Syndrome and all other autism related disabilities from the diagnosis of autism and, instead, the manual presented autism spectrum disorder along a continuum of impairment (APA, 2013). Although Asperger Syndrome is no longer recognized by the American Psychological Association (APA), the term High Functioning Autism (HFA) is widely utilized and recognized. Students with high functioning autism tend to have the following characteristics: (a) at least low average to well above average intelligence; (b) independent personal self-help skills (such as toileting, tooth brushing, eating); and (c) the ability to speak in complete sentences (Sansosti & Sansosti, 2012). While they may care for their basic needs, students with HFA tend to score much lower in adaptive and daily living skills (inclusion social emotional, self-help, and motor skills) than their reasoning skills (Myles, Swanson, Holverstott, & Duncan, 2007; Sansosti & Sansosti, 2012). Students with HFA are typically the type of students with autism that are seen most in inclusion classes today (Sansosti & Sansosti, 2012).

Rates of Autism in the United States

When autism was first included in the 1980 DSM, the estimated prevalence of the disorder was 1 in 2000 individuals (CDC, 2015). The CDC's *Autism and Developmental Disabilities Monitoring Network* has estimated the current prevalence of ASD to be 1 in 68 (CDC, 2015; Owen-Smith et al., 2015). Idring et al. (2015) estimate the rates of autism to be

between 1% to 2% of the population. Historically, rates have always been nearly four times higher for males than for females, with the most recent CDC estimates suggesting that autism affects one in 42 males and one in 189 females (CDC, 2015; Owen-Smith et al., 2015). Figure 2 demonstrates the prevalence of autism within the U.S. as reported by parent survey from 1997 to 2014:

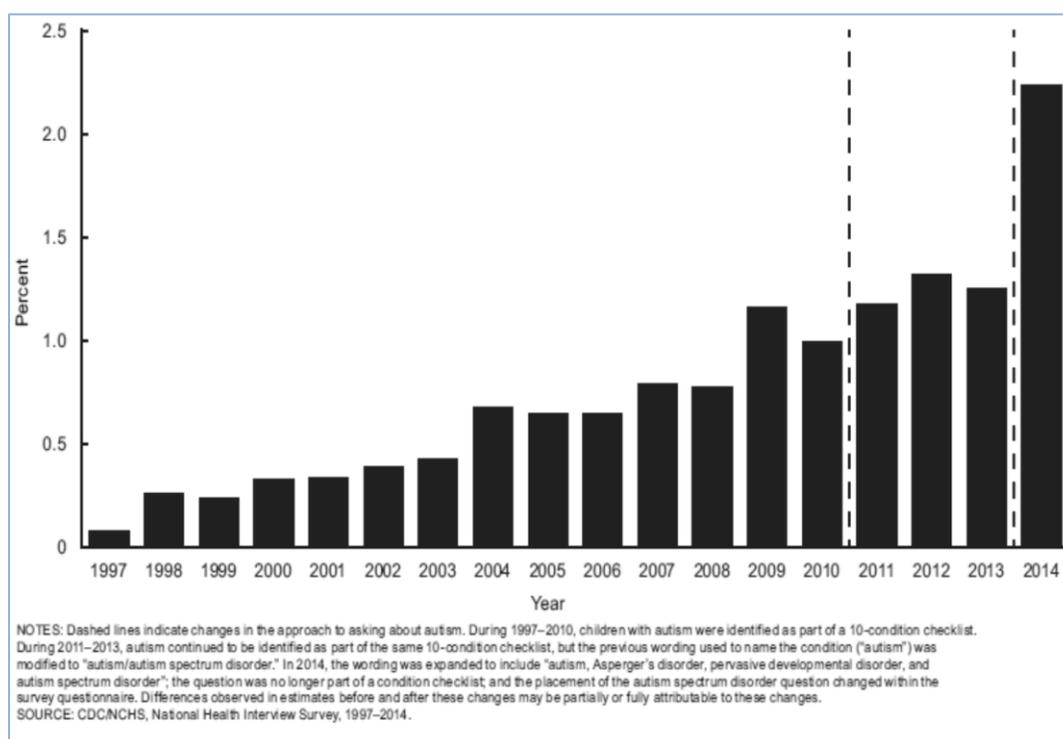


Figure 2. Prevalence of Children Aged 3-17 with Autism Reported by Parent(s) from 1997-2014. [Sourced from CDC/NCHS, National Health Interview Survey, 1997-2014].

Within Figure 2, The y axis presents the percentage of children reported to have autism while the x axis presents the year. Focusing on statistics from the turn of the century only, the following Table 1 denotes a 78% surge in rates in the U.S. from the year 2000 to 2012.

Table 1.
Identified Prevalence of Autism Spectrum Disorder

Surveillance Year	Birth Year	Number of ADDM Sites Reporting	Prevalence per 1,000 Children (Range)	This is about 1 in X children...
2000	1992	6	6.7 (4.5-9.9)	1 in 150
2002	1994	14	6.6 (3.3-10.6)	1 in 150
2004	1996	8	8.0 (4.6-9.8)	1 in 125
2006	1998	11	9.0 (4.2-12.1)	1 in 110
2008	2000	14	11.3 (4.8-21.2)	1 in 88
2010	2002	11	14.7 (5.7-21.9)	1 in 68
2012	2004	11	14.6 (8.2-24.6)	1 in 68
2014	2006	11	16.8 (13.1-29.3)	1 in 59

[Sourced from (CDC, 2018)].

As the prevalence of autism nationwide has surged, public school systems have seen a similar upwelling in rates since autism was added as a handicapping condition under the Individuals with Disabilities Act (IDEA) in 1990. Per the NCES (2015), in 1992, there were only approximately five thousand students with the handicapping condition of autism served in the public-school system; by 2014, there were over 538,000 identified students with autism receiving some type of services under the Individuals with Disabilities Act. While the relative number of

students with all disabilities has remained roughly constant since 2000, there has been a significant increase in the number of students identified with autism. Table 2 (in two parts 2a and 2b) below highlights the growth in rates in the educational system since the disorder was first recognized as a handicapping condition:

Table 2a.

Children 3 to 21 Years Old Served Under IDEA, Part B, by Type of Disability: Selected Years, 1976–77 Through 2004–05.

Type of disability	1976–77	1980–81	1990–91	2000–01	2001–02	2002–03	2003–04	2004–05
All disabilities	3,694	4,144	4,710	6,296	6,407	6,523	6,634	6,720
Autism		–	–	93	114	137	163	191

[Sourced from (National Center for Education Statistics{NCES}, 2014)].

Table 2b.

Continuation of Table 2a: Children 3 to 21 Years Old Served Under IDEA, Part B, by Type of Disability: Selected Years, 2005–06 Through 2013–14.

Type of disability	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
All disabilities	6,718	6,687	6,597	6,483	6,481	6,436	6,401	6,429	6,464
Autism	223	258	296	336	378	417	455	498	538

[Sourced from (NCES, 2014)].

Tables 2a and 2b display the number of children served (in the thousands) in public school districts under various handicapping conditions and/or disability types from 1976 to 2014.

The NCES autism school prevalence statistics only identify those students who qualified for an Individualized Education Plan (IEP). These statistics do not include students with autism who

may be receiving some type of support or accommodations either via a *504 Accommodations Plan* or regular education tier two support services, such as counseling, social skills groups, or behavior support plans created for regular education students. Furthermore, this number does not include students who have been diagnosed with HFA by medical personnel, but who are receiving services for special education under another special education category such as Other Health Impaired, Specific Learning Disability, Speech and Language Impairment or Emotional Disturbance (Sansosti & Sansosti, 2012). Consequently, the actual number of individuals receiving some type of support or service in the public-school system may be underestimated by the current data. The percentage of total students receiving 504 Accommodation Plans under a disability of autism without an IEP was estimated at 4.4% of total enrollment in 2013 (Bishop, 2013).

While estimates of the comorbidity of intellectual disability and autism are approximately 30% (CDC, 2014); the current DSM-5 autism description seeks to clarify the two disorders and provide more stringent guidelines for when an individual should be classified under only intellectual disability versus comorbid intellectual disability and autism. Per the DSM-5, to be considered as having a comorbid diagnosis of autism and intellectual disability (ID), the individual with intellectual disability must present with social skills which are significantly *lower* than other areas of functioning (APA, 2013). This is significant as rates for students eligible to receive special education support under the handicapping condition of autism have continued to rise over the past 20 years, while rates for students served under the handicapping condition of intellectual disability have severely *decreased* per the National Health Survey (CDC, 2014). However, the actual rates of individuals presenting with intellectual disability have remained

constant over the past 100 years (CDC, 2016). The following Tables 3a and 3b, as well as Figure 3 (page 36), illustrate this trend as it is applied in the public-school setting:

Table 3a.

Autism and Intellectual Disability Rates in Public Schools by the Percentage of Students Served in Each Handicapping Condition.

Type of disability	1976–77	1980–81	1990–91	2000–01	2001–02	2002–03	2003–04	2004–05
Autism	–	–	–	0.2	0.2	0.3	0.3	0.4
I.D.	2.2	2.0	1.3	1.3	1.3	1.2	1.2	1.2

[Sourced and adapted from (NCES, 2014)].

Table 3b.

Continuation of Table 3a. Autism and Intellectual Disability Rates in Public Schools by the Percentage of Students Served in Each Handicapping Condition.

Type of disability	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Autism	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1
I.D.	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9

[Sourced and adapted from (NCES, 2014)].

Following is Figure 3, a graphic representation of the number of students served under the handicapping condition (presented in percentage totals) of intellectual disability (I.D), compared to the number of students of students served under the autism handicapping condition.

Within Figure 3 below, the bar graph summary compares data from 2011-2013 and 2014. The y axis presents the prevalence reported via percentages and the x axis represents the type of disability.

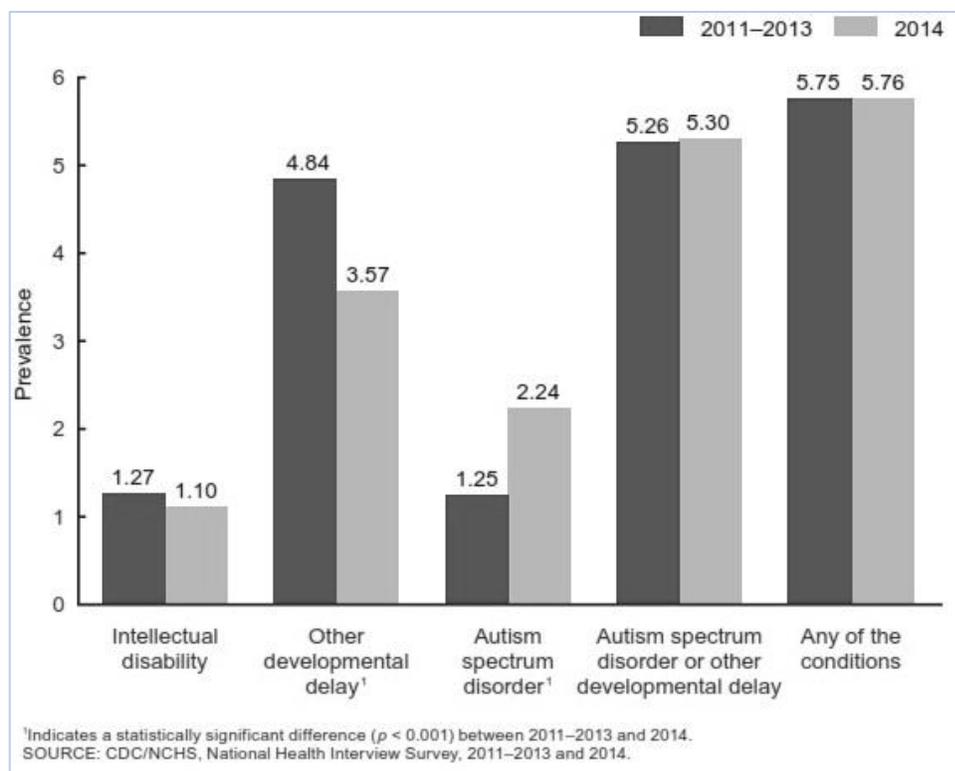


Figure 3. Prevalence of Autism Handicapping Condition Compared to Other Handicapping Conditions from 2011 to 2014. [Sourced from CDC/NCHS, National Health Interview Survey, 1997-2014].

When reviewing the information, it is evident that there was no resurgence in the identification of individuals with an intellectual disability in 2014, a year after the DSM-5 attempted to clarify the autism criteria, suggesting that many of the individuals who diagnose autism do not appear to be heeding the added DSM-5 autism criteria. According to the ARC, an online resource dedicated to familiarizing individuals with intellectual disability: “Prevalence studies may not identify all people with intellectual disability. Many school-aged children receive a diagnosis of learning disability, developmental delay, behavior disorder, or autism instead of intellectual disability” (Introduction to Intellectual Disabilities, 2011, para. 2). While the term autism was considered almost pejorative and undesirable until the latter part of the

1990s, the term intellectual disability now appears to carry a pejorative connotation and/or stigma (Deiner, 2013; Lecavalier, Snow, & Norris, 2011; Schalock et al., 2010; Scior & Werner, 2016). This is unfortunate, as there are psycho-social, educational, and even possibly financial benefits for a student to be correctly classified under intellectual disability as opposed to autism when the situation is warranted (Werner, 2015). In Deiner's (2013) book addressing inclusion, the author notes:

Professionals today are reluctant to classify young children as having an intellectual disability. The requirements for this diagnosis are more stringent than they have been in the past. Misdiagnosis is a concern because of the stigma attached to this label and because of the over-identification of ethnic/cultural minorities (Deiner, 2013, p. 336).

Early intervention for individuals with autism and other disabilities has demonstrated some growth in intelligence quotients (IQ) for very young children (Chasson, Harris, & Neely, 2007; Zachor, Ben-Itzhak, Rabinovich, & Lahat, 2007), however, an individual's IQ is considered relatively stable after the age of 5 (Deary et al., 2012).

In terms of explaining the surge in the rates of autism over the past few decades, there is no consensus in the public, but several different theories abound. Some of the different theories include: increased public awareness, enhanced diagnostic measures, increased knowledge and education, broadening of the DSM-5 definition, advanced parental age, biological/heredity factors, and environmental factors (King & Bearman, 2009; Neggers, 2014; Newschaffer et al., 2007; Ouellette-Kuntz et al., 2007; Parner et al., 2012). While some genetic disorders present with autistic symptoms and/or are comorbid with autism (such as Fragile X and/or Klinefelter's

Syndrome), there is still no definitive autism gene (Ansel, Rosenzweig, Zisman, Melamed, & Gesundheit, 2017; Parner et al., 2012). Although there is currently no consensus regarding the environmental factors impacting the rates of autism, there is one environmental factor that has been ruled out: there is no link between the rates of autism and administration of vaccines (Institute of Medicine, 2004; Mrozek-Budzyn, Kiełtyka, & Majewska, 2010; Sathyanarayana & Andrade, 2011; Taylor et al., 1999; Taylor, Swerdfeger, & Eslick, 2014). In fact, the study proposing the link has been retracted and proven fraudulent within the scientific community (Murch et al., 2004; Sathyanarayana & Andrade, 2011; Taylor et al., 1999; Taylor et al., 2014). Although there is no present cure for autism, and no single etiology, it is important and uplifting to note that children with autism can make gains and improvements with appropriate intervention and care.

Description of Autism

Autism is a neurological developmental disorder characterized by qualitative deficits in communication, social interaction, and repetitive, stereotyped patterns of behaviors and/or interests (APA, 2013). Per the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), a hallmark criterion of autism is persistent deficits in social communication and social interaction across multiple contexts (APA, 2013). Per the APA (2013), social and communication interaction impairments of autism consist of:

1. Deficits in social-emotional reciprocity, ranging from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging 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.

3. Deficits in developing, maintaining, and understanding relationships, ranging from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers (p. 457).

IDEA recently changed the primary educational criteria for autism to the following:

Autism is a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, and adversely affecting a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences (Individuals with Disabilities Education Improvement Act, 2014 Sec. 300.8 (c) (1)).

However, for higher functioning individuals with autism, the aforementioned symptoms of autism may not fully manifest until social demands exceed limited capacities and therefore impair everyday functioning (American Psychiatric Association, 2013). Social demands tend to increase when individuals enroll in school. Consequently, children with high-functioning autism spectrum disorder (HFASD) present with certain communicative and social interaction characteristics that require specific attention from teachers. An intervention adapted to the needs of students with HFA can improve not only aspects of communication and language, but also

aspects related to social skills and adaptive behavior (Barry et al., 2003; Reichow & Volkmar, 2010; Wong et al., 2015).

Social interaction and communication deficits are key characteristics of autism, and there are several connections between the two types of impairments (APA, 2013; Hansen, Blakely, Dolata, Raulston, & Machalicek, 2014; Tager-Flusberg, 2003). Students with autism often have difficulties with pragmatics, also referred to as social language (Carter, Davis, Klin, & Volkmar, 2005; Miller et al., 2015; Staikova, Gomes, Tartter, McCabe, & Halperin, 2013). Difficulties in pragmatics can be manifested by any of the following behaviors: eye contact, reciprocal conversation, turn taking, topic maintenance, greetings, speech prosody, understanding figurative language, and/or understanding emotions and non-verbal body cues (Shaked & Yirmiya, 2003; Tager-Flusberg, 2003; Tierney, Kurtz, Panchik, & Pitterle, 2014). Social communication deficits can increase the likelihood of social isolation and reduce prospects for social engagement (Miller et al., 2015; Wetherby, Watt, Morgan, & Shumway, 2007). Difficulties in joint attention (the involvement of shared attention or shared experiences) and/or delayed play and/or unusual forms of play likewise impede the development of appropriate and reciprocal play (Hwang & Hughes, 2000; Ingersoll & Schreibman, 2006; Kasari, Freeman, & Paparella, 2006; Kasari et al., 2011; Kasari et al., 2015; Pierce-Jordan & Lifter, 2005).

Furthermore, difficulties in the functional use of communication has been linked to behavioral difficulties as students are stymied when attempting to express wants and/or needs and/or emotions (Carter et al., 2005; Jones, Pickles, & Lord, 2017). With increased age and grade level, social demands increase, often resulting in amplified social difficulties (Calder et al., 2013; Carter et al., 2014; Kasari et al., 2012; Reichow, Steiner, & Volkmar, 2012b). Deficits in social communication, social functioning, and social interaction can have a profound and lasting

impact on academic achievement, school behavior, social and emotional well-being including friendship and family relations, and adult outcomes for those with autism (Baumeister & Leary, 1995; Kok et al., 2013; Seppala et al., 2013). Therefore, successful interventions that improve social competency appear paramount in coping with the negative effects of social deficits. Carter et al. (2014) indicated:

Students with ASD may benefit the most when educators adopt a comprehensive approach to intervention that simultaneously addresses building student competence, equipping peers, re-conceptualizing adult roles, creating supportive school cultures, and engaging families more actively. Focusing narrowly on any particular pathway to the exclusion of others overlooks the ways in which skills, supports, opportunities, and expectations all interact to help or hinder peer relationships and social development (p. 98).

Carter et al. (2014) further suggested five intervention areas: (a) additional research should focus on social skills intervention that consider the functioning level of the individual; (b) schools need to find ways to involve peers in interventions and to deliver interventions at school settings; (c) peers and/or family members should be involved in interventions; (d) more technological based interventions should be explored, and (e) research should create more appropriate social emotional assessments and interventions that focus primarily on the needs of an adolescent with autism.

Deficits in Social Skills Related to Social Emotional Well Being and/or Mental Health

Individuals with autism often present with comorbid mental health concerns ranging from anxiety, to depression, to ADHD, to mood disorders, and/or conduct disorders among others

(Ahmedani & Hock, 2012; Chiang & Gau, 2016; Gadow, Perlman, Ramdhany, & De Ruiter, 2016; Jang et al., 2013; Matson & Cervantes, 2014; Ratcliffe, Wong, Dossetor, & Hayes, 2015; Simonoff et al., 2008; Van Steensel, Deutschman, & Bogels, 2012). One study noted a direct correlation between the severity of autism and the severity of comorbid anxiety (Van Steensel et al., 2012). Lai, Lombardo, and Baron-Cohen (2014) propose that 70% of children with ASD experience comorbid medical, developmental, or psychiatric conditions. Some researchers postulate a link between social development/social skills and comorbid social emotional disorders (Bellini, 2006; Kasari et al., 2015; Matson & Williams, 2014; Rao et al., 2008). For example, many believe that it is due to the quality of social interaction and/or lack of frequency of interaction or appropriate communication with others that loneliness and anxiety are prevalent in individuals with autism (Bauminger & Kasari, 2000; Bellini, 2006; Mazurek et al., 2013; Ung et al., 2013; White & Roberson-Nay, 2009). Not surprisingly, studies revealed that those youth with autism who reported experiencing the highest levels of loneliness tended to experience the highest levels of anxiety also (Bauminger & Kasari, 2000; Bolte, Dickhut, & Poustka, 1999; Kasari et al., 2011; White & Roberson-Nay, 2009). Some students experience comorbid social anxiety that may manifest in increased isolation, fear of going out of the house and/or to school, and/or fear of being in crowds. (White & Roberson-Nay, 2009). Santomauro et al. (2016) found that difficulties with social emotional regulation (controlling one's emotions) often continued through young adulthood. In addition to anxiety, many individuals with autism from young children to adults, struggle with depression (Berney, 2004; Gotham, Brunwasser, & Lord, 2015; Hillier et al., 2011). Anxiety and depression may be considered a bi-product of the difficulties that young individuals with autism experience with emotional regulation (Santomauro et al., 2016).

Individuals with autism and their stakeholders have identified multiple stressors and/or life triggers, such as social triggers, school and work triggers, sensory overload, change, fear of failure, and biological triggers (Santomauro et al., 2016). These triggers affect coping skills, family and school regulations and relationships. Chiang and Gau (2016) interviewed and conducted baseline and post-baseline assessments of 124 youth (mean age of 10) with ASD with previous diagnosis of both autism and at least one other psychiatric condition over a three-year period and compared their results to control groups with similar psychiatric conditions, but no ASD. The children with ASD experienced significantly limited school, peer, and home functioning compared to their control counterparts. They also discovered that students with ASD and comorbid conditions experience more severe levels of anxiety, depression, and inattention impacting school, peer, and family relationships than their control counterparts who did not have ASD. Overall, children with autism that experienced comorbid conditions appeared to further impair later social adjustment, suggesting the need for early intervention and identification of comorbid conditions. Other studies have highlighted the comorbidity of autism with attention and hyperactivity disorders (May, Rinehart, Wilding, & Cornish, 2013; Rao & Landa, 2014; Sikora, Vora, Coury, & Rosenberg, 2012).

Lack of empathy and difficulty with perspective taking is another common social deficit present in individuals with autism (Bird & Viding, 2014; Grove, Baillie, Allison, Baron-Cohen, & Hoekstra, 2014; Hughes, 2014; Schulte-Rüther et al., 2013; Schwenck et al., 2012; Yirmiya, Sigman, Kasari, & Mundy, 1992). Empathy is generally defined as the ability to feel and/or understand another person's feelings and/or experiences. Empathy is considered multi-dimensional comprising of both emotional aspects such as shared affect, shared feelings, and/or shared responses as well as cognitive aspects, such as the reflection of other's mental and

emotional states, self-awareness and/or self-other distinction, and perspective taking (Decety, Jackson, & Brunet, 2004; Decety & Sommerville, 2003). Premack and Woodruff (1978) defined Theory of Mind (ToM) as “the ability to represent other persons’ intentions, beliefs and desires as different from one’s own” (p. 520). ToM abilities are typically developed by the age of 3 to 4 years of age and include such manifestations as helping and other oriented behavior (Baron-Cohen, Frith, & Leslie, 1985; Thompson, Eisenberger, & Strayer, 1987). At the age of 2, most children comprehend that other individuals have desires and beliefs different from their own (Gopnick & Slaughter, 1991). Young children with autism typically do not demonstrate ToM by the age of 2, rather, they exhibit atypical empathy (Pellicano, 2013; Scambler, Hepburn, Rutherford, Wehner, & Rogers, 2007). In what has become a classic test of ToM, called the Sally-Ann Task, Baron-Cohen et al. (1985) showed that when comparing children with autism to children with Down syndrome, ToM is present in children of Down Syndrome but not children with autism.

Such difficulties with empathy tend to persist into adolescence and adulthood, impacting the quality of one’s social relations (Lombardo, Barnes, Wheelwright, & Baron-Cohen, 2007). It has been proposed that many aspects of the difficulties that individuals with autism encounter in social interaction and communication can be traced by to ToM abilities (Baron-Cohen et al., 1985; Happé, 1994). The difficulties that individuals with autism experience with empathy and/or theory of mind have been linked to struggles in social relations, communication, reading comprehension, and general maladaptive behaviors such as aggression (Baron-Cohen et al., 1985; Caputi, Lecce, Pagnin, & Banerjee, 2012; Mathews, Goldberg, & Lukowski, 2013), stressing the need to develop interventions that target empathy in individuals with autism. At

least some adults with autism, however, have managed to compensate for the lack of empathy noted in childhood and adolescence (Schulte-Rüther et al., 2013).

Social skill deficits impede social relationships in the school, home, and community setting. Children with ASD tend to report: (a) fewer friendships, (b) poorer friendship quality, and (c) reduced appropriate social interaction during non-structured periods (such as lunch or recess at school) (Calder et al., 2013; Cosgriff, 2012; Chamberlain et al., 2007; Fink, Begeer, Peterson, Slaughter, & Rosnay, 2014; Kasari et al., 2011; Humphrey & Symes, 2011; Kasari et al., 2011; Mazurek, 2014). Observations of kindergarten and elementary school students with autism during recess periods indicate that children with autism engage primarily in solitary play, lack symbolic play, and/or engage in fewer interactions with typical peers, even in inclusive settings (Anderson, Moore, Godfrey, & Fletcher-Flinn, 2004; Fink et al., 2014; Kamps et al., 2015). Cook et al. (2017) found that several girls try to conceal their autism characteristics to make friends. Most of the pre-teen to adolescent girls with autism involved in the Cook et al. (2017) study expressed a desire to have friends; however, they experienced obstacles in establishing friendships such as: isolation, difficulty navigating social groups, bullying, and increased school absences. Despite common perception, higher intelligence does not necessarily correlate with greater social strengths. There is no difference between the reported social interactions of those with autism compared to those diagnosed with Asperger syndrome (Kasari et al., 2011; Mordre et al., 2012). Chamberlain et al. (2007) conducted a study to assess the reciprocity of purported friendships of elementary school children in second grade. When the students were simply asked to name their school friends, only one third of the designated friends reciprocated the friendship of a student with autism compared to at least two thirds of those who nominated friends of their typical peers (Chamberlain et al., 2007). Reciprocity of friendships at

school appears to be considerably lower for children with ASD (Chamberlain et al., 2007; Humphrey & Symes, 2011; Kasari et al., 2011; Magiati et al., 2013; Petrina, Carter, Stephenson, & Sweller, 2015). Zeedyk, Cohen, Eisenhower, and Blacher (2016) conducted a comprehensive mixed methods study to evaluate friendship, loneliness, and self-competence in over 120 young HFA students ages 4 to 7. The results were intriguing, as many of the students reported feeling that they perceived themselves to have friends, playmates and classmates who liked them at school. However, nearly 40% reported difficulties making friends at school and at least 25% reported feeling lonely and left out in school. One 5-year-old child reported, “School is the loneliest place on earth” (Zeedyk et al., 2016, p. 446). Teacher-student conflict was found to exacerbate feelings of loneliness in HFA students (Zeedyk et al., 2016). According to Zeedyk et al. (2016): “Teachers may not be aware of the degree to which their behavior and attitudes toward children with ASD impact both what the child with ASD thinks about him/herself, and possibly how peers view him/her” (p. 446). The Zeedyk et al. (2016) findings revealed the ASD child’s self-report on three factors of the *Loneliness and Social Dissatisfaction Questionnaire* (LSDQ): loneliness, difficulty making friends, and lack of friends was reliable and consistent with additional information gathered by multiple informants (such as the ASD child’s parents, teacher, and/or peers). The Zeedyk et al. (2016) study reinforced previous studies suggesting the merits of early social skills intervention for ASD students for two primary reasons: students with ASD are reported to have lower social proficiency according to teachers, parents, and peers and, young students with ASD personally acknowledge difficulties in relating to others socially (Bauminger & Kasari, 2000; Reichow & Volkmar, 2010).

Some studies have made direct links between the social skill deficits of the individual with autism and the frequency and severity of the bullying that they have endured (Goodall,

2015; Northern Ireland Schools for Autism and Related Conditions [NISARC] Survey, 2015). Autistic children have reported experiencing higher levels of bullying than their typical peer counterparts (Braddock et al., 2015; Cook et al., 2017; Goodall, 2015; Hebron et al., 2015; Hebron, Oldfield, & Humphrey, 2017; NISARC Survey, 2015; Patton et al., 2016). Storch et al. (2012) conducted a quantitative study with multiple measures using multi-informants (parents and students) to assess the relationship between young individuals with mild to high functioning autism and feelings of victimization and loneliness. The focus of the study was on a narrow sample: students with co-morbid diagnoses of both autism and anxiety. The results illuminated a direct link to feelings of victimization and comorbidity of anxiety and/or depression. However, contrary to their original hypothesis, the authors did not find increased victimization as being linked to the severity of the social functioning. Limitations include a mostly homogeneous sample and the use of correlational as opposed to causal data, which might have explained the reason that social functioning did not register as a factor related to victimization. A ten-year systematic review of qualitative research focusing on the bullying and victimization experiences of children with autism and found that qualitative research such as interviews and/or focus groups was likely the optimum method for studying bullying in children with autism as the qualitative method allowed for the direct voice of the bullying victims to be heard (Patton et al., 2016). A related study found four key themes related to bullying: (a) bullying was reported as a common experience; (b) certain patterns of behaviors of those being bullied (the individual with autism) as well as difficulties interpreting the behavior of their peers may have contributed to the experience of being bullied in some way; (c) the school's role was pivotal – was the school staff perceived as helpful or hurtful, for example, and, finally, (d) the state of the victim's relationships with other peers and/or the victim's parents made an impact on the experience of

the alleged victim (Hebron et al., 2015). Although social and communication deficits are the core of autism, several studies have shown improvement in both social interaction and social communication with appropriate intervention (Gulsrud, Helleman, Freeman, & Kasari, 2014; Kasari et al., 2006; Koegel et al., 2014a). When students have been trained or taught to work with their peers with autism, research has suggested an increase in the quality and frequency of the social interaction of students with autism (Kamps et al., 2015; Koegel et al., 2012b; Koegel, Bradshaw, Ashbaugh, & Koegel, 2014b).

Deficits in Social Skills Related to Academic Performance

Some researchers have argued that routine social functioning, such as cooperating, helping, sharing, and demonstrating compassion towards others, are a better predictor of future academic achievement than early academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Estes et al., 2010; Malecki & Elliot, 2002). Other researchers have disagreed with this premise and suggest that early academic success (specifically, an understanding of academic concepts) is the best predictor to later academic achievement (Duncan et al., 2007; Duncan & Magnuson, 2009). Social skills deficits have been correlated to a lack of academic and/or academic professional achievement in some area and/or some way for many children with autism (Davidson & Weismer, 2014; Flynn & Healy, 2012; Horner, Carr, Strain, Todd, & Reed, 2002; Howlin & Goode, 1998; McClelland, Morrison, & Holmes, 2000). Many studies have demonstrated that while students with autism may do well with reading decoding, they struggle with reading comprehension (Ricketts, Jones, Happé, & Charman, 2012). Many hypothesize that the reading comprehension challenges of students with autism are directly related to the social nuances required in reading comprehension (Åsberg, Kopp, Berg-Kelly, & Gillberg, 2010; Ricketts et al., 2012). Even in young children just learning to identify letters and

sounds, research has found a lack of social ability correlated with difficulty in alphabet knowledge (Davidson & Weismer, 2014). There is a dearth of research exploring math performance of students with autism and math, however, one study's comprehensive literature review deduced that students with autism tend to fare better at numerical calculations than problems involving critical thinking and analysis for higher order problems (King, Lemons, & Davidson, 2016).

Deficits in Social Skills Related to Maladaptive and/or Disruptive Behaviors

Children with ASD often exhibit maladaptive behaviors at rates significantly higher than their typical peers. These maladaptive behaviors consist of both internalizing maladaptive behaviors, such as anxiety, depression, phobias, withdrawal, and/or somatic complaints, as well as externalizing maladaptive behaviors, such as aggression, compulsions, oppositional behaviors, tantrums, self-injurious, inattentive and/or destructive behaviors (Bradley, Summers, Wood, & Bryson, 2004; Brereton, Tonge, & Einfeld, 2006; Eisenhower, Baker, & Blacher, 2005; Øien & Eisemann, 2015). Even children with autism as young as ages 3 to 5 years have been observed to demonstrate more frequent and more severe internalizing and externalizing behaviors ranging from obsessions, anxiety, to tics, and/or aggression than typical peers or children with intellectual disability (Eikeseth, Klintwall, Jahr, & Karlsson, 2012; Eisenhower et al., 2005; Fulton et al., 2014; Gadow, DeVincent, Pomeroy, & Azizian, 2004). As previously noted, autism is considered a major public health concern because of high levels of impairment noted from early onset to adulthood (Fulton et al., 2014). The impairments associated with autism are often related to co-existing conditions, for example behavioral problems, diet problems, sleep difficulty, learning difficulties, accompanying mental health difficulties and/or comorbid psychiatric conditions (Maskey, Warnell, Parr, Le Couteur, & McConachie, 2012; Pearson et al.,

2006). These co-existing maladaptive conditions greatly impact day to day functioning as well as contributing to the stress reported by parents, teachers, and caretakers in caring for an individual with autism (Hastings et al., 2005; Lecavalier, Leone, & Wiltz, 2006). Maladaptive behaviors in group settings, such as in the school setting or daycare, are especially problematic and can interfere with learning and present a risk of safety to the child with autism as well as related staff, teachers, and/or peers (Lecavalier et al., 2006).

Externalized maladaptive behaviors are of significant concern and are widespread in youth with ASD (Dominick, Davis, Lainhart, Tager-Flusberg, & Folstein, 2007; Green, Gilcharist, Burton, & Cox, 2000; Myles et al., 2007). Nearly one third of children with autism exhibit severely aggressive behaviors and/or temper tantrums in a variety of settings, such as home and/or school (Dominick et al., 2007). Shea, Payne, and Russo (2018) demonstrated an empirical link between social deficits and externalized behavior, socialization accounted for 50% of the variance in externalized behaviors for children with ASD, but not for children with typical development. Such findings suggest that emphasizing social deficits may be a clear avenue to address disruptive behaviors. A disturbing fact often avoided in literature or the press due to fear of further stigmatizing youth of autism is that several of the mass shootings in our country in recent years have been perpetrated by individuals with autism (Fitzgerald, 2015). A study by Hartley, Sikora, and McCoy (2008) investigated the impact of maladaptive behaviors (primarily aggression, withdrawal, impulsivity and attention) on daily functioning for preschool students with autism found that parents rated at least one-third of young children with ASD as having overall significant maladaptive behaviors “at a level that markedly impacts daily functioning and thus is likely to interfere with early learning activities” (Hartley et al., 2008, p. 828).

Maladaptive behaviors are the most commonly cited barrier to the inclusion of children with

ASD in regular education settings (Fulton et al., 2014; Lindsay et al., 2013). The severity of externalized (acting out and/or disruptive) behaviors and social functioning is a deciding factor in the placement of students with autism in non-public schools as opposed to maintaining students in the public school and/or a least restrictive environment (Lauderdale-Litten et al., 2013).

Disruptive behavior in school (perceived or actual) often results in an increase in office referrals and suspensions (Mallett, 2015; Wright, 2015). Increased suspensions have been associated with adverse student outcomes in academic achievement and graduation rates (Balfanz, Byrnes, & Fox, 2015; Mallett, 2015; Noltemeyer, Ward, & Mcloughlin, 2015) as well as adverse life outcomes (Mallett, 2015; Wolf & Kupchik, 2017). In recent years, the alarming number of suspensions has prompted researchers to call for more proactive alternatives to suspensions (Chin, Dowdy, Jimerson, & Rime, 2012; Noltemeyer & Fenning, 2013). Recent federal and/or state legislature have heeded the appeal for more preemptive alternatives to suspensions (Council of State Governments, 2014; U.S. Department of Education, 2014; Washburn, 2018). California was reportedly the first state in the nation to take assertive political steps to restrict suspensions (Frey, 2014). In 2017, the California State Department of Education revealed the California School Dashboard as the primary method to gauge district performance in key areas under Governor Brown's school finance reform program titled the Local Control Funding Formula (LCFF) (Washburn, 2018). Rates of suspensions are utilized as a marker of a district's performance and there are consequences for excessive rates (Washburn, 2018). Such accountability has resulted in a significant reduction in suspensions statewide and nationally (Washburn, 2018). Implementing a social skills program is one such proactive measure to reducing suspensions. Studies have recently demonstrated success with the use of pro-social

interventions such as Social Emotional Learning Programs, School Wide Positive Behavior Interventions (SWPBIS) and/or the Second Step Social Skills Program to reduce the number of suspensions in schools (Childs, Kincaid, George, & Gage, 2016; Espelage, Rose, & Polanin, 2015; Szymanski, 2016). A revival of the implementation of the Second Step Social Skills Program in LA unified in 2014 to 2016 resulted in a dramatic reduction in suspension rates and school student conflicts (Szymanski, 2016). One school, The Florence Griffith Joyner Elementary School saw suspensions plummet from 267 to 14 after implementation of the Second Step Program (Szymanski, 2016). Therefore, the number of suspensions listed on a particular state's dashboard may serve as a trigger under the Fogg Behavior Model – an impetus to motivate administrators/districts to implement social skills interventions for students with special needs to reduce disproportionate numbers of students with special needs being suspended.

Research has established a firm relationship between maladaptive behaviors and deficits in communication and social skills; underscoring the need for intervention strategies that target these primary deficits (Fulton et al., 2014; Myers & Johnson, 2007; Vismara & Rogers, 2010). When maladaptive behaviors are reduced, there is a greater likelihood of enhanced learning, greater independence, and improved social relations (Fulton et al., 2014; Myers & Johnson, 2007). As maladaptive behaviors become a routine part of a child's behavior inventory, they are harder to treat, and, if left untreated, they may get worse without intervention and/or increase as the child ages (Fulton et al., 2014; Shattuck et al., 2007). Elliott and Gresham, (as cited in Ostmeier & Scarpa, 2012) related ten social skills which teachers identified as being vital to classroom success: "listening to others, following steps, following rules, ignoring distractions, taking turns, asking for help, getting along with others, staying calm, taking responsibility for one's own behavior, and doing nice things for others" (p. 932). Referring to the ten social skills

that Elliott and Gresham identified, Ostmeyer and Scarpa (2012) proposed, “These skills represent clear barriers to educational performance, as social impairment is one of the primary diagnostic criteria for ASD” (p. 933) and these skills present as lifelong challenges for the individual with HFA (Hillier et al., 2011).

Deficits in Social Skills and Impact on Future Success Including Adult Outcomes

Social skills and social competence are not only relevant to current social functioning, but they are strong indicators of continued educational progress and wellbeing later in life (Denham & Brown, 2010; Howlin & Goode, 1998; Kasari et al., 2011; Montroy et al., 2014; Mordre et al., 2012; Ostmeyer & Scarpa, 2012; Rubin & Rose-Krasnor, 1992; Welsh et al., 2001; Zins et al., 2004). According to Volkmar et al. (2014), “Structured educational and behavioral interventions have been shown to be effective for many children with ASD and are associated with better outcomes” (p. 244). Social competence is commonly defined as the ability to establish and maintain relationships with others. Stichter and Conroy (2006) define peer related social competence as the ability to engage in reciprocal interactions and form relationships with peers. The long-term effect of deficits in social competence can be profound. Jones, Greenberg, and Cowley (2015) reviewed teacher assessments of the social competence of nearly 1,000 kindergarten students and followed them from between 13 to 19 years later to assess the impact of social competency on multiple measures. The results showed statistically significant associations between kindergarten social skills and young adult outcomes in (a) employment, (b) higher education, (c) criminality, (d) chemical dependency, and (e) mental health. An overwhelming 5% of young adults with autism (ages 19-23) have not held a job or attended postgraduate education after leaving high school (Shattuck et al., 2012). Furthermore, adults with autism experience greater levels of anxiety and depression (Hillier et al., 2011; Van Steensel et

al., 2012), and they are more dependent upon government assistance than typical peers (Mordre et al., 2012). Compared to children diagnosed with just anxiety alone, those with comorbid autism and anxiety experience more specific phobias, higher levels of total anxiety and social anxiety, more frequent panic attacks, and an overall lower quality of life (Van Steensel et al., 2012).

Given two individuals with autism of at least average to above average cognition, studies have found that the individual who is most likely to succeed in life is the individual with greater social skills (Mordre et al., 2012; Szatmari et al., 2003). Mordre et al. (2012) followed over 110 children with some form of autism from childhood to adulthood. The only difference between those individuals perceived with a more severe form of autism compared to a milder form of autism per DSM-IV criteria, was that the students with a milder form of autism received slightly lower rates of disability income. The study by Mordre et al. (2012) further found that pro-social functioning was the single distinguishing criterion amongst the two groups with higher social skills corresponding to lower levels of disability income. Those students with autism with milder social skills deficits tend to have smoother transitions to middle school (Makin et al., 2017).

College students with autism continue to cite peer relations and social difficulties as one of their greatest challenges with navigating higher education (Chiang, Cheung, Hickson, Xiang, & Tsai, 2012; Gelbar, Smith, & Reichow, 2014; Hees, Moyson, & Roeyers, 2014). Gobbo and Shmulsky (2013) utilized focus groups to explore the perceptions of college faculty and their students with autism. The college staff noted some positive behaviors in their students with autism, such as, a passion for learning and an adherence to the rules. The staff reported concerns, however, regarding the students' social skills, especially with their ability to read non-

verbal peer cues (Gobbo & Shmulsky, 2013, p. 19). Such sobering statistics underscore the need to invest time and energy in the development of social skills for individuals with autism.

The Cost of Autism

As the number of individuals with autism has risen dramatically over the past two decades, so has the cost for caring and providing for those individuals (Buescher, Cidav, Knapp, & Mandell, 2014; Cidav, Lawer, Marcus, & Mandell, 2013). Autism has been recognized worldwide as a primary public health concern for several reasons, including the immense cost of care, the longevity of the condition, prevalence of the disorder, and impact on society (CDC, 2016; Ganz, 2006; Newschaffer & Curran, 2003). In 2012, while commemorating World Autism Awareness Day, President Obama declared autism a growing public health concern (Proclamation No. 8795, 2012). One of the first comprehensive studies to estimate the impact of the societal cost of autism in a lifetime was conducted within the United Kingdom at the turn of the century. The United Kingdom study found that the average societal cost of caring for an individual with autism surpassed the equivalent of 4.2 million U.S. dollars (Järbrink & Knap, 2001). A similar study subsequently conducted in the U.S. by the Harvard School of Public Health in 2006, echoed the staggering costs of caring for an individual with autism. The Harvard study estimated the annual cost for caring for one individual with autism in the U.S. to be \$3.2 million with a nationwide cost of caring for all of those with an autism diagnosis in the U.S. to be \$35 billion a year (Ganz, 2006). Ganz (2006) further separated autism costs into two direct categories: direct and indirect. Direct costs consist of medical costs including prescriptions, health care visits/assessments, intervention therapies, special education, daycare, disability funding/supplements, research costs, and/or specialized camps and classes. Indirect costs include the loss of productivity, missed opportunities, and family strain. Recent estimates of the lifetime

cost of caring for child with autism in the U.S. range from \$3.5 to \$5 million (CDC, 2012). Therefore, the U.S. spends nearly \$90 billion annually caring for individuals with autism (CDC, 2012). Annual family expenses may reach \$2.4 million when including the costs of all special education services (i.e. speech therapy, technology, counseling, occupational therapy, evaluations and assessment, social skills interventions); and when including the costs of employment, vocational training, transportation, insurance, medication, and outside therapeutic interventions (Buescher et al., 2014). The rising costs of autism emphasize the crucial need for implementing cost effective evidence-based interventions for individuals with autism.

As the number of students with autism being served in the public schools has risen dramatically over the past two decades, so has the cost for caring and providing for those students. Public school districts in the U.S. are increasingly burdened with the cost of providing services for students with autism (Levelle et al., 2014; Sharpe & Baker, 2007; U.S. Government Accountability Office, 2005). Currently, schools spend approximately \$14,000 per year to educate a student with autism (Levelle et al., 2014), whereas, schools spend approximately \$8,000 per year to educate a typical child (National Center for Education Statistics [NCES], 2014). IDEA was formerly known as the Education for All Handicapped Children Act (EHA) from 1975 to 1990 (U.S. Senate and the Subcommittee on Select Education of the Committee on Education and Labor, U.S. House of Representatives, 94th Congress. (1975). In 1990, the U.S. Congress reauthorized EHA and changed the title to IDEA (U.S. Public Law No. 94-142, 1990).

The original intent in 1975 was to assure that individuals from the ages of three to 21 with any type of disability, be provided with free and appropriate educational care via the public-school system. For students with disabilities, providing free and appropriate public education (FAPE) involves addressing the following: (a) providing meaningful education services to meet

the needs of the student with a disability; (b) exposing the student with a disability to the regular education program and/or typical peers to the maximum extent possible considering the needs of the student; (c) evaluation and placement procedures and safeguards; and (d) due process procedures to enable parents and guardians an opportunity to challenge the school district's offer (U.S. Department of Civil Rights, 504 Provisions, 2010). (Note: There have been no changes to this provision of the 504 Act since 2010). There is no consensus regarding what services and/or placements constitute an appropriate offer of FAPE for a student with autism. There is consensus, however, in that the cost of provision of FAPE can be extremely high (Bishop, 2013; Byford et al., 2015; Chambers, Pérez, & Shkolnik, 2003; Levin & Schwartz, 2007; The 2013 U.S. Budget Fails to Fulfill the Promise to Fund IDEA, 2013). With diminishing funds, there is expressed concern that educators are not able to provide appropriate interventions (Levelle et al., 2014, p. 526). Initially, federal grants for special education grew in the early 2000's, corresponding with the rates of autism. Unfortunately, for the past several years, the pace of federal funding has slowed, creating a gap in funding that school districts, states, and cities are scrambling to fill (Bishop, 2013; CDC, 2012; Holland, 2010; Leigh & Du, 2015; Levelle et al., 2014). Inherent within the precursor to IDEA, the EHA of 1975, was a provision that the federal government would provide for 40% of all special education funding. However, the actual rate has averaged 11-12% over time, and has been decreasing further as of late (Levelle et al., 2014). For this reason, IDEA is often regarded as the largest unfunded law ever passed.

In 2001, the National Research Council (NRC) made several recommendations regarding the education of students with autism (NRC, 2001). One of their recommendations was for schools to provide 25 hours of evidence-based intensive intervention (Applied Behavior Analysis, ABA) weekly, 12 months of the year, for students with autism. The NRC has not

resumed since that time, although Tincani et al. (2013) revisited the status of the NRC recommendations in 2013, a little over a decade since the recommendations were made. Tincani et al. (2013) found that administrators had not followed the original recommendations of 25 hours of intensive applied behavioral analysis for three primary reasons: (a) lack of funding, (b) lack of personnel, and (c) lack of necessity (the district thought that 25 hours was unnecessary). Parents overwhelmingly disagreed with the school districts over the provision of services to their children with autism in the follow up research (Tincani et al., 2013), citing a lack of appropriate interventions for social functioning and communication skills especially. Several of those disagreements have resulted and continue to result in legal disputes such as *County School Board of Henrico County, Virginia V. R. T., a minor* (2003) and *Schaffer v. Weast* (2005) due to frustration and resentment (Tincani et al., 2013) underscoring the ongoing need to increase resources, interventions, and supports for students with autism within the school district system.

Additional studies have argued that the merits of early intensive ABA and/or other evidence-based social skills intervention programs; make such programs worthwhile cost-effective (Chasson et al., 2007; Ganz, 2006; Jacobson & Mulick, 2000; Jacobson et al., 1998; Stahmer et al., 2015). A longitudinal Swedish study from 2007 found that the cost of the lifelong care for an individual with autism can be reduced by two thirds with early diagnosis and intervention (Järbrink, 2007).

Impact on Caring for an Individual with Autism in Family and School Environments

Some of the costs of autism cannot be easily quantified. For example, it is hard to put a dollar amount on the costs resulting from the stress on the families and educators who care for individuals with autism or the amount of time and energy that caretakers and educators provide to individuals with autism (Amendah, Grosse, Peacock, & Mandell, 2011; Meadan, Halle, &

Ebata, 2010; Newschaffer & Curran, 2003; Payakachat, Tilford, Kovacs, & Kuhlthau, 2012). Furthermore, there are costs related to the life style choices that many families of autism are forced to make such as having one parent stay home to care for the child as opposed to working or the decision to move to a different location to be closer to resources (Payakachat et al., 2012). The impact of autism on family members demands notice and further research (Petalas, Hastings, Nash, Reilly, & Dowey, 2012). Zablotsky, Bramlett, and Blumberg (2015) found that parent ratings of the severity of their child's autism correlated directly with the impact of the child's condition on the family in terms of: financial stress and the parent's ability to maintain employment. Caring for a child with ASD can significantly increase parental anxiety and depression, while simultaneously decreasing financial resources and one's overall quality of life (Meadan et al., 2010; Nealy, Ohare, Powers, & Swick, 2012; Taylor & Henninger, 2015). Nealy et al. (2012) interviewed several mothers of children with autism and found the mothers experienced commonalities: (a) autism leaves an emotional impact (such as undertones of stress, guilt, and anxiety); (b) autism may leave a social impact (such as reduced time for friends, tense spousal relations, and strained child-parent bonds with other siblings); and (c) autism often leaves a negative financial impact. Øien and Eisemann (2015) interviewed mothers of children between the ages of five and eight and anxiety and depression were widely reported. The parents' greatest concerns were their children's behavior and communication deficits, and their children's unique repetitive behaviors and/or limited areas of interests (Øien & Eisemann, 2015). Some parents, especially mothers, of children with autism, respond to the pressures of raising a child with autism by assuming the activist role, where she spends much of her family time advocating for her child with autism in their respective schools and communities (Ryan & Cole,

2009; Foster, Rude, & Grannan, 2012). Like many of their parents, siblings of children with autism report heightened levels of stress and worry (Petalas et al., 2012).

The Importance of Early Intervention

In terms of successful outcomes for individuals with autism, two key criterion measures have emerged: (a) the importance of early intervention, and (b) the quality of one's social skills. The importance of early intervention for ASD is widely acknowledged and supported by many studies showing improved outcomes in a variety of life measures with earlier treatment (Dawson, 2008; Fulton et al., 2014; Kasari et al., 2011; Kasari et al., 2012; Landa & Kalb, 2012; Makrygianni & Reed, 2010; Owen-DeSchryver, Carr, Cale, & Blakeley-Smith, 2008). Many studies consider the ages of less than 5 years to be critical for intervention (Harris & Handleman, 2000; Reic; Matson, 2007; National Research Council, 2001; Reichow, Barton, Boyd, & Hume , 2012a). Anderson, Liang, and Lord (2014) conducted a longitudinal study on a large sample of children who received early intervention for autism. At age 19, the researchers assessed the participants' progress on several measures and found that those who participated in early interventions experienced greater positive outcomes in the areas of self-help, communication skills, social skills, and higher learning.

Inclusive School Settings

There has been a trend toward the inclusive model of Education for the past two decades. Data from the U.S. Department of Education, Institute of Education Sciences, and the National Center for Education Statistics (2014) have revealed that the percentage of students with autism who spend more than 80% of their day in general education has increased from 9% in 1992 to 31% in 2006. This reflects an increase over 200% (Sansosti & Sansosti, 2012). The inclusive model is not just a U.S. event, it is a worldwide phenomenon growing out of legislation

supporting human rights for children with ASD and other disabilities via the United Nations Education, Scientific, and Cultural Organization (UNESCO) (Marshall & Goodall, 2015). As the emphasis on the inclusion of students with special needs in regular education classrooms continues, schools need to find better ways to enhance social deficits of students with autism (Koegel et al., 2012a; Lindsay et al., 2013; Williams et al., 2005). As increasingly more students with autism have been placed in regular education, it was initially assumed that placement alongside typical peers would have social benefits. However, results regarding mainstreaming and/or inclusion as an avenue to improve the social impairments of children with autism have been varied (Burack, Root, & Zigler, 1997; Harrower & Dunlap, 2001; Humphrey & Symes, 2013; Marshall & Goodall, 2015; Sreckovic, Brunsting, & Able, 2014).

Studies evaluating the success of inclusion for students with autism have shown that despite close proximity to typical peers, fewer than 5% of the student with autism's contacts with typical peers was related to friendship or social interaction (Hilton & Liberty, 1992), and that inclusion *alone* may even pose social risks for the higher functioning student with autism, such as the risk of bullying, peer rejection and/or stigma (Humphrey & Symes, 2013; Kasari et al., 2011; Newman, 2007; Ochs, Kremer-Sadlik, Solomon, & Sirota, 2001; NISARC Survey, 2015; Sreckovic et al., 2014). In inclusive settings, typical peers tend to spend time interacting with other typical peers, while the student with autism continues to experience some level of isolation (Chamberlain et al., 2007; Fox, Hemmeter, Snyder, Binder, & Clarke, 2011). Benefits to inclusion potentially consist of increased opportunities for social interaction, exposure to typical peer models for behavior, and higher academic expectations (Crisman, 2008; Odom, Buysse, & Soukakou, 2012; Smith, 2012). However, multiple studies have demonstrated that many children with ASD do not benefit from inclusive learning without planning, instruction, and supports

(Byrne, 2012; Hansen et al., 2014; Harding, 2009; Koegel et al., 2012a, 2012b; Marshall & Goodall, 2015). Most students with HFA “will require supportive educational program throughout their academic tenure,” despite their higher functioning abilities.” (Sansosti & Sansosti, 2012, p. 917). Hansen et al., (2014) conducted a literature review of multiple single-case design research studies; the researchers noted that *more than any other support, children with autism in inclusive settings need access to evidence-based practices for social skills* to be successful.

Teacher perceptions regarding inclusion are as varied as the data regarding the efficacy of inclusion for students with autism. Inclusion has been linked to higher rates of teacher stress and burnout, particularly for those regular education teachers who have not had the benefit of the training that their special education counterparts have experienced (Boujut et al., 2016; Lindsay et al., 2013). Majoko (2015) noticed that schools in Zimbabwe, like many other public schools in many countries in the world, were switching to an inclusive model of education for students with special needs, particularly students with autism. Overall, the teachers in Zimbabwe were struggling with the concept of inclusion of students with autism in regular education classes and they cited three primary areas of concern: (a) maladaptive behaviors (i.e. blurting out, disruptive behavior of various types, and/or increased aggression); (b) social communication challenges (i.e. difficulty expressing their thoughts/feelings, tendency to misinterpret the perspective of others); and (c) rejection and alienation from their typical peers (Majoko, 2015). To enhance inclusion and change teacher’s perceptions of inclusion, the following supports are recommended: (a) additional training regarding autism and behavior for *all* teachers, (b) support and/or peer mentoring, (c) additional supports and resources (including additional involvement

from parents, administrators, and other school professionals); and (d) adopting a proactive versus reactive mentality (Lindsay et al., 2013; Majoko, 2015).

Evidence-Based Social Skills Interventions

Several types of social skills interventions have been examined and documented to improve social competencies of school-age children with ASD (Bellini, Peters, Benner, & Hopf, 2007; Reichow & Volkmar, 2010; Whalon, Conroy, Martinez, & Werch, 2015). Social skills groups conducted in the school setting can be classified into three types: (a) skills based (didactic instruction provided by an adult facilitator); (b) engagement based (peers engage in one another in play and/or constructive projects, such as building Legos); and (c) mixed (a combination of direct didactic instruction followed by a period of active peer engagement). Didactic models often involve instruction, modeling, practice, and feedback. Engagement groups (such as those employing PMI) tend to capitalize on shared interest between children at schools (Koegel et al., 2012a; Koegel, Kim, Koegel, & Schwartzman, 2013; Owens, Granader, Humphrey, & Baron-Cohen, 2008; Wolfberg, De Witt, Young, & Nguyen, 2015). For the engagement group, typical peer role models are often chosen deliberately for their positive social skills – such peers tend to be popular and well liked.

To increase their child's social skills in the school setting, some families have turned to outside agencies in the form of clinic-based social skills groups. These social skills group might use any of the delivery models already discussed: (a) Didactic based, (b) engagement/activity based, or (c) mixed. Sample curriculums involve following a set of topics such as teasing, maintaining a conversation, sharing, and building friendships (Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012). Studies have shown that the use of outside social skills groups may have positive effects within the group, but that these positive effects seldom generalize to the child's

daily environments such as school, home, and/or extra-curricular groups (Kasari et al., 2015; Reichow et al., 2012b). Two likely explanations exist to address the lack of generalization: (a) the lack of exposure to typical peer role models within the group/outside groups tend to consist primarily of individuals with ASD; and (b) the disconnect between skills addressed within the group and the skills of concern in the other environments, such as home or school (Kasari et al., 2015; Reichow et al., 2012b). Hence, if the goal is to improve social skills in the school setting, then a social skills intervention in the school setting is likely to produce superior results.

As previously noted, some of the evidence-based practices for improving social skills as identified by the Autism Evidence-Based Practice Review Group at Frank Porter Graham Child Development Institute, include the following: peer mediated interventions (PMI), social narratives (AKA social stories), social skills training (SST), structured play group (SPG), pivotal response training (PRT), and video modeling. Whalon et al. (2015) critically reviewed 37 school based single-case design studies involving more than 105 children ages three to 12 and found that, “peer-mediated, multi- component, adult-mediated interventions garnered more evidence for the promotion of peer interactions in school settings than others, and some require additional study for the purpose of teaching peer-related social competence (i.e., social narratives and VM/VSM)” (p. 1528). Settings for the delivery of evidence-based practices have varied from whole class group instruction, to small group within class instruction, to small group pull out instruction, to one on one, to structured play activities during recess and/or lunch. While there are no consensus regarding interventions, ABA therapy and comprehensive early intervention models have demonstrated success with ameliorating and/or improving the core deficits of individuals for very young children (Reichow et al., 2012a). While ABA is a broad term that encompasses a wide variety of behavioral strategies and techniques, most individuals refer to

intensive ABA as the format of ABA developed by Lovaas et al., (1981), as proposed in his study of Early Intensive Behavioral Intervention (EIBI). This form of ABA usually involves an adult working directly with a child in a very systematic fashion. Intensive ABA has not been demonstrated to be effective for children after the age of 8. Furthermore, many districts have found intensive ABA therapy to be time consuming and taxing on financial resources and personnel. The need to find quality interventions that are both cost and time effective is paramount. Peer mediated interventions and short term social emotional evidence-based interventions may be promising solutions for school districts looking for high quality interventions that are also time and cost-effective programs.

Peer Mediation Interventions

As more students with autism spend more time in regular education inclusive settings with their typical peers, it would be advantageous for school districts to concentrate on methods to facilitate and enhance social interaction between students with ASD and their typical peers, especially since research has demonstrate that interaction between these two groups is often limited naturally (Chamberlain et al., 2007; Humphrey & Symes, 2013). One such evidence-based method is Peer Mediated Interventions (PMI). Peer Mediated Interventions are evidence-based practices for individuals with autism recognized by both the 2014 report by the *Autism Evidence-Based Practice Review Group* at Frank Porter Graham Child Development Institute, at UNC-Chapel Hill (Wong et al., 2015), and *The National Standards Project – Phase 1 and Phase 2* (Odom, 2013; Wilczynski et al., 2011; Wong et al., 2015). PMI research has demonstrated efficacy in enhancing the social skills of preschool to elementary students with autism (such as peer initiation, frequency and length of peer responses, and the quality of peer interaction (Chang & Locke, 2016; Locke, Rotheram-Fuller, & Kasari, 2012; McFadden, Kamps, & Heitzman-

Powell, 2014; Rodríguez-Medina, Martín-Antón, Carbonero, & Ovejero, 2016; Watkins et al., 2015). Furthermore, PMI has been demonstrated to be an effective intervention for students in inclusive settings, with positive outcomes noted across a variety of various social skills, generalization of those skills to other settings and/or individuals over time, and maintenance, performance of those skills for some time after the interventions has been implemented (Watkins et al., 2015). However, Watkins et al. (2015) did find that the ASD peers who benefited the most from PMI interventions, shared certain characteristics, namely: “typical language and social skills, prior interest in interacting with the participants, regular attendance, and high levels of compliance” (p. 1079-1080). Furthermore, students with ASD who respond well to PMI interventions tend to possess average cognition and the capability of speaking in sentences (Chang & Locke, 2016). Studies indicate that PMI not only benefits the students with autism, but their typical peer counterparts as well (Kamps et al., 2015; Schlieder, Maldonado, & Baltes, 2014). Typical peers who participate in PMI programs have demonstrated enhanced social skills of their own, develop stronger connections to peers with ASD, experience friendships of high quality and report fewer feelings of loneliness than even other typical peers (Locke et al., 2012). Additional benefits of being a typical peer role model include increased leadership skills, heightened empathy, and an improved understanding of students with disabilities (Schlieder et al., 2014).

Rogers and Dawson (2010) contend that “just as typically developing children spend their waking hours engaged in the social milieu and learning from it, children with ASD need to be drawn into a carefully prepared and planned social milieu that they can understand, predict, and participate in it” (p. 12). Peer mediated interventions attempt to do just that: to draw students with autism into more natural social interaction via planning and guidance. Two comprehensive

literature reviews that utilized a scientific merit rating scale (SMRS) have demonstrated the success of PMI in elementary schools to enhance social skills across the classroom and/or playground settings (Chang & Locke, 2016; Kamps et al., 2014; Zagona & Mastergeorge, 2016). Most PMI interventions were implemented within three months' time, demonstrating significant improvement in a relatively short timeframe (Chang & Locke, 2016; Kamps et al., 2014; Zagona & Mastergeorge, 2016). Peer mediation has been utilized successfully to enhance on task/academic production, to enhance social skills, to enhance communication, to enhance pre-vocational tasks, to improve reading comprehension, and/or to enhance behavioral skills (Chang & Locke, 2016; Cole & McCurdy, 2014; Garrison-Harrell, Kamps, & Kravits, 1997; Kasari et al., 2012; Lee & Odom, 1996; Rodríguez-Medina et al., 2016; Wolfberg et al., 2015). Please see Appendix W for a synopsis of many of the most common forms of PMI, the nature of the PMI intervention, and associated studies lending validation to a particular PMI intervention.

The strategies of modeling, prompting, and reinforcement are generally considered the most effective procedures for teaching social skills (Cole & McCurdy, 2014; Kamps et al., 2014, 2015). PMI intervention packages often include a didactic component by the group leader, modeling of behaviors (often by both the group leader and typical peers) and practice of the newly presented social skill (Chang & Locke, 2016). The core component of PMI is that typical peers are involved in the intervention, and taught to deliver desired academic, behavioral, and/or social interventions to the targeted students with ASD, rather than just relying on an adult (Chan et al., 2009; Crossland & Dunlap, 2012; McFadden et al., 2014). As such, in PMI, typical peers become the primary agents of change for the students with ASD. The vast majority of PMI models include a training component for their typical peer participants (Chang & Locke, 2016; Kasari et al., 2012) that frequently includes direct instruction, modeling, role play, and rehearsal

(Koegel & Koegel, 2006). One explanation for the success of peer mediation is that typical peers tend to reinforce behaviors and norms consistent with their own (Hoff & Robinson, 2002).

Typical peers chosen to participate in PMI tend to present with common characteristics: they are popular, and they have demonstrated a positive rapport and/or attitude towards students with autism prior to participating in the intervention (Kasari et al., 2012). The authors theorized that the high social status of the peer model may have a positive influence on the social standing of the peer partner with autism.

PMI programs may be delivered via small group training, structured play, drama-based groups, after school or during lunch peer interest groups, whole class-wide interventions, peer tutoring, recess, or (less commonly) class-wide peer tutoring (Corbett et al., 2015; Kasari et al., 2012; McFadden et al., 2014). Recess, play periods, group activities and/or lunch settings lend themselves naturally to PMI interventions. The unstructured setting is convenient, and it does not detract from the student's educational time in class. At recess – with the use of PRT and PMI techniques, children with autism can acquire pivotal social skills (Lang, et al., 2011; Koegel et al., 2012a; Koegel et al., 2013). Recess interventions also lend themselves naturally to maintenance and generalization than other settings. PMI is typically administered during lunch or recess in as little as two or three, 15- or 20-minute sessions per week, for generally less than three months. Kasari et al. (2012) denoted positive outcomes in a PMI intervention implemented just twice a week for 20-minute sessions for only six weeks (12 sessions total). Peer-Mediated Intervention (PMI) at recess or lunch has been demonstrated to increase social interaction skills (such as initiation and turn taking) as well as reduce negative, inappropriate behaviors (Harper, Symon, & Frea, 2008; Rodríguez-Medina et al., 2016; Zagona & Mastergeorge, 2016). Some PMI unstructured activities capitalize on the student with autism's interests for success (Koegel

et al., 2013). Additional optional components to the PMI recess/lunch package include direct instruction of social skills, token-economy, priming and/or group contingencies (McFadden et al., 2014).

Peer Mediation Network Intervention (PMNI) programs expand upon traditional PMI programs by including at least two evidence-based interventions into a more comprehensive intervention package. Many PMNI programs entail guided social skills training (either class-wide or small group) program combined with a recess or lunch-based PMI program. These interventions have been shown to result in favorable outcomes across a variety of social behaviors (Kamps et al., 2014; Kasari et al., 2012; Lopata et al., 2015; Mason et al., 2014; McFadden et al., 2014; Spencer & Higbee, 2012; Wolfberg et al., 2015). For adolescents, peer mediated interventions are often referred to as networks and may take a different form, such as a small group of typical peers (who are recruited and trained), and students with special needs meeting regularly at structured times for conversation, activities, and the like, to create frequent opportunities for interaction (Schlieder et al., 2014; Thiemann-Bourque, 2012). Cosgriff (2012) added a twist on utilizing peer mediation interventions to improve social interaction in the high school setting by adding the use of peer created goals and self-management techniques.

Pivotal Response Training

Pivotal Response Training (PRT) is a comprehensive intervention package for students with autism. PRT targets behaviors that are considered pivotal to learning additional behaviors. These pivotal behaviors include motivation, initiation, initiation of social interaction, self-management, and understanding and utilizing multiple environmental cues (Koegel & Koegel, 2006; Schriebman, Stahmer, & Pierce, 1996). PRT was developed by Koegel and Koegel in the 1990s. The technique is child-centered – yet adult-facilitated, and PRT utilizes ABA procedures

to provide support in naturalistic settings (Koegel & Koegel, 2006; Platos & Wojaczek, 2017). PRT has been demonstrated to be effective in enhancing and augmenting social skills and functional communication (Cadogan & McCrimmon, 2015; Koegel et al., 2014b). PRT can be utilized in the classroom, home, community, and/or recreational settings such as lunch/recess. PRT typically involves an experienced trainer working in a 1:1 capacity with a focus student in the natural setting to promote and enhance those pivotal behaviors. Interventionists implementing PRT attempt to capitalize on the student's natural interests and preferences to trigger learning.

Social Narratives (AKA Social Stories)

Carol Gray introduced social stories in 1993 (Gray et al., 1993). Social narratives are short, personal stories, written in the first person to teach children with autism how to navigate a challenge situation. Social stories are helpful for students with autism to reduce a single targeted problem behavior (Gray, 2010; Hutchins & Prelock, 2013; Pane, Sidener, Vladescu, & Nirgudkar, 2015). As such, they are often used as a supplemental program for enhancing social skills. Gray recommended that all social stories include a minimum of two descriptive, perspective, affirmative or cooperative sentences, for every directive or control sentence (Gray, 2004). Social stories often use visuals or pictures to enhance comprehension. Social narratives are primarily designed for those with reading skills, but individuals with limited decoding skills but strong auditory comprehension skills may also benefit (Gray, 2010; Mayton, Menendez, Wheeler, Carter, & Chitiyo, 2013). Social narratives are often applied within a broader social skills intervention package (Kokina & Kern, 2010; Scattone, Tingstrom, & Wilczynski, 2006). Social stories are most effective when implemented by trained researchers due to concerns regarding implementation fidelity (Mayton et al., 2013). A limitation to social skills narratives is

the lack of rehearsal of the skill and the lack of modeling by an individual other than the character depicted in the story.

Social Skills Group Training

Social skills group training (SSGT) is the most common school intervention for children with autism. SSGT typically involve several students of similar ages participating in a small group setting with a trained adult facilitator, such as a teacher, counselor, or speech therapist. Some SSGT groups incorporate the use of PMI strategies via the involvement of typical peer group member participants. The adult facilitator tends to guide the participants to interact. The adult leader often presents a social skill lesson of the day or week via a script. Topics include such activities as giving a compliment to another, asking for help, greeting others, initiating, and sustaining a conversation. Ongoing collaboration with a parent and/or teacher and behavior monitoring is key to the success of a solid SSGT. Meta-analysis of the use of SSGTs with students with autism have showed promising positive gains in social skills (Gates, Kang, & Lerner, 2017).

Nationally, two resources are available for school districts attempting to determine which social skills training programs are evidence-based: The Collaborative for Academic, Social, and Emotional Learning (CASEL) group and the Positive Environment Network of Trainers (PENT) (See Appendix V for a list of various evidence-based social skills training programs for early elementary school-aged children). CASEL was formed in 2003 to establish evidence-based SEL practices in the public-school setting (Schonert-Reichl & Hymel, 2007). The CASEL guide for evidence-based social emotional practices has been revised several times since 2003, with the most recent revision in 2013. The 2013 CASEL Guide provides information on 23 select social skills programs spanning preschool to high school. Research findings are positive suggesting

that global social emotional learning enhances academic achievement and behavior, while reducing maladaptive behaviors and emotional difficulties (CASEL, 2013; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Lemerise & Arsenio, 2000). Wolstencroft et al. (2018) recently conducted a systematic review of group social skills interventions for children with HFA, focusing on studies that included the parent-report Social Responsiveness Scale (SRS) as the criterion for success. The results of the meta-analysis of 10 studies showed improvement in the overall SRS score, as well as an increase in the social communication SRS subscale and reductions in the reduced restricted interests and repetitive behaviors subscales (Wolstencroft et al., 2018).

Despite the availability of many diverse evidence-based SEL and Social Skills interventions, many are not utilized in the public-school settings (Ennett et al., 2003; Gottfredson & Gottfredson, 2001) and/or they are not utilized with efficacy (Deris & Di Carlo, 2013; Kasari & Smith, 2013). A review from 2007 that included 14 studies on SSGT highlighted the following research challenges: small sample size, inadequate measurement tools for social functioning, and the need for improvements (Williams et al., 2007). Furthermore, the literature gap illuminates that the generalizability of these social skill group interventions has been neglected (Jonsson, Choque Olsson, & Bölte, 2016; Kasari, Shire, Factor, & McCracken, 2014; Williams et al., 2007).

Video Modeling

Research suggests that video modeling is as commonly practiced and as effective as peer mediation (Wang, Cui, & Parrila, 2011). Video modeling has been used successfully to teach social skills to children and adolescents for the past two decades. It is particularly effective for teaching novel social behavior (Plavnick, Kaid, & MacFarland, 2015). Video modeling programs

vary from formal, structured programs that one may purchase as a package deal, to less formal or less technical programs that are unique to the targeted student. A benefit for the use in school districts is that video modeling requires little adult support or direction (Hume, Loftin, & Lantz, 2009). Indirectly, video modeling incorporates elements of peer mediation and modeling. Social skills trainings are delivered in a form that is comfortable and attractive to children: children watch videos of expected and/or desired behavioral scenarios and then practice the behavior themselves.

Positive Behavior Reinforcement Interventions

Positive Behavior Reinforcement Interventions are the most-commonly used strategy for reducing maladaptive behaviors and increasing appropriate behaviors (Matson & Boisjoli, 2008). Some studies have shown that adding positive behavior interventions to other evidence-based social skills interventions such as peer mediated interventions and video modeling, can increase the efficacy of those programs (Camargo et al., 2014; Mason, Ganz, Parker, Burke, & Camargo, 2012). Positive reinforcement is the presentation of a stimulus, such as a tangible object, a token, or verbal praise, immediately after a behavior, which then increases the likelihood that the behavior will occur again (Cooper, Heron, & Heward, 2007). Variations of delivering positive reinforcement include the use of token economies, and differential reinforcement of other behaviors (DRO) – reinforcing a child for going periods of time without engaging in a particular maladaptive behavior target; and differential reinforcement of alternative behaviors (DRA) – reinforcing for alternative behaviors that are more socially appropriate and meet the same function of the maladaptive behavior (such as reinforcing a child for asking for a break when he desires to escape an unpleasant situation as opposed to engaging in a tantrum when presented with the unpleasant stimuli) (Cooper et al., 2007).

Barriers to Implementing Evidence-Based Practices in Public Schools

Given the rising rates of students with autism in schools, as well as the rising costs associated with supporting students with autism, school districts often scramble to provide appropriate services within the confines of time and funding issues. While 25 hours of Applied Behavioral Analysis (ABA) therapy as an early intervention program is considered an evidence-based practice, most school districts cite lack of time, lack of personnel, lack of training, and expense involved when queried as to why they are not able to provide that intervention (Grindle et al., 2009; Kasari & Smith, 2013; Williams, et al., 2007). Furthermore, schools are hesitant to focus on intensive ABA (i.e. Lovaas ABA) for elementary school children, as the intervention has not demonstrated efficacy beyond the age of eight. Additional barriers to the successful implementation of evidence-based social interventions are a lack of knowledge, a lack of manuals/explicit guides, and a lack of sufficient support staff (Grindle et al., 2009; Jacobson & Mulick, 2000; Kasari & Smith, 2013). Studies have revealed that even personnel expected to have knowledge of evidenced based practices, such as school psychologists, lack sufficient knowledge and training of EBPs (Combes, Chang, Austin, & Hayes, 2016; Hicks, Shahidullah, Carlson, & Palejwala, 2014; Splett et al., 2013). Nearly 60% of school psychologists reported not having any training in conducting and implementing social skills training for students with autism in their graduate programs (Combes et al., 2016). Other researchers have cited the lack of buy-in from the stakeholders (i.e. teachers, administrators, and students) involved (Kasari & Smith, 2013; Kucharczyk et al., 2015; Locke et al., 2015). It is common knowledge that many innovative school programs fail because of lack of staff or administrator buy-in, the implementation of EBPs for social skills is no exception. Another obstacle is that several EBD's were designed to be delivered through one to one therapy, which is not the format that most

schools are comfortable with or can afford (Stahmer et al., 2015). Furthermore, research has revealed a disconnect between IEP goals and researcher goals (Stahmer et al., 2015).

Several recent studies have proposed the use of implementation science and/or research-based program evaluation to enhance the implementation of EBPs for students with autism (Locke et al., 2015, 2016; Miller, 2017; Owens et al., 2014). Owens et al. (2014) recognized a dilemma noting that schools often fail to utilize EBPs and/or to utilize them successfully. Therefore, the researchers proposed an implementation science strategy and/or strategy that one should consider when attempting to implement evidence-based practice in the school setting and/or when attempting to assess the efficacy of EBPs in the schools. Per the researchers, it is difficult for school professionals to know which EBPS are most compatible with their environment, how to best train staff and how to sustain/maintain the EBP over time. These three areas of concern are labeled: (a) professional development regarding EBPs, (b) the quality of EBPs in the schools, and (c) EBP sustainment in a typical school. All the research questions developed to address these concerns focused on four primary areas: (a) the amount and extent of coaching, (b) the type of coaching methods/strategies utilized, (c) the type of coaching model used (i.e. someone from within the organization or from the outside, an expert or a peer); and, finally, (d) the motivation and perspective of the implementation science professional. Some of the suggestions from the authors include: (a) finding ways to go beyond the barriers to implementation, (b) the utilization of mixed methods designs, (c) the utilization of participatory action research methodologies involving multi-disciplinary methods and stakeholders, and (d) the focusing on efficient models as the standard within schools. Stahmer et al. (2015) conducted a 2-year study with 67 teachers in which researchers taught teachers about evidence-based practices for children with autism and then evaluated the teachers' success in implementing what

they had learned post the training intervention. The researchers concluded, “Teachers can be taught to implement evidence-based practices for students with autism, but that it requires extensive training, coaching and time to reach and monitor moderate procedural implementation fidelity” (Stahmer et al., 2015, p.181).

Program evaluation involves addressing: the success of the intervention, the superiority of the intervention to other methods, the fidelity of implementation, and the efficiency of the evaluation in terms of time and money (Miller, 2017). Although program evaluation is an emerging science and practice, it is considered vital to ensure the quality and efficiency of services (Miller, 2017). A recent comprehensive and multi-city assessment of the implementation of evidence-based social skills for students with autism in inclusive settings identified three primary areas of concern: noted tension between the various school stakeholder groups; lack of sufficient autism specific and behavioral training for staff, and school cultures were not yet prepared or ready to embrace inclusion (Iadarola et al., 2016). These themes underscore the need for staff development and staff buy-in for implementation of evidence-based interventions. Additional suggestions to create successful learning environments for students with autism in inclusive settings including: daily schedule, regular sensory breaks, visual supports, and social functioning support (i.e. social skills training), clear behavior management techniques, a structured physical design, visual supports, and time devoted to preparation and observation (Deris & Di Carlo, 2013).

Conclusion

Autism rates have risen dramatically from 1990 to the present. Autism presents as a neurological disorder with severe social and communication qualitative differences that impede day to day functioning. To enhance outcomes of individuals with autism, more energy and time

should be devoted to teaching individuals with autism to form relationships and understand other's thoughts and feelings (Daily, 2005). As rates of autism have soared, the rate of students with autism spending time in inclusive settings has also risen dramatically. Despite potential benefits to both typical peers and students with autism in an inclusive setting, research is adamant that programs must be in place and well implemented to engender a successful outcome. Programs targeting social skills are of the most prescient programs due to the impact of social skills on academics, classroom behavior, social emotional learning, and future outcomes.

School districts are continually being called upon to develop and implement strategies to assist students with autism. Indeed, the social-emotional deficits of children with ASD have been neglected in the school setting (Bryson, Rogers, & Fombonne, 2003; Locke et al., 2016; Owen-DeSchryver et al., 2008; Owens et al., 2014). Studies have elucidated many barriers to successfully implementing evidence-based social skills instructions in the school settings: (a) lack of time, (b) lack of resources, (c) lack of funding, (d) lack of training, and (e) the lack of stakeholder support. Given these considerations, innovative and effective methods are needed to assist and empower public school districts to implement evidence-based interventions for appropriately and consistently their students with autism. Considering the immense individual, family, and societal costs of caring for an individual with autism, now is the time for action. It is critical to identify successful cost-effective evidence-based social skills interventions that a school district will be willing, able, and eager to implement.

Chapter III: Research Design and Methodology

Introduction

One of the challenges of implementing evidence-based practices for students with autism in public schools is obtaining stakeholder consensus regarding specific practices (Kucharczyk et al., 2015; Locke et al., 2015). Many staff report feeling burdened or overwhelmed at the thought of adding more work into their daily school schedule and/or curriculum (Miller, 2017; Owens et al., 2014; Stahmer et al., 2015). Hence, to effect a systemic change of this magnitude in a school district, the Fogg Behavior Model (FBM) posits that stakeholders need to be motivated to participate in the desired change.

Furthermore, research has demonstrated that many staff members feel they lack the training and support necessary to successfully implement evidence-based practices for social skills. Even seasoned school professionals who are familiar with social emotional learning, such as school psychologists and school counselors, report insufficient training and awareness of evidence-based social skills interventions for students with autism (Combes et al., 2016; Hicks et al., 2014). The Fogg Behavior Model maintains that, in addition to motivation, stakeholders need to have the ability to implement a desired change.

As related to this study, the ability in the FBM is a direct reflection of assuring that the intended architects of change (school staff) have sufficient training, knowledge, and resources to implement evidence-based social skills interventions for students with HFA. As the trend toward inclusion continues to grow, and increasingly more regular education teachers are being exposed to students with autism, the need to implement evidence-based social skills interventions is critical. Not only will such interventions help the students with autism, but such interventions will likely benefit the typical peers and teachers (Kamps et al., 2015; Otero et al., 2015).

Teachers will benefit from a more cooperative class with increased time on task and reduced maladaptive behaviors, while the typical peers will benefit from enhanced leadership, enhanced cooperation and social skills, and development of empathy (Kamps et al., 2015; Ledford & Wehby, 2015; Otero et al., 2015; Runcharoen, 2014).

Research Design

The research design best suited for this study was a mixed methods design. This mixed methods design employed Participatory Action Research (PAR). A community commonly utilizes PAR when there is a known problem or issue and a variety of interested parties who have attentiveness to the issue (Wright et al., 2014). While conducting a literature review of PAR studies involved in autism research, Wright et al. (2014) surmised “The involvement of individuals with ASD, along with their families, school and workplace representatives moves research closer to a community-engaged endeavor and helps to build a stronger science that is translational and sustainable” (p. 2).

In PAR, stakeholders work collaboratively via a process which allows for sharing of opinions and concerns combined with action to solve a designated problem (Hourcade, 2014; Stringer, 2014). There are two core elements of PAR: engendering knowledge and changing social systems (Lewin, 1946). Lewin is widely regarded as the father of action research. In school districts, PAR can be interpreted and utilized as a form of professional development in which staff PAR can be viewed as a tool for professional development in which staff learn about themselves, their co-workers, and their students and discover new ways to hone their skills (Ferrance, 2000). As previously mentioned, a mixed methods design is commonly employed in action research as the methods tend to involve both qualitative and quantitative data (Creswell, 2012; Mills, 2014; Wright et al., 2014). Creswell (2015) defines mixed methods as “combining

quantitative data (statistical trends) and qualitative data (stories and personal experience) to draw information from both for a better understanding of the issue than with using only one form of data” (p. 2). Qualitative methods, such as semi-structured interviews and focus groups give the invested parties an opportunity to become involved and voice their opinions (Marshall & Rossman, 2016; Maxwell, 2013).

This study combined and implemented several types of design and data collection methods including focus groups with district stakeholders, survey administration, case studies, direct observations in the natural setting, interviews, and pre- and post-intervention assessments. Both triangulation of data and researcher triangulation were applied. The data sources for triangulation included the use of the direct observations, the focus groups, teacher and parent social skills assessment data, survey results, and participant interviews. Researcher and/or investigator triangulation was utilized as one research assistant attended 100% of the classroom observations in conjunction with the primary researcher. The assistant researcher’s observations were then compared to those of the primary researcher. Furthermore, two additional research assistants presented on topics during the focus groups and helped to facilitate the focus groups. In addition, some staff members attended several of the social skills intervention sessions led by the primary researcher. When additional observers examine the same phenomenon, credibility of one’s study is enhanced (Yilmaz, 2013) and triangulation is fuller (Flick, 2018). According to Flick (2018), the use of a variety of researchers allows for a more comprehensive understanding of social practices. Triangulation of data “should produce knowledge on different levels, which means going beyond the knowledge that is possible by one approach and thus contribute to promoting quality in research” (Flick, 2009, p. 445).

The University of Iowa and Hourcade (2014) conducted a study utilizing participatory design to assess the success of various technology applications in facilitating social interaction for students with autism. This is a summary of the Hourcade (2014) recommendations for future use of PAR in school settings: (a) deeply engage (maintain sustained interaction over time), (b) involve stakeholders helping to assure the success of generalizing use of the applications to a particular setting, (C) consider the context, for example, design applications with settings in mind, such as school setting versus home setting; (d) observe first to gain baseline behaviors, (e) be adaptive/flexible, modify goals, if necessary; (f) build rapport with students and stakeholders, (e) evaluate the program over time, and (f) be aware of a wide variety of skill level when conducting PAR. The primary researcher in this study attempted to heed every one of these recommendations when implementing the current study.

Role of the Researcher

In PAR, the role of the researcher is unique because the researcher takes an active role in the research process to implement an organizational change (Kemmis, 2016; Maxwell, 2013). Stringer (2014) describes the role of the researcher in PAR as both that of a facilitator and a researcher. Stringer (2014) proposes:

The task of the practitioner researcher is to provide guidance and support to other parties or stakeholders in the research process...practitioners may accept the role of the researcher, thereafter, when they enact research process with the group of other stakeholders-students, clients, administrators (p. xvi).

Unlike traditional research, action research necessitates an intervention (Herr & Anderson, 2015). Herr and Anderson (2015) suggest for the action researcher these interventions form a spiral of action cycles in which one undertakes:

- To develop a plan of action to improve upon what is already happening;
- To act to implement the plan;
- To observe the effects of action in the context in which it occurs; and
- To reflect on these effects as a basis for further planning, subsequent action, and on, through a succession of cycles (Kemmis & McTaggart, 1987, as cited by Herr & Anderson, 2015).

The role of the researcher in PAR is simultaneously active and reflective, the researcher must work within the community to reach a solution to a community concern. The researcher in this study noticed an area of concern: lack of utility of evidence-based social skills programs for high functioning students with autism in inclusive school settings; the researcher then developed a plan of action working within the community. Following the FBM guidelines to initiate an organizational change, the principal researcher sought to motivate and train staff, and to serve as the catalyst for change.

Via focus groups and the use of surveys and questionnaires, the researcher listened to the concerns and opinions of the community. The researcher then provided training, modeling, and education regarding evidenced based social skills interventions to empower staff who would then continue the action cycle (Cattaneo & Chapman, 2010). The focus/training groups were instrumental in developing suggestions for the district as to how to develop a plan of action to regularly implement social skills interventions for students with HFA.

Following direct observations of the students, receiving input from teachers and parents, and consultation with the focus group members, various purposefully selected evidence-based

social skills interventions were employed for three students with high functioning autism at two schools. Via PAR methods, the primary researcher sought to be the initial impetus of change in the FBM model. The primary researcher desired for the stakeholder focus group to act as a co-collaborator along the district journey of change regarding the implementation of EBPs. Ideally, the stakeholder group would formulate suggestions for a feasible district plan to initiate, maintain, and sustain EBPS for students with HFA in inclusive settings.

The primary researcher implemented a repeated measures single-subject design study over multiple baselines and subjects. Single-subject methodology has been established as an effective method to examine the utility of social skills interventions for young children with ASD, especially in inclusive settings (Camargo et al., 2014; Goldstein, Lackey, & Schneider, 2014; Hansen et al., 2014; Odem et al., 2011). Single-subject designs for PMI, in particular, have been widely evaluated (Chang & Locke, 2016). Various meta-analyses of single-subject design studies for HFA have determined PMI to be highly effective for students with HFA (Chang & Locke, 2016).

Whenever qualitative research methods and/or action research methods are used in a study, the researcher must implement bracketing to mitigate bias and strengthen the research (Tufford & Newman, 2010). Bracketing methods include having the researcher: (a) conduct an interview with an outside source, (b) engage in journaling, and/or (c) take notes throughout some or all the stages of the research project (Tufford & Newman, 2010). The primary researcher for this study engaged in note taking to limit the researcher's pre-conceived notions regarding the subject of interest throughout the various stages of this research project and practiced conducting interviews prior to initiating the actual study.

While the focus group participants and/or assistant researchers were all work colleagues and/or acquaintances of the primary researcher, the primary researcher did not have a social relationship outside of school with any of the study's participants. However, the primary researcher was not acquainted at all with either the students with HFA who took part in the study, their respective parents, and/or their respective regular education teachers. The researcher deliberately sought participation from families and regular education inclusion teachers who were not acquainted with the researcher prior to embarking on the study to reduce bias and fortify the integrity of the study (Marshall & Rossman, 2016). Furthermore, the primary researcher had not been acquainted with the typical peers who participated in the intervention portion of the study.

The researcher protected the confidentiality of the participants throughout and after the study, and the researcher made a calculated effort to ensure respect for individuals. The researcher worked within the structure and confines of the laws that work to protect participants' privacy (Marshall & Rossman, 2016). The study follows the governing laws of the Family Educational Rights and Privacy Act (FERPA) when conducting research in education settings (FERPA) (20 U.S.C. & 1232g; 34 CFR, Part 99). The agreement for research reflects the nature, length, and depth of the study along with specific information that must be disclosed or included. The researcher must destroy any records within two years of the study's completion and must maintain confidentiality by keeping only necessary records and preventing outside access or interference with the collected data. Schools can release information to public entities upon request. As part of preparing to be an ethical researcher, training was completed, and certification for Human Research through the National Institute of Health was acquired (see Appendix B). Permission from the Assistant Superintendent of SSUSD was granted. (See

Appendix A.) Consent for involvement was sought for all participants. (See Appendices C, D, E, BB and CC.) Consent was also sought and obtained from the Institutional Review Board (IRB) at Northwest Nazarene University prior to beginning this study.

Participants

The setting for the research study was the SSUSD district. The SSUSD has been in existence over 50 years. With over 27,000 students, the district is a large and ethnically diverse school district comprised of families representing a wide socio-economic status range. At least half of the students qualify for free or reduced lunch. Furthermore, nearly half of students are identified as Hispanic, although staff members are predominately Caucasian. The district started a formal inclusion program in 2015, beginning with kindergarten and adding one grade annually so that the inclusion program is currently comprised of grades K-3. As the SSUSD inclusion program is relatively new, currently, each elementary school in the district generally only has one inclusion classroom per grade for kindergarten, first, second, and third grade. The premise of the inclusion program was to have the majority of the district's students with special needs (except those students who require a substantive amount of support) attend regular education programs. In the district's inclusion programs, the regular education teachers serve as the primary teachers of the students with special needs, and special education teachers and other district support personnel assume more supportive roles. In the SSUSD, only certain general education teachers have been designated as inclusion teachers. The classroom of the general education teachers who are designated as inclusion teachers are referred to as inclusive classrooms and students with special needs are integrated with typical peers in those settings. The students with special needs who attend these inclusive classrooms are students who might have been placed in separate day class settings in the past. These students with special needs

might still require many minutes or hours of IEP support, but the support is provided in the general education setting for the vast majority of the day. Each inclusive classroom generally averages thirty students per class with an average ratio of one student with special needs per five typical peers. Various district support staff and special education teachers (AKA education specialists) assist the students with special needs in the inclusion settings and/or the educators directly involved with inclusive settings. The district currently has a staff of three inclusion specialists/trainers whose roles are to train and provide consultation to the district's inclusion staff.

Multiple participants were involved in this study in a variety of useful and distinct roles. All the participants were associated with the Sunny Side Unified School District (SSUSD). A total of 33 elementary school staff related to inclusion (including three research assistants) took part in the study in some form, along with three students with HFA (and their respective parents to varying degrees), and two additional typical students (and their respective parents). Twelve district stakeholders participated in focus/training groups. Following district protocol, the primary researcher could invite only certain participants (respective speech therapists, regular education teachers, parents, students, and special education teachers) to attend the focus groups contingent upon the consent of the principal of the school in which the staff worked. Once permission to contact staff had been obtained, the researcher sent out an electronic invitation to participate in the study (see Appendix F).

The researcher utilized a stratified purposeful sampling method to procure participants for this study. Stratified purposeful sampling is a sampling technique in which the "Purposeful Sampling frame is divided into strata to obtain relatively homogeneous sub-groups and a purposeful sample is selected from each stratum" (Onwuegbuzie & Collins, 2007, p. 286).

Researchers are often encouraged to choose a research population or a participant who will demonstrate an understanding of the research problem or issue (Creswell, 2012; Marshall & Rossman, 2016). Study participants for the surveys and focus groups were selected via a purposeful invitation that was sent to a subsample of the following district stakeholder homogeneous subgroups: (a) inclusion teachers, (b) special education teachers, (c) high functioning students with autism who are currently placed in district regular education inclusion classes and their respective parents, (d) varied district professionals (i.e. administrators, related service providers such as speech therapists, psychologists, district autism/behavior staff members), and (e) para-educators (behavioral instructional assistants assigned to work with students with autism) (See Appendices F and G). All of the participants who were invited to participate in the study were related in some form to the district's early elementary inclusion program, either in roles of service providers or support staff, educators, or leadership roles.

The three students with HFA who participated in the study were referred to the study by either a teacher or the district inclusion specialists. Furthermore, the typical peers for the study were referred by their parents who happened to participate in the Focus Group portion of the study. The invitation letter and/or electronic notice specified that the purpose of the study was to explore the implementation of an evidence-based social skills intervention for students with HFA in the inclusive settings (see Appendix G).

Some 18 district staff members representing a range of roles (i.e. regular education teachers, special education teachers, speech therapists, school psychologists, and district behavior assistants) completed surveys, but did not participate in the focus groups or other aspects of the study. The surveys they completed (see appendixes H, I, and J) assessed their awareness of and implementation of evidence-based social skills interventions for students with

autism as well as provided a gauge for how critical staff view social skills for students with autism within an inclusive school setting. All the district personnel who completed the surveys were actively involved in early elementary inclusion programs in some capacity.

To participate in the survey only, the researcher sent out an electronic notice to targeted elementary inclusion staff participants from three different elementary schools, briefly explaining the nature of the survey, soliciting involvement, and offering a token incentive for completion of the surveys (see Appendix AA). Packets were then left in the offices of three different schools which included consent forms, the three surveys, and details of the incentive for those who would be willing to complete the surveys. All the surveys were pre-numbered randomly to protect confidentiality - no names were on any of the surveys. At a third school, Solano Elementary (pseudonym), the principal asked to approach her staff regarding the completion of the survey rather than have the researcher approach the staff as she believed her familiarity with the staff would encourage greater participation. The principal handed out the survey packets to prospective participants at Solano Elementary School. The packet which the Solano principal delivered to her staff included a cover letter briefly explaining the nature of the study and the survey, a short consent form to complete the survey only (see Appendix BB), the three respective surveys, and a description of the incentive for completion of the survey.

The researcher made the decision to send the survey only email to inclusion staff from three different schools as following district policy the researcher was limited to contacting inclusion staff whose site administrators had provided consent for the researcher to contact their respective staff for any type of involvement in the study. To obtain a broader sample of participants completing the survey, the researcher approached certain school staff members to complete the survey portion only during a gathering in December of psychologists, mental health

counselors, and behavior assistants. Participants at that meeting were also offered a token incentive for completion of the surveys. Two additional behavior assistants and four additional psychologists completed the surveys at that time.

An added 12 participants partook in four focus groups held weekly over a period of one month in the fall of 2018. The focus group participants comprised a representative sample of the stakeholder group related to students with high functioning autism placed in the early elementary inclusive settings in the SSUSD. The stakeholder group consisted of the following representatives: one parent of a student with high functioning autism whose child was one of the social skills intervention participants, two special education teachers involved in inclusion in some capacity, a district inclusion specialist, two school psychologists, four behavior support assistants, two research assistants, and one district elementary speech therapist. Four of the representatives of the focus group were from one elementary school, Miner's Elementary (pseudonym) whose administrator and staff were very committed to providing optimum social and behavior interventions for their students. Furthermore, another administrator at a different school site, Solano, permitted one of her regular education inclusion teachers and one of that particular teacher's students to be a part of this study.

The three students with autism who participated in the study were all identified as having high functioning autism and placed in inclusion settings, where they were mainstreamed over 90% of the day. The students with high functioning autism were not required to attend the focus groups which were part of the study; instead, the students were observed in their respective inclusive settings, and the students participated in the social skills interventions that the primary researcher and stakeholder group decided upon based on the focus group collaboration and the needs presented during direct observations. All of the participating students with autism

presented with average cognitive abilities, basic reading skills, the ability to converse in complete sentences, and independent toileting and dressing skills per observation and IEP information. The three students with HFA attended two different public elementary schools in the SSUSD. Two of the students attended the Miner's elementary school and the third student attended Solano Elementary School.

An additional two elementary students took part in the study functioning as typical peer role models. These two students partook in the peer mediated intervention lunch social skills intervention which occurred at Miner's Elementary School following the focus groups. Both students shared the following characteristics: average to above average intelligence, reading skills, positive school social behavior, popularity among their peers, and effective communication skills. They were referred to be participants in the study by their parents who happened to be special education teachers at the Miner's school which these children also attended and who happened to participate in the focus group for this study. The typical peers were unfamiliar to the researcher prior to initiating the study. In addition to the typical peers participating in the study, the parents of the typical peers took part in post-intervention interviews regarding their child's participation in the study.

All participants in the study completed respective consent forms (see Appendices C, D, E, BB, and CC). All participants in the focus groups completed consent forms addressing the nature of the study, the requirements of participation, ethical guidelines, confidentiality, and the permission to video-audiotape the groups. Additional district-included staff completed consent forms so that their survey data could be included in the study. To participate in the intervention portion of the study, a letter was sent to the parents of students with HFA who had been referred to the primary researcher according to the study criteria (see Appendix G). The respective

teachers placed the letters in the student's backpack with an envelope. The letter invited the child with HFA to participate in a social skills intervention at the child's school site. The letter included a brief explanation of the study, participation expectations, and ethical procedures. The researcher followed up with two parents via telephone or email regarding questions that they had about the nature of the study.

Subsequently all parents completed a consent letter authorizing their own involvement as well as the respective involvement of every minor participant in the study (see Appendix D). The parents of the students with HFA were informed they would be asked to complete a social skills questionnaire; they were furthermore requested to respond to a post-assessment to intervention allowing school personnel to assess individual social skills needs and that their student would be observed in both the classroom and recreational social settings. The parents of the typical peers involved in the study were informed that they would be asked to complete a post intervention interview and that they were authorizing their child to participate in the intervention at the child's respective school site. Via consent forms, the regular education teachers were also informed of the nature of the study, the nature of their involvement, and the study's ethical procedures.

Demographic data were obtained from most participants. For the student participants with autism, the researcher obtained consent from the parents of these students granting the researcher access to each student's students' special education history and the following information.

- Grade;
- Percent of time the student spends in regular education or school placement;
- Gender;

- Ethnicity;
- Most recent cognitive assessment functioning available on IEP records;
- Most recent IEP indicating handicapping condition, accommodations, and services;
- Names of the student's respective teachers (both special education teachers and regular education teachers);
- Parent(s) names;
- Information regarding whether the student was participating in social skills interventions for autism outside of the school setting during the intervention period (none of the students were).

For the school staff:

- Age Range;
- Gender;
- Ethnicity;
- Job Title (Note: Special education teacher is synonymous with Special Education Teacher in the SSUSD; General Education Teacher is synonymous with a Regular Education Teacher);
- Years of experience in education; and
- Prior training received regarding autism

The school staff were asked to provide this demographic information as part of the Evidence-Based Practices for Social Skills Interventions in the School System (see Appendix H).

Data Sources

PAR research is typically comprehensive in nature and design. The current study was no exception. Multiple types of data were triangulated in this research project to thoroughly address an identified systematic problem: the lack of implementation of evidence-based social skills interventions for students with autism in inclusive school settings. Focus groups were held to obtain stakeholder input and buy-in, identify needs and concerns, collaborate, educate staff, and train staff. Three researcher created surveys (see Appendices H, I, and J) were developed and administered to over 30 inclusion related district staff members. The Barrier's Survey (see Appendix J) included an open-ended question. (Chapter 4 elaborates further upon the nature and reliability of the surveys.) Direct observations of students with HFA were conducted in the school setting. Standardized (SSIS, Gresham & Elliott, 2008) and non-standardized (Social Skills Checklist, see Appendix O) tools were administered before and after the intervention to assess for the efficacy of the social skills intervention. (Chapter 4 elaborates further upon the nature and validity of these assessments.) In addition, parents, students, and school staff were either interviewed post the social skills intervention or they answered questions about the intervention via open ended questions. Field notes, meetings with school staff, member checking, and email correspondence supplemented the data gathering process. In order to hone interview skills and to determine the most beneficial questions for the semi-structured focus group interviews, the researcher completed two pilot semi-structured interviews prior to initiating the study. All the participants in the pilot study were well-known to the researcher. Furthermore, the survey questions were reviewed, reworked over time, and vetted with other professionals, to sufficiently address content, length, and organization.

Triangulation

The following figure provides a visual display of the methodological triangulation used by the researcher in the study.

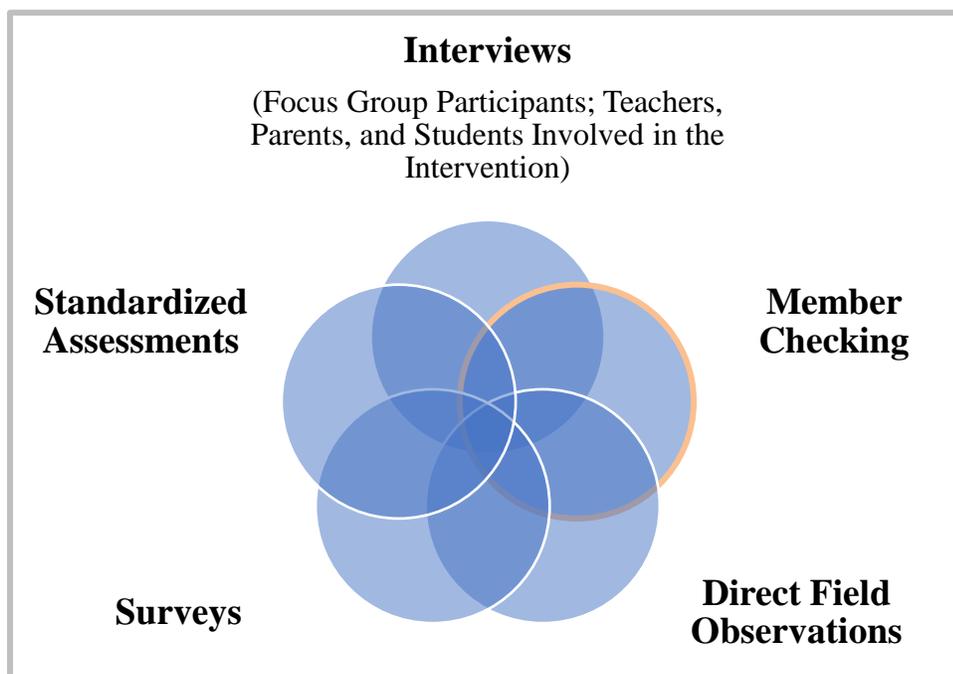


Figure 4. Illustration of the Triangulation Methodology.

Data Collection

The following Table 4 provides an in-depth outline of the various procedures and tools utilized in the study. Specifically, the table provides an outline of the methods which correspond with each of this study's proposed research questions.

Table 4.

Summary of the Research Methods Utilized in This PAR Social Skills Intervention Study

Research Question	Participants	Methodology	Tools
1. What are some of the reported barriers that a school district encounters when	Focus group comprised of participants involving	Qualitative: Structured questions posed to focus group members to obtain	1. Barriers to Implementing Evidence-Based Social Skills Interventions in Inclusive School Settings (see Appendix J). This

Research Question	Participants	Methodology	Tools
implementing evidence-based practices for social skills interventions for HFA elementary school students in the inclusive setting?	various representative stakeholder groups	<p>stakeholder input regarding the research questions.</p> <p>Open ended question on Barriers' Survey (see Appendix J).</p> <p>All focus group interviews and make-up interviews were audiotaped and transcribed.</p> <p>Interviews and field notes throughout the intervention period</p> <p>Quantitative: Surveys/Questionnaires</p>	<p>was administered to school personnel and all focus/training group participants.</p> <p>2. Focus Group Semi-Structured Interview Questions (see Appendices K and L) and Post Intervention Interviews (see Appendix M)</p> <p>3. Social Skills Relevance Survey (See Appendix I). This survey was administered to all focus group participants and all school personnel).</p>
2. What are some of the needs and desires of the public- school stakeholders regarding social skills interventions for HFA students that will facilitate the successful implementation of evidence-based practices in elementary school inclusive settings?	Stakeholders	<p>Qualitative: focus groups and Semi-Structured Interviews</p> <p>Interviews during and after the intervention with school personnel.</p> <p>Quantitative: Survey</p>	<p>1. Semi-Structured Interview Questions (See Appendices K and L)</p> <p>2. Post intervention interviews with staff/parents (see Appendix M)</p> <p>3. EBPs Survey (administered to school personnel).</p>
3. What are some of the social difficulties and behaviors of concern exhibited by students with autism in inclusive school settings?	All Stakeholders in focus groups	<p>Qualitative: Semi-structured interview questions administered during focus groups</p> <p>Interviews and meetings with school staff involved in the social skills intervention study.</p>	Semi-Structured Interview Week 1 (see Appendix K)

Research Question	Participants	Methodology	Tools
	The Three High Functioning Students with Autism.	Qualitative: Direct Observation of Students in their Natural Setting/Phenomenology by primary researcher and research assistant. Field Notes.	Social Interaction Observation Form (Appendix N)
4. How effective is a short-term evidence-based social skills program for HFA students in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing maladaptive behaviors?	Three students with high functioning autism placed in inclusive settings, two typical peers who took part in the PMI with two of the students with HFA, their respective inclusion teachers, and their parents	Implementation of two different comprehensive evidence-based social skills interventions ((PMI and PRT) chosen in collaboration with stakeholders twice a week (2 hours weekly) for 4 weeks. Training of two typical peer role models for the PMI. Quantitative: Pre- Post-assessments (Including both a standardized and non-standardized assessment) Qualitative: Post-Intervention Interviews Field notes/memos taken during administration of the social skills intervention.	Post-Intervention Semi-Structured Interview/Written Questions completed by teachers, students, and parents involved in study. (see Appendix M) Standardized Assessment: a. Social Skills Improvement System (SSIS) (pre- post-completed by the teachers of the students with HFA who took part in the study) Non-Standardized: b. Social Skills Checklist (see Appendix O) (PreK/Elementary version) (completed pre-and post-intervention for all three students with HFA by respective teachers and parents)

A total of four focus groups were held at SSUSD during school hours over a period of four weeks during October. Each meeting lasted two hours and took place after school at a large and comfortable training room at the district office. Twelve stakeholders took part in the focus groups. An additional research assistant attended two of the four sessions. All trainings and presentations, including the practical experience that accompanied each training of an evidence-

based social skills intervention, were videotaped. Thus, if any participants missed a session, it was made up by the group member reviewing the tape and confirming viewing of the tape.

Furthermore, all semi-structured focus group questions were audio-taped and transcribed for qualitative analysis. If a focus group member missed any of the focus group interviews or dates, the primary researcher met with that particular member at a different time to administer the semi-structured interview so that all focus group members had an opportunity to be heard.

The purpose of the focus groups was to:

- determine current knowledge and district practices regarding evidence-based social skills interventions for students with autism in inclusive settings;
- provide awareness to focus group participants of the impact of social skills on various aspects of life;
- train and empower staff regarding five evidence-based social skills practices; and
- develop recommendations to share with the district's director of special education for regularly implementing social skills interventions to meet the needs of students with autism in inclusive settings.

Group 1. Prior to participating in group one, all group members had completed a consent form to take part in the study. Group one began with a brief welcome and a request to complete the following surveys by all focus group participants (including the research assistants):

- Evidence-Based Social Skills Interventions Survey for School Personnel (see Appendix H)
- Barriers to Implementing Evidence-Based Social Skills Interventions in Inclusive School Settings (see Appendix J); and

- The Relevance of Social Skills Interventions Survey (parents and school personnel), (see Appendix I).

In addition, members were asked to complete the consent to participate in the study if they had not had the opportunity to do so prior to the first meeting date. Once the surveys were completed, the researcher invited all focus group members to introduce themselves to the group and then the researcher presented several semi-structured interview questions (see Appendix K). The remainder of the first focus group afternoon was devoted to a presentation by the primary researcher on the impact of social skills on the following areas: behavior, academic achievement, mental health, relationships, and adult outcomes. As part of the presentation, the primary researcher showed various videos of individuals with autism and their families sharing their experiences, as well as videos of researchers discussing the importance of social skills in schools. Group ethics and the study overview were touched upon in the first group as well. The primary researcher allowed time for questions throughout the session.

General structure of focus groups 2-4: All sessions began with an icebreaker question opportunity and a review of the prior week's lesson and presentation (PowerPoint and discussion). In addition, several handouts related to the topics of discussion and the five targeted social skills interventions were presented to participants each week and additional information was sent out electronically via email. Four of the five training presentations of the evidence-based social skills interventions for students with autism included a) a didactic part involving an overview of the intervention (including key elements of the intervention), b) a discussion of required resources (if any) required for a particular intervention, c) a PowerPoint presentation, handouts, discussion, and questions and answers, and d) a practical, hands on experiential component.

The primary researcher divided the focus group members into small groups during the practical component of the training which involved role plays, conducting pre-packaged actual lessons, or direct practice of a particular intervention. Each intervention was given approximately 45 to 60 minutes of the focus group time, with the exception of video modeling which was presented in about 20 minutes. Furthermore, the video modeling presentation did not have a practical component due to time constraints and staff familiarity with the program.

Trainings on the evidence-based practices were conducted by the primary researcher and the research assistants. The focus groups were structured and led in such a way as to allow all participants to be heard and to prevent monopolization by any one individual. The intent of the trainings was to address the second prong in the FBM model: capacitate and train staff – provide them with the knowledge and support that they need to implement a needed change.

Group 2. The primary researcher continued the discussion from the prior week and introduced evidence-based practices for social skills interventions for students with autism via PowerPoint presentation and discussion. All participants received a copy of the CAPTAIN developed color coded grid delineating evidence-based social skills interventions which have been demonstrated to be effective in research according to age groups.

After a short break, one of the research assistants presented on the topic of Social Narratives, outlining the critical elements to social narratives and suggestions for use and implementation. For the practical component, the group participants created social narratives with a particular student in mind via a group process and the group presented their stories allowed to receive feedback from the other group members. The primary researcher presented on the following evidence-based social skill intervention: Structured Group Social Skills. The primary researcher presented an overview of Structured Group Social Skills via a PowerPoint

presentation and discussion as well as more specific information on two well-researched group social skills programs: Skill Streaming and Stop & Think.

Group 3. After the weekly share and review, the group participated in the practical component of the Structured Group Social Skills carried over from the prior week. For the practical component, groups had the opportunity to complete an actual lesson from each of the EBPs discussed. For the Skill Streaming Lesson, the skill chosen for practice was: Asking someone to play with you. For the Stop & Think lesson, the participants practiced losing a game. Following a short break, a research assistant presented on Pivotal Response Training (PRT) followed by an active practice role play session with toys in which members took turn being the leader or a participant in PRT tactics. A research assistant then presented on Video Modeling.

Group 4. The primary researcher presented on Peer Mediated Interventions and once again, the group had the opportunity to practice the intervention, alternating roles of leader, typical peer, and targeted peer as they did so with the use of children's games. The final half of Group 4 was devoted to the following: semi-structured interviews (see below and Appendix L) and a discussion regarding suggestions and ideas from the group to present to the director of special education and other district program coordinators for implementing evidence-based practices in the school setting more universally within the district (for all students with autism in inclusion settings), more consistently and with greater fidelity. The researcher asked for feedback to assure that each stakeholder voice was represented and heard. Suggestions were written on a white board and the group agreed that the primary researcher would present the suggestion list (which included several possible plans) to the special education director in a meeting accompanied by at least two of the focus group members. The meeting with the special

education director occurred at the end of this study. Questions proposed to the group members during the final group are reported in Appendix L.

Field Notes

The primary researcher carried a journal and took notes throughout the focus groups, direct observations, intervention sessions, and any collaborative meeting that was not audiotaped. The primary researcher documented comments from study participants that left an impression as well as frequency counts of behaviors observed when warranted, and/or notes regarding the intervention details on a particular day/time. Field notes enhance qualitative methods by providing a vehicle for purposeful reflection (Deggs & Hernandez, 2018; Rossman & Rallis, 2016).

Observations of Students in Inclusive Settings

Observations of the students with HFA were conducted prior to implementing the social skills intervention to gain insight into the current social functioning and social skill deficits presented by each student. The observations also served to provide the researcher with insight into what type of EBP social skills intervention the students and the teachers might most appropriate for a particular student. Each of the three high-functioning students with autism was observed in his regular classroom setting and a social setting (lunch or recess) on two separate occasions for 60 minutes during both structured academic and unstructured time periods. During the observations, the researcher and a research assistant independently completed the Student Observation Form (see Appendix N) for each student in narrative form.

Social Skills Interventions

The researcher implemented comprehensive social skills interventions for the three students participating in the study based on input from school staff and information gathered via

the direct observations. Two of the HFA students were paired with two typical peers and completed a comprehensive PMI during lunch, twice weekly. The third student with HFA who completed the study, participated in a comprehensive PRT intervention, twice weekly. Pre- and post-measures were used to assess the efficacy of the interventions including qualitative measures (field notes, interviews, direct participation/observation) and quantitative measures (the Social Skills Improvement System (SSIS), Gresham & Elliott, 2008; and the Social Skills Observation Checklist).

An Activity Preference Inventory (see Appendix P) was completed by the parents of the students involved in the study prior to the intervention to determine the preferred interests and activities of the participants of the study. The parents and the teachers of the students with HFA were provided with descriptions of the topics being addressed during the interventions on a near weekly basis and encouraged to support the student with the skills being introduced and rehearsed within the group. Teachers were provided with copies of visual social narratives and any other visual supports. All the students were present for each intervention date, and there were no missed intervention dates. The primary researcher incorporated flexibility in the intervention dates to accommodate for schedules and assure attendance.

Peer Mediated Intervention Procedures

Peer Mediated Interventions (PMIs) lend themselves admirably to social skills interventions for students in ASD in school settings as typical peers are readily available in regular education settings, the typical peers can model the desired pro-social behaviors, and the children with ASD have ample opportunity to rehearse recently acquired social skills in the school setting (Chan et al., 2009; Chang & Locke, 2016). PMI packages often include a didactic component by the group leader, modeling of behaviors (often by both the group leader and

typical peers) and practice of the newly presented social skill (Chang & Locke, 2016; Kasari et al., 2012). Furthermore, as aforementioned, PMI models generally include a training component for the typical peer models. The primary researcher incorporated all these strategies in the current study. In addition, the primary researcher supplemented the PMI with visual supports and the use of social narratives. Table 5 provides a summary of the trainings provided to the typical peers involved in the PMI at Miner Elementary School.

Table 5.
Sample of the Two 30-Minute Session Peer Trainings Held in the Beginning of November 2018

Session	Topics	Methods	Additional Supports
1	Same/Different Autism Introduction Introduction of PMI Role of the Typical Peer Helper/Model	Explanation of topic Modeling Role Play Introduction of the following researcher created acronym: Prompt Reinforce Offer help Play Share	Visual Supports
2	Review of PROPS Brief overview of two types of prompting: gesture/verbal Reinforcement procedures for targeted peers with HFA Foreshadowing of target areas for the group (see Appendix R for sample supports utilized in the PMI program)	Presentation, Modeling, Role Play, Questions/Answer	Visual Supports a) A chart of target group areas for the group that the typical peer participants were encouraged to share with their parents b) A visual reinforcement chart for each student with HFA

A special education teacher from the Miner's School, who also participated in the focus groups, was present for the first peer training and part of the second. That same teacher attended all the first PMI lunch groups as well. The PMI group sessions occurred twice a week for lunch during an hour over four weeks beginning in November and ending the last day before the holiday break in December of 2018. The students would take their lunch into a separate classroom on the school grounds and, while the students ate, conversations were encouraged and topics were presented, modeled, and rehearsed. After the first group, the later groups began with greetings and a review of the prior lesson(s).

Following introduction of the day's topics, role plays and rehearsals, the students would engage in free play with each other, usually in pairs, and occasionally in group play among all four students. Sometimes, when playing outside during lunch recess, the student participants would be joined by other typical peers in games such as cops and robbers, tag, or soccer. At random intervals, the primary researcher signaled it was time to stop to review and reinforce; typical peers would review the targeted peers progress with them and assign corresponding stars or checks for desired targeted areas (get a peer's attention appropriately; play/take turns and share; talk to your friend; maintain personal space; follow rules).

David's teacher was provided with additional social narratives for personal space, and during the last week of the intervention, the primary researcher provided her with a visual behavior reinforcement contract targeting David's maintenance of personal space – the teacher was not planning to implement the contract until after break. Table 6 provides a summary of the Peer Mediated Intervention implemented at Miner Elementary.

Table 6.
Outline of the 8 Session Peer Mediated Comprehensive Social Program

Session	Topics and/or Staff Additions	Methods/Resources	Additional Activities
1	<p>Introductions Group Rules</p> <p>Topics: Getting Attention from Others Appropriately, Personal Space</p> <p>Note: A Special Education Teacher from Miner’s School observed group from a distance, but within earshot.</p>	<p>Modeling of skills by typical peers, rehearsal of skill, role play, social story for personal space (Bubble Protector Starring Bob and Me (source: Teachers pay Teachers)</p> <p>Reinforcement by primary researcher and typical peers (students encouraged to reinforce each other).</p> <p>Visual support for ways to appropriately gain attention (say their name, raise hand, gently touch arm/shoulder - (Resource: Teachers pay Teachers)</p> <p>Introduction of Reinforcement Strip (Visual support created by primary researcher)</p> <p>Prompting</p>	<p>Students agreed upon the following group rules: Play nicely, no fighting, friends agree on what to play, share and take turns</p> <p>Group members played inside in pairs –if it was raining (Mr. Potato Head and Connect Four).</p>
2	<p>Initiating Play</p>	<p>Review</p> <p>Social story: asking someone to play (resource: Autism Inspiration, 2018)- students practiced the scripted version.</p> <p>Typical Peers modeled</p> <p>Practice</p> <p>Reinforcement/Feedback</p> <p>Prompting</p>	<p>Peers went outside to play in pairs (one typical peer placed with a student with HFA)</p> <p>One group played soccer and another played catch with a ball</p>
3	<p>Maintaining Play – (i.e. sharing, turn taking, etc.)</p>	<p>Review</p> <p>While we ate, students practiced having conversations with each other on student selected themes in pairs (one typical peer/one student with HFA), students were prompted for exchanges, staying on topic, and turn taking.</p> <p>Brief Didactic Lesson</p> <p>Visual Support: “Friendly Words” to use when playing: “That’s cool;” “Thank you;” “Watch this;” “Let’s play.”</p> <p>Modeling</p> <p>Role Play</p> <p>Reinforcement</p> <p>Prompting</p>	<p>Whole Group Activities:</p> <p>Knot game (all put hands in, and grab hands of others and we try to untie ourselves without letting go of each other’s hands)</p> <p>Ball Activity- Cooperative play – We all work together to keep ball on blanket and then see what happens when we start letting go of blanket</p> <p>Outside play during recess: Basketball game</p> <p>(Note: extended recess today)</p>

Session	Topics and/or Staff Additions	Methods/Resources	Additional Activities
4	Initiating Conversation Skills Ms. H., recent assistant present during group.	Review Visual Supports: Ways to Start a Conversation (source: http://speechtimefun.blogspot.com) Typical peers modeled and all practiced Group Conversation: student selected theme (all had an opportunity to offer suggestions and agree on a topic. Students spoke about Batman). Reinforcement of conversation and play skills Prompting	Cooperative Game: Spanish Bingo
5	Maintaining Conversations	Review Visual supports: Questions/Compliments/Comment Helper Page (Teachers pay teachers) Modeling by typical peers Practice of Skills Reinforcement Prompting	Outside Play: One typical peer and peer with HFA group played with other students outside in a pretend game of “cops and robbers;” the other group played catch/soccer
6	Understanding feelings of others/responding appropriately	Review Presentation of topic Typical Peer modeling/role play Incorporated recognizing feelings and supporting one another while we played group game Reinforcement	Inside: Group Board Game: similar to “Trouble” Outside Play: Pairs (Primary researcher gave them time alone outside and then checked on progress)
7	Friendship	Review Prompting Visual Support: “Friendship – created by primary researcher: Topics included friends have fun together, play together, trust, friends care about one another, friends say things to comfort one another,	Group Game: Group started to play “Cops and Robbers” outside – bell rang earlier than expected.
8	Final Session Parting Interviews Research Assistant Ms. H. helped to facilitate meeting	Conversation practice during lunch Review of prior weeks’ lessons Post-Intervention Interviews Prompting Reinforcement Farewells	Group outside game: Cops and Robbers (joined by additional students on playground)

PRT Focused/Comprehensive Intervention

A comprehensive program focusing primarily on PRT methods was utilized as the social skills intervention for Ernesto at Solano elementary school. As previously noted, the primary researcher spent an hour a week in the classroom supporting appropriate social skills and pro-social behaviors in the classroom as well as an hour a week on Fridays shared between recess and transitioning to and from the classroom recess. The decision to utilize both in class and out of class support was based upon teacher and parent concerns as well as behaviors observed directly by the primary researcher and the research assistant during observations.

PRT has supplied providers of service with a natural method for students to develop, implement and maintain play skills. The primary researcher utilized the following PRT methods on the playground: the use of clear instructions and language when interacting with the student, modeling of new skills, reinforcement of both attempts and actual performance of desired behaviors, interspersing new tasks with tasks/skills already acquired and/or within the student's repertoire (also known as maintenance tasks), taking turns, and the use of child-centered choices (Schreibman & Koegel, 1981; Stahmer, 1999). In the classroom, the primary researcher focused on developing and increasing the use of the following pivotal classic PRT behaviors: motivation, initiation, initiation of social interaction, self-management, and understanding and utilizing multiple environmental cues. At the end of every session, the student earned a tangible treat based on meeting behavior expectations in addition to verbal praise.

Furthermore, for the student at Solano Elementary School, the primary researcher met with the student's special education case manager, the assigned classroom inclusion assistant, and the special education instruction specialist who had participated in the focus groups within the first week of introduction to present topics, visual supports, and collaboration for the

intervention. The meeting lasted approximately 60 minutes. In addition, the primary researcher met separately with that student's teacher for an hour prior to the intervention to review the intervention's procedures and receive additional input regarding the teacher's needs and concerns related to the HFA student who would be receiving the PRT intervention. The primary researcher regularly communicated with that particular teacher on a weekly basis. Table 7 provides a summary of the PRT comprehensive social skills intervention program utilized at Solano Elementary.

Table 7.
Outline of the Eight PRT Comprehensive Social Skills Intervention Program

Session Number/Location	Topics	Methods/Resources	Additional Activities and/or Personnel
1/ Classroom	<p>Introductions</p> <p>Topics: Classroom behavior desired expectations</p> <p>Initiation: Obtaining peer/staff Attention, appropriately; starting work in timely manner</p> <p>Personal Space</p>	<p>Visual Supports:</p> <p>Introduction of desk strip of desired classroom behaviors (raise hand to share, listen, keep hand/feet to self, no whining, stay on task; use my calming tools)</p>	
2/ Classroom and Recess	<p>Initiating play with peer (also known as “making friends”)</p> <p>Maintain classroom rules and appropriate classroom behavior</p> <p>Self-Regulation</p>	<p>Reviewed outside reinforcement/goal visually created by primary researcher: gain peers' attention appropriately, play/take turns/share, talk to friends, maintain appropriate space, understand others' thoughts/feelings, and follow school rules.</p> <p>Token economy at recess tied to visual reinforcement (this was subsequently applied during all recess activities)</p> <p>In class as well as out of class: prompting, reinforcement</p> <p>Frontloading of recess activities</p> <p>Outside: Set goal for recess: eat snack with/near other students rather than alone; invite at least one or two friends to play with him</p> <p>Personal space prompts</p>	<p>In class work. Transitioning to and from recess, Outside play activity. Group academic work on carpet after recess.</p> <p>Inclusion Specialist Ms. S. joined us during recess</p> <p>Staff meeting was held subsequent to student support (see Chapter 4 for information)</p>
3/ Classroom	<p>Following Classroom rules including raise hand before speaking, work independently quietly, hands and feet to self</p> <p>Practice coping skills (including asking for</p>	<p>Focus on motivation, initiation, self-management (gesturing to icons on desk reminding of pro-social behavior),</p> <p>Prompting/Reinforcement</p>	

Session Number/Location	Topics	Methods/Resources	Additional Activities and/or Personnel
	help/attention appropriately)		
4/ Classroom and Recess	Initiate and Maintain Play	Prompting Reinforcement	Recess Activity: organized game.
	Follow Classroom Rules	Recess Visual/Reinforcement Strip Set goals for recess: sit and interact with peers while eating snack and invite friends to play	Both District Inclusion Specialist Ms. S. as well as Instructional Inclusion Aide observed, participated, and helped to facilitate activities.
	Self-Regulation (handling disappointment)	Offered choice of two play activities when outside Cooperative play Student encouraged to support/reinforce peers playing with him	
		Transitions Teacher enacting planned ignoring or irrelevant blurting out	
5/ Classroom	Following rules Small group cooperation	Self-management behavior chart presented to staff has been modified to suit student and teacher's needs and has been introduced by special education teacher	Instructional assistant present for about 20 minutes to observe primary researcher
	Maintain independent work		
6/ Classroom and Recess	Following Classroom rules	Student was asked to state what behavior expectations were Prompting of desired behavior and to raise hand prior to speaking	Recess: Group Board Game
	Initiating/Maintaining Play		After recess, students participated in a STEAM technology class where they were asked to split into pairs to work
	Handling disappointment/losing appropriately	During Science Technology Engineering Arts Mathematics (STEAM) lesson Primary researcher provided visual task analysis for student and his partner, modeled setting timer for work as well as delivering reinforcement. Regular education teacher and instructional assistant present.	
		Student presented with choice of outside activities	

Session Number/Location	Topics	Methods/Resources	Additional Activities and/or Personnel
		Student was prompted to ask for a side hug, or high five from peers/staff, and/or squeeze himself rather than hug without asking and/or grab the hand of another seeking a “massage”	
7/ Music Room	Transitions Classroom Behavior during music (loud setting)	During music class- Visual and Performing Arts (VAPA), the researcher prompted appropriate behavior, reminded student of goals Prompting/Reinforcement Provision of Headphones Visual Supports (raise hand, etc.)	Primary Researcher attended a different period that day to support during music class.
8/ Classroom and Recess (Class engaged in holiday activities in class)	Follow class rules Play with peer(s) appropriately at recess	Topics: Self-initiation Modeling Visual (recess strip)	Group game during recess; Holiday party within class. Instructional aide present during recess Student’s father happened to be present in class prior to going out to recess (along with other parents) as the class was engaged in a holiday gathering)

NOTE: During every session, PRT methods of targeting pivotal skills modeling, prompting and reinforcement were utilized. Added data collection methods during both the PMI and PRT interventions included interviews, meetings, and consultation sessions with staff members, email correspondence, and field notes.

Fidelity

Treatment fidelity is integral to a successful behavior study. According to Robb, Burns, Docherty, and Haase (2011), “The primary goal of treatment fidelity is to increase scientific confidence that changes in targeted outcomes are due to the intervention under investigation” (p. 1193). Treatment fidelity affects the ability to generalize one’s study to other settings and/or individuals, to replicate the study, to reduce confounding variables, to delineate key aspects in a study, and to the study’s ability to answer the proposed research questions (Resnick et al., 2005; Robb et al., 2011). To maintain treatment fidelity, this study employed the following: session outlines for the focus groups and PMIs, intervention narratives, field notes, input from multiple sources (for example, a co-observer was present during all observations of the students with HFA and completed the Social Skills Observation Checklist for Students with Autism; the inclusion specialist prepared summaries of the two recess PRT sessions that she attended and took notes at a planning meeting), team meetings with the assistant researcher prior to initiating the study, vetting of survey materials, and the use of intervention checklists. For the direct observations, the primary researcher and an assistant researcher utilized the Social Interaction Form (see Appendix N) to guide narrative information derived during the visits

Post-Intervention Interviews

At the end of the EBP intervention, three teachers whose students with high functioning autism were involved in the intervention, were interviewed regarding their satisfaction with the intervention via a semi-structured interview format. All the teachers were asked the same four questions regarding the intervention (see Appendix M). The students with autism were interviewed at the end of their respective intervention as well (see Appendix M). The typical peers who took part in the PMI were interviewed at the end of the group (see Appendix M). Post-

intervention, the primary researcher sought input of the parents with HFA regarding their opinion of the value of the intervention via posing questions in writing to them (see Appendix M). The parents responded to the question in written form. The parents of the typical students who participated in the PMI portion of the intervention were interviewed in person by the primary researcher regarding their opinion of the intervention (see Appendix M). The teacher interviews, student interviews, and the interviews with the parents of the typical peer participants were audiotaped and transcribed for qualitative analysis.

Analytical Methods

To assist in the qualitative analysis, multiple sources of information were utilized including focus group interviews, interventions with the students, parents, and teachers during and post the intervention portion of the study, direct observations, an open-ended question on one of the surveys (see Appendix J), and the primary researcher's field notes. The data from all direct interviews were transcribed verbatim by a contracted transcriptionist. Observations were recorded in written narrative format, transcribed to typed format, and cross referenced for frequency of behaviors and/or social deficits between the two direct observers (the primary researcher and a research assistance). The primary researcher then summarized the behaviors and/or social deficits derived from the different observations and that information was added to the qualitative analysis. Similarly, key written notes and the responses to open-ended questions in writing were transcribed to typed form. Once the data from the various qualitative resources was accumulated, the data was entered collectively into the NVivo assistance software program. The collected qualitative data was then analyzed for content and coded for themes and subthemes with the support of the NVivo qualitative analysis assistance software program.

The following are the steps that the primary researcher took to analyze qualitative data utilizing NVivo:

- The researcher imported the relevant qualitative data into the NVivo software program.
- The primary researcher then opened up the explore category and read all of the responses – creating corresponding nodes and/or codes.
- Once nodes were determined, the primary researcher utilized two different types of queries to obtain frequency data and to provide supporting examples of text for each theme area (one-word searches as well as text searches). The primary researcher allowed for synonyms of the words in the query. The program populated the frequency for all hits via texts and/or words. The primary researcher then re-read the sections and confirmed appropriateness of the various themes. Supporting content and/or text was then dragged and dropped to the appropriate node, tabulating frequency entries. dragged the theme content and/or text to the appropriate node and the program tabulated the frequencies of the entries.
- The primary researcher created visual representations to display the data.
- The primary researcher provided narrative analysis of the results.

Categories tend to emerge via an analysis of data and these categories are then often linked together and synthesized to provide a more focused analysis of the data (Basit, 2003).

An outside professional who signed confidentiality agreements transcribed all the audio-recorded semi-structured interviews using a device application called Voice Memo (see Appendix U). The transcriptionist also transcribed hand-written notes from the Social Skills Checklist into typed format. Two outside professionals who signed confidentiality agreements assisted the video-recording of the focus groups (see Appendix Y). Furthermore, an outside professional who signed a confidentiality agreement aided with editing the dissertation (see Appendix Z).

To validate the internal reliability of each of the three researcher created surveys (see Appendices H, I and J), the primary researcher conducted Cronbach's Alpha Analysis. Furthermore, descriptive analysis was performed on all of the responses to each of the three researcher created surveys (see Appendices H, I, and J) including (as warranted) frequency, mode, mean, median, and/or standard deviation. The researcher conducted an analysis of group descriptive data, including ANOVAS, to compare the results of the survey based on one's role in the district. To evaluate if involvement in the focus groups led to increase in the familiarity, competency, or utility of evidence-based practices for the group as a whole, the researcher conducted a Wilcoxon Signed Rank Test. Multiple surveys and test items were administered to look for tendencies within the SSUSD survey sample that might generalize to the broader population at SSUSD.

To assess the efficacy of the social skills intervention, the researcher analyzed the qualitative information gathered via field notes and interviews. Social skills were also evaluated pre- and post-intervention via two quantitative assessments: The Social Skills Improvement System (SSIS) (see Appendix Q for consent) and the Social Skills Checklist (see Appendix O). The SSIS is the most recently revised version of the SSRS (Social Skills Rating System), a

widely used and widely regarded instrument for the evaluation of social skills, the detection of problem behaviors, and social skills related to academic competence (Gresham & Elliott, 2008; Gresham, Elliott, Vance, & Cook, 2011). Quantitative analysis of the intervention was conducted using the SSIS ASSIST (Elliott & Gresham, 2008) progress report information. The SSIS ASSIST interpretive software provided charts and tables that provide valuable information such as the raw score, standard score, confidence interval, and percentile rank of responses. Furthermore, the ASSIST Progress Report evaluates for statistically significant difference in domain scores between two different administration dates (such as baseline to post intervention). Significance is noted at the $p < .05$ level. (The effect size threshold criterion of $< .05$ was utilized for all statistic tests). The independent variable was the respective EBP social skills intervention(s) and the dependent variables were the results of the SSIS social skills rating assessment scales utilized pre- and post-intervention.

Furthermore, the primary researcher compared pre- and post-results of the informal Social Skills Checklist via a visual comparison of the percentage of questions marked as Almost Always, Often, Sometimes, and Almost Never, per each of the 10 behavior domains addressed in the instrument. An asterisk indicated a positive change from one administration to the next and the researcher created a summary of any positive changes in responses, negative changes in responses and/or responses that remained static following the intervention. As the Social Skills Checklist is not a standardized test, only the comparison of percentages was undertaken. The success of the social skills interventions was also measured qualitatively via responses to post-intervention interview questions (see Appendix M.). The responses were analyzed for themes and the tone of the response.

Once the research was completed, a member checking document was presented to each adult participant via email and/or in person, sharing themes which had emerged from information they had provided and summarizing the findings of the study and future directions. (See Appendix T). In addition, the primary researcher has requested a meeting with the director of special education and program coordinators in special education, to share the results of the study and introducing ideas for implementing a district and/or school site-based plan for implementing EBPs (beyond just behavior interventions) for students with HFA in inclusive school settings (see Appendix DD). Following the study, some school sites within the district developed their own methods to meet the social needs of students with HFA in inclusive settings on their campuses.

Limitations

A limitation to this mixed methods study is that PAR has only been utilized in a handful of studies for children with autism. Furthermore, in PAR, the researcher becomes an active participant in the process and the development of a solution and, as such, the researcher must be constantly aware of his or her bias. The researcher must strive to listen to the stakeholders, and to not monopolize or neglect those involved. As the research was focused on developing and implementing social skills interventions for students with HFA in inclusive settings in early elementary grades only, the generalization of the findings to other grades is limited. So is the ability to generalize the findings to other school districts or class settings, although other districts may at least benefit from the methodology model presented within the current study. An additional limitation is that the actual evidence-based social skills intervention, which the district stakeholders agreed upon and helped to develop, was only able to be implemented for a

relatively short period of time (four weeks) to be included in this study and due to the primary researcher's professional job demands.

The small sample size for the social skills intervention portion of the study is an additional barrier to the generalization of findings of the study. This was a limitation as well as the narrow scope of the subject matter (early elementary inclusion classes) as opposed to a broader magnitude. Furthermore, the study was limited to students with HFA as opposed to other types of autism, students with limited cognition, or more severe adaptive skills. These factors negatively affect potential generalization of findings or, in the terms of qualitative research, transferability. While the total number of students involved in the actual direct observation and intervention portion part of the study was small there is much support for conducting a single-case study design for students with autism in inclusive school settings (Camargo et al., 2014; Hansen et al., 2014). Due to time being a factor, maintenance of any social gains or improvements was not measured. Therefore, while this study provided insight into whether or not a short- term intervention could be effective for students with HFA, the study did not address if any positive change was retained over time

When implementing scientific research, it is important to discuss the threats to validity. One of the threats to external validity for the intervention portion of the study is the possibility of multiple treatment interference in that the students involved in the study were receiving services such as speech and language therapy as part of their IEP and that treatment might have had an impact on the impact of the social skills intervention. The primary research also was concerned that increased involvement and communication with the teacher and parent during the PRT comprehensive intervention might actually have biased results. The demands of this study made upon the parents or teachers with students with HFA could have caused the staff and parents to

be more acutely aware of their child's strengths and weaknesses, impacting their responses on post-intervention assessments. The primary researcher will elaborate further on the possibility of response bias in the discussion section.

As the surveys were all based on self-reporting, there is the added limitation of self-report bias (the tendency of an individual to provide inaccurate information). For example, on the EBP survey, participants were asked to rate their own familiarity, competency, and utility of various EBPs, the validity of their statements were then taken at face value, but the veracity was not able to be ascertained via external, unbiased measures. Self-bias must also be considered during the qualitative portion of the study throughout the focus groups as well as during the post intervention interviews.

One threat to the internal validity is that the intervention portion of the study relied on the field notes of the primary researcher who was also the primary interventionist. The researcher attempted to capture the perspectives of staff, parents, and students and document key observations while keeping bias in check. The primary researcher employed fidelity checklists during the PMI sessions in an effort to limit response bias. An additional potential threat to internal validity is statistical regression. Statistical regression is characterized as the tendency of subjects who may have severe or extreme scores, to regress towards the mean upon subsequent administrations of an assessment. The three subjects with HFA in the intervention portion of this study all had suspected social deficits in one area or another.

Furthermore, for the focus groups to be as effective and valuable as possible, there was a need to limit the size of the focus groups and the number of participants to under 15. The make-up of the focus groups was not as diverse as the primary researcher had hoped (for example, only one parent of a student with HFA was able to participate, no regular education teachers were able

to participate, only one male participated, no mental health elementary counselors participated, and only two semi-administrator was able to participate: the district inclusion specialist and the district autism coach. The lack of diversity limits the researcher's ability to generalize the stakeholder group, although district demographics were generally represented in the study. There is also a possibility that the opinions expressed by the focus group participants did not reflect the opinions of other staff in the district. It would have been optimum if the district stakeholder representative sample had been wider, to include elementary mental health counselors, regular education teachers, increased participation of male staff, and certified administrators. (Regular education teachers and MH counselors were invited to partake in this study, but, declined the offer). The primary researcher would have preferred more parent input as well – the input of the parent in the group was deemed invaluable by the researcher and others. The PAR research element could have been broadened by incorporating more parents as stakeholders. The fact that so many of the focus group participants were assigned to one school was certainly advantageous to that school for future implementation of social skills for students with autism at that particular school, however, this could be another barrier to the study's generalization to the entire district or to other districts as every single school operates in its own fashion. The decision to expand administration of the three researcher-created surveys, resulting in an n over 30, helped to compensate for the relatively limited number of staff involved in the focus groups, and provided an avenue for the opinions and beliefs of a variety of early elementary inclusion staff to be heard. While the researcher created surveys were administered to over 30 inclusion staff members, only two speech therapists completed the surveys. A group size of at least five speech therapists would have been ideal for group statistical analysis.

An additional limitation to the study included the familiarity with the site – it is generally best practice to avoid conducting educational research in one’s own backyard (Marshall & Rossman, 2016), although an exception can be argued for PAR due to the participatory nature of the researcher. Furthermore, researcher bias is a concern in research especially due to the nature of PAR in which the lines of researcher and participant and facilitator may be blurred.

Another potential limitation is that there is a risk of accidental disclosure of a name or other identifying information despite efforts made to protect confidentiality. While the researcher took precautions to act in a professional and courteous manner, it is also possible that someone felt slighted during the PAR research process. The attention to ethics never ends, as Davies and Dodd (2002) state: “Ethics exist in our actions and in our ways of doing and practicing our research; we perceive ethics to be a work in progress, never to be taken for granted, flexible and responsive to change” (p. 281).

Chapter IV: Results

Introduction

More students with high functioning autism are in inclusive settings than ever before in the United States. As noted in this study, while there are many benefits to inclusive learning, the mere co-habitation of students with autism in inclusive settings is insufficient to meet their social and behavioral needs (Chamberlain et al., 2007; Humphrey & Symes, 2013). Deficits in social skills are core characteristics of individuals with autism. Literature and research have illuminated the impact of one's social skills on behavior, social relations, academic performance, mental health, and life outcomes. Furthermore, the severity of social skills deficits in an individual with autism not only affects the student, but caregivers, teachers, community members, other students, and service providers as well.

Despite the importance of social skills for students with HFA, there is a lack of emphasis placed on interventions for social skills in the school setting. Particularly, students with high functioning autism with adequate verbal skills, cognition, and/or academic skills, often appear to slip through the cracks and do not receive the necessary services and supports that they need for later life success (Spencer, 2013; Sullivan, 2009). Furthermore, research indicates that when interventions are attempted or applied, the interventions being utilized are not always evidence-based and/or implemented appropriately with fidelity and consistency (Locke et al., 2015; Ostmeier & Scarpa, 2012; Thomeer et al., 2019).

There are many reasons cited for the discrepancy between research and practice in school settings regarding the utilization of evidence-based practices for students with autism, some of which include: lack of training, lack of time, lack of funds and materials, and/or lack of administrative support (Langley et al., 2010; Locke et al., 2015; Miller, 2017; Owens et al.,

2014; Williams et al., 2007). Many other studies have documented a lack of buy-in (Kasari & Smith, 2013; Kucharczyk et al., 2015; Locke et al., 2015). The SSUSD implemented a formal inclusion program for elementary students a few years ago, but in doing so, they did not create or implement any formal plan for meeting the social needs of HFA students placed in inclusive settings. Research has suggested that this is the norm, not an exception, for school districts (Ostmeyer & Scarpa, 2012). This study sought to rectify that situation utilizing the Fogg Behavioral Model (2009) guidelines to affect change. Per the Fogg Behavior Model (2009) to implement a systemic change, there must be a catalyst or impetus for change, as well as ample motivation (buy-in), and ability (as in training, capacitation, knowledge). Utilizing PAR and a mixed methods design, the questions that guided this study were:

1. What are some of the reported barriers that a school district encounters when implementing evidence-based practices for social skills interventions for elementary school students with HFA in the inclusive setting?
2. What are some of the needs and desires of public- school stakeholders regarding social skills interventions for students with HFA that will facilitate the successful implementation of evidence-based practices in elementary school inclusive settings?
3. What are some of the social difficulties and behaviors of concern exhibited by students with HFA in inclusive school settings?
4. How effective is a short-term evidence-based social skills program for students with HFA in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing maladaptive problem behaviors?

Chapter 4 offers valuable information addressing each of the proposed study questions via a mixture of qualitative and quantitative data. Due to the PAR nature of the study, as well as its broad scope, the primary researcher engaged the aid of research assistants to help with various aspects of the study. In addition, considering the nature of the study, a discussion of the primary researcher's own familiarity and competency with the subject is warranted. Following the discussion of researcher experience, a discussion of response/participation rates, participant demographics, and the internal consistency of the survey instruments will ensue prior to the researcher elaborating upon the responses to each of the proposed research questions. Chapter 4 will culminate with a discussion of post-intervention district response as well as a summary of the highlights from the results' section.

Experience and/or Training of Research Assistants and the Primary Researcher

One of the research assistants, Ms. J., has a master's in special education and serves as the district's autism instructional coach. Along with the primary researcher, Ms. J. is the district's representative to the state of California Autism and Professional Training Network (CAPTAIN) – a group of school and community leaders committed to aiding individuals with autism in the school setting. Ms. J. has extensive experience and training in autism. In her current assignment, she aids the supervision of the district's behavior support assistants in the autism field, she provides training and consultation, she helps in managing the progress of students receiving behavior intervention services, and she conducts assistive technology training for the district. Furthermore, Ms. J. is a Registered Behavior Technician who is working on becoming a Board-Certified Behavior Analyst (BCBA).

Ms. T., another research assistant, is the district's lead behavior support assistant for autism. She has over 18 years of experience in the field in the school setting. Ms. T. is also a

Registered Behavior Technician. In her district role, Ms. T. assists in the district's scheduling and supervision of other autism behavior assistants, she conducts and/or supports trainings, she provides consultation to staff, and she receives monthly training in behavior related practices. She also has worked as a behavior interventionist for a private agency. Both Ms. T. and Ms. J. assisted the primary researcher with the facilitation of the focus groups.

A third research assistant, Ms. H., possesses a bachelor's degree and has over six years of experience in the field of autism. Ms. H. is also a Registered Behavior Technician. In her district role, she provides direct behavior supports to students and consultation to staff members. Ms. H. attended all the observations of the students with HFA with the primary researcher, taking her own notes and narratives to enhance the validity of the study - completing the Social Skills Observation Form upon each observation. She attended two of the PMI focus group interventions where she assisted in modeling appropriate behaviors. In addition, she attended two of the focus group meetings and watched the additional focus group session via video. Ms. H. also receives monthly training in behavior supports, strategies, and consultation.

The primary researcher (the author of the study) has over 30 years of experience in psychology, social work, behavior, and counseling. For nearly 20 years as a bilingual psychologist and behaviorist, the primary researcher has provided direct supports to students, families, and school personnel in the area of autism, including but not limited to, counseling, psycho-educational and behavioral assessments, conducting social skills groups, training staff, consulting, and conducting behavior interventions. The primary researcher has three bachelor's degrees, a master's degree in clinical and community psychology, and the equivalent (in coursework) of a second master's degree in school psychology, and additional graduate courses and/or training in educational leadership, autism, crisis and intervention, and behavior analysis.

The primary researcher possesses the following credentials and/or memberships: BCBA, Pupil Personnel Services Credential (PPSS) (School Psychology), California Association of School Psychologists (CASP) advanced behavior certificate, PENT and CAPTAIN Membership, Youth Minister Credential, ADOS-2, and Community College Lifetime Instructor Credential. The primary researcher teaches in a local private university's BCBA program on function-based behavior assessment and intervention. Beyond the public- school sector, the primary researcher has worked part time for nearly seven years in the private ABA sector as a divisional supervisor conducting function- based behavior assessments, providing parent consultation, supervising staff, and directly administering a variety of ABA technics. The primary researcher's current position as a district school psychologist on special assignment and behaviorist, includes assessments, supervision of the district's Registered Behavior Technicians, consultation, training, behavior monitoring, and collaboration. For nearly seven years, the primary researcher has provided support district wide as opposed to providing support to just one particular school site.

Response Rate to the Survey Research

A total of three different surveys were administered to early elementary inclusion related staff in the SSUSD (see Appendices H, I, J). The primary researcher approached three elementary school principals and the coordinators of the district's psychological services and autism and communication departments regarding having their employees participate in the survey only portion of the study. Each of the three principals and the coordinators approached provided consent for their inclusion staff to be contacted regarding potential involvement in the survey. Targeted employees included regular education teachers, special education teachers (AKA special education teachers), behavior support assistants, elementary mental health

counselors, school psychologists, speech therapists, and district inclusion/autism staff. The response rate for survey completion only (without participating in any other aspects of the study) was 56% of those individuals approached to participate (18 of 32 individuals). A response rate of over 50% is considered more than sufficient for educational surveys (Richardson, 2005). Studies have shown that response rates with lower rates (even as low as 5%) are sufficient to generate accurate results, especially if the sample is considered representative of the general population of interest in the research study (Holbrook, Krosnick, & Pfent, 2010; Mealing et al., 2010).

Focus Group Participation

A total of 12 individuals agreed to take part in the four focus/training groups held at the district office. Two of the focus group participants were authorized research assistants who presented on topics during the focus groups and helped to facilitate the flow of the groups. An additional research assistant (the assistant who co-observed the three students with HFA with the primary researcher) attended two of the four meetings, resulting in an increased attendance of 13 inclusion related staff members for one of the meetings when all were in attendance. Research indicates that a number of six is sufficient for a focus group, while 10 participants is the average and no more than 15 is recommended (Krueger & Casey, 2000; Johnson & Christensen, 2004; Nyumba, Wilson, Derrick, & Mukherjee, 2018). Focus groups should include enough participants to represent diversity yet be small enough to create a safe environment where participants' opinions are validated. Optimal focus groups usually last between one to two hours (Morgan, 1997). Each focus group in this study lasted two hours.

Eleven of the 12 participants (100% of the school personnel participants) completed the three researcher-created surveys that were part of this study. The parent was only required to

complete the Social Skills Relevance Survey and the Barriers' Survey as the other survey was intended for school personnel only. Following district protocol, the researcher could only contact employees regarding participation in the focus groups upon consent from the site administrator – the principal. The district inclusion staff had recommended that the researcher contact nine of the district's elementary school principals. Of those nine contacted, five elementary school principals and the coordinators of the district's psychological services and autism and communication departments agreed to have their employees contacted regarding participation in the focus groups. Only those employees presently affiliated with elementary inclusion programs in some way were invited to participate in the focus groups and parents were referred by elementary school teachers and/or the district inclusion staff. Of the five schools which agreed to participate, only two of those schools sent voluntary staff representation to the focus groups. Four inclusion-related school staff focus group volunteers came from one elementary school: Miner's Elementary. One parent of a student with HFA from Solano Elementary School agreed to participate in the focus groups (five parents had been approached to participate thus reflecting a parent response rate of 20% of those invited to participate).

Additional focus group members were comprised of district behavior support assistants, elementary school psychologists, and/or district inclusion staff. The focus group reflected a sampling of district stakeholders in autism inclusion programs, including special education teachers, psychologists, behavior support assistants, a speech therapist, two semi-administrative role members, and one parent of a child with HFA placed in an inclusive setting. Furthermore, at least ten out of 12 group members were in attendance every session, with six group members attending every group. No participant missed more than one meeting. In addition, research assistant Miss H. attended two of the meetings bringing the total number of attendees of group

three to 13 individuals. Since all the focus group sessions were videotaped, any member who missed a group was asked to watch the video and confirm that the video had been seen.

Furthermore, all focus group members who missed any group interview, were interviewed individually so that their voices were heard.

Some of the school personnel who had been invited to participate in the focus groups, but who had declined the offer to do so, cited a lack of time and demand conflicts as reasons not to participate. At least two principals reported they were reluctant to allow their staff to miss four scheduled early afternoon collaboration periods to attend the focus groups, and an additional three principals did not respond to the researcher's email at all. While no regular education teachers participated in the focus groups, all three of the regular education teachers of the students with HFA involved in the social skills interventions participated in the study in some form. Furthermore, all three of the regular education teachers completed the three researcher created surveys and completed pre and post assessments with a 100% response rate. Similarly, the parents of the three students with HFA involved in the study completed pre-post assessments with a 100% participation rate.

Demographic Information of the Focus Group and Additional Survey Participants

On the survey titled "Evidence-Based Practices for Social Skills Interventions" (see Appendix H), school personnel participants were asked to provide demographic information including their age range, gender, job title, ethnicity, years of experience, and any prior training in the area of autism. The demographic information of the survey participants is summarized in the arrays below. Please note that all these participants with the exception of the parent in the focus group, were asked to complete all three of the researcher-created surveys in this study (see

Appendices H, I and J). Table 8 below presents the demographic information for the Focus Group Participants.

Twelve district stakeholders participated in the focus groups. Five of the focus group participants (42%) fell in the 40-50 age range category, five were in the over 50 age category (42%), and two were in the 30-40 age range category (17%). The amount of time which participants had been in their current position ranged greatly from one year to 34 years, with 58% of the respondents possessing over 10 years of education experience. Furthermore, the amount of autism training ranged from self-taught (the parent representative) to extensive training (a combination of years in the field and/or graduate level courses and/or additional experiences).

Three individuals of Hispanic origin (25% of group members) participated in the group along with nine (75% of the group members) individuals who identified themselves as Caucasian. The district role varied as discussed in chapter 3, ranging from one parent of a child with HFA, to two school psychologists, several behavior support assistants, two special education teachers (special education teachers), one district inclusion specialist, one speech therapist, and the district autism coach/assistant technology specialist. All group members were related to early elementary inclusion in some form, although a couple of the group members were not working in inclusive settings at the time of the focus group. Only one male participated in the focus groups representing just 8% of the group participants. The following Table 9 displays the demographic information of other district personnel who completed the surveys but did not participate in the focus groups.

Table 8.

Participants, Age Range, Gender, Job Title, Ethnicity, Years of Experience in Current Position, Experience/Training with Autism for all Focus Group Participants

Coded ID	Age Range	Gender	Ethnicity	Job Title	Years of Experience	Autism Training/Experience
01	40-50	F	Hispanic	Parent	N/A	Self-taught, in home ABA experience, support from district inclusion specialist
05	30-40	M	Hispanic	BSA	1 year in current position	4 years direct experience working with students with autism, district supervision/workshops
06	Over 50	F	Caucasian	BSA	1	4 district short workshops on autism, some additional behavior training
07	40-50	F	Caucasian	School Psychologist	3	Only district training
08	Over 50	F	Caucasian	Inclusion Specialist/Ed Specialist	34	Autism Authorization, District Training, years of teaching experience, conferences,
09	30-40	F	Caucasian	District Autism Instructional Coach and AT Specialist	6	Autism Authorization Credential, CAPTAIN, Seminars, RBT, BCBA courses
10	Over 50	F	Caucasian	Speech and Language Pathologist (SLP)	23	Continuing Education Units, SSUSD workshops
11	Over 50	F	Caucasian	BSA Lead/Trainer	18/4 in current position	RBT, 18 years of experience with students with autism, district training
14	40-50	F	Caucasian	Special education teacher	16	Autism Authorization Credential, A few district professional development classes
15	Over 50	F	Caucasian	Autism BSA	15	RBT and additional district training
30	40-50	F	Caucasian	School Psychologist	22	Very little in graduate school, Training from district AUTISM POSA, some training on my own
42	40-50	F	Hispanic	Special education teacher	15	Autism Authorization Credential

NOTE: Education Specialist is also known as Special Education Teacher in the SSUSD district

Table 9.

Participants, Age Range, Gender, Job Title, Ethnicity, Years of Experience in Current Position, Experience/Training with Autism for All Others Who Completed the Survey

Coded ID	Age Range	Gender	Job Title	Ethnicity	Years of Experience	Autism Training/Experience
102	40-50	F	Special education teacher	Caucasian	18	Autism Authorization Credential
107					Left blank	
106	40-50	F	General Education Teacher	Caucasian	23	SSUSD inclusion training
108	Over 50	F	Special education teacher	Caucasian	27	College Classes/SSUSD inclusion training
109	40-50	F	Teacher	Caucasian	16	General education for credential and inclusion workshops
110	40-50	F	Speech/Language Pathologist	Caucasian	15	“Yes”
113	20-30	F	Special education teacher	Caucasian	2.5	Autism Authorization Credential
114	40-50	F	General Education Teacher	Caucasian	12	“0”
121	40-50	F	Special education teacher	Caucasian	5	Autism Authorization Credential, Behavior Interventionist Training with Easter Seals
122	40-50	F	General Education Teacher	Caucasian	20	One professional development training
123	40-50	F	Special education teacher	Caucasian	19	Autism Authorization Credential; District Training
124	Over 50	F	Elementary Teacher	Caucasian	29	Limited
126	Over 50	F	School Psychologist	Pacific Islander/Asian	14	Professional Development, Autism Training in Specific Strategies to Promote Student Success
130	20-30	F	Behavior Support Assistant (Registered Behavior Technician, RBT)	Hispanic	6	“Yes”
131	30-40	F	School Psychologist	Caucasian	8	Left Blank
132	30-40	F	School Psychologist	Caucasian	5	Left Blank
133	40-50	F	Behavior Support Assistant (RBT)	Caucasian	22	“Yes”
135	40-50	F	School Psychologist	Hispanic	9	“Yes”

Eighteen additional staff members completed the surveys but no other aspects of the study. Five special education teachers completed the three surveys along with three regular education teachers. One participant declined to complete the demographic portion of the survey. Two teachers did not specify the nature of their experience. One speech therapist completed the survey only portion of the study (an additional speech therapist attended the focus/training groups). Two additional behavior support assistants and four additional school psychologists completed the survey only portion of the study. Survey-only respondents were predominantly Caucasian (53%), although three survey-only participants identified themselves as Hispanic (18%) while one survey participant reported her ethnicity as Pacific-Islander (6%). The median age of participants in the survey only portion of the study was 40-50 (53%), although at least two respondents fell in the 20-30 range (12%). The years of experience ranged from five years to 29 years of experience. Fifty-nine percent of the participants had over ten years of education experience. The extent of training in autism ranged from no training at all to college level courses. The following Table 10 presents a summary of the demographic information of the three regular education inclusion teachers who did not participate in the focus group, but who completed other aspects of the study. Each of the teachers represented below had a student with HFA who participated in the intervention portion of the study.

Table 10.

General (AKA: Regular) Education Teachers Whose Students with HFA Participated in Intervention

Coded ID	Age Range	Gender	Job Title	Ethnicity	Years of Experience	Autism Training/Experience
16	30-40	F	Classroom General Education Teacher (inclusion)	Asian (Korean)	5	“0”
36	Over 50	F	Classroom General Education Teacher (Inclusion)	Caucasian	10	No formal training-workshops through SSUSD
57	40-50	F	Classroom General Education Inclusion Teacher	Caucasian	17	SSUSD inclusion training

The three regular education teachers presented with a wide range of age ranges (30 to over 50) and years of experience (from five to 17). At least one regular education teacher reported that she had not received any formal autism training while two of the three regular education teachers listed the training provided by SSUSD Inclusion Training Professional Developments. All special education teachers in California are obliged to hold an autism authorization as part of their credentialing program. The following Table 11 presents the demographic information of the student participants who took part in the social skills interventions portion of this study.

Table 11.
Student Participants' Demographics

Student Name (pseudonyms)	School	Grade/ Age	School Placement	Gender	Ethnicity	Primary IEP Handicapping Condition	Type of Intervention
Wen	Miners'	2/7	Inclusion	M	Vietnamese	Autism	PMI / Comprehensive
David	Miner's	1/7	Inclusion	M	Hispanic	Autism	PMI / Comprehensive
Ernesto	Solano	1/7 (just turned)	Inclusion (about 30 minutes pull out daily)	M	Hispanic	Autism	PRT / Comprehensive
John	Miner's	2/7	Regular Education	M	Caucasian	N/A	PMI
Jake	Miner's	2/7	Regular Education	M	Hispanic	N/A	PMI

All the student participants were either in the first or second grade and all the students were seven years old. Furthermore, all the students with HFA who participated in the study had autism as their primary handicapping condition on their IEPs. The students represented varied ethnicities. Two of the three students with HFA (66%) were of Hispanic origin while one of the students (33%) was of Asian descent. One typical peer was of Hispanic origin while another was identified as Caucasian. The ethnicity of the parents of the students who participated in the intervention is reflected in the ethnicity of their children: three parents of Hispanic descent, one parent of Asian descent, and one parent of Caucasian descent. All the students (and their respective parents) spoke English fluently. The students with autism also receive added supports according to their respective individualized education plans (IEPs). David receives 60 minutes

daily of direct academic support from a special education teacher, 60 group sessions for speech/language support yearly or 30 minutes each session, fifteen 25- minute sessions for Occupational Therapy yearly, and ten 25- minute sessions of physical therapy yearly. Ernesto receives 30 minutes weekly of pull out specialized academic instruction, 270 minutes weekly of push in academic support, 30 minute of weekly group speech/language support, and five 20- minute sessions of occupational therapy yearly. Wen receives 300 minutes weekly of group specialized academic instruction (60 minutes daily, 30 minutes group speech/language support weekly, and fifteen 20 min occupational therapy sessions).

Survey Instrument Validity and Reliability Analysis

Validity is widely defined as the extent to which a tool or assessment actually measures the underlying construct of interest (Sullivan, 2011). Each of the three surveys (see Appendices H-J) created by the primary researcher were developed based on information culled from literature, expert sources such as CAPTAIN and CASEL (sources devoted to evidence-based practices), and similar research studies. Furthermore, each of the three surveys was vetted with four additional professionals in the field of autism, piloted to a small group of five individuals, and revised as needed. Reliability refers to the dependability or consistency of one's results and a study's reliability impacts the study's overall validity (Sullivan, 2011). Reliability for the survey instruments was measured using Cronbach's alpha. Cronbach's alpha is widely used and accepted as a measure of the internal consistency of a questionnaire involving Likert items or scales (Warmbrod, 2014). The closer the alpha co-efficient is to 1, the greater the reliability of the instrument. Alpha scores over .70 are indicative of high internal consistency (Warmbrod, 2014; SPSS 25, 2016). The following Table 12 displays the evaluation of the internal

consistency of the survey titled: Evidence-Based Practices Survey for Social Skills Interventions for School Personnel (see Appendix H).

Table 12.
EBP Survey Reliability Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.846	.843	18

A reliability analysis was carried out on the reported familiarity with EBP's survey comprising 18 items. Thirty ($n = 30$) respondents completed the survey completely (any respondent who left a survey item blank was excluded from the Cronbach's alpha analysis survey). Cronbach's alpha showed the questionnaire to reach acceptable reliability, $\alpha = 0.85$ (Warmbrod, 2014). Nearly all the items appeared worthy of retention, resulting in a decrease in alpha if deleted. Upon consideration of the varying expertise of the responders, all items were considered valuable (see individual familiarity survey item statistics Table 13 below).

Table 13.
EBP Survey Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SSG How familiar are you with this practice?	30.0333	31.551	.519	.835
SSG How competent do you feel implementing this practice?	30.1667	31.109	.614	.830
SSG How often have you utilized this practice in the past month for your inclusion students with autism?	30.4667	33.913	.165	.851
Vi Mo How familiar are you with this practice?	30.3667	31.895	.420	.839
Vi Mo How competent do you feel implementing this practice?	30.5000	32.259	.360	.842
Vi Mo How often have you utilized this practice in the past month for your inclusion students with autism?	30.9333	35.099	.118	.848
PMI How familiar are you with this practice?	30.5333	31.706	.542	.834
PMI How competent do you feel implementing this practice?	30.5333	30.740	.628	.829
PMI How often have you utilized this practice in the past month for your inclusion students with autism?	30.7667	34.530	.081	.855
SN How familiar are you with this practice?	29.7000	30.217	.623	.829
SN How competent do you feel implementing this practice?	29.7333	29.375	.698	.824
SN How often have you utilized this practice in the past month for your inclusion students with autism?	30.2333	31.633	.410	.840
PBI How familiar are you with this practice?	29.3000	32.148	.508	.836
PBI How competent do you feel implementing this practice?	29.3333	31.747	.563	.833
PBI How often have you utilized this practice in the past month for your inclusion students with autism?	29.3667	32.723	.277	.847
PRT How familiar are you with this practice?	30.5333	31.154	.470	.837
PRT How competent do you feel implementing this practice?	30.7000	31.183	.538	.833
PRT How often have you utilized this practice in the past month for your inclusion students with autism?	30.8000	32.441	.442	.838

The following Table 14 displays the internal consistency of the survey titled: Social Skills Relevance Survey (see Appendix I). Ostmeyer and Scarpa (2012) developed a similar survey for their study utilizing PAR for students with autism in school settings and their survey served as an inspiration for the survey utilized in this study. A reliability analysis was carried out on the reported relevance of social skills comprising eight items. The results of the reliability analysis for the Social Skills Relevance Survey are presented below.

Table 14.
Social Skills Relevance Survey Reliability Statistics.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.807	.840	8

Thirty-one respondents ($n = 31$) completed the survey completely and any respondent who left a survey item blank was excluded from the Cronbach's alpha analysis. Cronbach's alpha showed the questionnaire to reach acceptable reliability, $\alpha = 0.81$ (Warmbrod, 2014). All items appeared to be worthy of retention, resulting in a decrease in alpha if deleted as evident in Table 15 below.

Table 15.
Social Skills Relevance Survey Item Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	32.0000	8.267	.581	.816	.802
Teaching typical peers strategies they can use to interact with children with HFA, will enhance social relationships with their HFA peers	32.2258	7.714	.400	.235	.801
Social difficulties in children with HFA affect academic performance	32.8065	6.361	.539	.437	.786
Social difficulties in children with HFA affect their post-secondary success (life outcomes)	32.5806	6.252	.544	.422	.787
Social difficulties in children with HFA interfere with developing relationships (including friendships, parent/student, teacher/student etc.)	32.2258	6.514	.699	.627	.758
Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	32.4839	6.925	.481	.449	.792

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Social difficulties in children with HFA affect their behavior in inclusion settings	32.3871	6.578	.608	.500	.772
Evidence-based social skills training for children with HFA should be incorporated in schools	32.0645	7.396	.625	.844	.779
Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	32.0000	8.267	.581	.816	.802
Teaching typical peers strategies they can use to interact with children with HFA will enhance social relationships with their HFA peers	32.2258	7.714	.400	.235	.801
Social difficulties in children with HFA affect academic performance	32.8065	6.361	.539	.437	.786
Social difficulties in children with HFA affect their post-secondary success (life outcomes)	32.5806	6.252	.544	.422	.787
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	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	32.4839	6.925	.481	.449	.792
Social difficulties in children with HFA affect their behavior in inclusion settings	32.3871	6.578	.608	.500	.772
Evidence-based social skills training for children with HFA should be incorporated in schools	32.0645	7.396	.625	.844	.779

The following Table 16 displays the internal consistency of the survey titled: Barriers to Implementing Evidence-Based Social Skills Interventions (see Appendix J).

Table 16.
Barriers to Implementing EBPs Survey Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.871	.876	7

A reliability analysis was carried out on the reported barriers to implementing social skills for students with autism survey comprising seven items. Thirty- three ($n = 33$) responders (32 inclusion staff members and one parent of a student with HFA) completed the survey completely. Cronbach's alpha showed the questionnaire to reach acceptable reliability, $\alpha = 0.87$ (Warmbrod, 2014). All items on the scale appeared to be worthy of retention, resulting in a decrease in alpha if deleted as noted in the Table 17.

Table 17.
Barriers' Survey Item Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Lack of Training in Evidence-based social skills interventions for students with autism	14.5758	12.064	.592	.530	.860
Lack of staff	14.6364	11.926	.603	.521	.859
Lack of materials	14.8182	11.591	.604	.399	.858
Prioritization of needs/demands in the school day (i.e. emphasis on academics)	14.6970	11.343	.733	.589	.843
Lack of time to implement Social Skills Interventions	14.7576	10.877	.721	.689	.843
Cost of Implementation	15.1212	10.735	.735	.601	.841
Administrative Support	15.2121	10.422	.606	.450	.865

Qualitative Data Responses

Combining qualitative and quantitative measures is a method of data triangulation that impacts the overall validity of a study. In qualitative analysis, triangulation through the use of multiple data collection methods and/or sources of information can provide a deeper understanding of a phenomenon being studied (Patton, 1999). To determine the essential themes prevalent in this study's qualitative data, all of the data from the various sources were analyzed collectively via the NVivo software program. The following is a summary of the various sources for the qualitative data:

- Three Separate Semi-Structured Focus Group Interviews (see Appendices K and L). The interviews were conducted on the first and last focus group session dates.
- Make-Up Interviews (any focus/training group member that missed an interview was interviewed via a compensatory session)
- Two focus group members who missed the first session due to having to attend an IEP meeting made up the interview with the primary researcher before the start of the second focus group.
- One focus group member missed the last meeting and she also met with the primary researcher within two weeks of the group and answered the semi structured interview questions individually.
- The primary researcher interviewed the teacher from Solano for approximately 30 minutes after school at the start of the PRT intervention. The primary researcher would collaborate with the general education teacher from Solano during every PRT session for approximately five minutes.

- Post intervention, two of the regular education teachers and one of the special education teachers was interviewed between five to 15 minutes.
- Checking in and/or collaboration: the primary researcher would collaborate with the general education teacher from Solano during every PRT session for approximately five minutes. The primary researcher also would meet and/or check in with one of the special education teachers from Miner's School at least weekly for a few minutes. Similarly, the researcher checked in with David's teacher weekly via either email or telephone.
- Collaborative meeting between district inclusion specialist and special education staff at Solano Elementary: duration 45 minutes.
- Direct observations: six total students in their respective school settings (academic and leisure).
- One open-ended question on the Barrier's Survey: Please comment on any additional barrier that you see to implementing direct social skills training in the inclusive school setting:
- Each parent of a student with HFA was asked two open ended questions in writing post-intervention. Every parent responded.
- Every student participant in the study was interviewed post intervention (see Appendix M). The average student interview duration was four minutes.
- The parents of the typical peer PMI participants were interviewed post intervention for approximately five to ten minutes each.
- Field notes during intervention sessions (16 total)
- Field notes during focus group sessions (four focus groups)
- Total number of formal, audiotaped interview sessions: 11

- Total number of direct observations of students in school settings: 6

Merging the raw data together, the primary researcher derived several primary codes. The following Table 18 shows a tabulated summary of the top 10 codes from all qualitative data sources.

Table 18.
Top 10 Frequent Codes from All Qualitative Sources

Code	Frequency of Responses
Student Benefits if Interventions are Implemented	44
Challenging Behaviors Exhibited by Students with HFA	38
Lack of Training in EBPs	33
Skill Deficits Exhibited by Students with HFA	31
Lack of Time	24
Lack of Support Staff to Meet Social Needs and Implement EBPS	17
Staff Benefits if Interventions are Implemented	16
Lack of Staff Buy-In and/or Motivation of teachers	13
Lack of Curriculum/Materials (need for materials)	12
Lack of Support for EBPS by Administrators/District	12

Themes and subthemes revealed in this study were determined from nodes/codes based on a variety of different factors, including: the frequency of the code, the intensity of the various comments, member checking, and the connection of the codes to multiple methods of data triangulation (interviews, direct observations, open-ended questions, and field notes). For clarification, in the aforementioned table of codes, the frequency of codes related to skill deficits the direct observation pre-assessment data information was determined by frequency in which the number of students with HFA involved in the study displayed a particular behavior of

concern or skills deficit, not by the number of times that a particular skills deficit or maladaptive behavior actually occurred. Following Figure 5 presents an illustration of the themes and subthemes obtained from the analysis of the qualitative data:

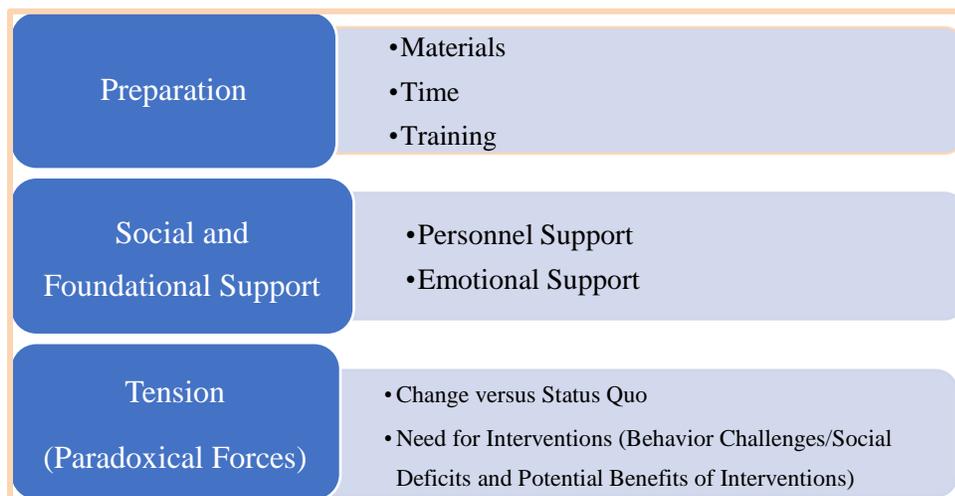


Figure 5. Themes and Subthemes from Qualitative Sources

Some items were elevated to the level of subtheme based on the number of times a particular work or phrase appeared in the qualitative data. Some items were elevated to the level of sub-theme or code not based on frequency, but rather intensity – the level of passion behind a particular statement. In the focus groups, for example, many times, group members nodded and/or even clapped in affirmation of comment made by another group participant. Therefore, while many group members might not have wanted to repeat comments already heard, the focus group members nonetheless expressed that they supported a particular statement via other measures other than frequency. Finally, multiple triangulation methods enhanced the validity of detected themes and sub-themes. If a particular subtheme was noted across various sources of information (i.e. focus group sessions, direct observations, interviews with parents, teachers, students, open ended questions, field notes) then that subtheme was given considerable regard.

Regarding the implementation of evidence-based social skills interventions for students with HFA in inclusive settings, three themes emerged from the qualitative data: (a) staff preparation, (b) foundational and emotional support, and (c) tension (competing paradoxical forces). During the study, it became apparent that underlying tension (forces pulling in opposite directions) was percolating. There were clearly staff who embraced the central premise of inclusion and in doing so, embraced any type of interventions that could have potential student and staff benefits. Yet throughout the course of the study, there were repeated references and allusions to staff who were still struggling to accept any the change in status quo. For example, many staff members reported that not all staff were “motivated” to implement EBPs and that “old habits die hard” as one participant indicated. Some study participants voiced that inclusion was not necessarily a choice for them, and, therefore, they were obligated to embrace a practice that many felt ill equipped to manage. One of the regular education teachers exclaimed, “I didn’t study special education, I’m at a loss.” Another participant emphasized the need for administrator buy-in, “If it’s (social skills training) going to be utilized in a school, it’s really necessary to get the principal to buy-in to the social skill training and, you know, previously their focus has been on test scores, and the focus has been more academic.” Many study participants reported that they have noted a change in shifting priorities in schools. Traditionally, focus in schools has been on academics, and not social skills or behavior, but as of late, that priority was evolving.

The general education teacher from Solano Elementary stated, “If we’re going to have more inclusion students, we have to have more support. We have to have people who are well trained working with these students to help us.” The majority of group participants voiced that more guidance, support, and direction was required to successfully practice inclusion. Many

study participants reported that the training they had received regarding EBPs for students with autism and/or other special needs was helpful, yet insufficient. A special education teacher exclaimed, “Training is so needed. I would love to have a person or team that could come and demo it (an EBPs for social skills), such as ‘The demo teacher’ -with your students and in your setting.” During the Video Modeling Focus Group Training Session, at least three staff exclaimed that they had no idea that there were certain elements that should be included in a quality social narrative. One educator voiced, “I’ve been doing this wrong for 13 years!”

Behavioral and social challenges exhibited by students with HFA, potential benefits of intervention, and belief in the philosophy that both typical students and those with special needs benefit from inclusive practices, were all arguments in favor of changing the status quo. During the focus groups, when asked what current EBPs for social skills were being utilized in schools, responses varied. Miner’s school staff reported that their principal had assured access to all inclusion staff for the EBP Video Modeling via an online software package. Indeed, four members from the Miner’s staff (two special education teachers, a speech teacher, and the site psychologist) participated in the focus group sessions. Furthermore, Miner’s school was the site for the PMI intervention involving two typical students and two students with HFA. Throughout the intervention, the staff at this school repeatedly expressed a desire to engage in training and to enhance their intervention practices and meet the needs of their students and families in inclusive settings. Several of the Miner’s staff had attended two of the primary researcher’s trainings in August of 2018 on class-wide peer tutoring and Lego Club Therapy – both EBPs for students with HFA. The support of EBPs for interventions and inclusion practiced in general, was from the top down at the school site, as site members echoed, “Our principal is willing to do anything

that she can to help us.” Other staff members throughout the study similarly voiced support for interventions and a willingness to change current practices.

Other stakeholders, however, routinely voiced concerns that interventions to address social skills based EBPs for students with autism were sorely lacking and/or non-existent in schools. During the focus group, when asked what EBPs were currently being practiced in schools, the parent participant member whose son is a first-grade student with HFA in an inclusive setting, emphatically stated, “None! I don’t think he’s receiving any type of EBP!” The parent focus group participant member elaborated that she knew that the general education teacher was trying her best, but that “with some 30 students and little support” – it was challenging to meet her son’s needs. The principal at Solano’s school site routinely expressed support of inclusive practices, but, added that her staff needed extra support personnel and training to implement EBPs, “We are open to any help that we can get!”

Others noted, however, that even when help is offered, it is not always received. One focus group participant noted, “I have tried to provide training to staff, but it is not always well received. Some don’t want the training as they believe that the child shouldn’t be in their class to begin with.” The age old “medical model” of categorizing individuals by their condition (separating “us versus them”) was a recurrent subtheme noted throughout the qualitative data. That particular subtheme falls under the embrace change or maintain status quo category. However, for the focus group participants, the emphasis of the separate but equal model was reported as a concern voiced by their colleagues, as opposed to their own concern. Indeed, there seemed to be homogeneity in the beliefs of most of the focus group participants that inclusion (for most individuals, not all) was worthwhile and subsequently, any EBPs to support inclusive efforts, were welcome.

Participants of the study were inclined to suggest that the rate of behavior challenges being observed in schools should be sufficient incentive alone to effect a systemic change and address social skills deficits with proper EBPs. Several study participants noted that they had seen an alarming trend in that social skills and behavior had suddenly become a major concern for early elementary students, while in the past, these concerns were relegated to students in their later elementary years. One focus group participant elaborated, “I think principals are starting to realize how much of their time now is being spent on behaviors - time and energy... going into kindergarten, 1st and 2nd grade.” All focus group members vocalized agreement or nodded in agreement during this discussion. Focus group participants shared that if districts invested time and energy into addressing the social needs of students with autism in inclusive settings, there would be benefits to the student and teacher alike. The parent participant in the focus group shared, “Focusing on social skills would reduce the student’s anxiety levels ...and help them feel more included and comfortable in the class.”

During the course of the study, both the focus group participants and the regular education teachers involved in the intervention portion of the study shared behavioral and social/emotional challenges they have observed in students with HFA in inclusive settings. Furthermore, the primary researcher and one of the researcher’s assistants observed the three students with HFA in both academic and social environments. The following behavior challenges and skills deficits were reported frequently and/or directly observed:

- acting out behaviors (such as meltdowns, aggression),
- a tendency to invade personal space,
- difficulties with coping skills,
- perseverating on topics,

- interpersonal struggles (especially the ability to make and keep friends and engage in play and reciprocal conversations),
- misreading social cues,
- difficulty following classroom rules,
- blurting, including

Two of the three students with HFA demonstrated difficulty with following class rules – especially the non-verbal gestures for students to quiet down or look at the teacher. One of the three students often engaged in verbal protests of “No!” and “I don’t want to!” within the academic setting. Additional concerns expressed by the focus group members addressed the tendency of students with autism to be overwhelmed or over stimulated. As one focus group member shared, “Our students have a lot of sensory overload.” Other focus group members noted an exaggerated “flight/fight” mode that appeared linked to sensory overload.

Several study participants expressed a concern about the ability of students with HFA to make and maintain friendships, and to socialize appropriately with their peers. One participant reported, “I see a lot of our kiddos just out there by themselves, like walking the perimeter.” A school psychologist focus/training group member echoed the sentiment:

If you just have friends. All of it, that just kind of builds on itself, to feel included and develop friendships and do better with, you know, understanding social cues better. It is so helpful to avoid other challenges or misunderstandings.

During field observations prior to the intervention, two of the three student participants with HFA were observed to spend over 75% of their recess or lunch time playing alone. After eating lunch with a preferred peer, one student with HFA played alone during the rest of the

recess and only interacted with adults to comment on his reading counts points. Another student with HFA approached peers awkwardly and was told to leave. Similar difficulties were noted during partner or small group activities in class for two of the three students with HFA prior to initiating the intervention. During these periods, there was no interaction for two of the students other than taking a peer's hand to seek a massage or to interject when a student was watching something on a screen device. All three of the students with HFA were observed to struggle with maintaining respect of one's personal space. One student participant spread his body across the top of several desks of his peers and bumped into a female peer while moving a chair. Another student with HFA attempted to hold a peer's hand during line at lunch and the peer ran away from him. Yet another tended to stand very close to students while watching them as they played with their IPADS.

Another focus group participant stated, "Improved social skills could assist the students with HFA to better understand the expectations in the class or on the playground."

Nearly all the focus group members responded with statements that implied, if students understood behavioral expectations better, then challenging behaviors would be reduced. Several study participants voiced speculation that appropriate social skills interventions would likely reduce undesirable behaviors (i.e. meltdowns, inflexibility noted by displaying challenging behaviors during transitions) while simultaneously enhancing desirable social skills and pro-social behaviors. As one participant stated, "If they were taught and reinforced to do things the right way, then they would be less inclined to say and do things the wrong way." Several study participants expressed a belief that implementing EBPs for social skills for students with HFA would have benefits for the teachers as well as the students. A focus group participant

expounded, “I think it would help the teachers. It would help the general ed teachers... if students with HFA could work in groups that would definitely help the teacher.”

The need for interventions as well as the potential benefits of interventions were touched on further during post intervention interviews and/or responses to open ended questions regarding the interventions which had occurred across the two school sites. Post intervention, the students, teachers, and parents of the students of the typical peer models were all interviewed regarding their opinions about the intervention (see Appendix M). Student appraisals of the peer mediated intervention ranged from, “I liked it” to “I loved it.” Wen indicated that he liked the group so much that he wished that it was “all year long.” Indeed, at every group meeting, Wen reported that he missed the researcher and that he wished that group was “every day.” Having fun and playing was a component mentioned by all the intervention participants during their post intervention interview. When asked to state their favorite part of the intervention group, all five of the students identified interactive games with their peers (such as playing cops and robbers, soccer, catch, and/or Spanish Bingo) that had transpired during the course of the intervention. When asked if they had learned anything during group, all of the students were able to recall at least one or more things that they had learned. Furthermore, all the teachers expressed that the group had benefited the student. The teachers unanimously expressed a need for social skills interventions of this nature. Wen’s teacher responded, “I wish that he has had this since kindergarten!” The parents of the students with HFA were represented questions via written open-ended questions and they all chose to respond in writing as it was more convenient for them (see Appendix M). While parents unanimously reported that they believed that the intervention had benefited their child, one of the parents reported that she had not yet seen any

change in social skills at home. Chapter 5 will further expand on the themes that were derived from the qualitative data of this study.

Quantitative Data

This study utilized three distinct types of Likert Scale Survey items. According to Boone and Boone (2012), Likert type items fall into the category of ordinal data, and therefore, warrant descriptive statistics that include a mode, median, central tendencies and/or frequency to describe data variability. A Likert scale, however, is comprised of the composite score of a minimum of four or more Likert type items (Boone & Boone, 2012). Likert Scales may be treated as interval data measures and analyzed via additional statistical analysis methods such as an ANOVA or a t test when and/or where appropriate (Boone & Boone, 2012; Norman, 2010). The central limit theory holds that samples with $n > 30$ are sufficient to be treated as interval data (Kwak & Kim, 2017). Furthermore, the assumption of normality can be assumed when the sample size is greater than 30 ($n > 30$), (Ghasemi & Zahediasl, 2012). All statistical data was analyzed utilizing SPSS 25 software and a $<.05$ p - value to determine statistical significance.

To allow for group comparison of data based on one's role in the district, the researcher condensed survey respondents into groups by their district role. (As one survey participant declined to state his/her job title, that participant's information was excluded from any analysis in which district job title was involved). The following primary roles/titles were used in the study and their respective sample sizes:

- Parent ($n = 1$) – The parent only completed the relevance and barriers survey
- School Psychologist ($n = 6$)

- Special education teacher ($n = 8$) (the district inclusion specialist was added to this group)
- General education Teacher ($n=8$)
- Speech and Language Pathologist (SLP) ($n = 2$)
- Behavior Staff ($n = 7$) (The Autism Behavior Coach and Lead BSA trainer were added to this group)

Barriers Survey Results

Research has suggested that there is a definite gap between evidence-based social skills interventions for students with HFA and the familiarity and use of those interventions (Locke et al., 2015). To identify barriers to implementing evidence-based social skills for students with HFA, via a quantitative method, participants in the SSUSD completed a questionnaire titled “Barriers to Implementing Evidence-Based Social Skills Interventions” (see Appendix J). Research has cited a variety of barriers, such as lack of time, training, funds, etc. (Locke et al., 2016; Miller, 2017; Owens et al., 2014), however, the primary researcher wanted to know the opinions and beliefs of the inclusion personnel in the SSUSD – as those opinions would be most important when attempting to create a plan to implement EBPs routinely and with fidelity in the SSUSD school district. Thirty-three ($n = 33$) inclusion stakeholders (32 educators and one parent of a student with HFA) completed the survey. Twelve of those 33 individuals completed the focus group portion of the study as well.

For the survey responses, the participants were asked to give their honest and anonymous opinions about barriers to implementing evidence-based social skills interventions (see Appendix J). The participants were asked to rate the following potential barriers on a scale of 1 (not a barrier) to 3 (a significant barrier). On this particular survey, lower scores indicated more

desired responses. Likert scales type items are general indicators of the intensity of one's attitudes or opinions. The higher the score, the more significant a particular item or activity was perceived as a barrier to implementing EBPs for students with HFA in inclusive settings. The following Table 19 provides descriptive descriptions and summary scores for each of the potential barrier domains as rated by the survey participants.

Table 19.
Potential Barriers Survey Statistical Analysis Results

Potential Barrier	Lack of Training in EBPs	Lack of Staff	Lack of Materials	Prioritization of Needs/Demands in the School Day (i.e. emphasis on academics)	Lack of Time to Implement Social Skills Interventions	Cost of Implementation	Administrative Support
N (valid)	33	33	33	33	33	33	33
Mean	2.73	2.67	2.48	2.61	2.54	2.18	2.10
Median	3.0	3.0	3.0	3.0	3.0	2.0	2.0
Mode	3.0	3.0	2.0	3.0	3.0	2.0	2.0
Std. Dev.	.63	.65	.71	.66	.75	.77	.95

The most significant barrier as noted by the mean for all participants was “lack of training” ($M = 2.73$) which has been echoed in similar research studies (Locke et al., 2015; Miller, 2017). The barriers of greatest concern based solely on the mean score for all participants (focusing on $M > 2.5$, $Mdn = 3.0$) were as follows: (a) lack of training, (b) lack of staff, (c) prioritization concerns, and (d) lack of time. All the potential barriers received overall average ratings of at least “somewhat of a barrier.” Table 20 provides a detailed summary of the frequency and corresponding percent of responses corresponding to each potential designated

barrier in the survey completed by district personnel (the parent responses were excluded from the following table).

Table 20.

Barriers to EBP Survey – Frequency and Percent of Inclusion Staff Responses

Domain Area	Sample Size Valid (n)	Not a Barrier Frequency/Percent		Somewhat of a Barrier Frequency/Percent		Significant Barrier Frequency/Percent	
Lack of Training	32	0	0	11	34.3%	21	65.6%
Lack of Staff	32	0	0	13	40.6%	19	57.6%
Prioritization	32	0	0	15	46.9%	17	53.1%
Lack of Time	32	2	6.2%	13	40.6%	17	53.1%
Lack of Materials	32	1	3.1%	17	53.1%	14	43.8%
Administrative Support	32	10	31.2%	12	37.5%	10	31.2%
Cost	32	4	12.5%	21	65.7%	7	21.9%

Staff indicated a lack of training as the most significant barrier to implementing EBPs for social skills for students with HFA. Training was followed closely by a perceived lack of staff support, difficulties with prioritization, a lack of time and a lack of materials (in that respective order). Less than 30% of staff reported that administrative support was a concern, suggesting that over 2/3rds of the staff culled, see their administrators as supportive of EBPs. Only one out of five staff members viewed cost as a significant barrier.

To determine whether there were differences between the perceptions of barriers for social skills interventions based on the survey participant's role at the district, the researcher conducted group descriptive statistics and a one-way ANOVA. There was one school educator who declined to indicate his/her role at the district, so that individual's information was excluded

from the analysis. Please see Appendix EE for a comparison of group means by district job title for the Barriers' Survey. Group means corresponding to one's role in the district ranged from 1.5 for speech therapists for administrative support ($n=2$) to a high of 2.88 for lack of staff as reported by general education teachers ($n=8$). On average, the results of the Barriers' survey as reported by general education teachers appears higher than that of the other groups. To determine if the differences between groups resulted in a statistically significant level, the researcher conducted an ANOVA. A summary of the ANOVA findings comparing the results of the barriers survey by job title is presented in Appendix FF. There were no significant differences between group means based on district assignment on the Barriers' Survey.

Studies have indicated that the perception of relevance among educators greatly affects decision making matters (Biesta, Priestley, & Robinson, 2015; Priestley, Biesta, Philippou, & Robinson, 2015). If individuals are less inclined to view a particular concept, subject, or theme as valuable or relevant, they are less inclined to be invested. Therefore, the primary researcher developed the Social Skills Relevance Survey as a means of gauging staff and stakeholder perception of the importance of social skills for students with autism. Likert Scales are commonly used to assess attitudes or perceptions. Stakeholders were asked to gauge their relevance for social skills for students with HFA on a typical 5-point Likert Scale (ranging from 1= I do not agree to 5 = I strongly agree). Higher response scores are indicative of greater regard for social skills for students with HFA in inclusive settings in a particular domain. The researcher conducted descriptive statistics for each of the nine statements in the Social Skills Relevance Survey. Higher average response scores are indicative of greater regard for social skills for students with HFA in inclusive settings in a particular domain. The following Table 21 reveals the findings from the Social Skills Relevance Survey.

Table 21.
Social Skills Relevance Survey Descriptive Data

	N	Minimum	Maximum	Mean	Std. Deviation
Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	33	4.00	5.00	4.9697	.17408
It is important to teach children with HFA strategies that they can use to interact with peers and school staff	33	5.00	5.00	5.0000	.00000
Teaching typical peers strategies they can use to interact with children with HFA will enhance social relationships with their HFA peers	33	3.00	5.00	4.6970	.52944
Social difficulties in children with HFA affect academic performance	33	3.00	5.00	4.2121	.73983
Social difficulties in children with HFA affect their post-secondary success (life outcomes)	32	3.00	5.00	4.4063	.75602
Social difficulties in children with HFA interfere with developing relationships (including friendships, parent/student, teacher/student etc.)	33	3.00	5.00	4.7576	.56071
Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	32	3.00	5.00	4.5000	.62217
Social difficulties in children with HFA affect their behavior in inclusion settings	33	3.00	5.00	4.6061	.60927
Evidence-based social skills training for children with HFA should be incorporated in schools	33	3.00	5.00	4.8485	.50752

Thirty-two survey respondents ($n=32$) completed all aspects to this survey. One additional respondent completed part of the survey. One parent of a student with HFA completed the survey while 32 district inclusion related personnel participated in the survey. Every statement on the survey was rated with a combined mean relevance score over 4.0 with 5.0 being the highest possible score, suggesting that inclusion staff do recognize the impact of social skills on students with HFA in many life domains. While the distance between two points cannot be considered equally distant in Likert scales, the analysis of means does suggest a degree of intensity or regard per statement in this particular survey. The three highest rated statements addressed the importance of focusing on interventions to teach students with HFA strategies that they could use to help them interact with peers and staff ($M = 5.0$); it is important to enhance the social skills for students with HFA ($M = 4.97$) and the need to incorporate evidence-based social skills training in schools ($M = 4.90$). To determine if there were any significant differences in the perceived value of social skills between survey participants by the title of their job or role, the researcher conducted group descriptive statistical analysis. Please see appendix GG for a summary of group means based on job title, for every Likert Scale Item on the Social Relevance Scale. Reviewing the results presented in Appendix GG, all group means were at least 4.0 for every question to a range of 5.0. There were no group means reported below 5.0 ($SD = 9.33$), while the control group had a mean of 20.87 ($SD = 8.45$). A one-way analysis of variance (ANOVA) was calculated to compare the mean responses of the Relevance Survey according to determine if job titles impacted one's perceptions regarding the relevance of social skills for students with HFA. Table 22 below presents the ANOVA social relevance scale results by group means.

Table 22.
ANOVA-Relevance Survey Mean Group Comparisons by Job Title

Likert Item	Sum of Squares	Within Group df	Mean Square	F	Sig(Between Groups)
Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	.135	26	.027	.845	.530
Teaching typical peers strategies they can use to interact with children with HFA will enhance social relationships with their HFA peers	.893	26	.179	.909	.490
Social difficulties in children with HFA affect academic performance	1.661	26	.332	.568	.724
Social difficulties in children with HFA affect their post-secondary success (life outcomes)	2.415	26	.483	.821	.546
Social difficulties in children with HFA interfere with developing relationships (including friendships, parent/student, teacher/student etc.)	1.167	26	.233	.687	.638
Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	1.01	25	.202	.470	.795
Social difficulties in children with HFA affect their behavior in inclusion settings	.796	26	.159	.379	.858
Evidence-based social skills training for children with HFA should be incorporated in schools	.510	26	.102	.631	.678

A one-way analysis of variance (ANOVA) was calculated to compare the mean responses of survey participants by job title. The analysis was not significant for any of the Likert scale relevance statements. An individual's district role did not impact perceptions regarding the following domains: the importance of social skills interventions, $F(5,26) = .85$, $p = .530$; teaching peers will enhance skills, $F(5,26) = .91$, $p = .490$; academic impact $F(5,26) = .57$, $p = .724$; life outcome impact $F(5,26) = .82$, $p = .546$; relationships $F(5,26) = .69$, $p = .638$; emotional difficulties

$F(5,25) = .47, p = .795$; behavioral difficulties $F(5,26) = .38, p = .858$; and importance of incorporating EBPs for social skills in schools $F(5,26) = .63, p = .678$.

Evidence-Based Practice Survey Results

A lack of training in evidence-based interventions has been cited as a major barrier to implementation of social skills interventions (Lindsay et al., 2013; Locke et al., 2015) and it was a recurrent theme throughout this study. To assess the knowledge, self-reported competency, and use of EBPs of social skill interventions for students with HFA in inclusive settings, school district personnel with some affiliation to the elementary school inclusion program in the SSUSD district, completed a questionnaire titled “Evidence-Based Practices Survey for Social Skills Interventions for School Personnel” (see Appendix H for the exact questions). The survey sought to measure how familiar a participant was with EBPS for social skills, how competent the participant felt implementing the EBPs, and how often the participants utilized the designated EBPs during the past month for inclusion students with autism. The survey focused on six EPS that have been demonstrated to be effective for enhancing social skills for students with autism: (a) Social Skills Group Training, (b) Video Modeling, (c) PMI, (d) Social Narratives, (e) Positive Based Behavioral Interventions, and (f) PRT. For each of the six different Evidence-Based Social/Interpersonal Skills Interventions, survey participants were asked to rank themselves on a 3- point Likert scale. For the Familiarity Scale, participants were asked to respond on a scale of 1, not familiar, 2, somewhat familiar, to 3, very familiar. For the Competency Scale, participants were asked to respond on a scale from 1, not competent, to 2, somewhat competent, to 3, very competent. Finally, for the Utility Scale, participants were asked to indicate their utility of the practice on a scale ranging from not at all (scored as 1), at least a couple of times a month

(scored as 2), to weekly (scored as 3). On this particular scale, for every single scale item, higher scores reflected more desirable responses.

Thirty-two district inclusion staff employees ($n = 32$) completed the survey titled, “Evidence-Based Practices Survey for Social Skills Interventions for School Personnel” (see Appendix H) to some extent. Any item left blank was indicated by a score of 99 and that item was excluded from the results. The range of the scale was from 1 to 3 for all item questions. The following Table 23a and 23b reflects the summary of descriptive statistics for each EBP for social skills interventions for students with autism.

Table 23a.

EBPs Familiarity, Competency, and Utility Survey Results SSGT– Descriptive Statistics Table A

EBP Scale Item	SSGT Familiarity	SSGT Competency	SSGT Utility	VM Familiarity	VM Competency	VM Utility	PMI Familiarity	PMI Competency	PMI Utility
N (valid)	32	32	30	32	30	30	32	32	32
Mean	1.97	1.84	1.53	1.62	1.5	1.07	1.5	1.47	1.23
Median	2	2	1	2	1	1	1	1	1
Mode	2	2	1	1	1	1	1	1	1
Std. Dev.	.59	.33	.40	.43	.45	.06	1	1	1

Table 23b.

EBPs Familiarity, Competency, and Utility Survey Results SSGT– Descriptive Statistics Table B

EBP Scale Item	SN Familiarity	SN Competency	SN Utility	PBI Familiarity	PBI Competency	PBI Utility	PRT Familiarity	PRT Competency	PRT Utility
N (valid)	32	32	30	32	32	30	32	32	30
Mean	2.28	2.22	1.77	2.72	2.69	2.63	1.47	1.31	1.2
Median	2	2	2	3	3	3	1	1	1
Mode	2	2	2	3	3	3	1	1	1
Std. Dev.	.47	.56	.53	.27	.29	.52	.52	.42	.0

Thirty to 32 surveys were valid for each EBP scale item. The overall mean score of familiarity with the SSGT was 1.97; the overall mean score of competency with SSGT was 1.84, while the overall mean score of utility was 1.53. The median of the familiarity scale for SSGT was 2, the median of the competency scale was 2, and the median of the utility scale was 1.5. The following two tables allow for a discussion of the frequency results of the SSGT EBP. The overall mean score of familiarity with Video Modeling was 1.63; the overall mean score of competency with Video Modeling was 1.5, while the overall mean of utility was 1.07. The median of the familiarity scale for Video Modeling was 1, the median of the competency scale was 1, and the median of the utility scale was 1. The overall mean score of familiarity with PMI was 1.5; the overall mean score of competency with PMI was 1.47, while the overall mean score of utility was 1.24. The median of the familiarity scale for PMI was 1.5, the median of the competency scale was 1, and the median of the utility scale was 1.

The following tables allow for a discussion of the mode results of the PMI EBP. The overall mean score of familiarity with Social Narratives was 2.28, the overall mean score of

competency with Social Narratives was 2.22, while the overall mean score of utility was 1.77. The median of the familiarity scale for Social Narratives was 2, the median of the competency scale was 2, and the median of the utility scale was 2. The overall mean score of familiarity with PBI was 2.72; the overall mean score of competency with PBI was 2.69, while the overall mean score of utility was 2.63. The median response rate was 3 for familiarity with practice, competency with the practice, and utility of the practice. The results suggest that PBI is the most recognized and widely used EBPs for SSUSD staff. A deficit to this type of measurement, however, is that it does not assess the staff's understanding of PBIs which are much more specific and focus for individuals with autism than the general student population. The overall mean score of familiarity with PRT was 1.47, the overall mean score of competency with PRT was 1.31, while the overall mean score of utility was 1.2. The median response rate was 1 (not at all) for familiarity with practice, competency with the practice, and utility of the practice).

To examine the frequency of responses for each EBPs more closely, the researcher analyzed frequency data via count and percent in SPSS 25. The results of staff reported Familiarity, Competency and Utility of Each EBPs are reported in the tables below. Table 24 addresses the familiarity of each EBP according to inclusion staff self-report.

Table 24.

Inclusion Staff Familiarity with EBP Survey Results by Frequency/Percentages of Responses

EBPs	Sample Size Valid (n)	Not at All Familiar Frequency/Percent		Somewhat Familiar Frequency/Percent		Somewhat Familiar Frequency/Percent	
SSGT Familiarity	32	6	17.6	21	61/8%	5	14.7%
VM Familiarity	32	15	44.1%	14	41.2%	3	8.8%
PMI Familiarity	32	17	50%	14	41.2%	1	2.9%
SN Familiarity	32	4	11.8%	15	44.1%	13	38.2%
PBI Familiarity	32	1	2.9%	7	20.6%	24	70.6%
PRT Familiarity	32	21	61.8	7	20.6%	4	11.8%

The following Table 25 addresses the Competency of each EBP according to inclusion staff self-report.

Table 25.

Inclusion Staff Competency with EBP Survey Results by Frequency/Percentages of Responses

EBPs	Sample Size Valid (n)	Not Competent Frequency/Percent	Somewhat Competent Frequency/Percent	Very Competent Frequency/Percent
SSGT Competency	32	8 23.5%	21 61.8%	3 8.8%
VM Competency	32	19 55.9%	10 29.4%	3 8.8%
PMI Competency	32	19 55.9%	11 32.4%	2 5.9%
SN Competency	32	6 17.6%	13 38.2%	13 38.2%
PBI Competency	32	1 2.9%	8 23.5	23 67.6%
PRT Competency	32	25 73.5%	4 11.8%	3 8.8%

Table 26 addresses the Utility of each EBP according to inclusion staff self-report.

Table 26.

Inclusion Staff Utility Within the Past Month of EBPs Survey Results by Frequency/Percentages of Responses

EBPs	Sample Size Valid (n)	Not at All Frequency/Percent		At Least a Couple of Times per Month Frequency/Percent		Weekly Frequency/Percent	
SSGT Utility	30	16	47.1%	12	35.3%	2	5.9%
VM Utility	30	28	82.4%	2	5.9%	0	0%
PMI Utility	29	25	73.5%	1	2.9%	3	8.8%
SN Utility	32	12	35.3%	13	38.2%	5	14.7%
PBI Utility	32	4	11.8%	3	8.8%	23	67.6%
PRT Utility	32	26	76.5%	2	5.9%	2	5.9%

According to the results of the survey, twenty-one participants reported that they were “somewhat” familiar with SSGT (61.8%). Somewhat familiar (a score of 2) was the most frequent response. Twenty-one participants reported that they were “somewhat competent” with SSGT (61.8%). Somewhat competent (a score of 2) was the most frequent response. The most common response for monthly use of SSGT for students with autism was “not at all” (16 participants, 47.1%). Only two participants of 30 reported using social skills group training weekly and 12 participants reported using this practice a couple of times a month. Overall, the results indicate that while most inclusive staff personnel are somewhat familiar with SSGT and feel somewhat competent to administer SSGT, most staff are NOT implementing any SSGT practices for their students with HFA. Nearly 25% of the participants reported being unfamiliar with SSGT and/or not qualified or competent to administer the practice.

Fourteen participants reported that they were “somewhat” familiar with Video Modeling (41.2%) while 15 participants (44.1%) reported that they were not familiar at all with Video Modeling. Not familiar (a score of 1) was the most frequent response. Only three out of 32 individuals (8.8%) reported that they were very familiar with the practice of Video Modeling. Of 32 respondents, 10 participants reported that they were “somewhat competent” with Video Modeling (29.4%) while 19 participants reported that they were not at all competent with Video Modeling (55.9%). Not competent (a score of 1) was the mode response. The most common response for monthly use of Video Modeling for students with autism was “not at all” (28 participants, 82.4%). The results suggest that although nearly 30% of staff felt competent to administer the EBP of Video Modeling, only two individuals of thirty (5.9%) implement this strategy at least twice a month. Overall, most inclusion related staff are not familiar with VM, they report a lack of competence regarding delivering the technique, and they are not implementing the technique on a regular basis.

Fourteen participants reported that they were “somewhat” familiar with PMI (41.2%) while 17 participants (50%) reported that they were not familiar at all with PMI. Not familiar (a score of 1) was the most frequent response. Only one out of 32 (2.9%) reported that they were very familiar with the practice of PMI. Of 32 respondents, 11 participants reported that they were “somewhat competent” with PMI (32.4%) while 19 participants reported that they were not at all competent with PMI (55.9%). Not competent (a score of 1) was the mode response. The most common response for monthly use of PMI for students with autism was “not at all” (25 participants, 73.5%). Only three individuals of 29 (8.8%) implement this strategy at least weekly while one individual of 29 (2.9%) implements PMI at least a couple of times a month per self-

report. The majority of survey respondents were unfamiliar with PMI, did not feel qualified to implement the technique, and did not use the strategy at all.

Fifteen participants reported that they were “somewhat” familiar with Social Narratives (44.1%) while only four participants (11.8%) reported that they were not familiar at all with Social Narratives. At least 13 out of 32 (38.2%) reported that they were very familiar with the practice of Social Narratives. Inclusion staff appear familiar with the EBP of Social Narratives. Of 32 respondents, 13 participants reported that they were “somewhat competent” with Social Narratives (38.8%) while thirteen participants reported that they were very competent with Social Narratives (38.8%). Only six reported that they did not feel competent administering Social Narratives (17.6%). The most common response for monthly use of Social Narratives for students with autism was “at least a couple of times a month” (13 participants, 38.2%). Only five individuals of 30 (14.7%) implement this strategy at least weekly. [Twelve] 12 of 30 individuals did not implement Social Narratives at all on a monthly basis, despite the vast majority of school staff being familiar with this technique.

Overall, at least half of the respondents were familiar with social stories, felt comfortable in implementing the strategy, and implement the strategy at least a couple of times a month or more. Seven participants reported that they were “somewhat” familiar with Positive Behavior Interventions (20.6%) while only one individual (2.9%) reported that they were not familiar at all with PBI. At least 24 out of 32 (70.6%) reported that they were very familiar with the practice of PBI, making PBI the most commonly known EBPs amongst the individuals. Of 32 respondents, twenty-three participants reported that they were “very competent” with PBI (67.6%) while eight participants reported that they were “somewhat competent” with PBI (23.5%). Only one individual reported that they did not feel competent administering PBI (2.9%). The most

common response for monthly use of PBI for students with autism was “weekly” (23 participants, 67.6%). Three of 30 (8.8%) implement this strategy at least a couple of times a month. Four of 30 individuals do not implement PBI at all on a monthly basis (11.8%), despite the vast majority of school staff being familiar with this technique. PBIS was the most widely utilized EBP technique. It is not clear, however, if staff were implementing individualized PBIs or class-wide-only PBIs.

Seven participants reported that they were “somewhat” familiar with PRT (20.6%) while 21 individuals (the mode response – 61.8%) reported that they were not familiar at all with PRT. Only four out of 32 (11.8%) reported that they were very familiar with the practice of PRT. The following table addresses the participant responses for competency with PRT. Of 32 respondents, twenty-six participants reported that they were “not at all competent” with PRT (76.5%). Four individuals reported that they felt “somewhat competent” with PRT (11.8%) while three out of 32 (8.8%) reported that they were very competent with PRT. The most common response for monthly use of PRT for students with autism was “not at all” (26 participants, 76.5%). Only two individuals of 30 (5.9%) implement this strategy at least weekly while two other individuals (5.9%) reported using the strategy at least a couple of times a month. Most respondents were unfamiliar with PRT, did not feel comfortable administering the strategy, and did not use this strategy at all.

To determine whether there were differences between the practices of EBPs for social skills interventions based on the survey participant’s role at the district, the researcher conducted group descriptive statistics and a one-way ANOVA. There was one school educator who declined to indicate his/her role at the district, so that individual’s information was excluded from the analysis. Similarly, if any educator did not complete a particular Likert item, that

information was not included. The following Tables 27a, 27b, and 27c present a descriptive summary of EBPs based upon district role. The first table, 27a, presents the group descriptive summaries for the SSGT and VM EBPs.

Table 27a.
Group Descriptive Summary of EBPs Based on District Role

Job Title	Statistic	SSG How familiar are you with this practice?	SSG How competent do you feel implementing this practice?	SSG How often have you utilized this practice in the past month for your inclusion students with autism?	Vi Mo How familiar are you with this practice?	Vi Mo How competent do you feel implementing this practice?	Vi Mo How often have you utilized this practice in the past month for your inclusion students with autism?
Special education teacher	Mean	2.0000	2.0000	1.6250	1.5000	1.3750	1.1250
	N	8	8	8	8	8	8
	SD	.53452	.53452	.74402	.53452	.51755	.35355
Regular Education Inclusion Staff	Mean	1.5000	1.2500	1.5000	1.2500	1.2500	1.0000
	N	8	8	8	8	8	8
	SD	.53452	.46291	.75593	.46291	.46291	.00000
Behavior Staff	Mean	2.1429	2.2857	1.4000	2.0000	2.0000	1.0000
	N	7	7	5	7	7	5
	SD	.37796	.48795	.54772	.81650	.81650	.00000
School Psychologist	Mean	2.1667	1.8333	1.6667	1.6667	1.1667	1.0000
	N	6	6	6	6	6	6
	SD	.75277	.40825	.51640	.51640	.40825	.00000
Speech Therapist	Mean	2.5000	2.0000	1.5000	2.5000	2.5000	1.5000
	N	2	2	2	2	2	2
	SD	.70711	.00000	.70711	.70711	.70711	.70711
Total	Mean	1.9677	1.8387	1.5517	1.6452	1.5161	1.0690
	N	31	31	29	31	31	29
	SD	.60464	.58291	.63168	.66073	.67680	.25788

The following Table 27b is a continuation of the Group Descriptive Summary of EBPs based on an individual's role in the district.

Table 27b.
Group Descriptive Summary of EBPs Based on District Role

Job Title	Statistic	PMI How familiar are you with this practice?	PMI How competent do you feel implementing this practice?	PMI How often have you utilized this practice in the past month for your inclusion students with autism?	SN How familiar are you with this practice?	SN How competent do you feel implementing this practice?	SN How often have you utilized this practice in the past month for your inclusion students with autism?
Special education teacher	Mean	1.5000	1.5000	1.5000	2.7500	2.8750	2.1250
	N	8	8	8	8	8	8
	SD	.53452	.53452	.92582	.46291	.35355	.83452
Regular Education Inclusion Staff	Mean	1.1250	1.1250	1.3750	1.6250	1.5000	1.3750
	N	8	8	8	8	8	8
	SD	.35355	.35355	.74402	.51755	.53452	.51755
Behavior Staff	Mean	2.0000	2.1429	1.0000	2.5714	2.4286	1.8000
	N	7	7	5	7	7	5
	SD	.57735	.69007	.00000	.53452	.78680	.83666
School Psychologist	Mean	1.6667	1.3333	1.0000	2.0000	1.8333	1.6667
	N	6	6	6	6	6	6
	SD	.51640	.51640	.00000	.63246	.40825	.51640
Speech Therapist	Mean	1.0000	1.0000	1.0000	3.0000	3.0000	2.0000
	N	2	2	2	2	2	2
	SD	.00000	.00000	.00000	.00000	.00000	1.41421
Total	Mean	1.5161	1.4839	1.2414	2.2903	2.2258	1.7586
	N	31	31	29	31	31	29
	SD	.56985	.62562	.63556	.69251	.76200	.73946

Table 27c.
Group Descriptive Summary of EBPs Based on District Role

Job Title	Statistic	PRT	PRT	PRT
		How familiar are you with this practice?	How competent do you feel implementing this practice?	How often have you utilized this practice in the past month for your inclusion students with autism?
Special education teacher	Mean	1.5000	1.1250	1.1250
	N	8	8	8
	SD	.75593	.35355	.35355
Regular Education Inclusion Staff	Mean	1.0000	1.0000	1.0000
	N	8	8	8
	SD	.00000	.00000	.00000
Behavior Staff	Mean	2.1429	2.2857	2.0000
	N	7	7	5
	SD	.89974	.75593	1.00000
School Psychologist	Mean	1.5000	1.0000	1.0000
	N	6	6	6
	SD	.54772	.00000	.00000
Speech Therapist	Mean	1.0000	1.0000	1.0000
	N	2	2	2
	SD	.00000	.00000	.00000
Total	Mean	1.4839	1.3226	1.2069
	N	31	31	29
	SD	.72438	.65254	.55929

The above tables present descriptive statistics for the 31 individuals who completed the EBP survey according to their respective job title. Unfortunately, only two speech therapists took the survey, so while their results have been tabulated, statistical tests are generally more valid within groups when a group is comprised of at least five members (Norman, 2010). Scores ranged from 1.0 to 3.0 with a score of three representing greater perceived familiarity,

competency and/or utility with an EBP. Upon review of the table, it is clear that the highest group means for all groups was in the area of PBI. For the SSG familiarity survey results, group means ranged from a low of 1.5 for regular education teachers to a high of 2.5 for speech therapists. Similarly, the SSGT competency means ranged from a low of 1.25 for regular education teachers to a high of 2.29 for behavior staff. For the SSG utility scores, mean group scores ranged from a low of 1.4 for behavior staff to a high of 1.67 for school psychologists.

For the VI familiarity survey results, group means ranged from a low of 1.24 for regular education teachers to a high of 2.5 for speech therapists. Similarly, the VMI competency means ranged from a low of 1.25 for regular education teachers to a high of 2.5 for speech therapists. Speech therapists also had the highest group mean for utility ($M=2.5$), while school psychologists had the lowest group mean ($M=1.17$). The results suggest that the two speech therapists from SSUSD appeared comfortable with video modeling and they that implemented it fairly regularly. For the PMI familiarity survey results, group means ranged from a low of 1.0 for speech therapists to a high of 2.0 for behavioral staff. Similarly, the PMI competency means ranged from a low of 1.00 for speech therapists to a high of 2.14 for behavior staff. Special education teachers had the highest group mean for utility ($M=1.5$), while school psychologists and speech therapists had the lowest group mean ($M=1.0$). The results suggest that PMI is not well recognized or utilized in the district.

For the SN familiarity survey results, group means ranged from a low of 1.62 for regular education teachers to a high of 3.0 for speech therapists. Similarly, the SN competency means ranged from a low of 1.5 for regular education teachers to a high of 3.0 for speech therapists. Special education teachers had the highest group mean for utility ($M=2.13$), while school psychologists had the lowest group mean ($M=1.38$). For the PBI familiarity survey results,

group means ranged from a low of 2.5 for regular education teachers and speech therapists alike to a high of 3.0 for speech therapists. Similarly, the SN competency means ranged from a low of 1.5 for regular education teachers to a high of 3.0 for behavior staff. Behavior staff similarly had the highest group mean for utility ($M=3.0$), while speech therapists had the lowest group mean ($M=2.0$). The results suggest a level of comfort with PBIs across various job titles.

For the PRT familiarity survey results, group means ranged from a low of 1.0 for regular education teachers and speech therapists to a high of 2.14 for behavior staff. Similarly, the PRT competency means ranged from a low of 1.0 (psychologists, regular educators, and speech) to a high of 2.0 for behavioral staff. Behavior staff had the highest group mean for utility ($M=2.00$), while all other group means hovered close to the minimum range score of 1.0. PRT does not appear to be well known or utilized by most inclusion staff in SSUSD.

To determine if job title had a significant effect on an inclusion educator's familiarity, competency with EBPs for students with HFA, the researcher conducted an ANOVA. The following Table 28 presents the results of the ANOVA.

Table 28.

ANOVA-EBP Familiarity, Competency and Utility Mean Group Comparisons by Job Title

Likert Item	Sum of Squares (between groups)	Within Group df	df	Mean Square (between groups)	F	Sig (Between Groups)
SSGT Familiarity	2.77	26	4	.69	2.204	.096
SSGT Competency	4.43	26	4	1.11	4.999	.004*
SSGT Utility	.264	24	4	.067	.145	.963
VM Familiarity	3.76	26	4	.94	2.621	.058
VM Competency	5.03	26	4	1.26	3.757	.015*
VM Utility	.487	26	4	.122	2.125	.109
PMI Familiarity	3.53	26	4	.88	3.70	.016*
PMI Competency	4.68	26	4	1.17	4.302	.008*
PMI Utility	1.44	24	4	.359	.872	.495
SN Familiarity	3.53	26	4	1.82	6.691	.001*
SN Competency	10.0	26	4	2.50	6.754	.000*
SN Utility	2.43	24	4	.61	1.13	.366
PBI Familiarity	1.05	26	4	.26	.934	.460
PBI Competency	1.274	26	4	.32	1.104	.376
PBI Utility	1.68	24	4	.42	.781	.548
PRT Familiarity	5.39	26	4	1.35	3.379	.024*
PRT Competency	8.47	26	4	2.12	12.794	.00*
PRT Utility	3.88	24	4	.97	4.78	.006*

NOTE. * Denotes Significance

A one-way analysis of variance (ANOVA) was calculated to compare the mean responses of survey participants by job title. The analysis resulted in significant difference in group means related to one's role in the district, suggesting that one's awareness, competency, and utility of EBPs for autism is associated with one's educational profession. Significant group differences

were noted in the following areas as the table above indicates: SSG Competency, Vi Mo Competency, PMI Familiarity and Competency, SN familiarity and Competency, and all three areas of PRT (Familiarity, Competency and Utility).

A Bonferroni post hoc analysis indicated that Behavior Support Assistants differed significantly from others (in a positive direction) compared to many of the other groups. Behavior Specialists were significantly different (in a positive direction) from many other groups in the area of Social Narratives, suggesting an area of relative expertise and utility for them in this area. The Regular Education Teacher's data was significantly different than most other groups (in a negative direction) for all EBPs except PBIs and SN. The following Table 29 displays the statistically significant differences between the Bonferroni Post Hoc Results comparing group means of the familiarity, competency, and utility of EBPs by job title

Table 29.

Statistically Significant Bonferroni Post Hoc Results Between Group Means for EBPs per Job Title

EBP Domain	Job Title (i)	Job Title (J)	Mean Difference (I-J)	Std. Error	Sig 95% Confidence Interval		
					Lower Bound	Upper Bound	
Competency	SSGT Regular Education Teacher	Special education teacher	-.75000*	.23538	.037	-1.4719	-.0281
		Behavior Staff	-1.03571*	.24364	.002	-1.7829	-.2885
		PM Reg Behavior Staff	-.87500*	.25290	.019	-1.6506	-.0994
Familiarity	Education Teacher	Behavior Staff	-.87500*	.25290	.019	-1.6506	-.0994
		SN Regular Ed Ed Specialist	-1.12500*	.26109	.002	-1.9257	-.3243
		Teacher	Behavior Staff	-.94643*	.27025	.017	-1.7753
Familiarity	Teacher	Speech	-1.37500*	.41281	.026	-2.6411	-.1089
		SN Regular Ed Specialist	-1.37500*	.26715	.000	-2.1943	-.5557
		Education Teacher	Behavior Staff	-.92857*	.27653	.024	-1.7767
Competency	Teacher	Speech	-1.50000*	.42241	.015	-2.7955	-.2045
		PRT Regular Behavior Staff	-1.14286*	.32665	.017	-2.1447	-.1410
		Education Teacher	Behavior Staff	-1.14286*	.32665	.017	-2.1447
Competency	PRT Behavior Staff	Ed Specialists	1.16071*	.21056	.000	.5149	1.8065
		Regular Education	1.28571*	.21056	.000	.6399	1.9315
		Psychologists	1.28571*	.22635	.000	.5915	1.9799
		Speech Therapists	1.28571*	.32620	.005	.2853	2.2861
PRT Utility	Behavior Staff	Ed Specialists	.87500*	.25694	.023	.0809	1.6691
		Regular Education	1.00000*	.25694	.007	.2059	1.7941
		Psychologists	1.00000*	.27291	.012	.1566	1.8434

NOTE: * denotes significance.

The results suggest that one's certain job title has an effect on the familiarity, competency, and utility of a variety of practices. The relationship is co-directional – a significant relationship in the negative between a group mean equates to the same level of significance in the positive direction for the other group. The post hoc results indicate that behavior staff and

special education teachers are more competent in the area of EBP of SSGT than regular education teachers. In terms of awareness of PMI, the behavior staff group mean was superior to that of the regular education teachers. In competency, there was a significant difference between the group mean of the regular education teacher and both the behavior staff and special education teachers in favor of the latter, suggesting that the behaviors staff and special education teachers are more familiar with SSGT. For the EBP of Social Narratives, the group mean for regular education teachers was significantly lower than the group means for speech therapists, special education teachers and behavior staff, suggesting that this an area that other educators are much more familiar with than they are. For PRT, the behavior staff group mean was significantly higher than all other group means in the area of competency and all but the speech therapists for utility as well. The behavior staff group mean was also superior to the group mean of the regular education teachers regarding mere familiarity with PRT. Behavior staff appear to be well versed compared to many of their educational colleagues in a variety of EBPs for students with HFA, while regular education teachers appear the least competent in EBPs except for positive behavior interventions or video modeling. There were no significant differences reported in the VM domain.

To determine if years of experience had an impact on an educator's familiarity, competency, and utility of EBP, the researcher conducted an ANOVA. The following Table 30 presents the results of the ANOVA.

Table 30.
ANOVA Comparisons of Group Means Via Years of Experience in Job

		Sum of Squares	df	Mean Square	F	Sig.
SSG How familiar are you with this practice?	Between Groups	7.301	20	.365	.996	.528
	Within Groups	3.667	10	.367		
	Total	10.968	30			
SSG How competent do you feel implementing this practice?	Between Groups	5.277	20	.264	.537	.887
	Within Groups	4.917	10	.492		
	Total	10.194	30			
SSG How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	8.756	20	.438	1.449	.304
	Within Groups	2.417	8	.302		
	Total	11.172	28			
Vi Mo How familiar are you with this practice?	Between Groups	6.847	20	.342	.548	.879
	Within Groups	6.250	10	.625		
	Total	13.097	30			
Vi Mo How competent do you feel implementing this practice?	Between Groups	7.742	20	.387	.645	.806
	Within Groups	6.000	10	.600		
	Total	13.742	30			
Vi Mo How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	1.362	20	.068	1.090	.478
	Within Groups	.500	8	.063		
	Total	1.862	28			
PMI How familiar are you with this practice?	Between Groups	4.742	20	.237	.474	.925
	Within Groups	5.000	10	.500		
	Total	9.742	30			
PMI How competent do you feel implementing this practice?	Between Groups	5.242	20	.262	.403	.960
	Within Groups	6.500	10	.650		
	Total	11.742	30			
PMI How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	9.310	20	.466	1.862	.185
	Within Groups	2.000	8	.250		
	Total	11.310	28			

		Sum of Squares	df	Mean Square	F	Sig.
SN How familiar are you with this practice?	Between Groups	9.470	20	.474	.963	.551
	Within Groups	4.917	10	.492		
	Total	14.387	30			
SN How competent do you feel implementing this practice?	Between Groups	11.669	20	.583	1.015	.514
	Within Groups	5.750	10	.575		
	Total	17.419	30			
SN How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	8.894	20	.445	.554	.864
	Within Groups	6.417	8	.802		
	Total	15.310	28			
PBI How familiar are you with this practice?	Between Groups	5.387	20	.269	.898	.601
	Within Groups	3.000	10	.300		
	Total	8.387	30			
PBI How competent do you feel implementing this practice?	Between Groups	5.274	20	.264	.753	.718
	Within Groups	3.500	10	.350		
	Total	8.774	30			
PBI How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	8.052	20	.403	.495	.903
	Within Groups	6.500	8	.813		
	Total	14.552	28			
PRT How familiar are you with this practice?	Between Groups	11.825	20	.591	1.510	.255
	Within Groups	3.917	10	.392		
	Total	15.742	30			
PRT How competent do you feel implementing this practice?	Between Groups	4.858	20	.243	.307	.988
	Within Groups	7.917	10	.792		
	Total	12.774	30			
PRT How often have you utilized this practice in the past month for your inclusion students with autism?	Between Groups	4.009	20	.200	.338	.977
	Within Groups	4.750	8	.594		
	Total	8.759	28			

As the table indicates, when an ANOVA was completed comparing one's years of experience to one's practice of EBPs for autism, there were no significant differences between the groups, suggesting that experience does not equate in more awareness, competency, and use of EBPs for social skills for students with autism.

Impact of Training on Focus Group Members

This study utilized PAR methodology to effect a systemic change. The researcher sought out the opinions of the district stakeholders and addressed the district's expressed need for training in EBPs for social skills by providing all focus group members' didactic and practical training in five different EBPs: SSGT, VM, PMI, SN, and PRT. To assess the impact of the training, the primary researcher conducted a Wilcoxon Related Samples Paired Test (AKA Wilcoxon Signed Rank Paired test). The Wilcoxon Signed Rank Paired Test allows for a comparison of two paired samples of non-normally distributed parameters when data is at least ordinal (Parab & Bhalerao, 2010; Rosnow & Rosenthal, 1989). The Wilcoxon Signed Rank Paired Test was conducted as the primary researcher ran normality tests on the survey results for the Focus Group Participants due to outliers and the small sample size. There were statistically significant differences between the pre-post focus group survey scores in several areas. For each of the Evidence-Based Practices, the null hypothesis was that the median score between the pre and post results would be equal to zero -there would be no increase in familiarity, competence, or utility for any of the EBPs one month after the participants had completed the focus groups:

- The median of differences between (indicated EBP) familiarity score prior to participation in the focus group compared to after participation in the focus group equals 0.

- The median of differences between (indicated EBP) competency prior to participation in the focus group compared to after participation in the focus group equals 0.
- The median of differences between (indicated EBP) utility prior to participation in the focus group compared to after participation in the focus group equals 0.

Table 31 below presents the results of the pre-post comparisons of Focus Group Responders for the various EBPs.

Table 31.

Related Samples Wilcoxon Signed Rank Test Comparing Pre-Post Responses for the Focus Group Participants- in EBPs Survey Results

Null Hypothesis (see above for full definition)	Wilcoxon Signed Rank Test Results (Significance)	Results (Reject or Retain Null Hypothesis)
SSGT Familiarity	.011	Reject*
SSGT Competency	.132	Retain
SSGT Utility	.157	Retain
VM Familiarity	.014	Reject*
VM Competency	.021	Reject*
VM Utility	.317	Retain
PMI Familiarity	.008	Reject*
PMI Competency	.035	Reject*
PMI Utility	1.0	Retain
SN Familiarity	.180	Retain
SN Competency	.739	Retain
SN Utility	.655	Retain
PBI Familiarity	.564	Retain
PBI Competency	1.00	Retain
PBI Utility	.317	Retain
PRT Familiarity	.006	Reject*
PRT Competency	.053	Retain (approaching significance)
PRT Utility	.564	Retain

NOTE. * Denotes Significant Results

According to the results of the Wilcoxon Rank, after providing approximately 45 minutes to an hour of training per EBPs, as well as handouts and website resources, significant growth was noted collectively in the following areas: (a) SSGT Familiarity, (b) VM Familiarity, (c) VM Competency, (d) PMI Familiarity, (e) PMI Competency and (e) PRT Familiarity. There was a significant difference in the median group scores in the area of familiarity with the EBP of SSGT from pre to post participation in the focus groups. According to the results of the related samples, Wilcoxon signed rank test for the focus group, the null hypothesis was rejected for the familiarity with the EBP of SSGT; the median paired differences were significantly different (p value = .011). This demonstrated that the focus group intervention/training resulted in an increase of staff awareness of the EBPs of SSGT. The null hypotheses were retained; however, for the SSGT focus group participant scores of competence (p value = .132) and utility (p value = .157).

There were significant differences in the median group scores in the areas of familiarity and competency with the EBP of Video Modeling from pre to post participation in the focus groups. According to the results of the related samples Wilcoxon signed rank test for the focus group, the null hypothesis was rejected for the familiarity with the EBP of Video Modeling; the median paired differences were significantly different (p value = .014). This demonstrated that the focus group intervention/training resulted in an increase of staff awareness of the EBPs of Video Modeling. Similarly, the null hypothesis was rejected for the competency with the EBP of Video Modeling; the median paired differences were significantly different (p value = .021). This demonstrated that the focus group intervention/training resulted in improved staff competency with the EBPs of Video Modeling. The null hypothesis was retained, however, for the Video Modeling focus group participant scores of utility (p value = .317). Several focus

group participants, including all four of the Miner's Elementary School Staff Participants, had reported familiarity and/or use with Video Modeling prior to the initiation of the focus group training.

There were significant differences in median group scores for the EBP of PMI in the areas of awareness and competency from pre to post participation in the focus groups. According to the results of the related samples Wilcoxon signed rank test for the focus group, the null hypothesis was rejected for the familiarity with the EBP of PMI; the median paired differences were significantly different (p value = .008). This demonstrated that the focus group intervention/training resulted in an increase of staff awareness of the EBPs of PMI. Similarly, the null hypothesis was rejected for the competency with the EBP of PMI; the median paired differences were significantly different (p value = .035). This demonstrated that the focus group intervention/training resulted in an augment in staff competency with the EBPs of PMI. The null hypothesis was retained, however, for the PMI focus group participant scores of utility (p value = 1.00).

There were no significant differences noted in pre-post median group scores for the EBP of Social Narratives. The null hypothesis was retained for familiarity (p value = .180), competency (p value = .739), and utility (p value = .655). The results suggest that focus group participants were already familiar with Social Narratives and were already implementing this practice to a certain degree within the school setting. While there was no statistically significant difference, during the training on social narratives in the focus group sessions, more than half of the focus group participants verbally reported that they were unaware of all of the elements involved in creating a quality social narrative and that they appreciated the training presented during the focus groups.

There were no statistically significant differences noted in pre-post median group scores for the EBP of Positive Behavioral Interventions. The null hypothesis was retained for familiarity (p value = .564), competency (p value = 1.0), and utility (p value = .317). The results suggest that focus group participants were already familiar with PBIs and were already implementing this practice to a certain degree within the school setting. Research has indicated that for the vast majority of students with autism, class-wide positive behavioral interventions alone are not sufficient to meet the student's social needs (Camargo et al., 2014; Owen-DeSchryver et al., 2008), however, individual and class-wide behavioral interventions are the most widely used interventions and in combination with other evidence-based structured social skills interventions, behavioral interventions can be effective.

There was a significant difference in the median group scores for the pre-post focus group results in the areas of familiarity with the EBP of Pivotal Response Training. According to the results of the related samples Wilcoxon signed rank test for the focus group, the null hypothesis was rejected for the familiarity with the EBP of PMI; the median paired differences were significantly different (p value = .006). This demonstrated that the focus group intervention/training resulted in an increase of staff awareness of the EBPs of PRT. While the null hypothesis for competency with the EBPS of PRT was retained (p value = .053), results show that there was improvement in competency and that the improvement almost reached the level of statistical significance. The results suggested that staff were more aware of PRT following participation in the focus groups and they felt more capable of implementing PRT following participation in the focus groups. The null hypothesis was retained for PRT utility amongst the focus group participants one-month post the final focus group (p value = .564).

Therefore, while competency and awareness improved for PRT, staff still were not utilizing the technique more at a statistically significant level following participation in the study.

Program Evaluation Quantitative Analysis

Quantitative measures were also employed to answer the final research question:

How effective is a short-term evidence-based social skills program for HFA students in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing social impairment?

To address this research question, social skills were evaluated pre- and post-intervention by teachers of the students with HFA and their parents using a widely available checklist on the Internet called, “The Social Skills Checklist, Elementary” (see Appendix O) and the SSIS (Gresham & Elliott, 2008). For the Social Skills Checklist, both the teachers and parents of the children with HFA were asked to rate the child’s performance of various social skills on a 4-point Likert scale ranging from Almost Never, Sometimes, Often, and Almost Always. The author of the online blog, The Helpful Counselor, (full name not provided) indicates that she has used this checklist to evaluate a student’s response to intervention by pre-post-administration after four to six weeks of intervention. The following is a summary of the behavior domains that were evaluated via this scale:

- Beginning Play Behaviors
- Intermediate Play Behaviors
- Advanced Play Behaviors
- Understanding Emotions
- Self-Regulation

- Flexibility
- Problem Solving
- Conversational Skills
- Nonverbal Conversational Skills
- Compliments

To score the checklist, researchers calculated the percentage of questions marked as almost always, often, sometimes, and almost never, per each of the 10 behavior domains indicated above. The responses are presented in order of preference, with “Almost always” being the most desired response and “Almost never” the least desired response. Growth is noted then, if there is any movement towards columns representing higher levels of the frequency in which a particular social skill is displayed. The following Table 32 represent the pre and post intervention results of the Social Skills Checklist for Wen.

Table 32.

Social Skills Checklist Pre- and Post-Intervention Results for Wen – Rated by Teachers S. and Y.

Domain Area	Pre- Total % AA	Post- Total % AA	Pre- Total % O	Post- Total % O	Pre- Total % S	Post-Total % S	Pre- Total % AN	Post- Total % AN
1.1 Beginning Play Areas	0	17*	0	17*	50	67*	50	0*
1.2 Intermediate Play Behaviors	25	25	0	38*	63	38*	13	0*
1.3 Advanced Play Behaviors	0	0	33	50*	33	50*	33	0*
2.1 Understandin g Emotions	0	50*	0	30*	30	10*	70	10*
2.2. Self - Regulation	27	27	10	18*	36	10*	27	9*
2.3 Flexibility	100	80	0	20	0	0	0	0
2.4 Problem Solving	50	0	0	0	25	100*	25	0*
3.1 Conversation al Skills	0	25*	13	50*	63	25*	25	0*
3.2 Non- verbal Conversation al Skills	0	0	0	25*	75	75	25	0*
3.3 Compliments	0	0	50	0	50	25	0	75

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

Per the teacher's rating, improvement was noted in 25 of 40 areas, suggesting that the PMI intervention had a positive effect in many areas. Improvement was noted in the following areas: beginning play, intermediate play, advanced play, understanding emotions, self-regulation, problem solving, and both verbal and non-verbal conversational skills. Nine of the 40 areas remained stagnant (no change from baseline was noted). A slight decrease in scores was noted in six areas.

Table 33 below represents the Pre and Post Intervention Results for Wen as rated by his mother.

Table 33.

Social Skills Checklist Results for Wen – Parent report- Pre/Post Intervention

Domain Area	Pre-Total % AA	Post-Total % AA	Pre-Total % O	Post-Total % O	Pre-Total % S	Post-Total % S	Pre-Total % AN	Post-Total % AN
1.1 Beginning Play Areas	0	0	50	17	50	83	0	0
1.2 Intermediate Play Behaviors	0	0	50	13	50	88	0	0
1.3 Advanced Play Behaviors	0	0	0	0	100	100	0	0
2.1 Understandi ng Emotions	0	0	10	30*	50	70*	40	0*
2.2. Self - Regulation	0	0	0	10*	73	90*	27	0*
2.3 Flexibility		0	0	0	60	100*	40	0*
2.4 Problem Solving	0	0	0	0	50	100*	50	0*
3.1 Conversatio nal Skills	0	0	50	25	38	63	12	13
3.2 Non- verbal Conversatio nal Skills	0	0	0	25*	50	75*	50	0*
3.3 Compliment s	0	0	0	25*	25	75*	75	0*

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

The parent noted improvement for Wen was noted in 16 of 40 areas. Improvement was noted in the following areas: Understanding Emotions, Self-Regulation, Flexibility, Problem Solving, Non-verbal Conversational Skills, and Compliments. Overall, there was improvement noted in seven of the 10 domains assessed. A slight regression was noted in six out of 40 areas: Beginning Play Behaviors, Intermediate Play Behaviors, and an area of conversational skills (a decrease in “often” from 50-25%). Most of the play skills remain stagnant for the mother, although the mother noted that since she has not observed Wen on the playground at school, it was difficult for her to assess his progress in this arena.

Both David’s parent and teacher completed the Social Skills Checklist on two occasions, pre and post intervention. The following Table 34 represents David’s Pre-and Post-intervention scores as rated by his teacher.

Table 34.

Pre-Post Intervention Social Skills Checklist Results for David – Rated by Teacher

Domain Area	Pre- Total % AA	Post- Total % AA	Pre- Total % O	Post- Total % O	Pre- Total % S	Post-Total % S	Pre- Total % AN	Post- Total % AN
1.1 Beginning Play Areas	0	0	33	50*	50	33*	17	17
1.2 Intermediate Play Behaviors	13	0	50	63	38	38	0	0
1.3 Advanced Play Behaviors	0	0	17	50*	67	50*	17	0*
2.1 Understandin g Emotions	30	30	10	20*	50	50	10	0*
2.2. Self - Regulation	0	10*	36	45*	64	45*	0	0
2.3 Flexibility	0	0	40	60*	60	40*	0	0
2.4 Problem Solving	0	0	0	50*	100	50*	0	0
3.1 Conversation al Skills	0	0	25	38*	50	38*	25	25
3.2 Non- verbal Conversation al Skills	0	0	0	0	25	100*	75	0*
3.3 Compliments	0	0	25	50*	50	50	25	0*

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

Per the teacher's rating of David's social skills, improvement was noted in 19 of 40 areas and nine out of the 10 different domains measured, suggesting that the PMI intervention had a positive effect on David's social skills. Furthermore, there were only two items marked in the "almost never" column post-intervention as opposed to six items in the "almost never" column pre-intervention. Improvement was noted in every domain area except intermediate play behaviors (only a slight decrease (insignificant) was noted in that area).

The following Table 35 displays the Pre and Post-intervention results for David as rated by his parent.

Table 35.
Pre- Post Intervention Results for David – Rated by Parent

Domain Area	Pre- Total % AA	Post- Total % AA	Pre- Total % O	Post- Total % O	Pre- Total % S	Post-Total % S	Pre- Total % AN	Post- Total % AN
1.1 Beginning Play Areas	67	33	33	50	0	17	0	0
1.2 Intermediate Play Behaviors	0	38*	37	50*	63	12*		0
1.3 Advanced Play Behaviors	0	83*	50	17*	50	0*	0	0
2.1 Understandin g Emotions	20	40*	20	40*	40	20*	20	0*
2.2. Self - Regulation	27	27	36	36	36	36	0	0
2.3 Flexibility		0	40	40	40	60*	20	0*
2.4 Problem Solving	100	50	0	50	0	0	0	0
3.1 Conversational Skills	0	25*	25	60*	50	15*	25	0*
3.2 Non- verbal Conversational Skills	0	25*	50	75*	25	0*	25	0*
3.3 Compliments	100	75	0	25	0	0	0	0

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

Per the parent's rating of David's social skills, improvement was noted in 20 of 40 areas and six out of the 10 different domains measured, suggesting that the PMI intervention had a positive effect. Furthermore, there were zero items marked in the "almost never" column post-intervention as opposed to four items in the "almost never" column pre-intervention.

Improvement was noted in the following areas: intermediate play behaviors, advanced play behaviors, understanding emotions, flexibility, conversational skills, and non-verbal conversational skills. The self-regulation domain remained stable (no change) and slight regression was noted in the following areas: beginning play behavior, compliments and problem solving.

Both Ernesto's parent and teacher completed the Social Skills Checklist on two occasions, pre and post intervention. The following Table 36 displays Ernesto's Pre and Post intervention scores as rated by his teacher.

Table 36.

Social Skills Checklist Results for Ernesto – Teacher Report- Pre-Post Intervention

Domain Area	Pre- Total % AA	Post- Total % AA	Pre- Total % O	Post- Total % O	Pre- Total % S	Post-Total % S	Pre- Total % AN	Post- Total % AN
1.1 Beginning Play Areas	0	0	67	50	33	50*	0	0
1.2 Intermediate Play Behaviors	0	0	63	63	37	37	0	0
1.3 Advanced Play Behaviors	0	0	67	67	33	33	0	0
2.1 Understandin g Emotions	10	10	50	80*	40	10*	0	0
2.2. Self - Regulation	0	0	18	36*	82	64*	27	0
2.3 Flexibility	0	0	0	0	100	100	0	0
2.4 Problem Solving	0	0	0	25*	100	75*	0	0
3.1 Conversation al Skills	0	0	63	37	37	63	50	0
3.2 Non- verbal Conversation al Skills	0	0	25	0	75	100	0	0
3.3 Compliments	0	0	25	25	75	75	0	0

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

Per the teacher's rating of Ernesto's social skills, improvement was noted in seven of 40 areas and four out of the 10 different domains measured, suggesting that the PRT intervention had a positive effect in some areas. Furthermore, there were zero items marked in the "almost never" column post-intervention as opposed to two items in the "almost never" column pre-intervention. Improvement was noted in the following areas: beginning play, understanding emotions, self-regulation and problem solving. Twenty-eight of the four areas remained unchanged from pre-post intervention. The following domain areas assessed remained stagnant per the teacher's rating: intermediate play, advanced play, flexibility, and compliments. Slight regression was noted in the following two domains areas: conversational skills and non-verbal conversational skills.

The following Table 37 represents Ernesto's Pre and Post intervention scores as rated by his mother.

Table 37.
Social Skills Checklist Results for Ernesto – Parent Report- Pre-Post Intervention

Domain Area	Pre- Total % AA	Post-Total % AA	Pre-Total % O	Post-Total % O	Pre-Total % S	Post-Total % S	Pre-Total % AN	Post- Total % AN
1.1 Beginning Play Areas	0	0	100	100	0	0	0	0
1.2 Intermediate Play Behaviors	0	0	37	50*	63	50*	0	0
1.3 Advanced Play Behaviors	0	0	34	34	66	66	0	0
2.1 Understanding Emotions	0	0	50	60*	40	30*	10	10
2.2. Self - Regulation	0	0	36	18	40	82	0	0
2.3 Flexibility			60	40	40	60	0	0
2.4 Problem Solving	0	0	25	25	75	75	0	0
3.1 Conversational Skills	0	0	63	63	37	37	0	0
3.2 Non-verbal Conversational Skills	0	0	75	75	25	25	0	0
3.3 Compliments	0	0	75	75	25	25	0	0

LEGEND: AA = Almost Always, O = Often, S= Seldom, AN = Almost Never

NOTE. * denotes positive change from baseline

Per the parent's rating of Ernesto's social skills, little change was noted between pre and post intervention results. Improvement was noted in four of 40 areas and two of the 10 different domains measured (intermediate play and understanding emotions). Most of the domains remained stagnant with slight decrease reported in two areas: flexibility and self-regulation.

SSIS

Social skills were also evaluated pre- and post-intervention by the teachers of the students with HFA using the Social Skills Improvement System (SSIS) (see Appendix Q for consent).

The SSIS is the most recently revised version of the SSRS (Social Skills Rating System), a widely used and widely regarded instrument for the evaluation of social skills, the detection of problem behaviors, and social skills related to academic competence (Gresham & Elliott, 2008; Gresham et al., 2011). The SSIS has a lengthy history of utilization in schools and behavior research (Crowe, Beauchamp, Catroppa, & Anderson, 2011; Gresham et al., 2011). It is particularly useful for delineating social skill deficits and target areas of concern that can be addressed via intervention programs.

SSIS is commonly used to provide both a baseline and to assess for post-intervention improvement (Gresham et al., 2011). There are 83 items on the teacher's scale, and teachers rate the frequency in which the student manifests various social competencies and /or problem behaviors on a 4-point Likert scale of never (0), seldom (1), often (2), and almost always (3). Furthermore, items are assigned a level of importance rating from not important (n), important (i) and critical © for every item in the social skills section. Teachers also are asked to evaluate the student's level of academic competence in reading and math, and on learning behaviors relative to the entire classroom using a 5-point scale: Lowest 10% (0), Next Lowest 20% (1), Middle 40% (2), Next Highest 20% (3), and Highest 10% (4). The form takes less than 25 minutes to

complete. The forms can be hand scored or computer scored. The SSIS assesses three domains in children aged 3 through 18:

1. Social Skills, for example communication, cooperation, assertion, responsibility, empathy engagement and self-control,
2. Competing Problem Behaviors, such as externalizing, bullying, hyperactivity/inattention, internalizing, autism spectrum), and
3. Academic Competence for example reading, math, motivation, parental support, and general cognitive functioning (Gresham & Elliott, 2008).

The SSIS Teacher version was administered before the social skills intervention and again after the social skills intervention for all three students with HFA involved in the study. To score the SSIS reports, the primary researcher utilized the SSIS ASSIST computer-scoring program (Elliott & Gresham, 2008) to reduce the possibility of human error in calculations and facilitate the ease of interpretation of the results.

The SSIS ASSIST (Elliott & Gresham, 2008, 2017) is a software program which scores the SSIS protocols, interprets the protocols, and prepares narrative reports on the protocols. One of the features of the SSIS ASSIST is that the program can detect changes in the SSIS results for a student from one administration date to the next via the utilization of the Progress Report program. As the crux of research question four was to evaluate the effectiveness of a short-term intervention for social skills for students with HFA, the primary researcher focused solely on the results of the SSIS ASSIST Progress Report created for each student.

According to the SSIS Progress Assist guidelines, statistical change in the positive direction for pro-social skills would be defined as a statistically different change in the standard

score for either the social competence domain or the academic competence domain. The primary researcher also determined that a strong positive change in the non-problematic direction for the problem behavior scale would be defined as a statistically different change in standard scores from pre to post intervention.

The SSIS Progress Report Tables provides informative data for each administration of the SSIS scale, including raw score, standard score, confidence interval, and percentile rank (Elliott & Gresham, 2008). Furthermore, the SSIS Progress Report illuminates if there were statistically significant changes between the standard scores of the first administration date of the SSIS and any subsequent administration date (change from baseline).

Statistically significant differences, at the $p \leq .05$ level, between the two scores is denoted with an asterisk. On the SSIS problem behavior scale, a decrease (-) in standard scores is associated with a positive outcome. On the SSIS social skills and academic competence scales, an increase (+) in standard scores is associated with a positive outcome. This ASSIST scoring program does not provide the actual p value; rather, the program utilizes an asterisk when p values are $< .05$ level. Table 38 displays Wen's progress over two administrations of the SSIS (pre to post intervention).

Table 38.
Wen's SSIS Progress Report Results (Teacher Scale)

Domain	Pre or Post Test	Raw Score	Standard Score	% Rank	Change from Baseline
Social Skills	Pre	62	82	12	
Social Skills	Post	74	90	25	+8*
Problem Behaviors	Pre	23	107	71	
Problem Behaviors	Post	18	102	58	-5*
Academic Competence	Pre	23	112	79	
Academic Competence	Post	28	122	97	+10*

NOTE. *denotes significance at the <.05 level.

The results indicate that pre to post-test differences on the teacher ratings of the SSIS for Wen's Social Skills, Problem Behaviors, and Academic Competence are significant at the .05 level. Wen's social skills' standard score increased from 82 (below average) to a score of 90 (within the average range). Wen's Problem Behaviors decreased significantly from a standard score of 107 (average range) to a score of 102 (average range). Academic competence for Wen increased from a standard score of 112 (average) to a standard score of 122 (above average). These results suggest that the PMI intervention resulted in significant positive change in all three domain areas. Social skills and academic competence increased, while challenging behaviors decreased.

The following figures present graphic displays of Wen's Progress from baseline to post intervention in each of the domain areas of social skills, problem behaviors, and academic performance. In the respective charts below, R1 (at the bottom) refers to the initial administration data and R2 refers to the post intervention administration date. The circle on each figure represents the scale score, and the rectangle depicts the confidence interval.

Figure 6 below compares Wen's scores on the Social Skills domain of the SSIS from pre to post intervention administration dates.

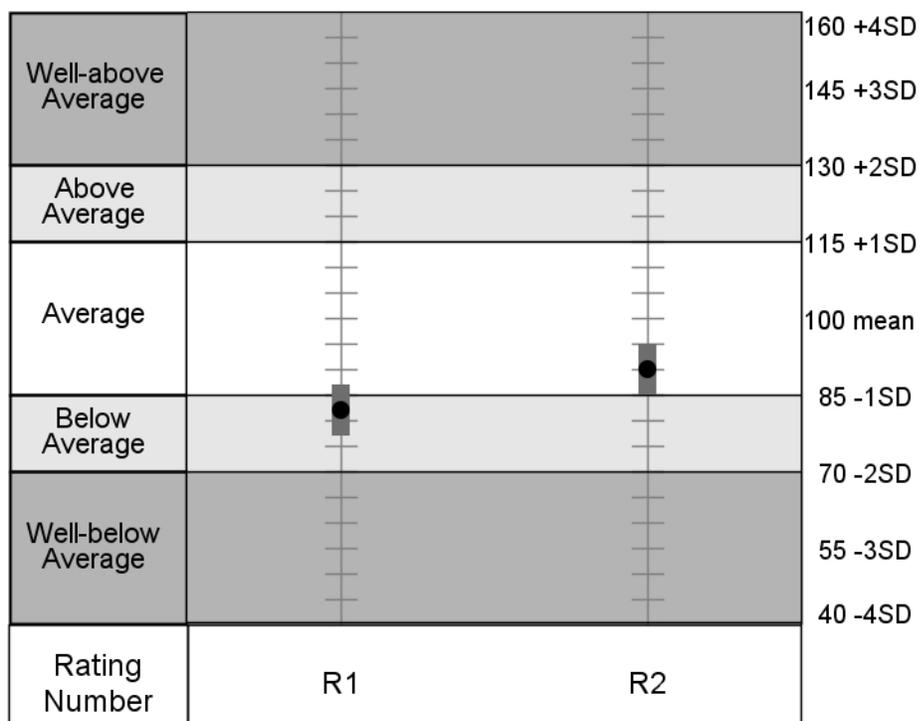


Figure 6. Wen's Social Skills Progress Chart. [Sourced from report prepared on 2/11/19 via SSIS ASSIST, 2008). Reprinted with permission.]

Figure 7 below compares Wen's scores on the Problem Behavior domains of the SSIS from pre to post intervention administration dates.

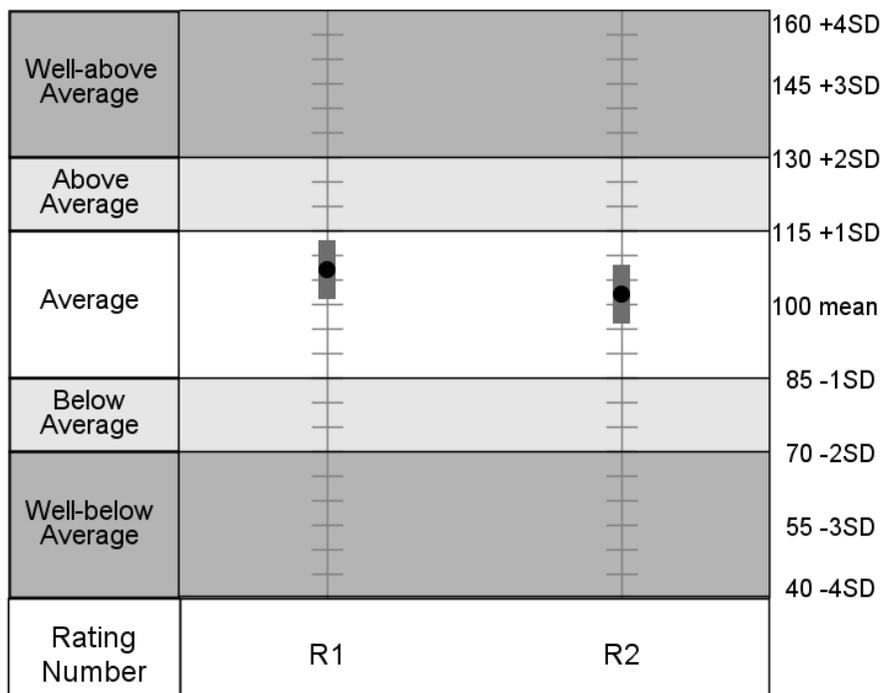


Figure 7. Wen's Problem Behavior Chart. [Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Figure 8 compares Wen's scores on the Academic Competence domain of the SSIS from pre to post intervention administration dates.

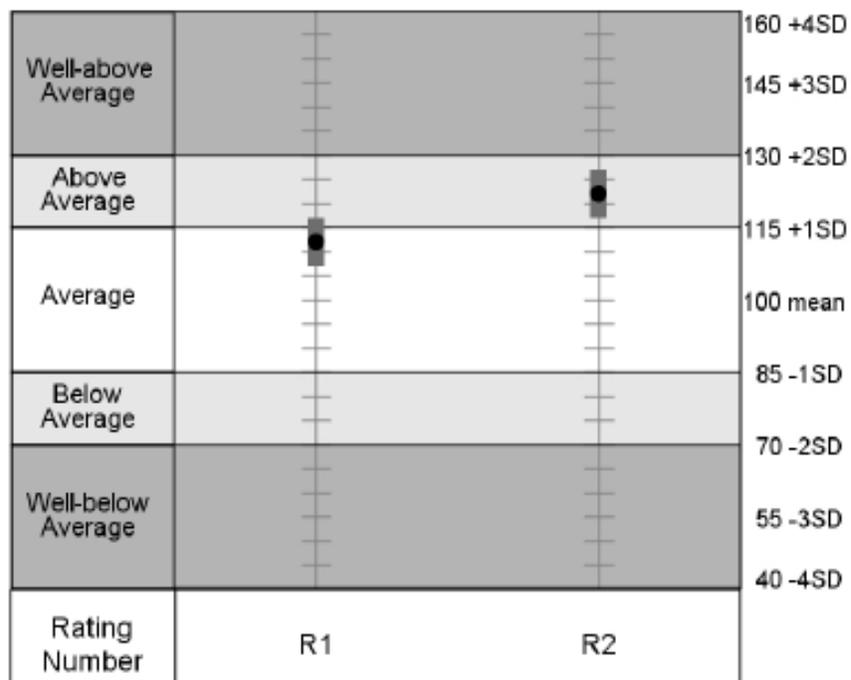


Figure 8. Wen's Academic Competence Progress Chart. [Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Table 39 displays David's progress over two administrations of the SSIS (pre to post intervention).

Table 39.
David's SSIS Progress Report Results (Teacher Scale)

Domain	Pre or Post Test	Raw Score	Standard Score	% Rank	Change from Baseline
Social Skills	Pre	64	83	14	
Social Skills	Post	79	93	32	+10*
Problem Behaviors	Pre	22	106	68	
Problem Behaviors	Post	22	106	68	0
Academic Competence	Pre	14	93	33	
Academic Competence	Post	14	93	33	0

NOTE: *denotes significance at the <.05 level.

The results indicate that pre to post-test differences on the teacher ratings of the SSIS for David's Social Skills are significant at the .05 level. David's social skills' standard score increased from 83 (below average) to a score of 93 (within the average range). These results suggest that the PMI intervention resulted in significant improvement in David's social skills.

David's SSIS progress report results remained static (no change in scores) in the areas of Problem Behaviors --standard score of 106 (average range), and Academic Competence (93-average range). The following figures present graphic displays of David's progress from baseline to post intervention in each of the domain areas of social skills, problem behaviors, and academic performance. The circle on each figure display represents the scale score, and the rectangle depicts the confidence interval. In the respective charts below, R1 (at the bottom) refers to the initial administration data and R2 refers to the post intervention administration date.

Figure 9 below presents a graphic display of David’s progress from baseline to post intervention in the Social Skills Domain

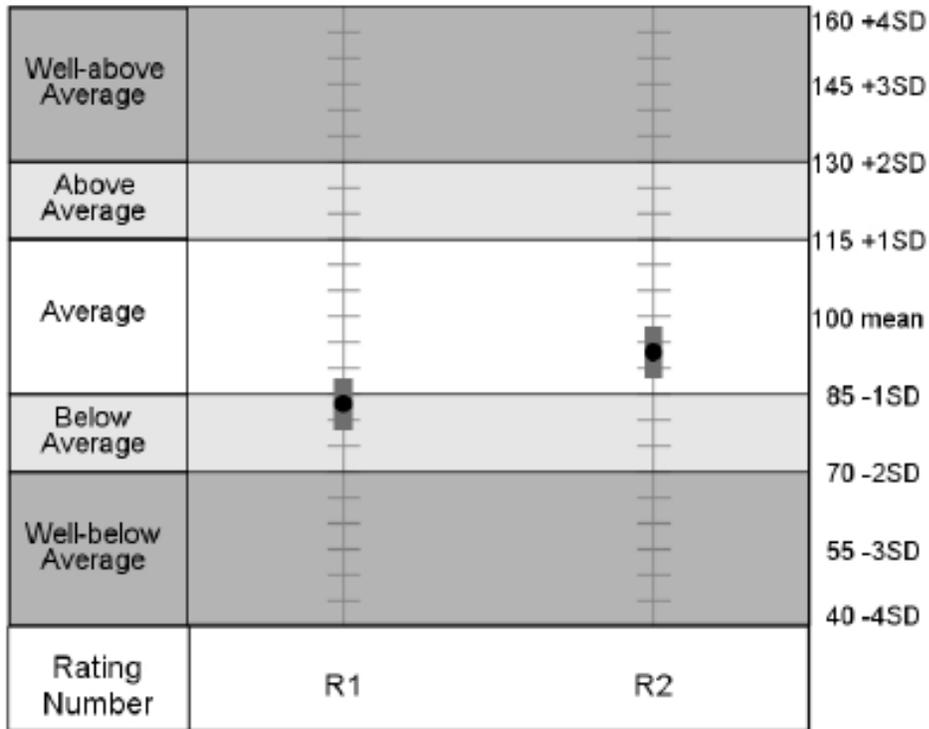


Figure 9. David’s Social Skills Progress Chart. [Sourced from report prepared on 2/1/19 via SSIS ASSIST, 2019). Reprinted with permission.]

Figure 10 below compares David's scores on the Problem Behavior domain of the SSIS from pre to post intervention administration dates.

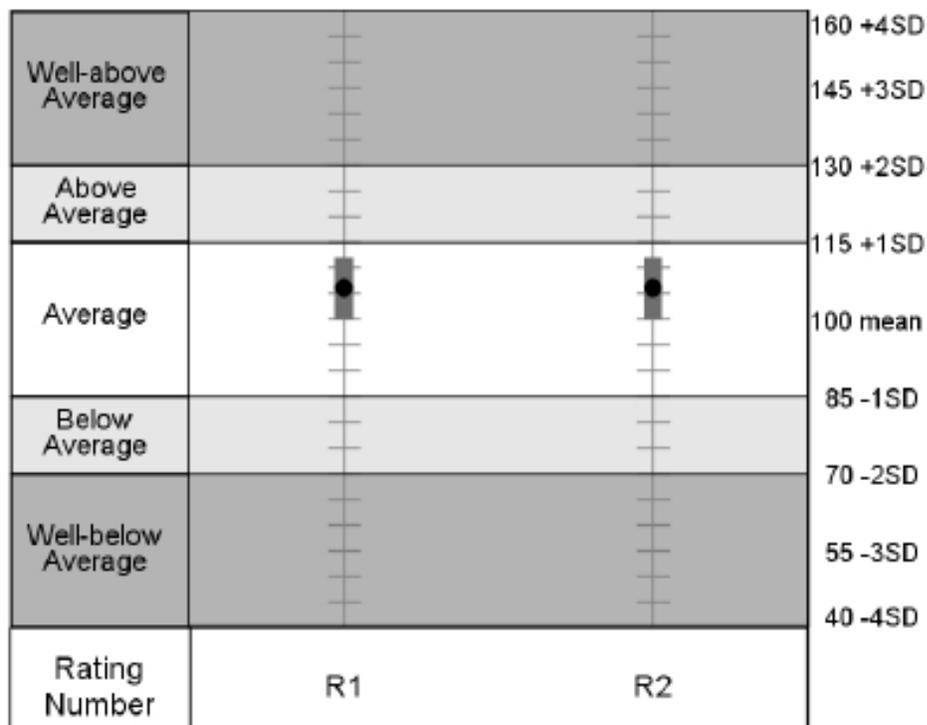


Figure 10. David's Problem Behavior Chart. [Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Figure 11 below compares David's scores on the Academic Competence domain of the SSIS from pre to post intervention administration dates.

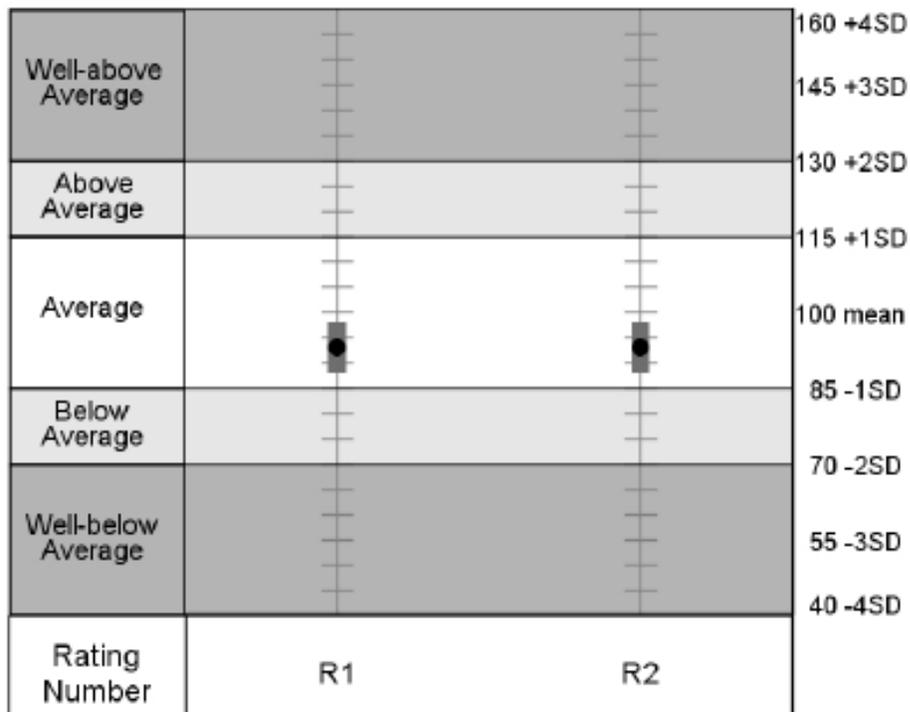


Figure 11. David's Academic Competence Progress Chart. [Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Table 40 displays Ernesto's progress over two administrations of the SSIS (pre to post intervention).

Table 40.
Ernesto's SSIS Progress Report Results (Teacher Scale)

Domain	Pre or Post Test	Raw Score	Standard Score	% Rank	Change from Baseline
Social Skills	Pre	63	83	13	
Social Skills	Post	59	80	10	-3
Problem Behaviors	Pre	20	104	63	
Problem Behaviors	Post	18	102	58	-2
Academic Competence	Pre	19	103	58	
Academic Competence	Post	19	103	58	0

The above table indicates that there were no statistically significant changes from pre to post test on the SSIS in any of the three domains (social skills, problem behaviors, or academic competence), suggesting that the PRT intervention did not have a significant impact on those areas according to the SSIS results. Ernesto's Scores remained static from pre-post intervention. Ernesto's social skills' standard score remained relatively constant from a standard score of 83 (below average) to a score of 80 (below average). Ernesto's Problem Behaviors decreased slightly from a standard score of 104 (average range) to a score of 102 (average range). Academic competence for Ernesto also remained constant with no change from a standard score of 102 (average) to a standard score of 102 (average). The following figures present a graphic display of Ernesto's SSIS results from baseline to post intervention in each of the domain areas of social skills, problem behaviors, and academic performance. The circle on each figure display represents the scale score, and the rectangle depicts the confidence interval.

Figure 12 below presents a graphic display of Ernesto's progress from baseline to post intervention in the Social Skills domain.

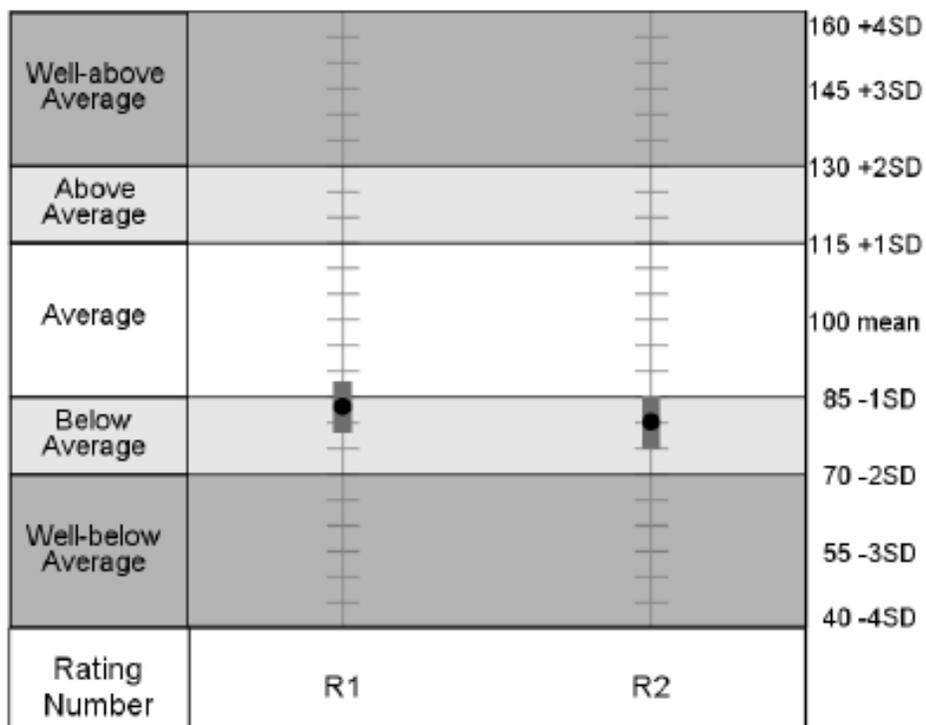


Figure 12. Ernesto's Social Skills Progress Chart. [Sourced from report prepared on 2/1/19 via SSIS ASSIST, 2019). Reprinted with permission.]

Figure 13 compares Ernesto's scores on the Problem Behavior domain of the SSIS from pre to post intervention administration dates.

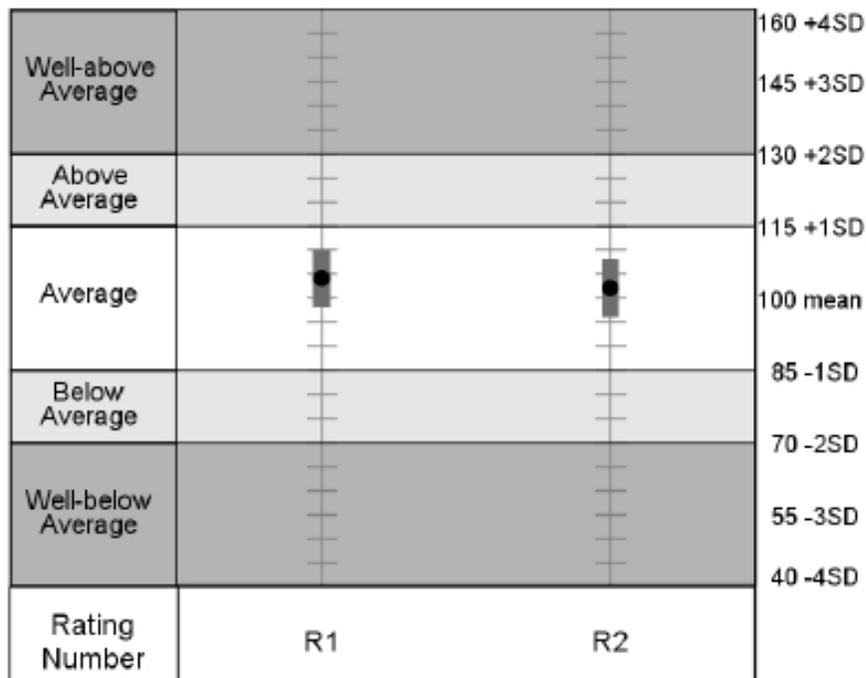


Figure 13. Ernesto's SSIS Problem Behavior Chart. [Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Figure 14 compares Ernesto's scores on the Academic Competence Domain of the SSIS from pre to post intervention administration dates.

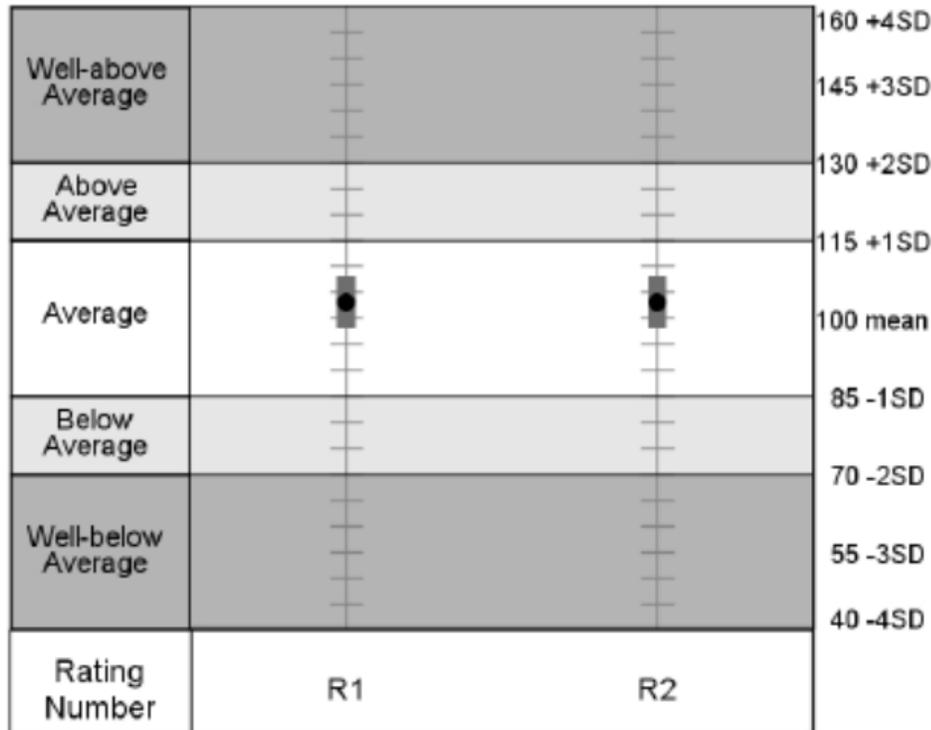


Figure 14. Ernesto's Academic Competence Progress Chart. Sourced from (SSIS ASSIST, 2019). Reprinted with permission.]

Summary

This chapter began with an overview of researcher experience, response rates, demographic characteristics of study participants, and a description of the reliability of the three researcher created survey instruments utilized in the study (see Appendixes H, I, and J). The three researcher created survey instruments were analyzed using descriptive statistics including frequency, means, modes, and standard deviations. The researcher created surveys were administered to gain a better understanding of the district inclusion's staff familiarity and use of EBPs for students with autism in inclusive settings, to gauge the value that school personnel and

district stakeholders place on social skills for students with HFA, and to assist the identification of barriers that impede school districts from regularly implementing EBPs for students with HFA. Additional statistical analyses (i.e. ANOVAS and/or Post Hoc Assessments) were completed to compare the various survey results when taking into consideration one's district job title and/or one's professional years of experience. One's job title had a significant impact on one's awareness of EBPs for social skills, while one's years of experience did not. Furthermore, a Wilcoxon Related Samples Paired Test was applied to determine the effects (if any) of the focus/training groups on inclusion staff's familiarity, competency, and utility of EBPs. The results of the Wilcoxon Rank Test were incredibly positive, suggesting that focus group members showed collective growth in learning following the training that they received in EBPs.

Qualitative data gathered from interviews, focus groups, open ended questions, field notes, and direct observations, lent further credibility to the study. Triangulation methods were utilized to gain an understanding of the current social and behavioral challenges that students with HFA exhibit in inclusive school settings. The following behavior and social deficit categories of concern were noted: (a) maladaptive acting out behaviors, (b) perseverative behaviors, (c) challenges with interpersonal skills, and (d) a tendency to misinterpret social cues. The three qualitative themes that emerged from the data regarding the implementation of EBPs for social skills in inclusive settings were: (a) there is a need for preparation; (b) there is an undercurrent of tension amongst inclusion staff with some members boldly embracing change and other members fighting to maintain the status quo; and, (c) there is an urgent need for social skills interventions for our students with HFA in inclusive settings. The subthemes that emerged under each primary theme will be elaborated upon in chapter 5.

The success of the two different evidence-based social skills interventions for the three students involved was evaluated via pre and post quantitative and qualitative assessments. Data from the Social Skills Checklist and SSIS revealed significant improvement in a variety of areas for two of the three students with HFA who took part in the interventions (the two students involved in the PMI intervention). Some improvement in certain areas was noted for the third student (the one who engaged in the PRT intervention) on the teacher's post Social Skills Checklist. The quantitative data in this chapter will be elaborated on in the concluding chapter. The success of any social skills intervention is not always statistically quantifiable, however. The qualitative analysis related to the success of the intervention for all the students was undeniable. Interviews from all the student study participants (including the typical peer participants as well as the participants with HFA) were highly favorable, as were the post-interview responses from all the teachers involved in the intervention portion of the study. Chapter 5 will provide further clarification of the data and conclusions of this study. In addition, Chapter 5 will provide suggestions for a course of action, implications for professional practice, and further research.

Chapter V: Discussion

Introduction

There is a rapidly developing trend toward full inclusion settings for students with High Functioning Autism (Koegel et al., 2009; Martins, Harris & Handelman, 2014; Sansosti & Sansosti, 2012; Thomeer et al., 2019). While many researchers agree that inclusive educational settings have benefits for students with autism (Koegel et al., 2009; Koegel et al., 2012a; Sansosti & Sansosti, 2012), researchers also concur that the mere physical assimilation of students with autism in inclusive settings is not sufficient to meet their social needs (Koegel et al., 2009; Hansen et al., 2014; Sansosti & Sansosti, 2012). To meet the social needs of students with HFA, researchers recommend “supported inclusion” (Koegel et al., 2009, p. 153), providing structured and evidence-based strategical instruction and strategies beyond just the physical setting (Koegel et al., 2009; Sansosti & Sansosti, 2012). The frequency, intensity, and comprehensive nature of the social deficits of individuals with autism can have significant impact on many life domains. As the literature review clearly indicates, social deficits can negatively affect academic achievement, classroom behavior, interpersonal relationships, mental health, and life outcomes. Applying appropriate evidence-based strategies for social intervention early and continuing those interventions throughout one’s educational tenure, is the most optimal approach to meeting the social needs of students with autism (Hansen et al., 2014; Starr, Popovic, & McCall, 2016).

Unfortunately, research indicates that EBPs are not regularly and appropriately implemented enough by school personnel (Locke et al., 2015; Wei et al., 2014; Wood et al., 2015b). Kant cautioned, “Practice without theory is blind; theory without practice is empty” (as cited in Becker, 1954, p. 387). Kant’s wisdom foreshadowed the gap between research and

practice which would continue to exist hundreds of years after Kant's original cautionary statement.

The purpose of this study was to address the existing gap between research and the practice of evidence-based strategies to enhance the social functioning of students with HFA in an inclusive setting via involvement of district stakeholders and participatory action research. The use of PAR methods to address the lack of educational services for students with autism is an emerging field with few studies (Wright et al., 2014; Stahmer, Aranbarri, Drahota, & Rieth, 2017). When PAR methods to specifically address the lack of EBPs for social skills in school districts have been explicitly utilized (Ostmeyer & Scarpa, 2012), it was not readily apparent if the end product of that particular study resulted in any type of district action to change the practice or a true systemic change for any school or district. Kurt Lewin (1946) is often described as the father of action research (MacDonald, 2012). Lewin and his colleagues, who developed Action Research, purported that to effect a change within an organization or community, research needs to involve action (Lewin, 1946, MacDonald, 2012). PAR incorporates research, reflection, and action as repeating sequences (Hourcade, 2014, MacDonald, 2012). The definitive aim of PAR is to empower stakeholders to engage in a needed social change (McTaggart, 1997). The primary researcher sees similarities between PAR and the Fogg Behavioral Model, the theoretical framework of this study. The FBM indicates that for change to occur, one must have sufficient motivation to change, one must have sufficient ability/skills to implement the change, and one must have a prompt or a catalyst that serves the impetus or agent of change.

To address the utilization of EBPs for social skills interventions for students with HFA in elementary school inclusive settings, the researcher proposed the following questions:

1. What are some of the reported barriers that a school district encounters when implementing evidence-based practices for social skills interventions for elementary school students with HFA in the inclusive setting?
2. What are some of the needs and desires of public-school stakeholders regarding social skills interventions for students with HFA that will facilitate the successful implementation of evidence-based practices in elementary school inclusive settings?
3. What are some of the social difficulties and behaviors of concern exhibited by students with HFA in inclusive school settings?
4. How effective is a short-term evidence-based social skills program for students with HFA in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing maladaptive problem behaviors?

The focus of this chapter is to offer an interpretation of the findings of the study, to address the study's implication for future research, and explore the potential impact of the study on professional practice.

Summary of Results

This study used PAR approaches with the ultimate goal to motivate a school district to implement EBPs for social skills for students with HFA in inclusive settings as a matter of course. As there are many factors which influence district policies and practices, a mixed methods design was utilized in this study. Mixed methods are commonly employed to obtain a more comprehensive understanding of a phenomenon (Creswell, 2015). Furthermore, mixed methods and action research are commonly employed together as they share many common features: the use of both quantitative and qualitative sources, application of a collaborative approach, use of a transformative lens, and they are cyclical in nature (Ivankova, 2015; Mertens,

Bledsoe, Sullivan, & Wilson, 2010). PAR methods recommend a minimum of three different data collection strategies to aid in data triangulation and to produce more effective organizational problem-solving methods (Ivankova, 2015; MacDonald, 2012; Streubert & Carpenter, 1995). Several types of triangulation methods were applied in this study to enhance the trustworthiness and validity of the study including triangulation of data methods, across sources, and across researchers (for the observations within the school setting of the three students with HFA). Quantitative data gathered from researcher created surveys and social skills assessments completed pre and post intervention complemented qualitative data gathered from focus group interviews, interviews with study participants during and post intervention, direct observations of students with HFA in the natural setting, open-ended questions, and field notes. All focus group interviews and post intervention interviews employed a structured script. The interviews were audiotaped and subsequently transcribed by a contracted transcriptionist.

The SSUSD, a large urban district with nearly 30,000 students, was the setting for the study. The SSUSD began to implement inclusion on a district-wide scale only for early elementary students in 2015. The district's inclusion policy did not include a plan to address the social needs of students with HFA in elementary school settings. This study sought to change that practice. To conduct the study, stratified purposeful sampling methods were employed to obtain participants for the study, such as electronic email invitation and/or flyers/notices to inclusion-related stakeholders. In addition, the inclusion staff from the SSUSD directed the researcher to students with HFA and their families within the district who met the researcher's criteria for involvement in the study. Some potential study participants (such as parents of students with HFA whose students attended school in the SSUSD boundaries) received a follow up recruitment call. Input obtained from focus group participants and direct observations of the

student participants with HFA was instrumental to the development of the study and the type of comprehensive EBPs that the primary researcher implemented with the study's student participants.

A total of 33 school staff related to early elementary school inclusion programs at the SSUSD district participated in the study in some form. Three of the thirty-three inclusion related staff assisted the primary researcher via involvement in the training of EBPs during focus groups or co-observing the students with HFA in their school setting. Additional study participants included five young students and their respective parents. In total, 43 inclusion related stakeholders participated in the study. Twelve of those district stakeholders participated in four focus/training groups for two hours weekly directly after school. The focus/training group members included: district behavior staff members, a parent of a child with HFA involved in the study, special education staff, a speech therapist, and school psychologists. The focus groups involved training of EBPs (both didactic and hands-on, experiential), structured interviews, a presentation of research regarding the importance of enhancing social skills for students with autism, the provision of resources, brainstorming of ideas, and member sharing. When utilizing PAR methods, it is common for training to be included in a focus group when a community concern or problem has been detected and when the researchers desire is to capacitate stakeholders (Janssen, Hale, Mirfin-Veitch, & Harland, 2013; Mubuuke & Leibowitz, 2013; Wright et al., 2014).

While no regular education teachers were able to attend the focus/training groups, regular education teachers participated in the study via other avenues. Three regular education teachers were involved in the study directly as the teachers of the students with HFA who participated in the interventions administered in the study. These three teachers completed all the surveys in the

study, had contact with the primary researcher during the interventions, and were asked to complete pre and post assessments for their respective students who took part in the intervention. Furthermore, others participated in the three surveys administered in this study. A total of eighteen inclusion staff members representing a range of five different primary roles in the district: special education teachers, regular education teachers, school psychologists, speech therapists, and behavior staff took part in the survey-only portion of this study.

Following the focus groups and the direct observations of the students with HFA in the school setting, the primary researcher implemented two different social skills interventions across two different elementary schools for three students with HFA in early elementary grades. All the students were mainstreamed in inclusive settings. The primary researcher utilized a single subject design method across multiple baselines and participants to address the efficacy of the intervention. Despite lacking the rigor of double-blind studies, single subject designed studies provide valuable information and are widely utilized in autism research (Camargo et al., 2014; Goldstein et al., 2014; Hansen et al., 2014; Kazdin, 2011). One student was administered an EBP social skills intervention in the classroom and recess settings that focused on PRT methods. The two other young students with HFA were involved in a PMI study conducted during lunch with two typical peers from the same school. Both interventions were short term – twice weekly for an hour, over four weeks. The EBPs interventions were focused on one type of intervention with fidelity, but the interventions were comprehensive in nature, involving social narratives and additional visual supports. It is a common practice to implement EBPs comprehensively (Thomeer et al., 2019; Wong et al., 2015). To address the continued concern regarding lack of staff preparation and training, various school staff members and focus group members were invited to observe and/or partake in the intervention sessions and meetings for the

sake of professional development. At Solano elementary school, one of the district's inclusion specialists, who was also a focus group participant, attended two of the recess PRT sessions. Furthermore, at Solano, an assistant aide assigned to work in Ernesto's class, was present for two of the recess sessions and about an hour total of the in-class intervention period. At Miner's elementary school, one of the special education teachers focus group members attended the training of the two typical peer students with PMI and one PMI lunch session. An additional special education teacher attended one of the PMI lunch sessions. Furthermore, a Behavior Support Assistant staff focus group member attended two PMI lunch sessions.

Research suggests that extended interventions over time, (such as twice weekly for several months) (Lopata et al., 2013; Wong et al., 2015), may be more beneficial. However, there is a wide range of intensity and frequency of interventions presented in research and no magical formula for intervention success is based on merely hours of intervention or the frequency of intervention. Other studies have documented efficacy of brief social skills interventions (Kasari et al., 2012).

PAR methodology has traditionally incorporated a variety of qualitative techniques including focus groups, interviews, field notes, and direct observations within the natural setting. Direct observations permit the researcher to immerse himself/herself into the intended setting where action is needed to better comprehend the social situation (Marshall & Rossman, 2016). Interviews provide a means to collect meaningful data about the experiences of people (Marshall & Rossman, 2016). Focus Groups allows a forum for the communal sharing of thoughts, ideas, and opinions (Marshall & Rossman, 2016) and can be used as a vehicle to capacitate stakeholders (Mubuuke & Leibowitz, 2013; Wright et al., 2014). Table 18 in chapter 4 presents

an illustration of the top ten codes derived from all qualitative data. Figure five in chapter 4 captures the primary themes and corresponding subthemes derived from the qualitative data.

Primary Qualitative Themes

The primary researcher identified preparation as a major theme presented across sources and data collection methods. The lack of preparation on many levels was frequently cited as a barrier to the implementation of EBPs for social skills, while the provision of preparation was viewed as a way to stimulate districts to implement EBPs for social skills. Many inclusion staff members expressed the sentiment that they were ill equipped to provide EBPs for social skills to students with HFA in inclusive settings for a variety of reasons. As one regular education inclusion teacher lamented, “I didn’t study special education. I’m at a loss!” Lindsay et al., (2013) noted, that teachers feel unprepared to support students with autism “socially, academically, and behaviorally” (p. 348). Training focusing specifically on meeting the needs of students with autism are limited in regular teacher credential programs (Holdheide & Reschly, 2008), which results in educators being unprepared to adequately address the needs of students with autism (Lauderdale-Litten, & Brennan, 2018; Suhrheinrich, 2011). Many educators have expressed that teaching children with autism presents as a challenge (Lindsay et al., 2013; Zager, Wehmeyer, & Simpson, 2012). Even academic challenges in certain subject areas have been noted (Randi, Newman, & Grigorenko, 2010; Ricketts et al., 2012). As more students with autism are included in mainstream classes, the need to prepare all educators to address the needs of students with autism is imperative (Loiacono & Valenti, 2010; Marder & Fraser, 2012; Marder & DeBettencourt, 2015). Marder and Fraser (2012), purport:

Teacher preparation programs need to ensure that future teachers are provided with the tools to accurately evaluate research to identify evidence-based practice; how to

implement that practice in their daily teaching strategies, and how to keep current on the emerging research studies that evaluate evidence-based practices for teaching students with autism (p. 5).

Materials, time, and training were all identified subthemes which correspond with the theme of preparation. These subthemes will be more closely examined in the ensuing question-by-question analysis of the results.

The second theme manifested throughout the qualitative data was support. The need for support reverberated throughout the study. Staff referred to two types of support (which the primary researcher has categorized as subthemes), additional personnel support and emotional support. As one general education staff member articulated:

Without having the support makes it very unfair to the inclusion students. It is not fair to the other students who are in the class either. And isn't fair to the teacher, either, because we now almost consistently have 30 students in our class. And when you have four or five with identified special needs--and then we have several students who don't have identified special needs who still have other concerns and needs--there's always so much you can do.

Lack of sufficient support staff has been documented as a barrier to the implementation of EBPs for social skills (Able, Sreckovic, Schultz, Garwood, & Sherman, 2015; Locke et al., 2015; Thomeer et al., 2019). This lack of support staff often results in a shift of priorities and frustration among school personnel who feel conflicted when assigning resources to particular students (Thomeer et al., 2019). Lack of emotional support has been alluded to in prior studies, such as the reference to a school's climate or culture impacting the implementation of EBPs (Woodcock & Woolfson, 2019), or to feelings of burnout reported by staff working with students

with ASD (Corona, Christodulu, & Rinaldi, 2017). Support subthemes will be examined more closely in the following pages.

The final primary theme evident throughout the study was that of tension – paradoxical forces at play within the district’s inclusion staff. Lewin, one of the early originators of change theory, envisioned change as an alteration of forces maintaining stability (Cummings, Worley & Cummings, 2001). Specifically, Lewin noted that a particular set of behaviors at any moment in time is the result of two groups of forces: those striving to maintain the status quo and those pushing for change (Lewin, as cited in Cummings, Worley, & Cummings, 2001). Smith, Erez, Jarvenpaa, Lewis, and Tracey (2017) describe the opposing forces involved in change theory as tension. Research suggests that educators’ mistrust in research impacts their willingness to implement EBPs which could be beneficial to students (Odom, Cox, & Brock, 2013).

Throughout the study, by immersing into the setting of interest, the primary researcher experienced, heard, and witnessed the tension between the drive to embrace change and the drive to maintain the status quo. This tension applied to the broader concept of inclusion of students with HFA into mainstream settings and the more specific concept of implementing EBPs for social skills for students with HFA within those inclusive settings.

Those individuals who volunteered for the focus group and a handful of other staff represented the contingent of individuals willing and eager to embrace change. The individuals welcomed training and could see benefits of implementing EBPs for social skills for students with autism who were mainstreamed. Yet, those individuals raised concern about many other inclusion staff in the district, especially regular education teachers, who were struggling with both the concept of inclusion. When asked to identify the barriers of implementation of EBPs for social skills for students with HFA in inclusion settings, one educator indicated, “The

mindset of some staff members...the lack of willingness to embrace change.” Since the inclusion initiative began over two decades ago, the turmoil regarding educators’ attitudes toward inclusion has been well documented in research (Able et al., 2015; Chung et al., 2015; Humphrey & Symes, 2013; Olson, Chalmers, & Hoover; 1997; Smith, & Smith, 2000). Under the broad theme of Tension/Paradoxical Forces, there are two subthemes: change versus status quo, and the need for interventions. Each of these subthemes will be expanded upon in the following analysis of results by research.

Research Question 1

While research has cited a variety of barriers, such as lack of time, training, and lack of funds (Locke et al., 2016; Miller, 2017; Owens et al., 2014), the primary researcher wanted to know the opinions and beliefs of the inclusion personnel in the SSUSD – as those opinions would be most important when attempting to create a plan to implement EBPs routinely and with fidelity in the SSUSD school district. Researchers suggest that understanding the barriers to implementing EBPs in schools is the first step in the process of creating strategies (or initiating a plan) to overcome the barriers (Locke et al., 2019; Kasari & Smith, 2013). Therefore, the primary researcher formulated the first research question as such, “What are some of the reported barriers that a school district encounters when implementing evidence-based practices for social skills interventions for elementary school students with HFA in the inclusive setting?” To identify barriers to implementing evidence-based social skills for students with HFA, participants in the SSUSD completed a questionnaire titled “Barriers to Implementing Evidence-Based Social Skills Interventions” (see Appendix J). Thirty-two ($n = 32$) school district personnel related to the district’s elementary inclusion completed the survey entirely while 33 ($n=33$) completed at least part of the survey. The central limit theory holds that samples with $n > 30$ are sufficient to

be treated as interval data (Kwak & Kim, 2017). Participants were asked to rate suspected barriers on a scale of one to three with higher scores corresponding to more significant barriers. The most significant barrier as noted by the mean for all participants was “lack of training” which has been echoed in similar research studies (Locke et al., 2015; Miller, 2017). The barriers of greatest concern based solely on the mean score for all participants were as follows in respective order: lack of training, lack of staff, prioritization concerns, and lack of time. The cost of implementation and administrative support were only viewed as “somewhat of a barrier.” The findings revealed that one’s district job title did not have any significant impact on the identified barriers to the implementation of EBPs for social skills for students with HFA in inclusive settings, suggesting similarity and unity in voice expressed by inclusion staff regarding barriers to implementing EBPs for social skills in general.

Knowles (1984) postulated that adults were most motivated to learn about things that were of immediate relevance to them. The researcher had speculated that, perhaps, one of the reasons that more districts are not implementing EBPs for students with HFA in inclusion settings could be that they (or district staff in general) do not consider social skills or corresponding interventions to be relevant. The researcher therefore administered the Relevance of Social Skills Survey to district inclusion staff and the one parent in the focus group to obtain an understanding of staff’s perceptions of the impact of social skill deficits and the need for interventions to address them for students with HFA in inclusive settings. Respondents were asked to rate their perceptions of the impact of social skills on various domains on a typical Likert scale ranging from one to five, with a score of five representing greater regard. Contrary to the primary researcher’s expectations, the results suggest that overwhelmingly, school staff do see social skills as a significant concern for students with HFA. Furthermore, stakeholders feel

strongly that EBPs for social skills should be incorporated in school and that typical peers can be instrumental in enhancing social relationships for students with HFA and one's district job title had no impact on the relevance that a staff member placed on social skills for students with autism. Staff believed strongly that interventions focusing on improving social relationships for children with High Functioning Autism (HFA) were important and needed in public school settings. These findings echoed similar findings from Ostmeyer and Scarpa, 2012's Social Relevance Survey. The results of the Social Relevance Survey suggest that staff do recognize the impact of social skills on students with HFA in many life domains. The fact that staff recognize the importance of social skills for students with HFA, suggests that the first prong of the FBM, the need for a motivation to change, may be percolating under the surface for staff members related to inclusion. If social skills are important, logic follows that interventions which target the development of social skills are also important. The relevance of social skills tied to the need for interventions is illuminated in the discussion to follow regarding the challenging behaviors and social skills deficits observed and reported by inclusion staff and stakeholders.

In addition to the survey questions, the primary researcher posed the following open-ended comment to participants on the Barrier's to EBPs survey form, designed to elicit responses not addressed and/or that might have been missed on the actual survey: Please comment on any additional barriers that you see to implementing direct social skills training in the inclusive school settings. Eight survey respondents wrote responses to this question. Of the eight respondents, three staff reported concerns about lack of buy-in from staff. One participant wrote, "There is lack of willingness of general education teachers to want to be trained and to implement programs." Participants expressed a concern that general education teachers (also

known as regular education teachers) were involved in inclusion as a result of a mandate, as opposed to being internally motivated. The sentiment that inclusion is more a mandate than a choice for many educators is not new (Able et al., 2015; Chung et al., 2015; Sinz, 2004). The sentiment implies an inherent tension with the educator forced to carry out a mandate that one does not wholeheartedly believe to be necessary or needed. Humphrey and Symes (2013), however, conducted a study addressing teacher perceptions of inclusion and their data was more positive – suggesting that a tide was turning, and that staff were starting to support the philosophy and practice of inclusion. Of the eight inclusion staff members who responded to the open-ended question on the Barriers' Survey, three expressed a concern about the lack of support staff and lack of collaboration opportunities with other staff members, especially those with expertise in the area. Other participants reiterated the lack of training that they had received to successfully implement strategies that students with autism need. At least one participant suggested that training should not be offered just to teachers, but to all staff who work with students throughout the day, such as recess supervisors, and the like. One survey participant addressed both staff and training concerns as follows: “The inclusion model is difficult since we are not trained special education teachers and do not have enough support staff to help with inclusion...”

During the first focus group, the primary researcher posed the following question to participants via verbal interview format, “What are some of the barriers to implementing evidence-based social skills programs that you've encountered?” The following codes emerged from the focus group participants: time, funding, materials, training, prioritization, and buy-in (especially buy-in from site and district administrators). Training was the most frequently cited barrier, and some study participants elaborated upon the amount and quality of the training that

inclusion staff had received since the official inclusion program was implemented by the district. One participant noted that social skills and behavior has become a major concern for early elementary students, while in the past, these concerns were not as evident until later elementary years. That participant elaborated: “I think principals are starting to realize how much of their time now is being spent on behaviors - time and energy... going into kindergarten, 1st and 2nd grade.”

Subtheme: Change versus status quo. Research has documented that the lack of staff buy-in is often cited as a barrier for implementing EBPs in schools (Locke et al., 2015; Miller, 2017). Researchers have discovered the staff buy-in to a practice or curriculum can be the critical factor that distinguishes high implementers from low implementers (Lieber et al., 2009). Motivation or buy-in is a key element of the FBM (Fogg, 2009). For systemic change to occur, the FBM accentuates that there must be motivation or investment on behalf of the individual or group. Fogg (2018) described motivation and ability as compensatory in that if one’s motivation is high to engage in a behavior, then one’s ability could be lower; conversely, if one’s ability is high, then motivation could potentially be lower to effect a behavioral change. Primary motivators in the Fogg Model are hope/fear, social acceptance/rejection, and pleasure/pain (2018). Fogg stressed the importance of addressing to one or more of these primal human experiences to effect a change in behavior. Throughout the study, several staff members expressed concern that the implementation of EBPs for social skills might be challenging due to staff’s inclination to maintain the status quo. Indeed, the palpable underlying tension of change versus status quo emerged as a subtheme under the general theme of tension/opposing forces. Terms such as mindset, motivation, willingness, or lack of desire or buy-in were mentioned over a dozen times in structured interview settings and/or in write in responses to open ended

questions. Staff members noted that many district staff were still having difficulty embracing the district's current inclusion plan. A focus group member referenced inclusion colleagues when she stated, "They (inclusion general education staff) don't necessary want interventions, they want the child to be in a different class setting." One educator succinctly indicated, "The mindset of some staff members is a barrier to the implementation of EBPs for social skills." Echoing this sentiment, a focus group staff member exclaimed, "buy-in is huge!"

Another staff emphasized that not only teacher buy- in was critical, but administrator buy-in was key, "If it's (social skills training) going to be utilized in a school, it's really necessary to get the principal to buy-in to the social skill training." Some in the Miner Elementary Focus Group Members shared they thought that the fact that the principal supported inclusion as well as EBPs such as video modeling, made an enormous difference in the staff's approach to inclusion. However, a recent study revealed that teacher attitudes may impact the implementation of EBPs for students with autism, but implementation leadership and climate were not predictors of the implementation of EBPs (Locke et al., 2019). However, Locke et al.'s study (2019) focused on more global EBPs for autism as opposed to just EBPs for social skills interventions. The information gathered from this study suggest that site leadership sets the tone for a particular school site's approach to inclusion and beyond that, the implementation of EBPs for social skills for students with autism. Several of the original principals approached did not even agree to have the researcher invite their staff to participate in the focus groups, preferring their staff to maintain their typical Wednesday afternoon site activities. The fact that one principal not only agreed to have staff attend, but wholeheartedly supported four of her staff to attend the focus/training groups, in addition to having already provided her staff with an EBP for social

skills (access to an online Video Modeling) program, is indicative of the difference that leadership can make regarding the decision to embrace change or fight to retain the status quo.

Another inclusive staff member noted that she had personally seen, a “lack of willingness of general educators to want to be trained and to implement programs.” This sentiment was reverberated during focus groups when one of the behavior staff elaborated, “I’ve tried to train, but sometimes, they don’t want it. All they want is a body.” Several staff members voiced similar thoughts – that rather than want to learn and implement these strategies on their own, some inclusion staff members want someone else to be responsible for the student and for carrying out any necessary recommendations that might enhance the student’s social skills. However, the attitudes expressed by those staff members related to inclusion participating in the focus/training groups, as well as the attitudes clearly expressed by the two general education teachers at Miner’s Elementary School where the PMI intervention was illustrated, was in direct contrast to the negativity that other members referenced. Those staff members reported that they were “eager to learn” and they wanted to know the “best ways” to provide supports to the students in HFA. They expressed a strong desire to make the student feel wanted and accepted as well as ways to improve their social skills and reduce problem behaviors so that the student “blended” easier into mainstream classes, “I just want him to feel that he belongs....I want to know how to help him.”

While not the primary focus of this study at all, this study nonetheless has contributed to the limited literature regarding educator attitudes toward inclusion by highlighting the conflict and tension that this district and likely other districts are experiencing. The push to embrace inclusion was as evident as the push against inclusion. One regular education teacher involved in the study clarified, however, “It’s not that I’m against having students with special needs in my

class; it's just, if that is going to be the case, then I need help and support for it to work." Some staff then, might not be philosophically opposed to inclusion, but rather, they are opposed to the manner in which inclusion programs are being implemented within their district.

Research Question 2

The purpose of this study was not only to identify barriers to implementing social skills interventions, but to develop a plan or model that districts could use to implement evidence-based social skills intervention for students with HFA in inclusive settings. With this intent in mind, the primary researcher formulated the following question, "What are some of the needs and desires of public- school stakeholders regarding social skills interventions for students with HFA that will facilitate the successful implementation of evidence-based practices in elementary school inclusive settings? Regular education inclusion teachers, especially, have voiced concerns regarding the lack of training that they have received to meet the needs of students with autism in their classrooms (Stahmer et al., 2015; Strong, 2014). Research suggests that many educators lack familiarity with EBPs for students with autism (Able et al., 2015; Camargo et al., 2014; Guckert, Mastropieri, & Scruggs, 2016). This propelled the researcher to ask focus group members to identify any EBPs for social skills that they were aware of currently being utilized in the district. The parent participant in the group was emphatic that she did not believe that the IEP team at her son's school was utilizing any EBPs. She did, however, note that the regular education teacher was trying her best with some behavioral interventions in the class. The staff from Miner's Elementary School reported that they had been utilizing Video Modeling as their site administrator purchased an online program for them. Other staff reported that they had utilized either SGGT and social narratives in the past, although several reported that they were not sure that the programs that they had been using were actually evidence-based and/or

implemented appropriately. Many staff reported that the district education staff including occupational therapists, speech therapists, counselors, and educators were very fond of a program commonly known as “The Zones of Regulation” (Kuypers & Winner, 2017). This particular program falls in the emerging category – it is not yet evidence-based. However, the focus group staff was comprised of many individuals who had expressed a keen interest in supporting students with autism by learning more about EBPs for social skills. The focus group members shared that their usage and familiarity with EBPs might be different than that of the rest of the district. Even the speech therapist in the group who reported that she regularly implemented Video Modeling was not able to address what types of interventions her peers were utilizing to address the social needs of students with autism. The focus group members routinely reported that they doubted that most inclusion staff were aware of EBPs for social skills for students with autism, aside from general behavioral interventions or social stories. As one focus group member exclaimed, “I’d venture to say that most inclusion staff would say that they have no clue if you asked them about EBPs for social skills!”

Studies have found that even service professionals, such as school psychologists, demonstrate a lack of knowledge and training in EBPs for students with autism (Combes et al., 2016; Klebanoff, 2018). With these declarations in mind, the primary researcher developed the survey titled, “Evidence-Based Practices Survey for Social Skills Interventions for School Personnel.” The survey gauged the current familiarity, competency, and use of EBPs for social skills via self-report of district inclusion staff. The results of the Evidence-Based Practice Survey in this study, as well as the comments of focus group participants, echoed the findings of several researchers (Camargo et al., 2014; Guckert et al., 2016) in that the vast majority of SSUSD inclusion staff reported that they lacked familiarity and competency in and/or were not

utilizing four of the EBPs for social skills: SSGT, PMI, VM or PRT (please see chapter 4, Tables 24, 25, and 26, for a complete description of staff familiarity, competency and utility of EBPs for social skills). The findings of this study revealed that PBI was the most commonly recognized EBP for social skills being utilized in the district according to staff report. SSUSD has supported the implementation of PBIS district wide as a policy for many years, and this policy was reflected in the survey results. Staff also reported feeling fairly competent with administering PBIs. Social narratives were the second most well-known and utilized EBPs, but even that EBPs was only being utilized on a monthly basis by slightly less than half of the survey responders and weekly by only five of the 30 plus staff members. (Please see chapter 4, Table 26, for a complete description of staff familiarity, competency, and utility of EBPs for social skills).

The familiarity, competency and use of EBPs differed significantly, however, based on one's role with the district. Results of an ANOVA revealed significant differences in the familiarity, competency, and utility of a variety of EBPs based on job title. Furthermore, the relationship was often co-directional, meaning that a significant relationship in the negative between a group mean equates to the same level of significance in the positive direction for the other group. For example, when comparing group means, district behavior staff ($M=2.14$) and special education teachers ($M=2.0$) were more competent in the EBP of SSGT than regular education teachers ($M=1.23$). In terms of awareness of PMI, the behavior staff group mean ($M=2.0$) was superior to that of the regular education inclusion teachers ($M=1.13$), suggesting that the behavior staff are more familiar with PMI than regular education inclusion teachers. For the EBP of Social Narratives, the group mean for inclusion regular education teachers ($M=1.63$) was significantly lower than the group means for speech therapists ($M=3.0$), special education teachers ($M=2.75$), and behavior staff ($M=2.58$). Not only were other educators more familiar

with the EBP of Social Narratives, but other educators feel more competent with SNs than regular education teacher. The group mean for Competency with SNs for regular education teachers ($M=1.5$) was significantly lower than the group means for speech therapists ($M=3.0$), special education teachers ($M=2.88$), and behavior staff ($M=2.43$). For PRT, the behavior staff group mean for familiarity with PRT ($M=2.14$) was once again significantly higher than the group mean for regular educators ($M=1.0$). The behavior staff group mean in competency with the EBP of PRT ($M=2.29$) was significantly greater than all other educator groups: (a) special education teachers ($M=1.13$), (b) speech therapists ($M=1.0$), and (C) regular education teachers ($M=1.0$). Furthermore, the behavior staff group mean in utility of the EBP of PRT ($M=2.0$) was significantly greater than that of other educator groups, such as special education teachers ($M=1.13$), regular education teachers ($M=1.0$). Generally speaking, behavior staff appear to be well versed compared to many of their educational colleagues in a variety of EBPs for students with HFA. The results of the ANOVA comparing familiarity, competency, and utility of EBPs for social skills by district job title has illuminated the dire need for training for regular educators in EBPs for social skills. Regular education teachers lagged behind other groups in nearly every area but PBIS and awareness of SN.

To the researcher's knowledge, no other study has directly compared the familiarity, competency and use of EBPs for social skills for students with HFA to one's job title. There have been prior studies directly seeking to assess the awareness of general autism EBPs for counselors, school psychologists (Combes et al., 2016; Klebanoff, 2018), and/or regular education teachers (Corona et al., 2017), but no studying focusing on EBPs for social skills specifically, and no study comparing group differences by district job title to the extent of the present study. Overall, the findings of the survey reaffirm the urgent need for training in EBPs

for social skills. The results of this study clearly reaffirm the results of a survey of general educators from preschool through secondary who reported that they were not confident when implementing EBPs for students with autism (Brock, Huber, Carter, Juarez, & Warren, 2014).

When group statistics and subsequent ANOVA was completed comparing one's years of experience to one's practice of EBPs for autism, there were no significant differences between the groups, suggesting that experience does not equate to more awareness, competency, and use of EBPs for social skills. This information indicates that even those with years of experience could benefit from training. The researcher was only able to locate one other study (Aukes, 2018) which examined the potential link between educator years of experience and the implementation of EBPs for autism in general (based on the NPDC 27 EBP strategies), not specifically for EBPs for social skills interventions for students with autism. Contrary to the current study, Aukes (2018) found a positive (albeit very slight) correlation between years of experience and EBP implementation after three years of experience. There exists a paucity in the research addressing teacher factors linked to implementation of EBPs for students with autism (Aukes, 2018; Hanushek, 2016). The primary researcher was not able to find a research study addressing the potential relationship (if any) between years of experience and EBPs *specific to social skills* for students with autism. The findings from this study suggest that educator experience was not a significant factor in one's familiarity, competency, and utility of six different EBPs for social skills for students with autism. Further research, ideally with a larger sample size, appears warranted in this area. If the findings re-affirm the findings from this study, then additional training and education is warranted even for educators with years of experience in the field.

Subtheme: Training. The most pressing subtheme under the theme of preparation was that of training. During the study, inclusion staff and stakeholders lamented that the amount, quality, and type of training they had received to meet the social and academic needs of students with HFA in inclusion has not been sufficient. Just from qualitative data alone, the need for training was referenced at least 33 times during the study. Regarding EBPs for social skills in particular, many group members had reported that their training was limited, with the exception of behavior staff.

Behavior staff members in the focus/training group actually reported feeling comfortable with many types of EBPs for social skills such as PMI and PRT, while other Focus Group staff members remarked, “I’ve never even heard of those interventions before!” Researchers consider the lack of training or professional development as one of the greatest, if not the greatest, barrier to the implementation of EBPs for social skills (Alexander, Ayres, & Smith, 2015; Hornby, Gable, & Evans, 2013; Koegel et al., 2009; Kucharczyk et al., 2015; Scheeler, Budin, & Markelz, 2016). Another regular educator claimed, “This (regarding the interventions for her student in the classroom) is so important... I’m not trained to do this!” The lack of educator practice guidelines and training in teacher programs have contributed to the lack of implementation of appropriate interventions (Crosland & Dunlap, 2012; Lauderdale-Litten & Brennan, 2018; Marder & DeBettencourt, 2015; Marder & Fraser, 2012; Romanczyk, Callhan, Turner, & Cavalari, 2014). The complicated nature of some of the EBPs for students with autism can be challenging and time-consuming to learn, further highlighting the need to reinforce training (Stahmer et al., 2015). On the barriers to implementation survey developed by the researcher, one of the participants wrote:

I honestly feel that the biggest barrier is lack of training for teachers or support from the district. The inclusion model is difficult since we are not trained special education teachers and do not have enough support staff to help with inclusion kids. Our RSP (resource specialist – i.e. special education teacher) teacher is wonderful, but she can only do so much to help.

One of the special education teachers shared during the focus groups that a way to address the concern for training would be to “have a person or team that could come and demo it [an EBPs for social skills], such as ‘The demo teacher’ -with your students and in your setting.” The National Center for Autism Standards Project (2014) actually recommends that districts institute a planning and training team comprised of a variety of district professionals to capacitate district staff on a larger scale. The planning team could assist with selecting the appropriate intervention training to ensure that staff know how to properly administer the intervention and then assist with teaching staff data collection and/or other methods to gauge the efficacy of the intervention.

Another study participant suggested that the training be extended not just to immediate inclusion staff, but to other roles on campus. The participant noted that she has observed, “a lack of generalization of consistent social skills strategies with whole school staff (i.e. lunch duty, supervisors, etc.) throughout the student’s school day.” In the FBM, the ability to do something is one of three essential ingredients to effect change. Ability correlates directly to building capacity or training. As one focus group member said, “You can’t do something if you don’t know how to do it.” The findings from this study are aligned with the FBM that illuminates the need for capacity in order to effect a behavioral change. According to Fogg (2018) to enhance ability, there are three avenues: train individuals, provide individuals with tools to simplify the

task, and/or simplify the task itself. Fogg (2018) notes that of these three, training is the most difficult to accomplish, as individuals are naturally resistant to change. This resistance to change was highlighted in the subtheme of change versus status quo and this resistance encompasses the underlying tension evident among inclusion staff during the study.

One of the primary purposes of this study's focus/training groups was to address the lack of preparation that school personnel report in the area of EBPs for social skills interventions for students with HFA in inclusive settings. Therefore, focus group participants were introduced to five EBPs (SSGT, VM, PMI, Social Narratives, and PRT) via training, modeling, and direct practice as outlined in chapter 3. A fundamental PAR goal is to empower individuals in a community to collaborate to create social change (MacDonald, 2012; McTaggart, 1997). Providing training and education has been well demonstrated to be an effective method to empower or capacitate individuals (Gomendio, 2017). Focus groups provide a medium in which community stakeholders with various skills, backgrounds, roles, and expertise can collaborate, reflecting in a shared development of knowledge. When individuals engage in learning by doing, their perceptions of their abilities and deficits often evolve, as well as their ability to implement what they have learned (Maguire, 1987). To further enhance one's knowledge, utility, and competency with EBPs for social skills, the focus/training group participants were provided with additional information regarding EBPs via handouts, online resources, and visual supports. Focus/training group participants were also invited to observe and participate in the PMI and PRT intervention sessions administered by the primary researcher and at least four group participants attended some of the intervention sessions.

The primary researcher administered the EBP survey for social skills to the focus/training group participants prior to the start of the first focus group and again at the end of

the entire study, following the respective social skills interventions. To see if there was any significant change in group scores from the pre to post administration of the EBP survey in any of the domains (familiarity, competency, and utility) of the targeted six social skills EBPs, the primary researcher utilized a Wilcoxon Rank Signed Paired Test (AKA Wilcoxon Related Samples Paired Test). *Significant growth* ($p < .05$) was noted in the group scores in the following areas: familiarity with SSGT, familiarity with VM, competency with VM, PMI familiarity, PMI competency, and familiarity with PRT. The competency value for PRT fell barely under the level required to denote significant growth ($p = .053$). The results suggest that after five hours of direct training, modeling, and the provision of additional resources, the awareness, and/or competency in four out of the five EBPs incorporated into the focus group trainings significantly improved from baseline! While the Fogg Model purports that training can be difficult, this study suggests that training (even under a relatively brief timeframe of three months) can be effective if done properly. In contrast to prior research findings that one day workshops are inadequate to improve a teacher's practice (Gersten & Dimino, 2002), this study suggests that with some follow up and the provision of additional resources and modeling by trained professionals, perhaps full day workshops can be effective! The findings further suggest that stakeholder focus groups which also incorporate training elements can be an effective method to capacitate stakeholders to effect a behavioral change. The findings also suggest that combining practical experience with didactic models may be an effective method to teach staff how to implement EBPs. Several researchers (Hornby et al., 2013; Lauderdale-Litten & Brennan, 2018) stress the importance of a practical component when teaching staff to implement EBPs for autism. In-vivo performance feedback, such as the type of feedback that researcher and the researcher's assistants were able to provide during the small group practical portion of the EBPs training, has

been used successfully to implement EBPs for educators as well (Lauderdale-Litten & Brennan, 2018; Suhrheinrich, 2011).

Subtheme: Materials. The subtheme of materials encompasses a wide range of actual products, curriculums, training tools, reinforcement incentives (i.e. rewards for the demonstration of pro-social skills), and access to online resources that allow for materials to be utilized to facilitate the implementation of EBPs in social skills for students with HFA in school settings. Materials as a barrier to the implementation of social skills has been represented in the literature (Forman, Olin, Hoagwood, Crowe, & Saka, 2009; Foster, 2014; Miller, 2017) and this study reaffirms that a lack of materials contributes to the lack of implementation of EBPs. During focus groups, when the primary researcher introduced two well-known SSGT interventions (Skills-Streaming and Stop & Think, see Appendix V), many group members remarked that they never knew that those materials were available in the district. The staff from Miner's Elementary school requested access to the Stop & Think program for all ages of elementary school children. When Miner's school staff shared information regarding the VM online software which their principal had provided to them, other staff immediately expressed a desire to have access to that program (or similar programs as well). One member remarked, "All of us should have access to a program like that!" How quickly other staff jumped upon the opportunity to have online access to an EBP for social skills for students with autism, suggests that perhaps facilitating the access to EBPs materials can have a positive impact on staff buy-in. In absence of an online software program, focus group members noted that to effectively engage in VM, "At the very least, one needs a phone or IPAD and written permission to record the student (if student will be in the video)." One focus group member stated succinctly, "Video modeling would be great. But if you don't have a way to do it, you can't implement it!"

Several staff members pointed out that school districts often struggle with finances and educators spend their own money on basic student resources such as pens, paper, stickers, and glue. Focus group members noted that if basic essentials were not being provided, then extra materials such as Social Skills Curriculum would be even less likely to be provided by the school districts. Focus group members suggested that teams could “share” equipment among schools and/or if certain programs are purchased in volume, the cost would be more economical for the district. A staff member informed the group that several mental health Elementary School Counselors had been successful in the district writing grants to obtain funds for curriculum, an option to consider. Other staff speculated as to the source of the funds (i.e. the special education budget, the entire district budget, or site budget). Other solutions presented by focus group members were for districts to consider programs and curriculums that are evidence-based, but more cost-effective, which prompted the primary researcher to create a list that districts might find beneficial when comparing programs (see Appendix V). The CASEL website similarly provides a cost and time analysis of various EBPs. Taking into consideration a district’s particular needs when planning to administer EBPs, is similar to the best fit model emphasized by Forman et al. (2009). Forman et al. (2009) recommend the use of a “best fit” strategy to match the needs of the district or site to an EBP that works for them (Foster, 2014). The best fit strategy takes into consideration the needs of the students and the needs of the district in terms of contributing to the feasibility of the implementation of EBPs.

Visual supports and/or Social Narratives are other types of EBPs for social skills for students with autism. However, many staff lack access to these supports, are not familiar with creating them, and/or lack access to materials needed to create them (such as a laminator, colored ink, Velcro, laminating sheets, cardstock). Reiterating the theme that financial support for

researchers is a concern, the behavior staff remarked that they purchased their own printer and laminator for use within the autism behavior department specifically for the purpose of providing visual supports to students on the spectrum and that they purchased laminator sheets out of personal funds as well. A special education teacher reported, “I realized a while ago that if I needed a visual support for a student with autism, I’d have to make it myself!”

Access to online resources was another topic that surfaced regarding materials. Some staff reported that they were unfamiliar with appropriate online resources that could ease the facilitation of EBPs for social skills. Therefore, during the training and focus groups, the primary researcher presented the focus group members with links to free online visual supports for students with autism. Many acknowledged being unaware that such resources existed. When asked if she had benefited from the social skills intervention that her student David had received in the course of this study, David’s regular education teacher remarked, “I found the visuals and materials that you gave me for him to be very helpful!” A lack of materials hinders generalization of social skills across settings (Paul, 2008; Yeo & Teng, 2015). For example, parents may not possess access to materials that the schools are utilizing for their children. The one parent participant in the focus group expressed a desire to have “access” to resources for continuity of resources between the home and school settings. The study showed that if EBPs were to be implemented, staff needed to have access to appropriate materials to do so.

Subtheme: Time. To implement EBPs for social skills in inclusion settings more regularly, staff reported that time was a critical element. The need for time ascended to the level of a subtheme as the concept was cited by multiple sources during the course of the study and multiple times (at least 24 documented references during the qualitative portion of the study). Time has been well documented in literature to be a barrier to implementation of EBPs of social

skills (Hutchins, Burke, Hatton, & Bowman-Perrott, 2017; Owens et al., 2014). The current study reaffirms other studies in this area stressing the importance of time. Time encompasses planning time, time to implement the intervention, collaboration time with other staff, training time, transition time, and time to devote to data collection and/or other methods of assessing the intervention. As one focus group member noted, “It takes time for you guys [special education staff in the room] to prepare the materials and even to think about what you are going to do.” Another focus group member wondered aloud, “And will the teacher give us the time to do it with them (the students), you know?” Time was such a factor during the focus groups that the primary researcher specifically chose to implement EBPs as part of the study that did not require the student to be pulled out of any academic subject. In addition, the intervention was only implemented during times that were convenient for the respective teachers and students (i.e. during lunch and/or in class when the teacher specified). Ernesto’s teacher explained, “I have 30 students in our class and I just don’t have the time to meet all their needs by myself.” Another member exclaimed, “I would need planning time. A plan that is supported from the top.” This last comment, “A plan that is supported from the top,” referenced the need for support when planning to administer EBPs for social skills.

Subtheme: Personnel support. To implement EBPs for social skills interventions for students with HFA, the subtheme of support personnel strongly resonated with study participants. Three categories of extra support staff were addressed: a) in class support staff – such as an aide to assist the teacher to meet the needs of all of the students in inclusive settings, but especially for the students who warrant more individual attention that the general education teacher feels that they are unable to provide; b) on-site support from a colleague or specialist who can directly teach the student with autism skills; and c) support from district experts in the

field. Researchers have illuminated the importance of supports at structural, administrative, and fiscal levels (Cook & Odom, 2013). SSUSD stakeholders voiced that the social, behaviour, and academic challenges exhibited by students with autism in inclusion settings can be “severe” and/or “overwhelming.” As the Solano regular educator expressed, “If inclusion is to be part of our academic program then we need to have the support staff. We need to have well trained support staff to work with these students.” The Solano regular educator addressed two types of support staff: in classroom trained instructional assistants, and collaborated support, such as trained professionals who could guide and support the program as well on a more frequent and regular basis. The need for additional support, such as the support of instructional assistants, in mainstream inclusion classes was a need that reverberated throughout this study. However, as focus group members and the Solano regular educator pointed out, having another adult body in the classroom is not always helpful unless that person has been trained. As one study participant exclaimed, “Sometimes the wrong help can do more damage than good!” Staff routinely shared that they believed that instructional assistants working within inclusion settings should be trained in autism, behavior, and EBPs to meet the students’ needs. Staff members shared stories of entering inclusion classrooms to find the instructional assistant sitting alone in the back of the room, not engaged with students, or spending time with paperwork as opposed to working with the students (not that there is not a need for support with paperwork-rather, there is a need for prioritizing the duties of an instructional assistance). Of course, other SSUSD staff praised their particular instructional assistants as being “invaluable.” The need for training instructional assistants in inclusive settings has been identified in literature (Ledford, Zimmerman, Harbin, & Ward, 2017; Soto-Chodiman, Pooley, Cohen, & Taylor, 2012).

One survey participant elaborated, “There is a need for more collaboration among professionals.” Research supports a team/collaborative approach to spur the successful implementation of EBPs for autism (Donaldson & Stahmer, 2014; Odom, Duda, Kucharczyk, Cox, & Stabel, 2014; Lieber et al., 2009). While inclusion staff generally have some type of monthly meeting at the district office and occasional trainings, the staff reported that there is no regular time devoted to collaboration with other inclusion related staff such as special education teachers, other district professionals (i.e. speech therapists, psychologists, mental health counselors, behavior staff, occupational therapists), or paraeducators. Collaboration with district experts in the field was especially sought after. Some staff reported that they were unaware that there was a district process already in place in which they could seek the consultation of district experts in autism or behavior.

Some of the regular education teachers involved in the study expressed a sense of being overwhelmed by the demands of their job as educators and they regretted not having additional classroom support or collaborative support. One general education teacher expressed, “We have these inclusion students in our classrooms now. And, sadly, the support is very limited that's being provided for us.” The teacher's comments conveyed a feeling of isolation and sadness, as if the burden of inclusion fell mostly on her shoulders. The teacher's comments were a cry for support, both physical (as in extra staff) and emotional. Support in the sense of camaraderie and collaboration would likely be welcomed by this teacher and is sorely lacking.

One of the regular education teachers from Miner's Elementary reported that her special education teacher was excellent and very supportive; she just wished that she could spend more time with her in the classroom. One teacher reported that when inclusive teaching first began in SSUD, the personnel support for that first year was the best that it has been; there were generally

at least one to two additional adult staff members in the inclusive setting at all times. Since then, however, the support in the classroom has been steadily decreased to only a small percentage of the day (approximately 20%). As the Solano Regular Education teacher articulated:

And when it (inclusion) was presented, you know, when they give us our class list, they said, “You have all these students in your class because you're going to get all this extra support.” Well, the extra support looks like an aide coming in for 30 to 45 minutes at the beginning of the day. Then the aide is out on recess with them. And then the aide comes in for 10 minutes. And then the teacher (special education) comes in, usually, for a half hour or so. But it's--well, the aide, mostly...it's not always consistent. And when you look at the minutes, most of the time you're in that classroom alone with the 30 students or relying on parent volunteers, which that's not their job. And they shouldn't be doing that.

Another regular education teacher echoed the same sentiment on her response to the open-ended question about barriers to implementing EBPs for students with HFA, “There is a need for support- it would be helpful to have an aide who can support the specific student or assist the rest of the class while I support the student.” Lack of support has been cited by previous researchers as well as a primary barrier to the implementation of EBPs for social skills (Locke et al., 2015, 2016) and this study reaffirms this finding.

Subtheme: Emotional support. In addition to personnel support, study members expressed and/or alluded to the need for increased emotional support to meet the social needs of students with HFA in inclusive settings via EBPs. Inclusion staff noted that students with autism occasionally present with disruptive and/or aggressive behaviours, and that such behaviours can exact an emotional toll on an educator. Inclusion staff expressed a need to vent, debrief, and/or

relax in a safe, supportive environment with a caring, non-judgmental co-worker. “It would be nice to have someone to talk to more often who understands what I’m going through.” Staff acknowledged feeling “very stressed” at times and feeling “isolated.” As the Solano regular educator expressed, “If there was more collaboration, I wouldn’t feel so alone in this.”

Some inclusion staff members expressed a lack of concern for their educator struggles with inclusion from the administrative level down, stating, “I don’t think they [administrators] really are listening to us when we tell them what we need.” A focus group member speculated, “I don’t even think that they really understand what is going on out there.” Focus group members expressed a disconnect between administrators making decisions regarding inclusive practices and the staff called upon to implement those practices. Other staff members shared that they experienced a lack of appreciation from administrators for the work that they do as inclusion educators. As one staff noted, “It would be nice if they recognized all that we do!” Research has indicated that many staff do not feel ready to implement desired changes and therefore, leaders are encouraged to communicate with staff to develop a deeper understanding of their concerns (Odom et al., 2014). The current study supported this finding as well.

A lack of emotional support from administrators or colleagues, however, was not an area of concern expressed by all study participants. Staff from Miner’s elementary school reported feeling very supported by their principal and the staff at their school site. As one staff member from Miner’s Elementary exclaimed, “My school has been very willing to try to make inclusion work!” The regular education teacher at Solano Elementary School also felt supported by her principal; but not necessarily from other school staff who comprised the inclusion team. The Solano teacher commented, “In music time where I really need someone to support me and the class, there is no one available at that time.”

The need for emotional support was identified not only for inclusion staff, but for the students with HFA and their typical peer counterparts as well. Staff expressed a concern that some students with HFA in inclusion classes struggle to “find their place” in mainstream classes and do not always feel welcomed. The parent in the focus/training groups shared, “Focusing on social skills would reduce the students’ anxiety levels, as well. And help them feel more included and comfortable in class.” Research has documented the feelings of rejection and alienation that many students with autism in inclusion settings experience (Boutot, 2007; Majoko, 2015). Research has also indicated that students with HFA report a higher level of anxiety (Van Steensel et al., 2012; White & Roberson-Nay, 2009) and depression (Gotham et al., 2015; Hillier et al., 2011) than typical peers. Some researchers have noted that students with HFA also sense the teacher’s attitudes toward them and that teacher-student conflict can contribute to feelings of loneliness and lack of welcome that some students with HFA experience in inclusive school settings (Mazurek et al., 2013; Santomauro et al., 2016; Zeedyk et al., 2016).

The tension that has been identified in this study likely contributes to the student with autism feeling a sense of belonging in the inclusive class setting. Fortunately, the students with HFA in this study did not express any sense of animosity or disregard from their respective teachers, however, although the parent of Ernesto openly expressed concern about her son being “anxious” at school and not feeling “a sense of belonging.” Being young, it is possible that the students were not mature enough to vocalize these feelings even if they existed. However, the primary researcher definitely observed occasions in which two of the three students with autism were dismissed or ignored by peers when the teacher had instructed them to engage in paired or small group work in the classroom. Yet, the researcher saw other occasions in which typical

peers went out of their way to check on the welfare of the student with HFA and initiate positive social contact.

Structured supports and providing typical peers strategies to implement to support their peers with autism have been demonstrated to be helpful in addressing the sense of belonging experienced by students with autism (Boutot, 2007; Koegel et al., 2012b; Locke et al., 2015; Majoko, 2015). Post intervention, the parent of one of the typical peer PMI participants exclaimed:

I think it [the intervention] gave him (her son, a typical peer participant in the PMI intervention) a little different perspective on how kids can be different, and individuals can be different. And now he'll be a little more aware of others who might not be exactly like him. So more sensitive to that, to needs of others.

The parent of the other typical peer who participated in the same story expressed a similar experience, "It's good for him to practice being patient with somebody and working with others who are different from him." The importance of fostering a sense of belonging for students with HFA and other special needs has been supported in research (Majoko, 2015; Sanders & Munford, 2016).

Other study participants touched upon the needs of the typical peers in inclusion classes. One participant exclaimed, "The typical students in these classes need support and training just as much as the students with HFA!" Staff expressed a concern that the level of disruptive behaviours that typical students are exposed to in inclusion classes can have a negative impact on their emotional well-being, "What is all of this doing to them (typical peers)?" Currently, few, if any, strategies or plans are in place in inclusive settings to address this experience and

to provide the typical peers with the additional supports that they need for inclusion settings to be as beneficial as possible to all.

Overall, however, there is still a paucity of research addressing the emotional needs of students with autism as well as the emotional needs of typical peers in inclusive settings. In addition, there is a paucity of research addressing emotional support that some inclusion staff need in order to embrace inclusion more enthusiastically and readily. As the data from this study suggest, to implement EBPs for social skills for students with autism, staff need preparation (including training, materials/resources, and time), staff need support (extra personnel in addition to emotional support/collaboration) and staff need to be “motivated” to want to change, as the FBM model suggests. The lack of physical and emotional support is documented to contribute to feelings of teacher burnout that many inclusion teachers, especially regular education inclusion teachers, have expressed (Boujut et al., 2016; Brackenreed, 2011).

Research Question #3

School staff have expressed concern that students with HFA in inclusive settings exhibit social and/or behavioral difficulties that may disrupt the class environment and impede their learning or that of others. Disruptive behaviors have been cited as a primary barrier to successful inclusion (Lauderdale-Litten et al., 2013; Vismara & Rogers, 2010). To address this concern, the primary researcher formulated the following question: What are some of the social difficulties and behaviors of concern exhibited by students with HFA in inclusive school settings? Two types of qualitative data were utilized to answer this question: interview data and direct observations in the natural setting. The qualitative findings are presented under the subtheme: there is an urgent need for interventions.

Subtheme: Urgent need for interventions. The final subtheme noted in the study was that of the compelling need for interventions. Throughout the study, it was evident that many staff members (especially those involved in the focus groups) believed that the behavior and social challenges alone that students with HFA display in inclusive setting, is an indication of the urgent need for interventions. Staff exclaimed at times, “the students (with HFA in inclusion) need help!” and “some of the behaviors are out of control!” Some staff reported that addressing the social and behavioral needs of the students with autism took time out of their daily teaching routine, therefore, resulting in a missed learning experience, “It’s hard to get everything I want to do done.” Challenging Behaviors Exhibited by Students with HFA was referenced nearly 40 times during the course of the study and social skill deficits of students with HFA were referenced slightly over 30 times. Some of the behaviors that were mentioned and/or directly observed during the study include meltdowns (some that include both verbal and physical aggression), difficulty transitioning, engaging in preferred activities rather than following directions, eloping (leaving a designated area, i.e. running out of a room), verbal protests of demands, and the invasion of personal space. These findings reaffirm research that has documented externalized disruptive behaviors in children with autism (Fulton et al., 2014; Øien & Eisemann, 2015). A focus group member elaborated, “At times I see screaming, yelling, ripping up their work. Running out of the classroom without permission. Hitting, kicking. I mean, there can be physical behaviors that take place.” Another focus group member reported that she tends to see more intense behaviors in response to demands:

I see, well, like sensory overload, work overload. And they sort of go into fight or flight. I mean, they're just going to put (their) head down or going to elope (run out) out of class. And it's being overwhelmed and not knowing how to handle it appropriately.

One educator pointed out that with appropriate training, many of these behaviors could be ameliorated; the educator noted, “I’ve observed them (students with HFA) having a meltdown because of the fact that they did not understand...Front load them ahead of time so they can understand.” Another staff reported, “...changing routines is when you can see these behaviors.” Perseverations on topics of interest and/or “perceived” grievances was both referred to and observed directly during the study. One focus group member elaborated that perseverations can extend to ruminating about perceived social injustice. The focus group member elaborated, “I would say one of the hardest things for them is to forget it ever happened...they continue to act as if something is fresh in their mind and then they get upset all over again about it.”

Perseverative behaviors and/or interests are a core component of an autism diagnosis (APA, 2013). For example, during the PMI sessions, Wen, one of the students with HFA, tended to focus on his reading counts points and his knowledge of cities in the continental United States. This impacted his ability to engage successfully in a reciprocal conversation with his peers. The tendency to invade the personal space of others (which falls under reading social cues as well as a behavioral concern) was observed directly in all three students with HFA who took part in the study. While maladaptive behaviors are the commonly cited barrier to the inclusion of children with ASD in regular education settings, research also indicates that implementing EBPs for social skills for students with HFA not only enhances social skills, but reduces problem behaviors (Gresham & Elliott, 2008; Sansosti & Sansosti, 2012). The successful implementation of EBPs for social skills can ameliorate problem behaviors for many students with HFA in inclusive settings, facilitating their assimilation in mainstream settings (Volkmar et al., 2014). This was noted in the current study as well-the responses to research question four further

elaborates on the reduction of problem behaviors noted following the implementation of an EB intervention for social skills.

Regarding social deficits, qualitative data suggested three primary areas of skills deficit concerns: challenges with interpersonal skills, challenges with social cues, and challenges with emotional regulation. Several staff members expressed concerns about the student's ability to make and keep friends. One member elaborated, "I see a lot of our (students with HFA) just out there by themselves, like walking the perimeter." Elaborating on that same thought, one of the focus group members stated, "If you just have friends. All of it, that just kind of builds on itself, to feel included and develop friendships and do better with, you know, understanding social cues better. It is so helpful to avoid other challenges or misunderstandings." Another focus group member described the challenges with connections with peers as follows:

Sometimes they [students with HFA] hesitate when they see a group of their peers. They want to be part of the conversation. But they're hesitant to go up and just become part of the conversation. They stand away until either they can think of a strategy to become part of the conversation or they have enough courage to step into the group.

The findings in this study lend credibility to research that has identified that social skills deficits impede peer relations, often resulting in fewer friendships or poorer quality of friendships (Cook et al., 2017; Kasari et al., 2011; Mazurek, 2014; Zeedyk et al., 2016). Other staff elaborated on the tendency to misinterpret social cues, "I think reading social cues from other peers and even sometimes the adults in the school setting is very difficult for our students who have high functioning autism." Reading cues directly relate to the difficulties with perspective taking that have been well documented in individuals with autism (Grove et al., 2014; May et al., 2013).

Regarding emotional regulation, staff reported that students with HFA tend to display “rigidity” and “cognitive inflexibility” and that this impacts their ability to modulate their feelings. A staff member reported, “They can be inflexible. They like to have it their plan and their way.” A focus group member noted students with HFA often lack “coping skills, something to redirect any of that negative behavior.” Difficulties with emotional regulation have been noted in children and often continue through adulthood for individuals with autism (Santomauro et al., 2016). There is a critical need to focus on developing the social skills for children with autism as the literature review highlighted how social skills deficits are linked to life outcomes (Jones et al., 2015; Mordre et al., 2012). The results of the Social Skills Relevance Survey also suggest strong support for the need for interventions. Staff response to the statement, “EBPs should be implemented in schools for students with autism” was very strong – a score of 4.8 on a scale of 1 to 5. The amount and severity of behavioral challenges and social skill deficits that were reported by stakeholders and observed within the school settings, strongly supports what prior researchers have proposed: physical integration of students with HFA and their typical peers is not sufficient to meet the social emotional needs of the students with HFA. The ongoing challenging behaviors and deficits that students with autism exhibit while in inclusive settings, suggest that supports and additional interventions for students with HFA are needed for inclusion to be successful.

Research Question 4

The final research question asked, “How effective is a short-term evidence-based social skills program for students with HFA in inclusion settings developed using PAR and mixed methods in enhancing social functioning and reducing social impairment?” The researcher addressed this question via both a qualitative and quantitative approach. Despite the significant

social and behavioral challenges exhibited by children with autism in inclusive settings, there is hope for improvement.

Subthemes: Benefits of intervention. The final subtheme, there are staff and student benefits to implementing EBPs for social skills, reverberated throughout the study. The benefits of intervention for the students were documented via qualitative data over 40 times by stakeholders. The benefits of interventions for teachers, was referenced 16 times during the qualitative portion of the study. As one focus group member elaborated, “It would help the general ed teachers. Because they struggle having the students participate and work with their peer partners.” A focus group member reiterated that “Addressing social skills could potentially improve paired and/or group learning, freeing the teacher up to engage in other necessary tasks during those time periods in the day.” Recent research accentuates the benefits of social skills interventions for teachers as well as students (Simpson & McGinnis-Smith, 2018). Other regular teachers echoed this sentiment - it was helpful to have the support of another staff member collaborating with them and working to address the child’s needs. The teachers did not seem to feel as “alienated” attempting to address the students’ needs knowing that there was another staff member involved and supporting them and the child. One focus group member simply stated, “teachers would be happier” if the students with HFA demonstrated improved pro-social behaviors.

Regarding benefits of the interventions for the students with HFA, a focus group member emphasized that interventions could help students with HFA “to avoid other challenges or misunderstandings” in the future. Other felt strongly that interventions could help the student learn to develop coping skills. Cognitive behavioral interventions have demonstrated much improvement in the area of coping skills and emotional regulation for students with autism

(Scarpa, & Reyes, 2011; Thomson, Burnham Riosa, & Weiss, 2015; Weiss et al., 2018). Other focus group members mentioned that focusing on social skills early could enhance relationships, “Learning the social skills at an early age...they can, you know, have better social relationships in life.” Research strongly supports early intervention for the most optimal outcomes (Fulton et al., 2014; Landa & Kalb, 2012).

Still other focus group members reported that interventions could enhance the student’s sense of belonging. When asked what benefits could come from enhancing social skills, a focus group member responded succinctly, “Acceptance.” Studies have demonstrated that PMI interventions can foster acceptance of the students with autism in inclusive settings (Boutot, 2007; O’Connor, 2016). In a similar vein, another focus group member reported that the student with HFA would likely experience an increase “in confidence” and a reduction in “anxiety.” Cognitive behavioral interventions have demonstrated efficacy in the reduction of anxiety for students with autism (McNally Keehn, Lincoln, Brown, & Chavira, 2013; Wood et al., 2015a). Other focus group members speculated that there would be benefits for the typical peers as well:

I think it would be nice to teach the other classmates (typical peers) these social skills so they themselves can notice like, hey, I recognize this behavior. I can go and assist...they know how to react instead of being defensive about it.

Another focus group member affirmed this statement, adding, that teaching social skills, “It’s so important and so necessary but also for the typical peers. I think they need it just as much.” Research, indeed, suggests that there are benefits for the typical peers as well, especially when implementing PMI interventions (Locke et al., 2012; Chang & Locke, 2016). The voices of the two typical peers who participated in the PMI intervention of this study, as well as the

voices of their parents, echoed this finding in this study. Their comments will be elaborated upon in dialogue below.

The success of the two different comprehensive interventions (one PMI based and one more PRT based) was measured by qualitative data including post intervention interviews and/or written responses to the researcher's questions regarding the stakeholder's responses to the intervention. All the student participants were interviewed separately as opposed to in a group setting. All five of the students reported that they enjoyed their respective interventions and three of the five said that the intervention was "fun." The benefits of friendship were elucidated during the post intervention interviews with the students as well. Many studies have documented the positive effects of social skills interventions on the ability to make and maintain friendships (Platos & Wojaczek, 2017; Schlieder et al., 2014). Several students reported that they enjoyed "spending time with their friends" during group. Furthermore, all of the students were able to identify something that they had learned in the group. For example, David reported that he learned that you needed to "keep the conversation going." Research demonstrates that social skills interventions have been well documented to improve communication skills (Chang & Locke, 2016; Kamps, Mason, & Heitzman-Powell, 2017). Wen reported that he learned about the Space Bubble (personal boundaries) and "playing nicely." John, a typical peer, reported that he learned how to help his peers understand "the space bubble" (the need to respect personal space). John also reported that one of his jobs as a peer helper was to help one of the other students come back to his seat (the student would occasionally wander when seated for lunch). Jake stressed that he learned to help people." Jake added, "I learned that you can take turns, and if you don't, it won't work." During the intervention itself when typical peers reinforced their counterparts with a star strip, one of the typical peers reported, "I like giving him a star. It makes

him happy!” After the very first recess intervention date for Ernesto, (the student who received the PRT comprehensive intervention) the special education teacher approached Ernesto in line and asked him what he had done at recess that day, he responded poignantly, “I learned how to make a friend.” All of the students expressed a willingness to participate in similar programs in the future. While qualitative data via student interviews are not abundant in research, the statements from the students reflect positive qualitative data obtained in similar PRT and PMI interventions (Boudreau, Corkum, Meko, & Smith, 2015; Schlieder et al., 2014). Furthermore, field notes and direct observations from the primary researcher who was also the primary interventionist, supports the positive effect of the intervention on the students, especially in areas of sustained engagement with peers, reciprocal conversations, turn taking, and recognition of personal space. Quantitative data for two of the three students with HFA in this study strongly supports the positive outcomes of interventions. The quantitative results will be elaborated upon later in this chapter.

Post intervention, the teachers’ respective responses to the social skills intervention were overwhelmingly positive. The teachers whose students were involved in the PMI program made a point of mentioning that they believed that these types of programs benefit all students, not just the students with HFA. Wen’s teacher exclaimed, “I think the kids really enjoyed it. I think it was a really great experience for all of us. I mean, we get to see what really is out there. So, and I think that's something that's lacking. We don't know, you know, how to actually teach these skills. ...it has been very beneficial for everyone.” This teacher’s statements directly correspond to several of the subthemes noted in this chapter: the need for training, that students and teachers can benefit from intervention, and that the underlying tension experienced by the teachers who feel overwhelmed at times to support students with inclusion without being aware of all of the

tools to support them. All three teachers reported that since the intervention, they had noted the children with HFA playing more with their peers. Increased peer interaction is one of the most positive benefits that have been demonstrated by social skills interventions (Chang & Locke, 2016; Watkins et al., 2015). Wen's regular education teacher observed, "During recess, he's been playing more with a peer than before. And going up and doing it just one his own. And he's been around. I haven't noticed him all by himself that often. So that's improvement." Ernesto's teacher noted:

The student needs structured instruction in how to cope with different situations. And as a classroom teacher with 29 other students, I don't have the time to be one-on-one with him. And I do feel that it (the intervention) was a benefit to him, especially the recess play, because otherwise he's pretty much left to his own devices with how he's going to occupy his time during our recess time.

David's teacher reported that David had shown improvement in his ability to maintain personal space, while Ernesto's teacher, noted a decrease in his "whining" and an increased ability to independently follow a multi-step direction independently. Research supports that social skills interventions can effectively reduce maladaptive behaviors (such as whining) (Battaglia & Radley, 2014; Woods, Mahdavi, & Ryan, 2013).

The parents of the students with HFA who participated in the intervention were asked if they felt that the intervention benefited their children. All three reported observable benefits, although Wen's parent reported she had not yet seen any noticeable difference at home. David's parent wrote, "I feel strongly that the social skills program benefited David. He looked forward to interacting with his peers. He plans who to have lunch with them and looks forward to what

games he will participate in.” Ernesto’s mother indicated, “As a parent, I noticed he has been a little more engaging at home and with others. He demonstrated that he has learned a few new coping and social skills and he has seemed calmer and a little less anxious. As a parent this is reassuring.”

The parents of the typical peers who participated in the study were interviewed in person at the school site immediately following the intervention. When John’s parent was asked if she thought that the PMI intervention benefited her son, she exclaimed, “I think absolutely. So (he is) more sensitive to the needs of others.” Jake’s parent echoed the positive feelings expressed by the other parent of the typical peer in the study, saying that her son’s participation was very good for him and that he likely “benefited from some of the skills learned” and that it was good for him to “practice being patient with somebody.” The findings of this study re-affirm research demonstrating that typical peers can also benefit from participation in PMI interventions (Chang & Locke, 2016; Locke et al., 2012).

The primary researcher noted the following positive changes directly during the various interventions. The PMI group improved their ability to exchange conversations and remain on topic without any prompting from an average baseline of two exchanges to an average baseline of six exchanges by the final focus group meeting. As noted, social skills interventions have demonstrated positive increases in conversational exchanges (Kamps et al., 2017; McFadden et al., 2014). David became much more outgoing and talkative as the intervention progressed. He also began to self-advocate, reiterating his needs to the typical peer rather than simply following along with what the typical peer wanted to do. Self-advocacy has been a positive by-product noted by some social skills interventions (Harjusola-Webb, Parke Hubbell, & Bedesem, 2012). By the final session, David was able to partake in soccer activities with peers for up to 12

minutes, with only reinforcement from his peers and without taking a break, from a baseline of five minutes. Increased engagement in an activity with peers has been documented in other research studies of social skills interventions (Chang & Locke, 2016; Mason et al., 2014; Schlieder et al., 2014). A regular education teacher approached the researcher one day toward the end of the intervention to report that David was flourishing in physical education as of late, and that he was taking more turns with his peers and participating in more group physical games with his peers. Furthermore, as the parent also reported, Jake's patience toward the peers with HFA grew over session periods as noted by an increase in positive comments and sustained interaction with the peers on the spectrum. The development of patience in typical peer role models has been documented in recent research (De Loach, 2018). John and Wen had already had a friendship bond which only appeared to intensify as time transpired as noted by their mutual sharing, laughter, and conversation. Jake and David started to include other typical peers in their play at lunch with the students with HFA— the typical peers were very willing to participate in games and very accepting of the students with HFA. While Wen tended to perseverate on his favorite topics at times during group, he was very receptive to redirection from his peers. All his typical peers had to say was, "Wen, what do kids want to talk about?" and this would prompt Wen to say, "Kids' stuff," and Wen would then re-focus his conversation to a more appropriate topic. The success of peers responding to peer prompting during PMI sessions has been well documented (Kasari et al., 2012; Kamps et al., 2017).

For Ernesto, the primary researcher noted much improvement in the classroom and recess settings from baseline observations. In the classroom, Ernesto was able to sit on the carpet without interrupting and without invading the space of his peers with no more than two prompts in a 10-minute period, an increase from a baseline average of eight prompts in a five-minute

period on the first day of the PRT class observation. Enhanced participation in classroom activities following a social skills intervention has been supported in literature (Hundert, Rowe, & Harrison, 2014; Suhrheinrich, 2011). Ernesto showed improved coping skills, fewer verbal protests, and interruptions, and less roaming in the classroom by the final PRT session. PRT interventions have been utilized successfully to decrease problem behaviors (Hutchins & Prelock, 2014). On the playground, by the end of the PRT comprehensive intervention, typical peers readily joined in recess activities with Ernesto and he was no longer spending recess alone. Ernesto could readily tell you three steps to ask someone to play with him whereas his baseline for this scale was zero steps. These findings support findings of other studies validating the use of PRT to teach initiation of play skills (Kasari & Chang, 2014).

The success of the two respective comprehensive types of interventions utilized in this study was measured via quantitative data as well. The teachers of the students with HFA who participated in the intervention(s) completed the SSIS pre and post while both parent and teacher completed the Social Skills Checklist pre and post intervention. The SSIS assessment purports good test-retest reliability, internal reliability, and strong validity (Gresham & Elliott, 2008). Crowe et al. (2011) describe the SSIS assessment as the preeminent measure of social skills available. Significant Improvement from baseline to post intervention noted on the SSIS for Wen the following domain areas: Social Skills and Academic Competence. Furthermore, there was a reduction in Problem Behaviors. These results suggest that the PMI intervention resulted in significant positive changes in all three domain areas. Social skills and academic competence increased, while challenging behaviors decreased. The results of this assessment reaffirm studies demonstrating that PMI can be an effective intervention for the improvement of social skills and reduction of maladaptive behaviors (Koegel et al., 2012a; Wong et al., 2015).

Similarly, according to the teacher's rating on the informal Social Skills Checklist, improvement for Wen was noted in 25 of 40 areas, from baseline to post intervention, suggesting that the PMI intervention had a positive effect in many areas. Improvement in Wen's social skills was noted in the following areas: beginning play, intermediate play, advanced play, understanding emotions, self-regulation, problem solving, and both verbal and non-verbal conversational skills. The parent noted improvement for Wen in 16 of 40 areas of the scale. Improvement was noted in the following areas: Understanding Emotions, Self-Regulation, Flexibility, Problem Solving, Non-verbal Conversational Skills, and Compliments. Overall, there was improvement – significant growth in social skills noted in seven of the 10 domains assessed. Most of the play skills remain stagnant for the mother, although the mother noted that since she has not observed Wen on the playground at school, it was difficult for her to assess his progress in this arena.

Significant improvement from baseline to post intervention was noted on the SSIS for David in the following domain area: Social Skills. These results suggest that the PMI intervention resulted in significant improvement in David's social skills in the school setting in a noticeably brief time. David's SSIS progress report results remained static (no significant change in scores) in the areas of Problem Behaviors and Academics. It should be noted that David's problem behaviors and academics were in the average range at baseline and remained in the average range post intervention. Therefore, these areas were not considered significant areas of concern for the teacher originally. Per the teacher's rating of David's social skills, improvement was noted in 19 of 40 areas and nine out of the 10 different domains measured, suggesting that the PMI intervention had a positive effect on David's social skills. Furthermore, there were only two items marked in the "almost never" column post-intervention as opposed to

six items in the “almost never” column pre-intervention. Improvement was noted in every domain area except Intermediate Play Behaviors (only a slight regression was noted in that area). Per the parent’s rating of David’s social skills, improvement was noted in 20 of 40 areas and six out of the 10 different domains measured, suggesting that the PMI intervention had a positive effect on the development of David’s social skills. Furthermore, there were zero items marked in the “almost never” column post-intervention as opposed to four items in the “almost never” column pre-intervention. Improvement was noted in the following areas: intermediate play behaviors, advanced play behaviors, understanding emotions, flexibility, conversational skills, and non-verbal conversational skills.

For Ernesto, who participated in a comprehensive PRT-focused intervention, however, there were no statistically significant changes or improvement from pre to post test on the SSIS in any of the three domains (social skills, problem behaviors, or academic competence). Ernesto’s scores remained static from pre-post intervention. Similarly, for Ernesto, the results for the Social Skills Checklist showed guarded or minimal improvement for the teacher and parent from pre to post intervention. Although the teacher’s rating of Ernesto’s social skills on the Social Skills Checklist noted improvement in seven of 40 areas and four out of the 10 different domains measured, suggesting that the PMI intervention had a positive effect in some areas. Furthermore, there were zero items marked in the “almost never” column post-intervention as opposed to two items in the “almost never” column pre-intervention. Improvement was noted in the following areas: beginning play, understanding emotions, self-regulation, and problem solving. The quantitative PRT results did not demonstrate significant growth in social skills for Ernesto as determined. The teacher only noted mild improvement for

Ernesto on a few of the Social Skills Checklist domain areas. The quantitative data for Ernesto conflicted with the results of the qualitative data reported above.

The primary researcher suspects that the researcher's involvement with this student and stakeholders (parent, school staff, and teacher), heightened the raters' awareness of Ernesto's social and behavioral concerns. Ernesto's mother was the only parent who participated in the focus/training group of the district stakeholders. The researcher-maintained email and written communication with the parent during the intervention, sending home visuals, social narratives, sample behavior contracts and such, keeping the mother informed of areas that were being targeted for change and the corresponding intervention strategies. It is possible that in maintaining such contact, the mother became even more aware of the maladaptive behaviors and social deficits that Ernesto was displaying in the school setting. Similarly, Ernesto's teacher had filled out the SSIS prior to the researcher initiating observations of Ernesto. The researcher then met with the teacher following the direct observations, and the researcher shared some of the behaviors and social deficits that the researcher had witnessed. The teacher responded that she had not been aware of all of the behaviors displayed as with 30 students in the class, it was a challenge to be aware of everything and she relied on support staff to care for Ernesto when present. The teacher was also unaware that Ernesto was spending nearly all of his free time at lunch or recess by himself until the researcher informed the teacher of this. During the intervention, the researcher spent more than an hour in the classroom each week with the teacher and touched base with her regularly. The researcher strongly believes that the intensity of the contact heightened the teacher's awareness of Ernesto's social and behavioral needs, therefore impacting post intervention scores.

One of the reasons the researcher suspects this occurred is that the researcher had the chance to observe Ernesto prior to the intervention and post intervention both in class and during recess, and the researcher accumulated observational and behavioral data suggesting that the intervention had been effective in several areas (as noted above). It is possible, however, that Ernesto was simply not very responsive to the intervention. PRT is considered an effective EBP for social skills (Wong et al., 2015). Research suggests that children with autism who displayer higher peer avoidance typically do not respond as well to treatment as other students with HFA who are less peer avoidant (Ingersoll et al., 2001). The brief time period for the intervention could have negatively impacted the success of the intervention. Research supports optimal interventions to be delivered twice a week over extended periods of time (Lopata et al., 2015).

Overall, the quantitative results suggest that the PMI intervention had a positive impact on many areas of social growth and/or problem behaviors for two out of the three students in several areas. Teaching appropriate social skills for students has been demonstrated to enhance the way in which a student interacts with his/her environment while simultaneously diminishing challenging behaviors and emotional deficits (Gresham & Elliott, 2008) and the results of the PMI intervention affirm that premise. The results of this study clearly demonstrate that even a short-term evidence-based social skills program for students with autism in inclusive settings has merit. Benefits of the PMI intervention resulted in both qualitative and quantitative positive effects in the school setting for both students with HFA. In addition, the two typical peers benefited from the study based on their own reports and those of their parents. Furthermore, the PRT intervention had a positive effect on enhancing interaction with peers and reducing problem behaviors in the classroom as supported by direct observations and post-intervention interviews.

Conclusions

Results of this PAR mixed methods study of EBPs for social skills for students with HFA in inclusive settings support the theoretical framework of this study, the Fogg Behavioral Model. To effect behavioral change, the FBM model posits that one requires motivation, ability, and a trigger or impetus for change (Fogg, 2009). In 2018, Fogg changed the term trigger in his behavior model to prompt. Fogg reported that the prompt could be an external factor such as an alarm sounding, or a visual reminder, or somebody or something inciting action (Fogg, 2018). Following the FBM guidelines, the primary researcher hoped that by motivating staff (via the presentation of sobering facts/consequences of social skill deficits and listening to the school experiences of families and students with HFA via videos), training staff (via providing both experiential and didactic information about various EBPs social skills interventions), and imploring select individuals to join the primary research in acting as catalysts for change, that district stakeholders would be inspired to respond proactively in the creation of a plan to implement EBPs to address the social needs of students with HFA in SSUSD. The study suggests that PAR approaches could be utilized successfully to bridge the gap between practice and research regarding EBPs for social skills for students with autism in inclusive settings. There is no other study to date that has focused on utilizing PAR and mixed methods strategies to accomplish all of the following: (a) to obtain feedback regarding barriers to implementation specific to the district, (b) to assess current inclusion staff practices of EBPs for social skills, (c) to enhance stakeholder knowledge of EBPs, (d) to implement EBP interventions with students with HFA in inclusive settings, and ultimately, (e) to develop a district-wide plan to initiate and sustain EBPs for social skills. While the district wide plan has yet to be solidified, at least one school, Miner's elementary, plans to develop their own site plan for the coming school year to

assure that their students with HFA are exposed to actual EBPs social skills interventions. In the interim, Miner's inclusion staff have obtained two different EB SSGT programs, and they have widened their use of SN and VM practices. The Miner Elementary site school psychologist is initiating an EB SSGT this spring. Miner's staff hope to incorporate more PMI types of programs in the future. Therefore, the insights gathered by this research study contribute to the current lack of research utilizing PAR approaches for students with autism.

In addition to contributing to the utilization of PAR in the field of autism, this study contributed greatly to the field of literature seeking to understand and overcome the gap between research and practice in school-based settings. Three primary themes that emerged from this study regarding the implementation of EBPs for social skills in inclusive settings: 1) there is a need for preparation; 2) there is a need for support and 3) there continues to exist underlying tension (paradoxical forces) regarding the mandate of inclusion. When considering what inclusion stakeholders need to facilitate the implementation of EBPs for social skills for students with HFA, the need for emotional support and the need for a change in mindset (the tension between status quo versus change) were the two themes identified in this research that have not been explored in literature to the extent of the other themes that emerged from this study. The need for interventions is critical when one considers the behavioral challenges and social deficits exhibited by students with autism in inclusive settings and the potential benefits of intervention for staff and students alike. Due to the dramatic increase of children with autism in public schools and the impact of social skill deficits on many life domains (academic achievement, mental health, behavior, relationships, and adult outcomes), the need for intervention addressing social skills is critical (Hansen et al., 2014; Locke et al., 2016; Marder & de Bettencourt, 2015). Applying appropriate evidence-based strategies for social intervention early and continuing those

interventions throughout one's educational tenure, is the most optimal approach to meeting the needs of students with autism (Hansen et al., 2014; Starr, Popovic, & McCall, 2016; Wong et al. 2015).

Identifying the barriers to the implementation of EBPs in schools is a critical initial step in the implementation process (Foster, 2014; Kasari & Smith, 2013). The use of mixed methods and the involvement of stakeholders allowed for a rich and deep understanding of the barriers to successful implementation of EBPs for social skills for students with HFA in inclusive settings. The top six barriers to the successful implementation of social skills as identified by the SSUSD inclusion staff considering qualitative and quantitative data include: training, time, prioritization (competing demands), support, materials, and staff mindset. Results lend credibility to other studies that have focused on identifying barriers to implementation of EBPs for students with autism in inclusive settings (Locke et al., 2015; Foster, 2014; Ostmeyer & Scarpa, 2012). Staff buy in to a practice or curriculum can be the critical factor that distinguishes high implementers from low implementers (Lieber et al. 2009). Therefore, to facilitate implementation of EBPs, districts should seek to involve their stakeholders. The focus/training groups which were incorporated in this study provided a medium in which community stakeholders with various skills, backgrounds, and roles, could work together to address the lack of EBPs for social skills being implemented in schools for students with HFA in inclusive settings. Increased collaboration between administrators and staff, stakeholders and administrators, and between educators themselves was strongly suggested by the staff who participated in this study. Research supports a team/collaborative approach to spur the successful implementation of EBPs for autism (Donaldson & Stahmer; 2014; Hornby et al., 2013; Odom et al., 2014).

While not the primary focus of this study at all, this study nonetheless has contributed to the limited literature regarding educator attitudes toward inclusion by highlighting the conflict and tension that this district and likely other districts are experiencing. Research has indicated that many staff do not feel ready to implement desired changes and therefore, leaders are encouraged to communicate with staff to develop a deeper understanding of their concerns (Odom et al., 2015). This study revealed that some inclusion educators might not be philosophically opposed to inclusion, but rather, they are opposed to the manner which inclusion programs are being implemented within their district.

This study highlighted current familiarity, practice, and utility of EBPs for social skills for students with autism by district inclusion staff. Results of this study revealed that inclusion staff are largely unfamiliar with four out of six primary EBPs for social skills (VMI, PMI, PRT, SSGT). Furthermore, findings revealed that even when staff are familiar and/or competent with EBPs for social skills, they are not implementing those interventions regularly. Positive Behavior Interventions and SNs were the EBPs that most staff recognized. However, the actual utility for the EBPs of social narratives was still relatively low (with less than half of the inclusion staff utilizing SN's at least a couple times a month). In addition, while inclusion staff reported utilizing PBIs, it is not known if staff truly understand all the elements and/or particulars of PBIs as outlined by the National Professional Development Center on Autism Spectrum Disorders (Wong et al., 2015). This study also illuminated the impact that one's district job title has on the familiarity, competency, and utility of EBPs for social skills for students with autism. There is a dearth in literature addressing the impact of job title on EBPs for autism. The results of the ANOVA comparing familiarity, competency, and utility of EBPs for social skills by district job title revealed an urgent need for training in EBPs for social skills. While district behavior staff

appeared more aware of and more competent with a variety of EBPs for social skills, even their utility of several EBPs for social skills was relatively low. Knowing which staff group requires more support versus others could assist decision making regarding the prioritization of training and support needs. Furthermore, if one behavior group (such as behavior staff or speech therapists) are already more adept with EBPs for social skills for students with autism, then that group could be called upon to capacitate others within the district. Ironically, while district job title did significantly impact the familiarity, competency, and utility of EBPs for social skills, a staff member's years of experience did not have any impact on EBPs in this study. More research in this area appears warranted. Overall, the findings of this research study reaffirm the urgent need for training in EBPs for social skills and echo findings of similar researchers who have identified that general educators are not comfortable or confident when implementing EBPs for autism (Brock et al., 2014).

While general knowledge of EBPs for social skills is lacking, this study demonstrated that training, modeling, and the provision of resources can positively impact general knowledge of EBPs within a relatively brief time span of three months. Collectively, the 12 participants in the focus/training groups noted growth in the familiarity and/or competency of four EBPs: (a) SSGT, (b) VM, (c) PMI, and (d) PRT. With the appropriate time, training, and supports, the researcher speculates that utility of EBPs will improve as well. The findings from this study could assist educational leaders and stakeholders in making decisions regarding district change and models for reform that will benefit students and inclusion staff alike.

The study also indicates that even a relatively short term EBPs social skills intervention can yield positive results as the PMI comprehensive intervention did for two of the students with HFA in their study. The PMI intervention yielded enhanced social functioning and reduced

problem behaviors of the two students with HFA involved in the study. Furthermore, the study revealed benefits for the typical peers who participated in the intervention, as well. The results of this study lend further credibility to PMI as a powerful intervention for students with HFA while producing positive benefits for the typical peer participants (Chang & Locke, 2016; Kamps et al., 2017; Wang et al., 2011; Wong et al., 2015). The student participants in the PMI all reported that their favorite times together in the group were the times spent playing games together, ranging from board games, sports related games, and/or pretend group games. While the typical peers only had two training sessions, they caught on well and both reported that they enjoyed their role as helper very much and would do it again. The present study reaffirms that peer mediators can be used to implement PMI strategies and their engagement with their peers with HFA can have a positive impact on the social development of those peers. Similar findings have been enumerated across many studies (Barber, Saffo, Gilpin, Craft, & Goldstein, 2016; Koegel et al., 2013; Mason et al., 2014). Utilizing peers during select activities may generalize to the use of PMI strategies throughout the day and by other peers not originally targeted as the peer models. The fact that the PMI interventions transpired over lunch and did not result in any loss of academic activities or interfere with the classroom routine was appreciated by inclusion staff involved in this study.

Recommendations for Further Research

Considering the explosion of mainstreaming for students with autism (Roberts & Simpson, 2016), it is relevant and timely to continue to explore the gap between research and practice which exists regarding the implementation of EBPs for social skills interventions for students with autism in inclusive educational settings. A suggestion for further research would be to expand the age range of the students of this study's focus. This study was limited to

concentration on early elementary students in inclusive settings, as that is reflective of the SSUSD's current focus for inclusion. As inclusion programs continue to expand to upper elementary and secondary educational settings, expanding research to incorporate those student populations appears warranted.

Since more students with autism with varying cognitive and adaptive skills are being included in mainstream settings as well, research expanding the social skills interventions to include students with below average cognition appears warranted as well. Currently, there is a paucity of studies in research focusing on the use of EBPs for social skills for students with below average cognition (Harper et al., 2008; Zachor et al., 2007). Research focusing on PMI with students with below average cognition and/or adaptive skills is similarly lacking (Simpson, & Bui, 2016). To further expand the field of PMI research, exploration into PMI interventions administered in the inclusion classroom setting is warranted. Research suggests a lack of research in school-based PMI interventions (Chang & Locke, 2016), in general.

While not the primary focus of the study, this study contributed to the literature regarding stakeholder perceptions of inclusive settings. Due to the increasing popularity of inclusion settings, more research is warranted into stakeholder attitudes towards inclusion including staff, parent, administrator, and student attitudes. Studies are warranted to explore not only the perceptions of students with autism towards inclusion, but the perception of their typical peer counterparts assigned to inclusive settings. There is a dearth in literature exploring the attitudes of typical peers regarding inclusive settings and a similar gap in literature exploring the impact of inclusive settings on typical peers in various domains (such as academic achievement, behavior, and emotional well-being) (De Boer, Pijl, & Minnaert, 2012; De Boer, Pijl, Minnaert, & Post, 2013).

If PAR approaches are utilized in future research programs as a way to implement EBPs for social skills for students with autism, it is recommended that the district stakeholder representative sample be widened to include: (a) elementary mental health counselors, (b) more males, (c) more parents of students with HFA and parents of typical peer students assigned to inclusive classroom settings, and (d), district administrators. While regular educators did participate in this study, they did not participate in the focus/training group portion of the study despite being invited to partake. Similarly, district elementary mental health counselors were invited to partake in the focus/training group part of the study, but, declined the offer. Only one male participated in the current study. Furthermore, while parents of students with HFA and parents of typical peers participated in the intervention piece of the study, only one parent of a student with HFA participated in the focus/training group portion of the study. The input of the parent in the focus/training group was deemed invaluable by the researcher and others and the researcher wishes that there would have been more parents to provide input in the stakeholder focus/training group. The PAR element of any study could be broadened by incorporating other stakeholders in the mix. An additional research suggestion would be to broaden the training component of this PAR study both in the number of hours and the scope, for example, including enhanced field experience and/or direct modeling and training on site.

It is recommended that further research continue to explore additional factors that impact implementation of EBPs for social skills for students with autism. This study explored two staff factors which could potentially impact an inclusion staff member's familiarity, competence, and utility of EBPs, district job title and years of experience. The findings of this initial exploration suggested that one's job title does have a significant impact on one's experience and usage of EBPs, while years of experience had no immediate significant impact. These finding warrants

further exploration, ideally with a larger sample size. Currently, there is a paucity in research exploring factors that influence the implementation of EBPs for students with autism in inclusive school settings other than studies denoting barriers or addressing attitudes toward inclusion (Locke et al., 2016; Woodcock & Woolfson, 2019).

To measure the success of an intervention, the most superior scientific method remains the use of a randomized control study (Essock, Drake, Frank, & McGuire, 2003). Further research could employ a randomized control design as other studies have done. It is also recommended that the length of time for the intervention be increased to at least two months (maintaining the twice a week, minimally feature), as supported by research (Lopata et al., 2015). Future research could address maintenance and generalization phases to determine whether any positive effects of the intervention were sustained over time. The present study did not allow for a re-evaluation of skills several months post intervention due to time constraints.

A final recommendation for a future study would be to explore any differences noted in the assimilation of students with HFA into inclusion settings according to gender. It may be that female students exhibit fewer disruptive behaviors than males and that general educators tend to embrace female students with autism in inclusive settings more readily.

Implications for Professional Practice

Over the past two decades, there has been a worldwide initiative for more students with disabilities, such as autism, to be included in mainstream education settings. Despite having many benefits for students, inclusion brings challenges for educators, students with autism, typical peers, and parents of students in inclusive settings. Research has revealed that students who display disruptive behavior are more likely to be segregated from typical peers (Camargo et al., 2014). Furthermore, the physical integration of students with autism and their typical peers

is not sufficient to address the social needs of students with autism (Sansosti & Sansosti, 2012; Thomeer, 2019). Koegel et al. (2009) present a construct which they call “supported inclusion” defined as “physical integration along with the use of effective instruction and impeded learning opportunities” (p. 153). The findings of this study reiterate the need for structured inclusion in which both the student with autism and his or her teacher benefit from increased, deliberate, and planned supports. For students with HFA to be as successful as possible in inclusive settings, *EBPs interventions for social skills should be regularly implemented and imbedded within district inclusion plans*. Deficits in social skills can have a lasting and profound effect on academic skills, interpersonal relationships, behavior, mental health, and life outcomes. As a result, utilizing evidence-based intervention strategies for supporting the development of social skills for students with autism and training inclusion educators are essential in school settings at this time (Locke et al., 2016; Marder & DeBettencourt, 2015). While an allocation of funding might be needed to assist the facilitation of EBPs for social skills for inclusive settings, the funding would be cost effective if such funding resulted in a positive impact on life outcomes, relationships, academic achievement, and the emotional well-being of students with autism.

To successfully implement EBPs for social skills in inclusive settings, inclusion stakeholders require preparation, support (personnel support and emotional support), and an open mindset. Regarding preparation, in addition to training and time, this study further illuminates the need for educators to have access to materials and online resources to facilitate the implementation of EBPs for social skills for students with autism. Furthermore, collaboration between inclusion staff colleagues and district experts regarding EBPs for social skills for students with autism, should be a part of any district’s inclusion plan. It is recommended that educators act proactively to implement EBPs for social skills for students with HFA from the

time they enroll in school until they graduate high school. This study has demonstrated that acting proactively to implement EBPs for social skills for students with autism in mainstream settings has benefits for students, their typical peers, their teachers, and their parents.

To successfully implement social skills EBPs for students with autism, inclusion stakeholders require training on EBPs. This study highlights the *need for training on EBPs* for social skills for students with autism to be *included in educator credentialing programs for both regular education and special education teachers*. In addition, *training on EBPs for social skills for students with autism should be included in program for specialist providers* as well, such as school psychologists, counselors, and speech therapists. Recent implementation science research is calling for trainings which involve field experience (Lauderdale-Litten & Brennan, 2018). Study participants suggested that the training on EBPs for social skills for students with autism be extended not just to immediate inclusion staff, but to other staff on campus, such as noon supervisors, lunch servers, day-care workers, and service providers to enhance generalization of social skill acquisition. The findings of this study reaffirmed earlier studies that even educator specialists lack awareness of EBPs for autism (Combes et al., 2016; Klebanoff, 2018). Regular education inclusion teachers, especially, have voiced concerns regarding the lack of training that they have received to meet the needs of students with autism in their classrooms (Stahmer et al., 2015; Strong, 2014). The lack of educator practice guidelines and training in teacher programs have contributed to the lack of implementation of appropriate interventions (Lauderdale-Litten & Brennan, 2018; Marder & Fraser, 2012). Regular education teachers have been singled out as the inclusion educators most likely to experience burnout (Boujut et al., 2016), most likely in need of training (Lauderdale-Litten & Brennan, 2018) and, yet, potentially, the most critical to fostering the student's sense of belonging (Zeedyk et al., 2016).

A core element of PMI is teaching the typical child about autism and ways that they could assist their peers with autism (Koegel et al., 2012b). The findings from this research study suggest that more emphasis should be placed on teaching typical peers about autism and teaching them strategies to support their peer counterparts with autism in inclusion settings. Research indicates that typical peers are not being utilized to assist their peers effectively (Koegel et al., 2012b). Furthermore, typical peers might require their own support for inclusion settings to be as successful as possible for them, as well as their HFA counterparts.

Plans for developing a district policy to implement EBPs for social skills in school settings should consider the barriers to implementations and needs of inclusion staff expressed above to overcome those barriers. Working collaboratively with stakeholders, these were the suggestions developed during the Focus/Training groups to address steps towards a district plan to implementing EBPs for social skills for students with HFA in inclusive settings:

- Build a district team to model and teach school sites how to implement EBPs for students with HFA in inclusive settings.
- Involve representatives from various district job roles (i.e. general education teacher, special education teacher, behavior support assistants, autism team, speech therapist);
- Offer parent training of EBPs to enhance the generalization of social skills;
- Have primary researcher and others present at a meeting for district administrators regarding the importance of implementing social skills interventions for students with HFA in inclusive settings;
- Increase and enhance training to all staff related to inclusion, especially general education teachers. Include direct modeling, practical experience, and field experience into the training;

- Include the typical peer as an agent of social change;
- Increase staff support (physical support as in increased staff and emotional support) to implement the EBPs strategies;
- Increase collaborative opportunities for staff;
- Increase access to resources and materials for EBPs for social skills;
- Utilize EBPs programs that have a history of being efficient while relatively economically feasible (incorporate the best-fit model);
- Have each school site develop a team and have a meeting at least twice a year to address ways in which the team could ensure that each student with HFA on their campus receives EBPs for social skills in a structured manner; and
- Meet regularly with the director of special education, program coordinators and other administrators involved in inclusive efforts.

As the results of this study suggest, PAR can be a powerful tool for districts looking to bridge the gap between research and practice regarding EBPs for social skills for students with HFA in inclusive settings. Addressing the social needs of students with autism in inclusive settings via EBPs will likely have benefits that far exceed the students' school and home community. The benefits of the regular and systematic implementation of EBPs for social skills for students with autism will undoubtedly extend to society at large. With enhanced social skills, the individual with autism will likely experience more satisfying educational experiences, healthier relationships, brighter life outcomes, enhanced social-emotional well-being, and reduced reliance on government support. Intervening early to address social skills deficits and maintaining interventions over time is critical to success.

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Appendix A. Approval Letter from Sunny Side Unified School District

Appendix A: Approval Letter from Sunny Side Beach Unified School District



March 22, 2018

Northwest Nazarene University
Attention: HRRC Committee
Helstrom Business Center 1st Floor
623 S. University Blvd.
Nampa, ID, 83686

RE: Research Proposal Site Access for Ms. Tracey Silveira-Zaldivar

Dear HRRC Members:

This letter is to inform the HRCC that Administration at [redacted] has reviewed the proposed research plan including the proposed mixed methods research methods, the proposed participants, the nature of the proposed intervention, any/all assessment procedures, proposed data collection procedures, proposed data analysis, and the intent of the study. The proposed research study will employ Participatory Action Research and mixed- methods to assist the school district in the implementation of evidenced based social skills interventions for students with high functioning autism in inclusion settings. Contingent upon NNU IRB approval, Ms. Tracey Silveira-Zaldivar has permission to conduct her research at the [redacted] Unified School District with students, the respective parents of the students involved in the study, and district staff. Pending NNU IRB approval, the authorization dates for this research are August 2018 to April 2019.

Respectfully,



Superintendent



Appendix B: Certificate of Completion



Appendix C: Informed Consent School Employee

INFORMED CONSENT FORM SCHOOL EMPLOYEE

I authorize Tracey Silveira-Zaldivar of the graduate department of Education of Northwest Nazarene University, Nampa, ID, and/or any designated research assistants to gather information on the topic of social relations and interpersonal skills with peers and staff in the school setting. This study has been reviewed by the Research Review Committee at Northwest Nazarene University and it has been successfully approved.

NATURE OF STUDY/PROCEDURES:

I understand that the general purposes of the research are to explore avenues to improve/enhance the social skills of students with high functioning autism in inclusive settings and to identify barriers to implementing evidence based direct social skills interventions for students with HFA

I understand that the procedures are as follows:

- The entire research project will take place over a period of 4 months.
- I agree to participate in four, two-hour focus groups on campus after school on Wednesdays, complete questionnaires/surveys; answer semi-structured interview questions; and attend presentations/trainings on evidence-based social skills training/interventions for the school setting offered in the focus groups.
- If I am the teacher of a student with high functioning autism participating in study, I understand that I will also be asked to complete social skills assessments/rating scales pre/post the selected social skills intervention
- If I am the teacher of a student with high functioning autism participating in the study, I will also be asked to answer two brief semi-structured interview questions post the implementation of the social skills intervention.
- I might be given the option to participate in a social skills intervention program at the school setting for approximately 4 weeks (twice a week for approximately 30 minutes).
- Participation in the study will involve a combination of these data collection instruments and techniques.
- Video and Audio taping during the structured interview portion of the focus groups
- I will be asked to read a debriefing statement at the conclusion of the focus groups.
- I will be asked to reply to an email at the conclusion of the study asking you to confirm the data that was gathered during the research process.

The approximate total time of my involvement will be a minimum of 8 hours if I'm able to attend the focus groups. I understand that I will be able to make up one of the focus group times via private interview/training and/or paired training with any other staff or parent who might have had to miss a session.

I have been assured that I may refuse to discuss any matters that cause discomfort or that I might experience as an unwanted invasion of privacy. I am aware that I may choose not to answer any questions that I find embarrassing or offensive.

I understand that my participation is voluntary and that I may refuse to participate or discontinue participation at any time without penalty or loss of benefits.

This study is unlikely to cause me any distress. However, I understand that if, during or after participation, I experience any undue anxiety or stress; or I have questions about the research or I feel that my rights as a participant may have been provoked by the experience, Tracey Silveira-Zaldivar will be available for consultation, and will also be available to provide direction regarding medical assistance in the unlikely event of injury incurred during participation in the research.

I understand that confidentiality of research results will be maintained by the researcher. No individual results will be released without my written consent and pseudonyms will be utilized to protect his name.

RISKS/BENEFITS:

The potential benefits/risks of the study are:

Benefits: Possible positive global impact on implementing district evidence based social skills programs for students with high functioning autism in inclusive settings; provide platform for students/parents and staff to share their feelings/opinions about current programs and/or lack thereof and/or about a particular child's social skills, potentially improved pro-social student behavior

Risks: Possible minimal discomfort or unease during questioning, commitment of time/transportation to and from meetings.

PAYMENTS

There are no payments for participating in this study.

QUESTIONS

The results of my research will be available after August 1, 2019. If you would like to have a copy of the results of my research, or if you have questions or concerns about participation in this study, you may contact me, Tracey Zaldivar, via email at TSilveira-Zaldivar@nnu.edu, or via telephone at (xxx) xxx-xxxx or my advisor, Dr. Heidi Curtis, Ph.D. Doctoral Committee Chair at Northwest Nazarene University, via email at hcurtis@nnu.edu, or phone at: (xxx) xxx-xxxx.

Should you feel distressed due to participation in this, you should contact your own health care provider.

In the space at the bottom of this letter, please indicate whether you do or do not want your child to participate in this project. The second copy is to keep for your records.

Sincerely,



Tracey Silveira-Zaldivar

(xxx) xxx-xxxx

TSilveira-Zaldivar@nnu.edu

CONSENT

You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point. Your decision as to whether to participate in this study will have no influence on your present or future status as a student at Northwest Nazarene University.

I give my consent to participate in this study:

_____ I am able to participate in the study including the focus groups.

_____ I am not able to attend the focus groups, but I am willing to participate in other aspects of the study such as before/after assessments for the social skills interventions, observations of the student while in my classroom, and/or participating in the social skills interventions as schedule/time allows.

Signature of Adult Participant

Date

I give my consent for the interviews and discussion to be audio/video taped in this study:

Signature of Adult Participant

Date

I give my consent for direct quotes to be used in this study:

Signature of Participant

Date

Signature of Person Obtaining Consent

Date

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW COMMITTEE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.

Appendix D: Informed Consent (Adult)

INFORMED CONSENT FORM ADULT (PARENT) PARTICIPANT

I authorize Tracey Silveira-Zaldivar of the graduate department of Education of Northwest Nazarene University, Nampa, ID, and/or any designated research assistants to gather information on the topic of social relations and interpersonal skills with peers and staff in the school setting. This study has been reviewed by the Research Review Committee at Northwest Nazarene University and it has been successfully approved.

NATURE OF STUDY/PROCEDURES:

I understand that the general purposes of the research are to explore avenues to improve/enhance the social skills of students with high functioning autism in inclusive settings at the Orange Unified School District.

I understand that the procedures are as follows:

- The research project will take place over a period of 4 months.
- I agree to participate in four, 2-hour focus groups on campus during after school on Wednesdays; complete questionnaires/surveys; answer semi-structured interviews; and attend presentations/trainings on evidence-based social skills training/interventions for the school setting offered in the focus groups.
- Participation will involve a combination of these data collection instruments and techniques.
- I will also be asked to answer two brief semi-structured interview questions post the implementation of the social skills intervention.
- Audio/video taping during focus groups and/or structured interviews
- I will be asked to read a debriefing statement at the conclusion of the focus groups.
- I will be asked to reply to an email at the conclusion of the study asking you to confirm the data that was gathered during the research process.

I understand that my involvement will include: The approximate total time of my involvement will be 10 hours if I'm able to attend the Focus Groups. I understand that I will be able to make up one of the focus group times via private interview/training and/or paired training with any other staff or parent who might have had to miss a session.

I understand that Focus Groups are an integral part of this study and my attendance at the focus groups is desired and strongly encouraged. However, if I'm not able to attend the focus groups, there is an option for involvement that it explained in the consent form below.

I also understand that any and all participation activities in this research will be outside of my child's Individualized Education Program.

I have been assured that I may refuse to discuss any matters that cause discomfort or that I might experience as an unwanted invasion of privacy. I am aware that I may choose not to answer any questions that I find embarrassing or offensive.

I understand that my participation is voluntary and that I may refuse to participate or discontinue participation at any time without penalty or loss of benefits.

This study is unlikely to cause me any distress. However, I understand that if, during or after participation, I experience any undue anxiety or stress; or I have questions about the research or I feel that my rights as a participant may have been provoked by the experience, Tracey Silveira-Zaldivar will be available for consultation, and will also be available to provide direction regarding medical assistance in the unlikely event of injury incurred during participation in the research.

I understand that confidentiality of research results will be maintained by the researcher. No individual results will be released without my written consent and pseudonyms will be utilized to protect his name.

RISKS/BENEFITS:

The potential benefits/risks of the study are:

Benefits: Possible positive global impact on implementing district social skills programs for students with high functioning autism in inclusive settings; provide platform for students/parents and staff to share their feelings/opinions about current programs and/or lack thereof and/or about a particular child's social skills, potentially improved pro-social behavior of my child

Risks: Possible minimal discomfort or unease during questioning, commitment of time/transportation to and from meetings.

PAYMENTS

There are no payments for participating in this study.

QUESTIONS

The results of my research will be available after August 1, 2019. If you would like to have a copy of the results of my research, or if you have questions or concerns about participation in this study, you may contact me, Tracey Zaldivar, via email at tszaldivar@ousd.org, or via telephone at (xxx) xxx-xxxx or my advisor, Dr. Heidi Curtis, Ph.D. Doctoral Committee Chair at Northwest Nazarene University, via email at hcurtis@nnu.edu, or phone at: (xxx) xxx-xxxx

Should you feel distressed due to participation in this, you should contact your own health care provider.

In the space at the bottom of this letter, please indicate whether you do or do not want your child to participate in this project. The second copy is to keep for your records.

Sincerely,



Tracey Silveira-Zaldivar
(xxx) xxx-xxxx

TSilveira-Zaldivar@nnu.edu

CONSENT

You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point. Your decision as to whether to participate in this study will have no influence on your present or future status as a student at Northwest Nazarene University.

Please Check an Option

I am able to participate in the study including the focus groups.

I am not able to attend the focus groups, but I am willing to participate in other aspects of the study such as allowing my child to participate in the study (separate consent for minors is required as well) and/or answering questions post the intervention.

I give my consent to participate in this study:

Signature of Adult Participant

Date

I give my consent for the interviews and discussion to be audio/video taped in this study:

Signature of Adult Participant

Date

I give my consent for direct quotes to be used in this study:

Signature of Participant

Date

Signature of Person Obtaining Consent

Date

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW COMMITTEE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.

Appendix E: Informed Consent Minors with HFA

CONSENT FORM FOR MINORS

Child's Name: _____

Parent's/Guardian's Name: _____

I authorize Tracey Silveira-Zaldivar of the graduate department of Education of Northwest Nazarene University, Nampa, ID, and/or any designated research assistants to gather information from my child on the topic of social relations with peers and staff in the school setting.

NATURE OF STUDY/PROCEDURES:

I understand that the general purposes of the research are to explore avenues to improve/enhance the social skills of students with autism in a school setting and I understand that my child's participation will involve:

The procedures are as follows:

- The entire research project will take place over a period of 4 months.
- Students will participate in a social skills intervention program at the school setting for approximately 4 weeks (twice a week for approximately 30 minutes each).
- Data will be collected in the form of surveys, two to three direct observations in the school setting including at least one classroom observation and one recess or lunch observation, an interview (four brief semi-structured interview questions post intervention about their experience in the social skills intervention) and teacher completed social skills assessment inventories/rating scales (pre and post intervention).
- Participation will involve a combination of these data collection instruments and techniques.
- Audio taping of semi-structured interview questions
- A review of the student's special education history and regular education school record, including: individualized education plan, assessments administered by school staff, grades, attendance, academic test scores (if there are any available online), discipline record, behavior supports, and demographic information

The approximate total time of my child's involvement including observation periods will be 7 hours.

My child and I have been assured that my child may refuse to discuss any matters that cause discomfort or that my child might experience as an unwanted invasion of privacy. I am aware that my child may choose not to answer any questions that my child finds embarrassing or offensive.

I understand that my child's participation is voluntary and that my child may refuse to participate or discontinue participation at any time without penalty or loss of benefits to which my child may be otherwise entitled. I also understand that any and all participation activities in this research will be outside of my child's Individualized Education Program.

This study is unlikely to cause my child distress. However, I understand that if, after participation, my child experiences any undue anxiety or stress or has questions about the research or his/her rights as a

participant that may have been provoked by the experience, Tracey Silveira-Zaldivar will be available for consultation, and will also be available to provide direction regarding medical assistance in the unlikely event of injury incurred during participation in the research.

I understand that confidentiality of research results will be maintained by the researcher. No individual results will be released without my written consent as the parent or guardian of the child and pseudonyms or codes will be utilized to protect my child's name. This helps to protect confidentiality.

All information that is obtained during this research project will be kept strictly secure and will not become a part of your child's school record. All records and data will be destroyed after three years.

This study has been reviewed by the Research Review Committee at Northwest Nazarene University and has been successfully approved.

RISKS/BENEFITS:

The potential benefits/risks of the study are:

Benefits: Possible positive impact on social skills; provide platform for student to share his/her feelings/opinions about his/her social acceptance from peers and staff, potentially improved pro-social behavior; Risks: Possible minimal discomfort or unease during questioning, slight discomfort from the change in routine.

PAYMENTS

There are no payments for participating in this study.

QUESTIONS

The results of my research will be available after August 1, 2019. If you would like to have a copy of the results of my research, or if you have questions or concerns about participation in this study, you may contact me, Tracey Zaldivar, via email at TSilveira-Zaldivar@nnu.edu, or via telephone at (xxx) xxx-xxxx or my advisor, Dr. Heidi Curtis, Ph.D. Doctoral Committee Chair at Northwest Nazarene University, via email at hcurtis@nnu.edu, or phone at: (xxx) xxx-xxxx.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to have your child participate in this study, or to withdraw from it at any point. Your decision as to whether to participate in this study will have no influence on you or your child's present or future status as a student at Northwest Nazarene University.

In addition to your permission, your child will also be asked if he or she would like to take part in this project. Any child may stop taking part at any time. The choice to participate or not will not impact your child's grades or status at school.

In the space at the bottom of this letter, please indicate whether you do or do not want your child to participate in this project. The second copy is to keep for your records.

Sincerely,



Tracey Silveira-Zaldivar

(xxx) xxx-xxxx

TSilveira-Zaldivar@nnu.edu

CONSENT

If I agree to this study. I have read this form. I understand that nothing negative will happen if I do not let my child participate. I know that I can stop his/her participation at any time. I voluntarily agree to let my child participate in this study as follows:

Child's printed name: _____

YES, my child _____ may participate in this study.

NO _my child _____ may NOT participate in this study.

Parent/Guardian printed name: _____

Parent/Guardian signature: _____ Date: _____

I give my consent for the interview and discussion to be audio taped in this study:

Signature of Study Participant

Date

I give my consent for direct quotes to be used in this study:

Signature of Study Participant

Date

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW COMMITTEE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.

Appendix F: Electronic Notice to School Personnel

Greetings!

My name is Tracey Silveira-Zaldivar and I am a Doctoral Student at Northwest Nazarene University, studying the best way to implement evidence-based social skills interventions for young elementary students with high functioning autism placed in inclusive school settings. I am also a district school psychologist and behaviorist in the mental health and autism departments. You are receiving this email because you are a school staff member working with our inclusive settings for early elementary in some capacity or working in special education, and because your site principal has agreed for staff at your site to participate in the study.

I am looking for school personnel to participate in an exploratory study on ways to enhance the social functioning of students with high functioning autism in inclusive school settings. Focus groups are an essential component of my study and the groups will take place in the district office inclusion room training on four consecutive Wednesdays from 1:00 to 3:00, starting on October 10th, 2018. If you take a later lunch that day (you are welcome to eat during the groups), one hour of the Focus Group time will be eligible for Continuing Education Credit via CSUF if you were interested in pursuing those credits. Furthermore, it is possible to miss one group and still participate in the study provided you are willing to participate in a “make-up” group. The study will also involve three students with high functioning autism placed in inclusive settings and their respective parents. If you have families in mind that you would recommend as potential candidates for the study, please let me know.

I believe that your participation will provide valuable information for policy makers, school administrators, and others in the field of education as we endeavor to better understand how to help students be as successful as possible. Thanks for considering your part in my study. I have attached a permission to partake in the study to this email. If you agree to participate, please sign the consent and e-scan it back to me as soon as you are able. The attached permission explains the details of your potential involvement in the study in depth.

If you have any questions or concerns, please don't hesitate to contact me. If you agree to participate in the study, please sign the attached form and return to my email via scanning or you may contact me by phone or email, and I will pick up your consent form in person.

Sincerely,

Tracey Silveira-Zaldivar

MH and Autism School Psychologist on Special Assignment
Board Certified Behavior Analyst

TSilveira-Zaldivar@nnu.edu; (xxx) xxx-xxxx

Appendix G: Electronic Notice or Flyer to Parent Participants

Greetings!

My name is Tracey Silveira-Zaldivar and I am a Doctoral Student at Northwest Nazarene University, studying the best way to implement evidence-based social skills training for young elementary students with high functioning autism placed in inclusive school settings. I am also a district school psychologist and behaviorist in the mental health and autism departments. You are receiving this email because you are a parent of a child with autism placed in an inclusive program in the district and consented to allow your name to be on the school directory list.

I am looking for parents of students with high functioning autism whose children attend inclusive school settings and their three children (respectively) currently placed in inclusive settings, to participate in an exploratory study on ways to enhance the social functioning of students with high functioning autism in inclusive school settings. District personnel have also been asked to participate in this study. Due to the nature of the study, if your child is currently receiving in home Applied Behavior Analysis Support or outside social skills intervention, then the child will not be able to participate in this study at this time. I'm sorry for any inconvenience or disappointment that may cause.

I believe that your participation will provide valuable information for policy makers, school administrators, and others in the field of education as we endeavor to better understand how to help students be as successful as possible. Thank you for considering your part in my study. I have attached two permissions to partake in this study to this email (one for you as an adult and one for your child as a minor). The attached permission explains the parameters of your involvement in this study and that of your child's involvement in much more depth. If you agree to participate in the study and to allow your child to participate as well, please sign the attached forms and return them to my email via scanning or you may return them to your child's teacher, and I will pick them up.

If you have any questions or concerns, please don't hesitate to contact me.

Sincerely,

Tracey Silveira-Zaldivar
TSilveira-Zaldivar@nnu.edu

(xxx) xxx-xxxx

Appendix I: Social Skills Relevance Survey

Coded Name: _____

Date: _____

Please circle whether you are a: parent or a school personnel
 Directions: Please read each of the statements below and then rate each of the following statements on a 5-point Likert Scale (ranging from 1= I do not agree to 5 = I strongly agree).

Statement Number	Statement	Response (1-5)
1	Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	
2	It is important to teach children with HFA strategies that they can use to interact with peers and school staff	
3	Teaching typical peers strategies they can use to interact with children with HFA, will enhance social relationships with their HFA peers	
4	Social difficulties in children with HFA affect academic performance	
5	Social difficulties in children with HFA affect their post-secondary success (life outcomes)	
6	Social difficulties in children with HFA interfere with developing relationships (including friendships, parent/student, teacher/student etc.)	
7	Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	
8	Social difficulties in children with HFA affect their behavior in inclusion settings	
9	Evidence-based social skills training for children with HFA should be incorporated in schools	

Appendix J: Barriers to Implementing Evidence-Based Social Skills Interventions

Coded Name: _____

Date: _____

Please review the following potential barriers and rate each barrier on a Likert Scale of 1-3

Potential Barrier	1 – Not a Barrier	2- Somewhat of a Barrier	3- Significant Barrier
Lack of training in evidence-based social skills interventions for students with autism			
Lack of Staff			
Lack of Materials			
Prioritization of Needs/Demands in the School Day (i.e. emphasis on academics)			
Lack of Time to Implement Social Skills Interventions			
Cost of Implementation			
Administrative Support			

Please comment on any additional barrier that you see to implementing direct social skills training in the inclusive school setting:

Appendix K: Semi-Focused Interview Questions – First Focus Group

1. What are some of the social difficulties and behaviors expressed by students with autism in inclusive education settings?
2. What potential benefits (if any) could be gained from enhancing social relationships and skills of students with high functioning autism in inclusive settings.
3. What are some of the evidence-based social skills interventions for elementary students with autism that you are aware?
4. Talking specifically about social skills training, please discuss any evidence-based programs that you are familiar with?
5. In your opinion, what are some of the evidence-based social skills interventions currently being implemented by our district for students with High Functioning Autism for students in the inclusive setting?
6. What are some of the barriers to implementing evidence-based social skills program that you have encountered?
7. What do you need in order to implement evidence-based social skills training for students with high functioning autism on a regular and consistent basis?

Appendix L: Group 4 Focus Group Questions

1. What content themes do you think should be included in a social skills training program for children with HFA?

2. Of the programs discussed, which direct social skills training engagement program(s) do you think best fits your needs and the students' needs and why?

3. What supplemental social skills evidence- based practices of the ones that you heard will you consider (or continue) implementing?

4. At this point in time, what support and/or materials do you think that you need from the district in order to consistently implement some type of evidence-based social skills direct training programs to all HFA students in inclusive settings?

Appendix M: Post Social Skills Intervention Semi- Structured Interview Questions

Teacher:

1. Do you believe that the social skills intervention was beneficial to the student? If so, please describe.
2. Do you believe that the social skills intervention was beneficial to you as the primary teacher? If so, please describe.
3. Did you see an improvement in the student's overall social functioning?
4. Would you support the continued use of this EBP social skills intervention for HFA students in the inclusion setting?

Student with HFA:

1. Did you enjoy participating in the social skills group (or intervention)? Please describe your answer.
2. What was your favorite part of the program?
3. Is there one thing that you learned from the program that you remember?
4. Would you want to participate in this program again?

Typical Peer Student Involved in PMI Intervention:

1. Did you enjoy participating in the group? Please describe your answer.
2. What was your favorite part of the program?
3. Tell me one thing that you did in your role as a peer helper?
4. Would you want to participate in this program again? Why or why not?

Parent:

1. Did you feel that the social skills program benefited your child? If so, in what way?
2. Would you want your child to participate in this program or similar program in the future?

Appendix N: Social Interaction Observation Form

<http://www.lcsc.org/Page/54>

Student's Name _____ Date _____

<u>Behavior</u>	<u>Observation</u>
Interacts with peers during breaks.	
Peers seem to accept student.	
Responds to peers' questions.	
Participates in games.	
Demonstrates appropriate gestures and responses.	
Participates in classroom group activities.	

<u>Behavior</u>	<u>Observation</u>
Appears to enjoy group time.	
Responds to teacher during whole group instruction.	
Appears to have favorite peers.	
Talks to others at appropriate times.	
Demonstrates flexibility.	
Interacts with peers in a positive way.	
Interacts with adults in a positive way.	
Follows class rules	

Appendix O: Social Skills Checklist

SOCIAL SKILLS CHECKLIST (Pre-K/Elementary)

Name of child: _____ Date: _____ Completed by: _____

Instructions: For each question, check if that particular skill occurs Almost Always, Often, Sometimes or Almost Never.

RATING SCALE

Almost always- the student consistently displays this skill in many settings and with a variety of people

Often- the student displays this skill on a few occasions, settings and with a few people

Sometimes- the student seldom displays this skill but may demonstrate it on infrequent occasions.

Almost Never- the student never or rarely exhibits this skill. It is uncommon to see this in their daily routine.

SOCIAL PLAY & EMOTIONAL DEVELOPMENT	Almost Always	Often	Sometimes	Almost Never
1.1 Beginning Play Behaviors				
1. Maintains proximity to peer within 1 foot				
2. Observes peers in play vicinity within 3 feet				
3. Parallel play near peers using the same or similar materials				
4. Physically imitates peer				
5. Verbally imitates peer				
6. Takes turns appropriately during simple games				
1.2 Intermediate Play Behaviors				
1. Shares toys and talks about the activity with peers, even if play agenda is different				
2. Physically and verbally responds to interactions from peers (accepts toy, questions)				
3. Returns and initiates greetings with peers				
4. Knows appropriate ways of joining in an activity with peers				
5. Invites others to play				
6. Takes turns during structured activities				
7. Obeys game rules				
8. Requests toys, food, and materials from peers				
1.3. Advanced Play Behavior				
1. Plays cooperatively with peers during imaginative play				
2. Makes comments about what he/she is playing to peers				
3. Organizes play (suggests ideas to peers on how to play)				
4. Follows peer play plans				
5. Takes turns during unstructured activities without a time limit				
6. Offers toys, food, and materials to peers				
EMOTIONAL REGULATION				
	Almost Always	Often	Sometimes	Almost Never
2.1 Understanding Emotions				
1. Identifies likes and dislikes				
2. Identifies emotions in self				
3. Identifies emotions in others				
4. Justifies emotions once identified (eating because I'm hungry)				
5. Demonstrates affection and empathy toward peers				
6. Refrains from aggressive behaviors toward peers				
7. Refrains from aggressive behaviors toward self				
8. Does not exhibit intense fears or phobias				
9. Interprets body language				
10. Uses different tones of voice to convey messages				
2.2 Self-Regulation				
1. Allows others to comfort him/her if upset or agitated				
2. Self regulates when tense or upset				
3. Self regulates when energy level is high				
4. Deals with being teased in acceptable ways				
5. Deals with being left out of a group				

EMOTIONAL REGULATION continued	Almost Always	Often	Some-times	Almost Never
6. Accepts not being first in a game or activity				
7. Accepts losing at a game without becoming upset/angry				
8. Says "no" in acceptable way to things he/she does not want to do				
9. Accepts being told "no" without becoming upset/angry				
10. Able to say "I don't know"				
11. Able to end conversations appropriately				
2.3 Flexibility				
1. Accepts making mistakes without becoming upset/angry				
2. Accepts consequences of his/her behavior				
3. Accepts unexpected changes				
4. Continues to try when something is difficult				
5. Ignores others or situations when it is desirable to do so				
2.4 Problem Solving				
1. Identifies/defines problems				
2. Generates solutions to problems				
3. Carries out solutions by negotiating or compromising				
4. Understands impact his/her behavior has on peers				

COMMUNICATION SKILLS	Almost Always	Often	Some-times	Almost Never
3.1 Conversational Skills				
1. Initiate conversation when it is appropriate to do so				
2. Initiates conversation around specific topics				
3. Asks "Wh" questions				
4. Responds to "Wh" questions				
5. Makes a variety of comments, related to the topic during conversation				
6. Introduces him/herself to someone new				
7. Introduces people to each other				
8. Ends conversations appropriately				
3.2 Nonverbal Conversational Skills				
1. Maintains appropriate proximity to conversational partner				
2. Orients body toward speaker				
3. Pays attention to person's nonverbal language; understands what is communicated				
4. Waits to interject				
3.3 Compliments				
1. Gives appropriate compliments to peers				
2. Appropriately receives compliments				
3. Asks for a favor appropriately				
4. Apologizes independently				

SUMMARY OF SOCIAL SKILLS CHECKLIST	Total % Marked Almost Always	Total % Marked Often	Total % Marked Sometimes	Total % Marked Almost Never
1.1 Beginning Play Behaviors				
1.2 Intermediate Play Behaviors				
1.3 Advanced Play Behaviors				
2.1 Understanding Emotions				
2.2 Self-Regulation				
2.3 Flexibility				
2.4 Problem Solving				
3.1 Conversational Skills				
3.2 Nonverbal Conversational Skills				
3.3 Compliments				

Calculation: For each section, total the number of questions checked under each response category (Often, etc.) in the specific section and divide by the total number of questions in the section, then multiply by 100.

Formatted October 2013 by Karen L. Anderson, PhD for *Supporting Success for Children with Hearing Loss*.

Source: <http://downloadpdfz.com/pdf/social-skills-checklist-elementary-8185629.html>

Appendix P: Preferred Activities Survey

(can be completed independently or administered orally)

Name:

Date:

Directions:

Please check the activities that you really enjoy doing from the list below. Put a 1 by the activities that you enjoy a little bit and a 2 by the activities that you enjoy a lot. Leave blank any activity that you do not enjoy.

Activity	My Rating (1 – I like a little, 2 I like a lot, Leave Blank if I don't like the activity)
Legos	
Blocks	
Board Games	
Handball	
Playing ball games	
Soccer	
Tag	
Bubbles	
Visiting a preferred teacher or school staff member	
Having lunch with a teacher or school staff member	
Playing with action figures (such as superheroes)	
Positive Note Home to Parent(s)	
Checking out an extra book at the library	
Puzzles	
Artwork	
Playing video games (if so, please indicate your preferred games)	
Listening to music	
Dancing	
Spending time on the computer	
Drawing/Coloring	
Reading	
Playing with cars/trains	
List any other activity that you really like that is not on this list:	
List any other activity that you really like that is not on this list:	

Appendix Q: Permission to Utilize the Social Skills Improvement System

2/7/18

Dear Ms. Silveira-Zaldivar,

Permission to use a Pearson assessment is inherent in the qualified purchase of the test materials in sufficient quantity to meet your research goals. In any event, Pearson has no objection to you using the Social Skills Improvement System (SSIS™) and **you may take this email response as formal permission from Pearson to use the test in its as-published formats in your student research.**

Our long-term publishing agreements with test authors do not permit us to provide sample test forms or to grant permissions free of charge. All test materials must be purchased. Your source to qualify for (qualification level “B”) and purchase the SSIS test materials you need is our Pearson Assessment online catalog). Please visit the following link to the product page:
<https://www.pearsonclinical.com/education/products/100000322/social-skills-improvement-system-ssis-rating-scales.html#tab-details>

Finally, because of test security concerns, permission is **not granted** for appending tests to theses, dissertations, or reports of any kind. You may not include any actual assessment test items, discussion of any actual test items or inclusion of the actual assessment product in the body or appendix of your dissertation or thesis. You are only permitted to describe the test, its function and how it is administered; and discuss the fact that you used the Test; your analysis, summary statistics, and the results.

Regards,

William H. Schryver

Senior Legal Licensing Specialist

please respond only to pas.licensing@pearson.com

Appendix R: PMI Cues for Typical Peer Models

Target Skill	Description of ways to help
Getting the peer's attention	Call their name, say, "-----, look," tap on shoulder politely, say excuse me, etc.
Initiating and Maintaining Play	Model and/or organize play, encourage them to play, teach them to invite others to play, reinforce. Talk through play – i.e. "narrate" – i.e. "this is cool – great move, I think it is safer to build a block, Share, Accepting Losing
Talking to your friend- Having a conversation	Questions, comments/friendly compliments, see ways to start a conversation, "exchange's
Personal Space	Space bubble, practice, reinforce, model
Helping your peer understand your thoughts/feelings	Model – ask them how they are feeling, ask them how they think others are thinking/feeling
Following School Rules (i.e. line up on time, freeze)	Model/prompt peer

PROPS:

+ proper respect or proper recognition for another person; an expression of approval or a special acknowledgment (slang- online definition)

Prompt

Reinforce

Offer Help/Assistance

Play

Share

Daily Session:

1. We introduce a new skill, typical peers model, special peer models, we provide feedback and reinforce – classroom setting
2. We then go and play/share outside – all stay together...

Token Economy:

Star strip or similar – every five minutes- I'll have signal – such as a bell or private hand signal – you get to deliver a star or similar on peer's board if they were trying their best

Appendix S: Permission to Use Chart from Dr. Fogg

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Version 01.02.17 - Academic Work

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 - b. You cannot combine the Licensed Graphic(s) with any other graphics;
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7. **General.** Any action related to this Agreement will be governed by the laws of the State of California (except that body of law controlling conflict of laws). You exclusively and irrevocably submit to, and waive any objection against, the personal jurisdiction of the United States District Court for the Northern District of California, and the state courts of the State of California for the County of Sonoma. This Agreement constitutes the entire agreement and supersedes all prior or contemporaneous oral or written agreements regarding the subject matter hereof.

EXHIBIT A

The terms of this Exhibit A are made a part of and are incorporated into the License Agreement for the Permitted Use of Graphics between BJ Fogg.org, LLC and You to which it is attached.

Effective Date: Mar 23, 2018 Term: One time -- dissertation

Licensee Name: Tracey Silveira-Zaldivar

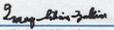
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Signed:  Tracey Silveira-Zaldivar (Mar 23, 2018)
Printed: Tracey Silveira-Zaldivar
Company Name (if applicable): NNU - Northwest Nazarene University and [Redacted]
Title (if applicable): Ph.d. Student, School Psychologist, Behaviorist, BCBA

Appendix T: Participant Debrief

Dear _____,

Thank you for your participation in this study. I greatly appreciated your time, commitment, and input.

After I have an opportunity to analyze the data, I will email you the results and ask for feedback. Mainly I want to ensure that I captured the essence of our meetings and your thoughts.

The anticipated date of termination of the study will be May11, 2019.

Questions

In the meantime, if you have any questions or concerns, Tracey Silveira-Zaldivar can be contacted via email at TSilveira-Zaldivar@nnu.edu , via telephone at (xxx) xxx-xxxx , or by writing: Tracey Silveira-Zaldivar, XXXX XXXX XXXX.

Appendix U: Transcription Confidentiality Agreement

Title of Research: Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with autism in inclusive classroom settings

1. I, Carol McKenzie transcriptionist, agree to maintain full confidentiality of all research data received from the research team related to this research study.
2. I will hold in strictest confidence the identity of any individual that may be revealed during the transcription of interviews or in any associated documents.
3. I will not make copies of any audio-recordings, video-recordings, or other research data, unless specifically requested to do so by the researcher.
4. I will not provide the research data to any third parties without the client's consent.
5. I will store all study-related data in a safe, secure location as long as they are in my possession. All video and audio recordings will be stored in an encrypted format.
6. All data provided or created for purposes of this agreement, including any back-up records, will be returned to the research team or permanently deleted. When I have received confirmation that the transcription work I performed has been satisfactorily completed, any of the research data that remains with me will be returned to the research team or destroyed, pursuant to the instructions of the research team.
7. I understand that Northwest Nazarene University has the right to take legal action against any breach of confidentiality that occurs in my handling of the research data.

Transcriber's name (printed) Carol McKenzie

Transcriber's signature

A handwritten signature in black ink that reads "Carol McKenzie". The signature is written in a cursive style with a large, stylized initial "C".

Date 3/4/2018

Appendix V: Social Skills Training Programs (Early Elementary Age)

The following list is derived from the CASEL K-2 (CASEL, 2013) social emotional learning evidenced based curriculum choices utilizing the following criteria: 1) relatively short-term programs (under 20 lessons), 2) programs that include explicit social skills instructions, 3) programs that include tools for measuring behavior, and, 4) programs that offer opportunities to practice the social skills;

Michigan Model for Health
MindUp
Resolving Conflicts Creatively

Renowned Educational Psychologist and Behaviorist Dr. Clayton Cook, one of the foremost PENT trainers, recommends the following evidence-based social skills training program for elementary school students who present with social “skill deficits:

Curriculum	Authors/Makers	Approximate Cost of Materials
Skillstreaming	Goldstein and Ellen McGinnis	\$79.95
PEERS for Preschoolers (ages 4-6)	Elizabeth Laugeson	Varies – This program requires attending a special training prior to implementing the program
The Social Skills Improvement System– Intervention Guide	Frank Gresham and Stephen Elliott	\$125.00
ACCEPTS Program	Hill Walker	\$73.00

Appendix W: PMI Interventions

Type of PMI program	General Nature of the Intervention	Studies Supporting that Particular Type of PMI Intervention
Interest Based Recess/Lunch PMI	Lunch/recess interest- based focus groups with a select small group of typical peers and/or the participating students with autism. PMI “social clubs” or “social groups” will evolve around preferred interests of the student with autism. Adult (s) will facilitate the interaction and lead the students in interactive play and interactive questions/conversation. Meetings can be one to two times a week to as often as daily for a limited time period.	(Koegel, Kim, Koegel, & Schwartzman, 2013; Koegel, Vernon, Koegel, Koegel, & Paullin, 2012)
Integrated Play Groups and/or PMI structured Play/Activity Groups	An adult guides a combination of typical peers and children with ASD in structured and supportive interactive play environment. The adult establishes a schedule, a routine, coaches peers through play, trains typical peers (if desired), models, and reinforces peers using sound applied behavioral techniques. The focus is immersion in play.	(Barber et al., 2016; Odom, 2013; Mason et al., 2013; Mason, Kamps, Turcotte, Cox, Feldmiller, & Miller, 2014; Wolfberg, De Witt, Young, & Nguyen, 2015).
Stay, Play, Talk	A specific form of PMI program with demonstrated efficacy for children as young as preschoolers (Barber et al., 2016). Generally, three typical young peers are paired with targeted ASD peers for occasional 20- minute periods between six to eight weeks.	(Barber et al., 2016).
Circle of Friends – A specific PMI Program	The program “Circle of Friends” is a type of PMI program in which students with special needs are rotated amongst various typical peers for group activity (the nature of which varies). Typical peers often serve in leadership roles. Over time, Circle of Friends has evolved into more of an adolescent intervention.	(Kalyva & Avramidis, 2005; Schlieder, Maldonado, & Baltes, 2014)
Lego Based Play (A specific type of PMI structured play group)	<ol style="list-style-type: none"> 1. The following are several tenets of Lego Based Therapy: 2. Lego Club Group Rules are explained, reinforced, and adhered to during intervention. 3. Weekly meetings are held in which the children engage in various Lego activities with a collective goal. 4. Groups are comprised of typical and ASD students. 5. Students assume various roles and responsibilities during group (such as: engineer, construction worker etc.) 	(Legoff & Sherman,2006; LeGoff, D. De la Cuesta, Krauss, & Baron-Cohen, 2015; Owens, Granader, Humphrey, & Baron-Cohen, 2008).

Type of PMI program	General Nature of the Intervention	Studies Supporting that Particular Type of PMI Intervention
	<p>6. There is a focus on communication, turn taking, and problem solving.</p> <p>7. Adults take a more indirect approach – they encourage children to work collaboratively and direct the groups mostly on their own.</p>	
Peer Tutors/Peer Mentor (AKA Buddy)	<p>Typical peers are assigned to tutor or mentor a targeted child with ASD. PMI peer mentors are different from classic “peer buddy models” in that the assigned peer is given direct training about how and when to respond to their assigned ASD targeted peer. The peer receives training regarding appropriate strategies to use to engage their peer and/or to reinforce their peer. The goal is to enhance natural opportunities for interaction between peers and students with ASD. There is a class-wide form of this strategy called: Class-wide Peer Tutoring that has demonstrated academic and social benefits).</p>	(Gillies, 2013; Harris, 2016)
Class-wide PMI	<p>Class-wide PMI strategies tend to focus on enhancing both social interaction as well as academic progress. The entire class is trained in behavioral strategies to promote healthy social interaction and learning. Class-wide Peer Strategies are often highly structured (such as the well-known reading class-wide peer tutoring program referenced in the study by Bowman-Perrott et al., in 2013.). Group contingencies and differential reinforcement are hallmark to many class-wide PMI strategies.</p>	(Bowman-Perrott et al., 2013; Dunn, Shelnut, Ryan, & Katsiyannis, 2017; Maheady, 2010)
Peer Initiation Training (this is often combined with other PMI methods)	<p>A peer model is trained to initiate an activity and/or conversation with the targeted ASD child. For example, the peer model asks a peer to play with him and the target peer consents. Peers are generally taught to reinforce their peers for appropriate interaction during the activity.</p>	(Banda, Hart, & Liu-Gitz, 2010; Krebs, McDaniel, & Neeley, 2010)

Appendix X: Research Assistant Confidentiality Agreement

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

Electronic signatures are not valid for this form. After completing the required fields, please print and sign this form in blue or black ink. After this form has been signed by the research assistant, it should be given to the principal investigator of the research study for submission. After receiving the *Research Assistant Confidentiality Agreement*, the principal investigator will upload the scanned form to NNU's IRB forum.

The research assistant should keep a copy of the *Research Assistant Confidentiality Agreement* for their records.

This agreement is for research assistants only.

B. CONFIDENTIALITY OF A RESEARCH STUDY:

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the consent form) without permission. Confidential information relating to human subjects in a research study may include, but is not limited to:

- Name, date of birth, age, sex, address, and contact information;
- Current contact details of family, guardian etc.;
- Medical or educational history and/or records;
- Sexual lifestyle;
- Personal care issues;
- Service records and progress notes;
- Assessments or reports;
- Ethnic or racial origin;
- Political opinions, religious or philosophical beliefs.

As a research assistant you will have access to confidential information pertaining to the research study. Many participants have only revealed information to investigators because principal investigators have assured participants that every effort will be made to maintain confidentiality. That is why it is of the utmost importance to maintain full confidentiality when conducting a research study. *Below is a list of expectations you will be required to adhere to as a research assistant. Please carefully review these expectations before signing this form.*

C. EXPECTATIONS FOR A RESEARCH ASSISTANT

In order to maintain confidentiality, I agree to:

1. Keep all research information that is shared with me (e.g. flash drives, notes, interview responses, survey data, transcripts, data, etc.) confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal investigator of this study;
2. Ensure the security of research information while it is in my possession. This may include:
 - Keeping all documents and/or data related to the research study on a password protected computer with password protected files;
 - Closing any programs, documents, or data files related to the research study when away from the computer;
 - Keeping any printed documents and/or data related to the research study in a secure location such as a locked filing cabinet;
 - Permanently deleting any digital communication containing documents and/or data related to the research study.
 -
3. Not make copies of documents and/or data related to the research study unless specifically instructed to do so by the principal investigator;
4. Give all research information/data and research participant information/data back to the principal investigator upon completion of my duties as a research assistant;
5. After discussing it with the principal investigator, erase or destroy all research information that cannot be returned to the principal investigator upon completion of my duties as a research assistant.

Name of Research Assistant:

Title of Research Study: Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with high functioning autism in inclusive classroom settings. I may be audio/videotaped as part of this participation (Students, however, will NOT be videotaped). My role may involve any/all of the following: conducting observations of students with the primary researcher, conducting social skills interventions, and/or providing training during focus groups.

Name of Principal Investigator: Tracey Silveira-Zaldivar

By signing this form, I acknowledge that I have reviewed, understand, and agree to adhere to the expectations for a research assistant described above. I agree to maintain confidentiality while performing my duties as a research assistant and recognize that failure to comply with these expectations may result in disciplinary action.

Signature of Research Assistant

Date

Appendix Y: Videographer Confidentiality Agreement

#1

Appendix Y: Videographer Confidentiality Agreement

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

Electronic signatures are not valid for this form. After completing the required fields, please print and sign this form in blue or black ink. After this form has been signed by the videographer, it should be given to the principal investigator of the research study for submission. After receiving the *Videographer Confidentiality Agreement*, the principal investigator will upload the scanned form to NNU's IRB forum.

The videographer should keep a copy of the *Videographer Confidentiality Agreement* for their records.

This agreement is for videographers only.

B. CONFIDENTIALITY OF A RESEARCH STUDY:

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the consent form) without permission. Confidential information relating to human subjects in a research study may include, but is not limited to:

- Name, date of birth, age, sex, address, and contact information;
- Current contact details of family, guardian etc.;
- Medical or educational history and/or records;
- Sexual lifestyle;
- Personal care issues;
- Service records and progress notes;
- Assessments or reports;
- Ethnic or racial origin;
- Political opinions, religious or philosophical beliefs.

• No student will be filmed.

As a videographer you will have access to confidential information pertaining to the research study. Many participants have only revealed information to investigators because principal investigators have assured participants that every effort will be made to maintain confidentiality. That is why it is of the utmost importance to maintain full confidentiality when conducting a research study. *Below is a list of expectations you will be required to adhere to as a videographer. Please carefully review these expectations before signing this form.*

C. EXPECTATIONS FOR A VIDEOGRAPHER

In order to maintain confidentiality, I agree to:

1. Keep all research information that is shared with me (e.g. flash drives, videos, notes, interview responses, survey data, transcripts, data, etc.) confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal investigator of this study;

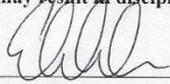
2. Ensure the security of research information while it is in my possession. This may include:
- Keeping all documents and/or data related to the research study on a password protected computer with password protected files;
 - Closing any programs, documents, or data files related to the research study when away from the computer;
 - Keeping any printed documents and/or data related to the research study in a secure location such as a locked filing cabinet;
 - Permanently deleting any digital communication containing documents and/or data related to the research study.
3. Not make copies of documents, videos, and/or data related to the research study unless specifically instructed to do so by the principal investigator;
4. Give all research information/data and research participant information/data back to the principal investigator upon completion of my duties as a videographer;
5. After discussing it with the principal investigator, erase or destroy all research information that cannot be returned to the principal investigator upon completion of my duties as a videographer.

Name of Videographer: Eric Salcedo, Ph.D.

Title of Research Study: Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with high functioning autism in inclusive classroom settings

Name of Principal Investigator: Tracey Silveira-Zaldivar

By signing this form I acknowledge that I have reviewed, understand, and agree to adhere to the expectations for a videographer described above. I agree to maintain confidentiality while performing my duties as a videographer and recognize that failure to comply with these expectations may result in disciplinary action.


Signature of Videographer

10-17-18
Date

Eric Salcedo

#2

Appendix Y: Videographer Confidentiality Agreement

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

Electronic signatures are not valid for this form. After completing the required fields, please print and sign this form in blue or black ink. After this form has been signed by the videographer, it should be given to the principal investigator of the research study for submission. After receiving the *Videographer Confidentiality Agreement*, the principal investigator will upload the scanned form to NNU's IRB forum.

The videographer should keep a copy of the *Videographer Confidentiality Agreement* for their records.

This agreement is for videographers only.

B. CONFIDENTIALITY OF A RESEARCH STUDY:

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the consent form) without permission. Confidential information relating to human subjects in a research study may include, but is not limited to:

- Name, date of birth; age, sex, address, and contact information;
- Current contact details of family, guardian etc.;
- Medical or educational history and/or records;
- Sexual lifestyle;
- Personal care issues;
- Service records and progress notes;
- Assessments or reports;
- Ethnic or racial origin;
- Political opinions, religious or philosophical beliefs.

• No student will be filmed.

As a videographer you will have access to confidential information pertaining to the research study. Many participants have only revealed information to investigators because principal investigators have assured participants that every effort will be made to maintain confidentiality. That is why it is of the utmost importance to maintain full confidentiality when conducting a research study. *Below is a list of expectations you will be required to adhere to as a videographer. Please carefully review these expectations before signing this form.*

C. EXPECTATIONS FOR A VIDEOGRAPHER

In order to maintain confidentiality, I agree to:

1. Keep all research information that is shared with me (e.g. flash drives, videos, notes, interview responses, survey data, transcripts, data, etc.) confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal investigator of this study;

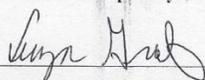
2. Ensure the security of research information while it is in my possession. This may include:
- Keeping all documents and/or data related to the research study on a password protected computer with password protected files;
 - Closing any programs, documents, or data files related to the research study when away from the computer;
 - Keeping any printed documents and/or data related to the research study in a secure location such as a locked filing cabinet;
 - Permanently deleting any digital communication containing documents and/or data related to the research study.
3. Not make copies of documents, videos, and/or data related to the research study unless specifically instructed to do so by the principal investigator;
4. Give all research information/data and research participant information/data back to the principal investigator upon completion of my duties as a videographer;
5. After discussing it with the principal investigator, erase or destroy all research information that cannot be returned to the principal investigator upon completion of my duties as a videographer.

Name of Videographer: Suzan Grab

Title of Research Study: Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with high functioning autism in inclusive classroom settings

Name of Principal Investigator: Tracey Silveira-Zaldivar

By signing this form I acknowledge that I have reviewed, understand, and agree to adhere to the expectations for a videographer described above. I agree to maintain confidentiality while performing my duties as a videographer and recognize that failure to comply with these expectations may result in disciplinary action.


Signature of Videographer

10.10.2018
Date

Appendix Z: Editor Confidentiality Agreement

Title of Research: Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with high functioning autism in inclusive classroom settings

I, [REDACTED] editor, agree to maintain full confidentiality of the content of this dissertation.

Editor and Ms. Tracey Silveira- Zaldivar wish to evidence by this agreement the manner in which said confidential and proprietary material will be treated. NOW, THEREFORE, it is agreed as follows:

1. **PROPRIETARY INFORMATION** Editor acknowledges that dissertation relating thereto ("Proprietary Information") are confidential and proprietary to Ms. Tracey Silveira- Zaldivar and Northwest Nazarene University. Editor agrees to use reasonable care (the same being not less than that employed to protect Editor's own proprietary information) to safeguard the Proprietary Information and to prevent the unauthorized use or disclosure thereof.
2. **NON-DISCLOSURE** Editor shall disclose or give access to Proprietary Information only to such Editor's employees, agents or contractors ("Editor Personnel") having a need-to-know in connection with Editor's engagement and for use in connection therewith. Editor will advise Editor Personnel having access to Proprietary Information of the confidential and proprietary nature thereof.
3. **COPIES** Any copies or reproductions of the Proprietary Information for non-editing purpose are not allowed.
4. **TERMINATION** Editor shall, upon completion of the tasks assigned to Editor, upon termination of Editor's engagement with respect to the project, or upon demand, whichever is earliest, return any and all Proprietary Information (including any copies or reproductions thereof in its possession or control.
5. **UNAUTHORIZED USE** Editor shall promptly advise Ms. Tracey Silveira- Zaldivar in writing if it learns of any unauthorized use or disclosure of Proprietary Information by any Editor Personnel or former Editor Personnel.
6. **WORK PRODUCT** Editor shall have no proprietary interest in the work product developed by Editor during the course of its engagement and expressly assigns all rights to copyrights, patents, trade secrets or other proprietary rights to Ms. Silveira-Zaldivar.
7. **INDEMNIFICATION** Editor, at its own expense, shall defend, indemnify and hold harmless Ms. Silveira- Zaldivar and NNU and agents, from any claim, demand, cause of action, debt or liability (including attorneys' fees) to the extent it is based on a claim that Editor Personnel in the course of their engagement on the System infringed or violated the patent, copyright, license or other proprietary right of a third party, provided Editor is notified promptly of such claim and provided that such claim is not based upon the Proprietary Information. Ms. Silveira- Zaldivar may, at its expense, assist in such defense if it chooses. Editor shall have the right to control the defense in any such action and to enter into a stipulation of discontinuance and settlement of such claim in its discretion.
8. **INJUNCTIVE RELIEF** Editor acknowledges that the use or disclosure of the Proprietary Information in a manner inconsistent with this agreement will cause Ms. Silveira- Zaldivar and NNU irreparable damage, and that Ms. Silveira- Zaldivar shall have the right to equitable and injunctive relief to prevent the unauthorized use or disclosure, and to such damages as are occasioned by such unauthorized use or disclosure.
9. **COMPLIANCE WITH LAW** The Editor agrees to abide by all federal, state, and local laws, ordinances and regulations. IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.
10. I understand that Northwest Nazarene University has the right to take legal action against any breach of confidentiality that occurs in my handling of the research data.

Editor's name (printed) [REDACTED]

Editor's signature *MC Lamb*

Date: 08/16/2018

Appendix AA: Electronic Notice to School Personnel Regarding Survey Only

Dear _____ Staff Involved in Inclusion,

I invite you to participate in a research study and receive token of appreciation for about ten minutes of your time. I am currently enrolled in the Educational Leadership Doctorate Program at Northwest Nazarene University and am in the process of conducting my doctoral dissertation. The general purpose of my research study is to explore avenues to improve/enhance the social skills of students with autism in an inclusive school setting.

By recess time today, you will find a packet of three surveys and a consent form in your respective mailboxes. All your responses are CONFIDENTIAL, and Surveys are CODED! If you would like to participate, please complete the packet and return the surveys in the form indicated in my box and the "consent form" to the designated envelope in my box as well. You will find a token of appreciation I the envelope marked as such.

Thanks for your time and consideration. I really appreciate it!

Sincerely,

Tracey Zaldivar
TSilveira-Zaldivar@nnu.edu

Appendix BB: Informed Consent School Employee/Survey Only

TITLE OF STUDY: UTILIZING PARTICIPATORY ACTION RESEARCH TO IMPLEMENT EVIDENCE-BASED SOCIAL SKILLS INTERVENTIONS FOR ELEMENTARY STUDENTS WITH HIGH FUNCTIONING AUTISM IN INCLUSIVE CLASSROOM SETTINGS.

Dear Participant,

I invite you to participate in a research study. I am currently enrolled in the Educational Leadership Doctorate Program at Northwest Nazarene University, and I am in the process of conducting my doctoral dissertation. The general purpose of my research study is to explore avenues to improve/enhance the social skills of students with autism in an inclusive school setting.

The enclosed questionnaires have been designed to collect information on the awareness, use, and implementation of evidenced based practices of social skills interventions and to gauge the importance of social skills for students with autism.

Your participation in this research project is completely voluntary. You may decline altogether. There are no known risks to participation beyond those encountered in everyday life. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. As the actual surveys are coded, even the principal investigator (myself) will not be aware of your individual responses to the questionnaire.

If you agree to participate in this project, please answer the questions on all 3 questionnaires as best you can. It should take approximately 10 minutes to complete. Please return the questionnaires as soon as possible in the enclosed dictated envelope and place your permission slip in the corresponding envelope.

The results of my research will be available after August 1, 2019. If you would like to have a copy of the results of my research, or if you have questions or concerns about participation in this study, you may contact me, Tracey Zaldivar, via email at TSilveira-Zaldivar@nnu.edu, or via telephone at (xxx) xxx-xxxx or my advisor, Dr. Heidi Curtis, Ph.D. Doctoral Committee Chair at Northwest Nazarene University, via email at hlcurtis@nnu.edu, or phone at: (xxx) xxx-xxxx.

Tracey Silveira-Zaldivar
(714) XXX-XXXX
TSilveira-Zaldivar@nnu.edu

CONSENT

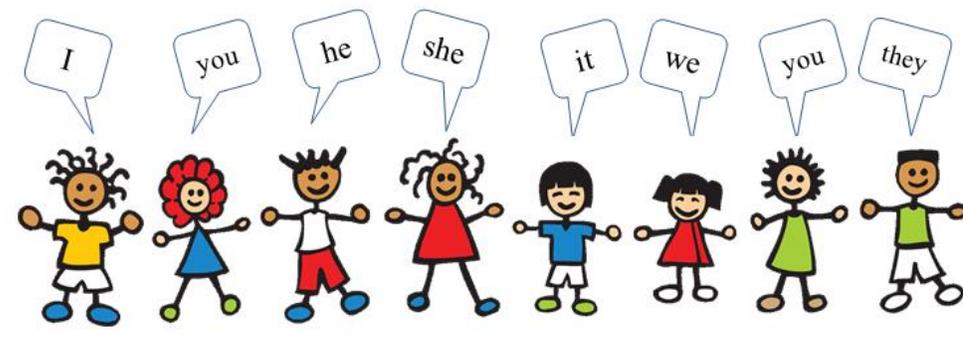
I give my consent to participate in the three surveys related to the doctoral study highlighted above: _____

Signature

Date

Appendix CC: Consent Form Typical Peer Minor

Social Skills



Congratulations!

Due to your child's outstanding social skills and compassion displayed towards all students, your child has been chosen as a typical peer role model candidate for a social skills intervention. We are hoping that you would consent to have your son/daughter serve as a peer model in a social skills group to assist children with special needs. Peer mediated interventions are an evidence-based strategy and research has shown that these groups benefit both the typical peer role model as well as the student with special needs. Typical peers often benefit via enhanced leadership skills and confidence. The group would be very short term and your child's involvement would be the following:

- 1) One 30 to 45-minute training (at school – during a non-academic time period)
- 2) 8 separate 20-30-minute social skills groups during recess and/or lunch (groups will meet twice a week over four weeks)
- 3) One short interview post-the group

If you have any questions, please call me at (xxx) xxx-xxx or my cell (xxx) xxx-xxx

If you would allow your child to participate, please sign the consent form below as soon as you can (we hope to start the group next week).

Sincerely,
Tracey Zaldivar

Mental Health and Autism School Psychologist on Assignment, BCBA

(Typical Peer Participation)

Child's Name: _____

Parent's/Guardian's Name: _____

Parent Contact Information: email and phone number: _____

NATURE OF STUDY/PROCEDURES:

I understand that the general purposes of the research are to explore avenues to improve/enhance the social skills of students with autism in a school setting and I understand that my child's participation as a typical peer model will involve:

- One training session not to last more than 45 minutes time
- Participation in a twice weekly peer mediated social skills intervention program for four weeks (each group to last approximately 30 minutes) as a typical peer model
- Participation in a post-social skills semi-structured interview (four questions) (qualitative data)
- Audio taping of semi-structured interview questions
- A brief review of the student's demographic and/or school information provided by parent (i.e. age, ethnicity, etc.)

The approximate total time of my child's involvement will be 5 hours.

My child and I have been assured that my child may refuse to discuss any matters that cause discomfort or that my child might experience as an unwanted invasion of privacy. I am aware that my child may choose not to answer any questions that my child finds embarrassing or offensive.

I understand that my child's participation is voluntary and that my child may refuse to participate or discontinue participation at any time without penalty or loss of benefits to which my child may be otherwise entitled.

This study is unlikely to cause my child distress. However, I understand that if, after participation, my child experiences any undue anxiety or stress or has questions about the research or his/her rights as a participant that may have been provoked by the experience, Tracey Silveira-Zaldivar will be available for consultation, and will also be available to provide direction regarding medical assistance in the unlikely event of injury incurred during participation in the research.

I understand that confidentiality of research results will be maintained by the researcher. No individual results will be released without my written consent as the parent or guardian of the child and pseudonyms or codes will be utilized to protect my child's name. This helps to protect confidentiality.

All information that is obtained during this research project will be kept strictly secure and will not become a part of your child's school record. All records and data will be destroyed after three years.

This study has been reviewed by the Research Review Committee at Northwest Nazarene University and has been successfully approved.

RISKS/BENEFITS:

The potential benefits/risks of the study are:

Potential Benefits: Positive impact on social skills (i.e. enhanced confidence, enhanced leadership skills, enhanced understanding of students with special needs)

Potential Risks: Possible minimal discomfort or unease during questioning, slight discomfort from the change in routine.

PAYMENTS

There are no payments for participating in this study.

QUESTIONS

The results of my research will be available after August 1, 2019. If you would like to have a copy of the results of my research, or if you have questions or concerns about participation in this study, you may contact me, Tracey Zaldivar, via email at TSilveira-Zaldivar@nnu.edu, or via telephone at (xxx) xxx-xxxx or my advisor, Dr. Heidi Curtis, Ph.D. Doctoral Committee Chair at Northwest Nazarene University, via email at hcurtis@nnu.edu, or phone at: (xxx) xxx-xxx

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to have your child participate in this study, or to withdraw from it at any point. Your decision as to whether to participate in this study will have no influence on you or your child’s present or future status as a student at Northwest Nazarene University.

In addition to your permission, your child will also be asked if he or she would like to take part in this project. Any child may stop taking part at any time. The choice to participate or not will not impact your child’s grades or status at school.

In the space at the bottom of this letter, please indicate whether you do or do not want your child to participate in this project. The second copy is to keep for your records.

Sincerely,



Tracey Silveira-Zaldivar
(xxx) xxx-xxxx
TSilveira-Zaldivar@nnu.edu

CONSENT

If I agree to this study. I have read this form. I understand that nothing negative will happen if I do not let my child participate. I know that I can stop his/her participation at any time. I voluntarily agree to let my child participate in this study as follows:

Child’s printed name: _____

YES, my child _____ may participate in this study.

NO _my child_____ may NOT participate in this study.

Parent/Guardian printed name: _____

Parent/Guardian signature: _____ Date:_____

I give my consent for the post intervention interview to be audio taped in this study:

Signature of Study Participant Parent

Date

I give my consent for direct quotes to be used in this study:

Signature of Study Participant Parent

Date

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW
COMMITTEE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN
PARTICIPANTS IN RESEARCH.

Appendix DD: Letter to Special Education Director

Dear _____

I hope that this email finds you in good health and spirits. I would like to thank the district for allowing me to conduct my dissertation study within the district. It was a wonderful experience. I realize that you were not involved in the initial authorization of the study, so I have attached a synopsis of the study proposal. My study has now been implemented and completed and I'm just finalizing my dissertation. The primary focus of my study was to utilize PAR methods to bridge the gap between research and practice for EB social skills for students with HFA in inclusion settings. The study involved mixed methods and several pieces, including but not limited to: surveys, focus/training groups, and the implementation of two EBP social skills interventions (one PRT and one PMI). The following is a list of the suggestions created by the Focus Group and Intervention Participants for implementing the EBPs for Social Skills for students with HFA in inclusive settings on a more consistent, district wide level:

Build a district team to model and teach school sites how to implement EBPs for students with HFA in inclusive settings. Involve representatives from various district job roles (i.e. general education teacher, special education teacher, behavior support assistants, autism team, speech therapist etc.)

Offer parent training of EBPs to enhance social skills

Have primary researcher and others present at a meeting for district administrators regarding the importance of implementing social skills interventions for students with HFA in inclusive settings.

Increase and enhance training to all staff related to inclusion, especially general education teachers.

Increase staff support to implement the EBPs strategies

Utilize EBPs programs that have a history of being efficient while relatively economically feasible

Have each school site develop a team and have a meeting at least twice a year to address ways in which the team could ensure that each student with HFA on their campus receives EBPs for social skills in a structured manner.

Provide Staff with a list of current EBPs resources currently available within the district to staff

Consider obtaining more materials (i.e. Video Modeling online program that all inclusion staff will have access to; increased SSGT materials) for staff to share

Develop training videos to share

Consider training psychologists, MH counselors and speech therapists first, as they are often responsible for implementing social skills interventions.

A few of us from the focus/training groups, would like to request a meeting with you to share the findings of our group and discuss any next steps that we can take together as a district toward the goal of implementing EBPs for social skills for students with HFA on a more consistent, regular course of action. I'm happy to answer any questions that you might have.

I look forward to hearing from you and I hope that you have a wonderful spring break.

Sincerely,

Tracey Zaldivar

MH and Autism POSA, BCBA NNU doctoral candidate

Appendix EE: Group Comparison Data for the Barriers' Survey Based on District Role

<i>Report</i>								
Job Title		Lack of Training in Evidence-based social skills interventions for students with autism	Lack of staff	Lack of materials	Prioritization of needs/demands in the school day (i.e. emphasis on academics)	Lack of time to implement Social Skills Interventions	Cost of Implementation	Administrative Support
		Education Specialist	Mean	2.6250	2.5000	2.5000	2.6250	2.5000
	Std. Deviation	.51755	.53452	.53452	.51755	.53452	.64087	.75593
	N	8	8	8	8	8	8	8
Regular Education Inclusion	Mean	2.8750	2.8750	2.2500	2.6250	2.6250	2.3750	1.8750
	Std. Deviation	.35355	.35355	.70711	.51755	.74402	.74402	.99103
	N	8	8	8	8	8	8	8
Behavior Staff	Mean	2.5714	2.2857	2.1429	2.5714	2.2857	1.8571	2.5714
	Std. Deviation	.53452	.48795	.37796	.53452	.48795	.37796	.78680
	N	7	7	7	7	7	7	7
School Psychologist	Mean	2.6667	2.6667	2.6667	2.5000	2.3333	1.8333	1.6667
	Std. Deviation	.51640	.51640	.51640	.54772	.81650	.40825	.51640
	N	6	6	6	6	6	6	6
Speech Therapist	Mean	2.5000	2.5000	2.5000	2.0000	2.5000	2.0000	1.5000
	Std. Deviation	.70711	.70711	.70711	.00000	.70711	.00000	.70711
	N	2	2	2	2	2	2	2
Total	Mean	2.6774	2.5806	2.3871	2.5484	2.4516	2.0645	2.0000
	Std. Deviation	.47519	.50161	.55842	.50588	.62390	.57361	.81650
	N	31	31	31	31	31	31	31

Appendix FF: ANOVA Results-Barriers' Survey Results Comparison Analysis by Job

Titles

			Sum of Squares	df	Mean Square	F	Sig.
Lack of Training in Evidence-based social skills inteventions for students with autism * Job Title	Between Groups	(Combined)	.477	4	.119	.492	.742
	Within Groups		6.298	26	.242		
	Total		6.774	30			
Lack of staff * Job Title	Between Groups	(Combined)	1.411	4	.353	1.495	.233
	Within Groups		6.137	26	.236		
	Total		7.548	30			
Lack of materials * Job Title	Between Groups	(Combined)	1.164	4	.291	.924	.465
	Within Groups		8.190	26	.315		
	Total		9.355	30			
Prioritization of needs/demands in the school day (i.e. emphasis on academics) * Job Title	Between Groups	(Combined)	.713	4	.178	.666	.622
	Within Groups		6.964	26	.268		
	Total		7.677	30			
Lack of time to implement Social Skills Interventions * Job Title	Between Groups	(Combined)	.541	4	.135	.315	.865
	Within Groups		11.137	26	.428		
	Total		11.677	30			
Cost of Implementation * Job Title	Between Groups	(Combined)	1.430	4	.358	1.102	.377
	Within Groups		8.440	26	.325		
	Total		9.871	30			
Administrative Support * Job Title	Between Groups	(Combined)	3.577	4	.894	1.416	.257
	Within Groups		16.423	26	.632		
	Total		20.000	30			

Appendix GG: Comparison of Group Means by Job Title for the Social Relevance Scale

Report		Interventions focusing on improving social relationships for children with High Functioning Autism (HFA) are important and needed in public school settings	It is important to teach children with HFA strategies that they can use to interact with peers and school staff	Teaching typical peers strategies, they can use to interact with children with HFA, will enhance social relationships with their HFA peers	Social difficulties in children with HFA affect academic performance	Social difficulties in children with HFA affect their post-secondary success (life outcomes)	Social difficulties in children with HFA interfere with developing relationships (including friendships, parent/student, teacher/student etc.)	Social difficulties in children with HFA contribute to emotional difficulties that they may experience (such as depression, anxiety, complaints of physical symptoms, etc.)	Social difficulties in children with HFA affect their behavior in inclusion settings	Evidence-based social skills training for children with HFA should be incorporated in schools
Education Specialist	Mean	5.0000	5.0000	4.8750	4.0000	4.0000	4.5000	4.3750	4.6250	4.8750
	Std. Deviation	.00000	.00000	.35355	.75593	.92582	.53452	.51755	.51755	.35355
	N	8	8	8	8	8	8	8	8	8
Regular Education Inclusion	Mean	5.0000	5.0000	4.6250	4.2500	4.3750	4.7500	4.2857	4.7500	5.0000
	Std. Deviation	.00000	.00000	.51755	.70711	.74402	.70711	.95119	.46291	.00000
	N	8	8	8	8	8	8	7	8	8
Behavior Staff	Mean	5.0000	5.0000	4.8571	4.4286	4.7143	5.0000	4.7143	4.5714	5.0000
	Std. Deviation	.00000	.00000	.37796	.78680	.48795	.00000	.48795	.78680	.00000
	N	7	7	7	7	7	7	7	7	7
School Psychologist	Mean	4.8333	5.0000	4.5000	4.0000	4.5000	4.6667	4.5000	4.3333	4.6667
	Std. Deviation	.40825	.00000	.54772	.63246	.83666	.81650	.54772	.81650	.81650
	N	6	6	6	6	6	6	6	6	6
Speech Therapist	Mean	5.0000	5.0000	5.0000	4.0000	4.5000	5.0000	4.5000	4.5000	5.0000
	Std. Deviation	.00000	.00000	.00000	1.41421	.70711	.00000	.70711	.70711	.00000
	N	2	2	2	2	2	2	2	2	2
Parent	Mean	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
	Std. Deviation
	N	1	1	1	1	1	1	1	1	1
Total	Mean	4.9688	5.0000	4.7500	4.1875	4.4063	4.7500	4.4839	4.5937	4.9063
	Std. Deviation	.17678	.00000	.43994	.73780	.75602	.56796	.62562	.61484	.39015
	N	32	32	32	32	32	32	31	32	32