Teaching Social Skills to Students with Autism Spectrum Disorders and Students with Intellectual Disabilities

Kalli Kemp

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
under the Executive Committee
of the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2015

ABSTRACT

Teaching Social Skills to Students with Autism Spectrum Disorders and Students with Intellectual Disabilities

Kalli Kemp

Individuals with Autism Spectrum Disorders (ASD) and intellectual disability (ID) exhibit impairments in social functioning (American Psychiatric Association (APA), 2013). Social skills impairments of students with ASD and students with ID should be addressed by teachers using evidence-based strategies (Individuals with Disabilities Education Act, 2004; National Research Council, 2001). While several evidence-based strategies that address social skills have been identified in research (e.g. Reichow & Volkmar, 2010; Wong et al., 2014), little is known if teachers use these strategies with students with ASD and students with ID.

The present study used a researcher-designed questionnaire to examine teachers' reported knowledge, use, and attitudes towards evidence-based social skills strategies. This study used word-of-mouth sampling, and was based on teacher reports. Eight research questions were examined in this study. The first two research questions examined if teachers taught students with ASD and students with ID social skills, and if teacher characteristics were associated with whether or not they had taught social skills. The next research questions examined teachers' use of certain social skills strategies, the location, time, and frequency of use of the strategies, and the effectiveness of the strategies. The next research question addressed barriers or reasons that teachers do not use specific social skills strategies, as well as the barriers or difficulties teachers experience with teaching social skills to students with disabilities. Research question five examined the resources and

supports teachers identify as needed for teaching social skills. Research questions six and seven examined social skills characteristics of students with ASD and students with ID, and if the characteristics of these students were related to whether or not they had received social skills instruction. Finally, research question eight examined student and teacher factors that are predictive of the students' social skills.

This study found that the majority of teachers reported that they taught social skills, and special education teachers seemed to be more likely to teach social skills than general education teachers. The most popular social skills strategies were prompting, reinforcement, and modeling, which were also ranked as the most effective strategies by teachers. The least frequently used strategies were Pivotal Response Training and video modeling. Teachers used social skills strategies most frequently in the special education classroom and during class instruction time.

The most frequently identified barrier to the implementation of social skill strategies was limited time to design social skills interventions. This related to the most frequently identified resource needed, which was the need for more planning time. Teachers also identified the lack of social skills curricula as a barrier and a needed resource.

Students with ASD and students with ID had social skills scores in the at risk range on the Social Emotional Assets and Resiliencies Scale (SEARS, Merrell, 2011), with the only difference between the two groups on the empathy scale. Two factors were found to predict students SEARS scores, which were having friends and more than 20 functional words.

TABLE OF CONTENTS

LIST OF TABLES.....v

LIST OF FIGURES.....vii

ACKNOWLEDGEMENTS.....viii

CHAPTER I: BACKGROUND AND NEED.....1

Definitions.....7

Autism Spectrum Disorders (ASD).....7

Intellectual Disability (ID).....8

Typically Developing.....9

Social Skills.....9

Social Skills Intervention.....9

Need for Further Research.....9

Statement of the Problem.....11

CHAPTER II: REVIEW OF LITERATURE.....13

Social Development and Social Skills.....13

Defining Social Skills.....13

Social Development of Typically Developing Children.....14

Social Skills Impairments in Individuals with ASD and Individuals with ID.....18

Individuals with ASD.....18

Nonverbal Communication.....19

Social-Emotional Reciprocity.....20

Relationship Development.....21

Social Cognition.....22

Individuals with ID....23
Educational Settings of Students with ASD and Students with ID....28
Social Skills Interventions for Students with ASD and Students with ID....30
Social Skills Instruction Strategies....32
Modeling....32
Prompting....33
Reinforcement....36
Naturalistic Instructional Strategies....37
Peer-Mediated Instructional Strategies....38
Pivotal Response Training....41
Scripting....42
Social Stories....43
Role-Playing....43
Video Modeling....44
Summary and Rationale....45
Research Questions....46
CHAPTER III: METHODS....48
Participants....48
Research Design....48
Measures....49
Researcher-Designed Questionnaire....49
Social Emotional Assets and Resilience Scales....50
The Dependent Variable and Independent Variables....52

Procedure....55
Recruitment....55
Obtaining Consent....55
Administration of Instruments....55
Data Analysis....56
CHAPTER IV: RESULTS....60
Demographic Information about Participants....60
Results for Research Questions....62
Research Question 1....62
Research Question 2....63
Research Question 3....64
Research Question 4....73
Research Question 5....77
Research Question 6....79
Research Question 7....82
Research Question 8....83
SEARS-Total....83
SEARS Self-Regulation Scale....87
SEARS Social Competence Scale....90
SEARS Empathy Scale....93
SEARS Responsibility Scale....96
CHAPTER V: DISCUSSION....99
Teacher Implementation of Social Skills Intervention Strategies....100

Barriers and Resources for Teaching Social Skills.....105

Social Skills of Students with ASD and Students with ID.....107

Future Research.....111

Limitations.....112

REFERENCES.....115

Appendix A.....130

Appendix B.....132

Appendix C.....135

LIST OF TABLES

Table		Page
1	Reliability of the SEARS for Participants in the Present Study	51
2	Dependent Variable and Independent Variables and Corresponding Instruments	52
3	Participant Characteristics	61
4	Number and Percent of Participants who Taught Social Skills by Teaching Position	63
5	Participants' Knowledge and Use of the Social Skills Instructional Strategies	65
6	Location, Time, and Frequency of Use of Individual Social Skills Instructional Strategies	67
7	Effectiveness of Social Skills Instructional Strategies	68
8	Mean Ranks of Effectiveness and Ease of Use	73
9	Barriers for Social Skills Instructional Strategies	75
10	General Barriers to Teaching Social Skills to Students with Disabilities	77
11	Resources and Supports Needed to Teach Social Skills	78
12	Suggestions for Teacher Preparation Programs	79
13	Student Characteristics	81
14	Summary of SEARS Scores	82
15	Relationships between SEARS-Total and Student Characteristics	85
16	Relationships between SEARS-Total and Teacher Characteristics	86
17	Stepwise Multiple Regression Analysis of SEARS-Total T-scores	87
18	Relationships between SEARS Self-Regulation and Student Characteristics	89
19	Relationships between SEARS Self-Regulation and Teacher Characteristics	90

20 Simple Linear Regression Analysis of SEARS Self-Regulation T-scores.....90

21 Relationships between SEARS Social Competence and Student Characteristics.....91

22 Relationships between SEARS Social Competence and Teacher Characteristics.....92

23 Stepwise Multiple Linear Regression Analysis of SEARS Social Competence T-scores.....93

24 Relationships between SEARS Empathy and Student Characteristics.....94

25 Relationships between SEARS Empathy and Teacher Characteristics.....95

26 Stepwise Multiple Regression Analysis of SEARS Empathy T-scores.....96

27 Relationships between SEARS Responsibility and Student Characteristics.....97

28 Relationships between SEARS Responsibility and Teacher Characteristics....98

29 Stepwise Multiple Linear Regression Analysis of SEARS Social Competence T-scores.....98

LIST OF FIGURES

Figure		Page
1	Distribution of Participants' Years of Experience	61
2	Distribution of Effectiveness Scores for Modeling	69
3	Distribution of Effectiveness Scores for Naturalistic Strategies	69
4	Distribution of Effectiveness Scores for PMII	69
5	Distribution of Effectiveness Scores for PRT	70
6	Distribution of Effectiveness Scores for Prompting	70
7	Distribution of Effectiveness Scores for Reinforcement	70
8	Distribution of Effectiveness Scores for Role Play	71
9	Distribution of Effectiveness Scores for Scripting	71
10	Distribution of Effectiveness Scores for Social Stories	71
11	Distribution of Effectiveness Scores for Video Modeling	72
12	Distribution of the Students' Age	80

ACKNOWLEDGEMENTS

Thank you to my advisor and mentor, Dr. Hsu-Min Chiang. I am truly grateful for the support and opportunities you provided to me throughout my time at Teachers College. I know I will carry the lessons I learned from you throughout my career.

I also want to thank the members of my dissertation committee: Dr. Young-Sun Lee, Dr. Ye Wang, Dr. Dolores Perin, and Dr. Ada Mui. Thank you for your dedication and time. Your advice and feedback were truly appreciated.

Finally, I want to thank my family. I would not be where I am today without your encouragement and unyielding support. Mom and Dad, thank you for always standing by my side throughout my pursuit to achieve my goals, even when it meant sending me off to the unknown. Meagan and Trevor, your friendship throughout my life has meant more to me than you could possibly know. Last but certainly not least, thank you to my husband Michael. You have been a constant throughout this process, and have given so selflessly so that I could achieve my dreams. I have no words to adequately express how happy I am to have you on my team.

Chapter I

Background and Need

The No Child Left Behind Act of 2001 (NCLB, PL 107-110) requires that teachers use "scientifically based research" to inform their teaching practices with all students, including those with disabilities. Furthermore, the Individuals with Disabilities Education Act (IDEA, 2004) of 2004 specifies that the Individualized Education Program (IEP) of a student with a disability include special education and related services that are based on peer-reviewed research. Scientifically based and peer-reviewed research is commonly used synonymously with the term evidence-based practices. Evidence-based practices are those that show strong evidence for being effective, and evidence of effectiveness may come from several types of research methodologies including randomized controlled trials, quasi-experimental studies, and single subject design studies (Odom et al., 2005). However, Odom et al. (2005) further suggest that evaluating practices in research is not enough, and that further research should be conducted to examine the use of these practices in schools. A lag in the adoption of evidence-based practices in natural settings such as the classroom is referred to as the research-to-practice gap, and is a common problem in special education (Cook & Odom, 2013; Cook & Schirmer, 2003; Greenwood & Abbott, 2001; McLeskey & Billingsley, 2008). Greenwood and Abbott (2001) identify several issues that contribute to the research-to-practice gap in special education, including a disconnect between researchers and school professionals, relevance of research, usability of research in classrooms, and poorly developed professional development.

Impairment in social skills for individuals with autism spectrum disorder (ASD) is well known and well researched. When Kanner (1943) first identified and discussed the

characteristics of eleven individuals with autism, he noted that the individuals had trouble with social situations. Difficulty relating to others was common among the individuals observed by Kanner, and was present early in the individuals' lives. Since Kanner's (1943) initial description of individuals with ASD, social-communication impairment has been identified as one of the core impairments of ASD (American Psychiatric Association (APA), 2013). The different autism diagnoses (e.g., autistic disorder, Asperger's disorder, PDDNOS) used in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR, APA, 2000) are replaced with one term, ASD, in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5, APA, 2013). The new criteria for diagnosis of ASD outlined in DSM-5 require that individuals show "persistent deficits in social communication and social interaction across multiple contexts" (p. 50), which includes deficits in social-emotional reciprocity, nonverbal communication, and developing and maintaining relationships with others. The severity of social-communication deficits is indicated in the diagnosis and ranges from "requiring support" to "requiring very substantial support" (p. 52). Level 1 of the severity ratings, or "requiring support", may include problems with initiating and responding to others, and the individual may show less interest in social participation. Level 3, or "requiring very substantial supports", may include behaviors such as limited communication and few social initiations and responses to initiations of others (APA, 2013).

For individuals with intellectual disability (ID), social skills are often delayed and part of the adaptive behavior domain in the diagnostic criteria for ID (APA, 2013; Drew & Hardman, 2007). Along with intellectual functioning, deficits in adaptive functioning are part of the diagnostic criteria outlined in DSM-5 for ID (APA, 2013). Deficits in adaptive

functioning may include areas such as communication and social participation. Students with ID need instruction that can help them develop appropriate social skills that support friendships with peers (Drew & Hardman, 2007). Research has shown that students with ID have more difficulties in sustaining social interactions than their typically developing peers (Bortoli & Brown, 2008). Nota, Ferrari, Soresi, and Wehmeyer (2007) found that individuals with more severe ID had lower social skills than those who had milder ID. A positive relationship between social skills and quality of life in individuals with ID has also been found (Nota et al., 2007).

Education environment may be a factor associated with social skills development and friendship development in students with disabilities. Historically, many students with disabilities received little to no education, especially in their neighborhood public schools (U.S. Department of Education, Office of Special Education and Rehabilitative Services, 2010; Winzer, 2007). According to the U.S. Department of Education (U.S. DOE), prior to the passage of the Education of All Handicapped Children Act (EAHCA) of 1975, as few as 20% of students with disabilities received an education from public schools (U.S. DOE, Office of Special Education and Rehabilitative Services, 2010). Since the passage of EACHA in 1975 and the several amendments to the law that followed, the number of students with disabilities receiving educational services in their local school districts and in the regular classroom alongside their typically developing peers has increased (U.S. DOE, Office of Special Education and Rehabilitative Services, 2010).

Each year the U.S. DOE provides an Annual Report to Congress on the implementation of IDEA, in which they identify the proportion of students with specific disabilities educated in different education environments (U.S. DOE, 2014). In the 2014

Annual Report, which reports the data from 2012, 39.5% of students with ASD aged 6- to 21-years old and 17.1% of students with ID spent 80% or more of their school day in the regular classroom. The report also states that 18.1% of those with ASD and 26.6% of those with ID spent 40-79% of their day in the regular classroom. Conversely, 33.2% of students with ASD and 48.7% of students with ID spent 40% or less of their school day in the regular classroom. Furthermore, 9.2% of students with ASD and 7.6% of students with ID spend their school days in other environments, which may include "separate schools, residential facilities, homebound/hospital environment, correctional facilities, and parentally placed in private schools" (p. 46). While a number of students continue to be educated in separate, non-inclusive settings, the trend toward a higher percentage of students receiving the majority of their education in the regular, inclusive classroom has increased over the years. In the 2000 Annual Report, which reports data from the 1997-1998 school year, 18.9% of students with ASD and 12.6% of those with ID spent 0-21% of the school day outside of the regular classroom (approximately 80% or more in the regular classroom). During this year, 12.7% of students with ASD and 29.6% of students with ID spent between 21-60% of the school day outside of the regular classroom, while 52.1% of students with ASD and 51.7% of students with ID spent more than 60% of their school day outside of the regular classroom (less than 40% in the regular classroom).

The increase in the number of students with disabilities being educated in the regular classroom is an expected trend. The trend towards inclusion not only promotes access to the general curriculum and improved academic outcomes for students with disabilities, but also promotes social skills and social interaction between students with disabilities and their typically developing peers (e.g. Freeman & Alkin, 2000; Stainback & Stainback, 1992).

With the increase of students with disabilities being educated in general education classrooms, it is important that research be conducted to identify more evidence-based strategies to improve academic skills and social development in individuals with disabilities (McLeskey, Lander, Williamson, & Hoppey, 2010; U.S. DOE, 2014).

An oft-repeated argument by proponents of educating students with disabilities in general education classrooms is the social integration of students with disabilities and their typically developing peers. It is argued that this will help all students in the general education classroom understand that all persons should be included and that everyone has value, further promoting the development of respect for all (Stainback & Stainback, 1992; Stainback, Stainback, East, & Sapon-Shevin, 1994). Research has found that students with severe disabilities who were educated in inclusive classrooms made more significant gains on social competence measures than peers with disabilities who were educated in self-contained classrooms (Fisher & Meyer, 2002; Rafferty, Piscitelli, & Boettcher, 2003).

Developing friendships and relationships in inclusive settings may be a struggle for students with disabilities. Kasari, Locke, Gulsrud, and Rotheram-Fuller (2011) asked students with ASD and their classmates to complete a social network survey. In the survey, students identified their top three friends, the students they do not like to spend time with, and the groups of students that want to spend time together. They found that when comparing students with ASD to their typically developing classmates, students with ASD were listed as a friend by fewer peers. Furthermore, the quality of friendships for students with ASD received lower ratings and they had few matches in their top three friends list. Hughes et al. (1999) studied the interactions of high school students with ID during their lunch hour. They noted that very few interactions occurred between students with ID

and their typically developing peers over the course of the observations. Bauminger et al. (2008) compared the friendships of students with ASD with their typically developing peers (mixed friendships) to the friendships with other students with ASD (non-mixed). They found that mixed friendships tended to be stronger and more positive than non-mixed friendships. This research highlights a marked interest in promoting friendships between students with ASD and their typically developing peers (Bauminger et al., 2008).

It is imperative that teachers use effective interventions to improve social skills of students with disabilities as well as social interactions between students with disabilities and their typically developing peers. The National Research Council (NRC, 2001) recommends that social skills be part of the intervention practices of students with ASD. Furthermore, IDEA requires that the IEP include a student's present levels of performance regarding both academic and functional skills, which include social skills (IDEA, 2004). If a student has needs in functional skills, his/her IEP team is required to develop goals that appropriately address the needs. For example, New York State recommends that the IEP include present levels of performance and individual needs according to four areas, one of which is social development (The University of the State of New York & The State Education Department, 2010). Goals should then be developed based on these needs as they relate the student's participation in the least restrictive environment and general curriculum. A number of evidence-based social-communication interventions have been identified in research. A group of leading researchers recently identified evidence-based practices in several domains, including social skills interventions (Wong et al., 2014). Some of the identified interventions leading to positive outcomes in social-communication behaviors are naturalistic intervention, peer-mediated instruction and intervention, prompting, social

narratives, social skills training, and video-modeling. This list is not exhaustive of the identified evidence-based practices by the report, but merely represent the numerous strategies that may be employed by teachers in inclusive classrooms for the development of social-communication skills for students with ASD. Other researchers also identify evidence-based strategies for teaching social skills of individuals with ASD or ID. For example, Carter and Hughes (2005) identified interventions that had been used to increase interactions of adolescents with ID and their general education peers. Interventions included self-management, collateral skill instruction, communication book, social interaction instruction, peer support, instructional groupings, and peer training.

Definitions

Autism Spectrum Disorder (ASD). In this study, ASD refers to the individuals with an autism diagnosis [e.g., autistic disorder, Asperger's disorder, Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)] and/or those identified as having autism based on IDEA definitions and identified on their IEP. The DSM-IV-TR (APA, 2000) definitions were used as the majority of target students identified in this study were likely diagnosed using these diagnostic criteria. The DSM-IV-TR included several disabilities on the autism spectrum, including PDD-NOS, autistic disorder, Asperger's disorder, Rett's disorder, and childhood disintegrative disorder. For autistic disorder, individuals must exhibit impairments in three areas: social interaction, communication, and restrictive, repetitive and stereotyped patterns of behavior. Examples of impairments in social interaction include nonverbal behavior, peer relationships, and social emotional reciprocity. Impairments in communication include delay in spoken language and problems with the initiation and maintenance of conversations. Finally, examples of restrictive and

stereotyped behaviors include adherence to routines, stereotyped and repetitive motor movements, and preoccupation with interests or parts of objects (APA, 2000). DSM-5 included several changes to the ASD diagnosis, including collapsing the previously mentioned diagnoses into one: Autism Spectrum Disorder. The DSM-5 also combined social and communication impairments into one category. IDEA (2004) defines ASD as:

> … a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects 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. [34 CFR Section 300.8 (c) (1) (i-iii)]

Intellectual Disability (ID). ID is used in this study to include individuals diagnosed with an intellectual disability and/or those identified as having ID on their IEP. Similarly to the ASD definition, the DSM-IV-TR (2000) definition of ID is used in this study. The DSM-IV-TR referred to ID as mental retardation, and includes onset prior to age 18, below average intellectual functioning (IQ below 70), and deficits in adaptive functioning. Adaptive functioning areas include areas such as: communication, self-care, home living, and social skills. DSM-5 renamed mental retardation to ID and defined it as "a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains" (p. 33). IDEA (2004) defines ID as:

> … significantly sub average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance. [34 CFR Section 300.8 (c) (6)]

Typically developing. Typically developing is defined as an individual who does not have any identifiable disability that necessitates intervention or additional education services.

Social skills. The definition of social skills used in this study will follow that of Gresham, Elliott, Vance, and Cook (2011), in which social skills were defined as, "… learned, socially acceptable behaviors that allow a person to positively interact with others" (p. 29).

Social skills intervention. A social skills intervention is defined as an instructional strategy that may be implemented by teachers to promote development of social skills for an individual with a disability to promote social interactions between students with disabilities and their typically developing peers.

Need for Further Research

While academic development and intervention is certainly paramount to a student's program and goals in school, it is also important and required that functional, including social, goals are developed based on individual students' needs in order to promote access and growth in the least restrictive environment (IDEA, 2004; The State University of New York & The State Education Department, 2010). Although research has been conducted to

identify evidence-based social skills interventions, little research has been conducted to determine what types of interventions teachers actually implement with students with disabilities in educational settings. In one of the few research studies examining the types of interventions professionals use with children with disabilities, Hume, Bellini, and Pratt (2005) found that parents reported that very few (15%) early intervention service providers actually delivered social skills interventions for young students with ASD even though they are a recommended practice and a large percentage of parents (67.5%) felt strongly that social supports benefited and contributed to the growth of their child. It should be noted that not all children in this study were receiving intervention in a classroom. Odom, McConnell, and Chandler (1993) surveyed preschool teachers on their use of child-specific, peer-mediated, and environmental arrangement strategies for social skills intervention for students with disabilities. The study also asked about feasibility and acceptability of the strategies, and to identify barriers through an open-ended question. The three types of strategies were generally rated as feasible and acceptable, with child-specific strategies receiving the highest ratings. Overall, child-specific strategies were also more frequently used by teachers. Access to trained staff and time were identified as barriers for all three strategies. Finally, Carter and Pesko (2008) examined teacher ratings of the use, feasibility, and acceptability of social interaction strategies with students with severe disabilities in general education high school classroom. The study examined 12 strategies such as directly teach social skills, teach communication system, teach self-monitoring, use of different peer arrangements, train peers to interact or teach social skills, and paraprofessional or special education teacher support. Carter and Pesko (2008) found that participating general and special education teachers and paraprofessionals rated the strategies as effective. They also

found that the strategies were not used frequently in secondary general education classrooms, and some strategies were used very rarely (e.g. self-monitoring, communication system, and disability awareness).

It is important to further examine this potential research-to-practice gap to understand teacher perspectives on the evidence-based social skills interventions that they do implement with students with ASD and students with ID across school age levels. The previous studies focused on either preschool students (Hume et al., 2005; Odom et al., 1993) or high school students (Carter & Pesko, 2008). It is important to examine the strategies that teachers use across the age span. Furthermore, these studies focused on either all students with disabilities (Hume et al., 2005; Odom et al., 1993) or students with severe disabilities (Carter & Pesko, 2008). Further examination of strategies used with students with ASD and students with ID should be conducted, as students with these disabilities exhibit impairments in social skills (e.g. APA, 2013; Drew & Hardman, 2007). With regards to evidence based social skills interventions that may not be implemented by teachers, research should aim to understand the barriers to implementation of these interventions as well as the suggestions that teachers may have with regard to promoting implementation.

Statement of the Problem

Considering delays and deficits in social skills development that many students with ASD and student with ID experience (APA, 2013), it is important that teachers provide social skills interventions to those students who may be in need of social skills support (NRC, 2001, The State University of New York & The State Education Department, 2010). The primary purpose of this study is to identify the types of social skills interventions that teachers report that they implement with students with ASD or ID in various school settings.

A secondary purpose of this study is to examine teachers' beliefs of the effectiveness of the interventions they reportedly implement. The third purpose is to examine if there are relationships between teachers' reported implementation of social skills interventions and social skills of their students with ASD or ID. Although many evidence based interventions for social skills have been identified in research (Wong et al., 2014), little is known if teachers find these interventions to be effective in addressing social skills and interactions of students with disabilities and their typically developing peers. It is important to bridge the research-to-practice gap and develop an understanding of the types of interventions teachers use in their classrooms, the interventions that teachers find to be most successful, the barriers to implementation of social skills interventions, and potential solutions for promoting implementation of interventions that are evidence-based but may not be used by teachers.

Chapter II

Review of Literature

The purpose of this chapter is to review the literature that supports the study presented in Chapter I, including characteristics of social skills impairments in individuals with ASD and students with ID and effective social skills interventions for students with disabilities in classrooms. The chapter begins by defining social skills and discussing social development in typically developing children and their importance in the classroom. This is followed by an examination of the social skills impairments identified in individuals with ASD and students with ID. An examination of the educational settings of students with ASD and students with ID, and the connection of these settings to social skills development for students with ASD and students with ID are also examined. Finally, a review of evidence-based social skills interventions that have been utilized with individuals with ASD and individuals with ID in schools is provided at the end of this chapter.

Social Development and Social Skills

Defining social skills. There exist a large number of theories regarding social development in the literature, which include but are not limited to psychosocial theory, traditional learning theory or behaviorist theory, social learning theory, social information processing theory, cognitive developmental theory, and ecological theory (Parke & Clarke-Stewart, 2011). These varied perspectives and theories have led to various social skills definitions present in the literature (Gresham, 1986). According to Rao, Beidel, and Murray (2008), the absence of a consistent definition and inclusion of specific behaviors to represent social skills creates challenges for understanding research on social skills. The definition followed here is provided by Gresham et al. (2011), which states that, "Social skills are

learned, socially acceptable behaviors that allow a person to positively interact with others" (p. 29). The definition of social skills refers to the performance of behaviors during interactions, which should be distinguished from social competence (Gresham, Sugai, & Horner, 2001). Social competence refers to evaluations of social behaviors or the performance of an individual on social skills (Gresham et al., 2001). Social skills, along with adaptive behaviors, can be viewed as part of an overall social competence construct (Gresham & Elliott, 1987).

Social skill deficits are frequently delineated into two categories: performance deficits and skill acquisition deficits (Gresham et al., 2011). Performance deficits occur when an individual knows how to perform a skill but fails to do so. When this deficit occurs, it is not related to ability but may be due to other factors that interfere with performance (Boutot & Myles, 2011; Gresham et al., 2011). These factors may include motivation, anxiety, or sensory sensitivities (Boutot & Myles, 2011). Skill acquisition deficits occur when an individual does not know how to perform a specific skill (Gresham et al, 2011). These deficits occur when the student has not received appropriate instruction or has not adequately learned the skill (Gresham et al., 2011), and appropriate intervention to teach the skills should be considered (Boutot & Myles, 2011).

Social development of typically developing children. Social interaction is an important component of child and cognitive development (Park & Clarke-Stewart, 2011; Vygotsky, 1978). Vygotsky (1978) believed that learning is uniquely social, and that the process of learning and development are only able to take place when children interact with others. His theory proposes that learning occurs when a child interacts with a more experienced or knowledgeable person in the zone of proximal development, which is the

developmental level in which a child is successful at solving problems or performing a skill with support from others.

Social development begins early in life. Infants' ability to recognize faces develops during the first six months (Nelson, 2001), and research suggests that people recognize faces differently than other visual stimuli (Farah, Wilson, Drain, & Tanaka, 1998; Nelson, 2006). Children as young as 9-months old begin to follow the gaze of others (Tomasello & Rakoczy, 2003). The ability to follow the gaze of another is part of joint attention, which is the ability of a person to share attention by looking at objects in coordination with another (Morales et al., 2000). Researchers have shown that better performance on joint attention tasks by infants were related to later receptive and expressive language abilities in young children (Morales et al., 2000).

Recognition of emotions in faces begins in early childhood, and continues to develop throughout childhood (Durand, Gallay, Seigneuric, Robichon, & Baudouin, 2007; Widen & Russel, 2003). Children as young as 5-years-old are able to recognize facial expressions of happiness and sadness at high levels (Durand et al., 2007). The ability to consistently recognize other emotions such as angry and disgust develops over subsequent years (Durand et al., 2007). There is evidence that the ability to recognize facially expressed emotions is important for social development. Longitudinal studies have shown that preschoolers who perform higher on emotion recognition tasks perform better on social skills according to the Social Skills Rating System (SSRS, Gresham & Elliott, 1990) in third grade (Izard et al., 2001).

Researchers have also studied theory of mind with regard to social development of typically developing children. Theory of mind is described as the ability of a person to

understand the thoughts and perspectives of others (Bartsch & Estes, 1996). One theory of mind paradigm used in research is the false belief test (Baron-Cohen, Leslie & Frith, 1985; Farrant, Boucher, & Blades, 1999), such as the Sally-Anne test used by Baron-Cohen et al. (1985). In the Sally-Anne test, Sally places an object in a basket and then leaves the room. Anne then moves the object to a new location. The participant is asked where Sally will look for the object when she returns to the room. If the participant states that Sally will look for the object in the basket where she left it, then they pass the false belief test and understand that Sally has a mental state that differs from reality. Therefore, the participant is presumed to have theory of mind. In a meta-analysis of theory of mind research with typically developing children, Wellman, Cross, and Watson (2001) found that performance on the false-belief task improves with age. Children who were 30-months old were incorrect 80% of the time on false-belief tasks, while children who were 44-months old were incorrect 50% of the time. Research has shown that preschool children who perform higher on theory of mind tasks engage in more cooperative pretend play with friends (Dunn & Cutting, 1999). Liddle and Nettle (2006) asked 10- and 11-year-old children theory of mind questions that ranged from simple inferences about others' beliefs to much more complex questions that dealt with multiple levels of inference (e.g. inferences about a belief about a belief about a belief). Their teachers also rated participants' social competence. All participants were able to answer the simplest theory of mind questions accurately, with accuracy decreasing for higher levels of theory of mind questions. The study found that participants who performed better on the theory of mind questions were rated higher on social competence measures by their teachers.

Many researchers have studied peer interactions and play among typically

developing children. Many years ago, Parten (1932) observed preschool children in play, and from these observations defined several categories of play. Those categories included unoccupied behavior, onlooker, solitary independent play, parallel activity, associative play, and cooperative play. The observations made by Parten (1932) indicated that younger children were more likely to spend time in onlooker, solitary, and parallel play than older children, while older children were more likely to spend time in associative and cooperative play than younger children. Researchers have examined the relationship between social play (playing with others) and social competence. Furthermore, researchers have found that preschool children that engage in more social play have lower ratings of behavior problems by their parents (Mendez & Fogle, 2002). Newton and Jenvey (2011) observed preschoolers playing and asked their parents to complete a measure of social competence. Analyses found that preschoolers who engaged in more social play had higher social competence as rated by their parents. Researchers have also examined the relationship between social play and learning. Coolahan, Fantuzzo, Mendez, and McDermott (2000) found that preschoolers who engaged in more social play were more engaged in learning activities. Eggum-Wilkens et al. (2014) found that the time spent in social play of preschoolers enrolled in Head Start programs increased over the school year. They also found that preschoolers with higher levels of social play at the beginning of the year as well as those with high rates of growth in their social play over the year had higher levels of school competence as rated by their kindergarten teachers.

Social behavior has been studied with regard to classroom performance and teacher perception. Lane, Wehby, and Cooley (2006) analyzed teacher perceptions of the social skills important to success across grade levels. They found that elementary, middle, and

high school teachers found the following traits as important to success: controls temper with classmates and adults, follows directions, attends to instructions, and transitions between activities with ease. In a similar study, Lane, Givner, and Pierson (2004) found several social skills identified as important for success in the classroom by elementary teachers. These skills included following directions, attending to instructions, controlling temper with peers and adults, getting along with others, and responding appropriately when hit. Caprara, Barbaranelli, Pastorelli, Bandura, and Zimbardo (2000) found that prosocial behavior in third graders predicted academic achievement at eighth grade. Prosocial behaviors were considered those that were cooperative, helpful, sharing, and empathic. They also found that eighth graders showed preferences for interacting with peers who exhibited prosocial behaviors when they were younger.

Social Skills Impairments in Individuals with ASD and Individuals with ID

Individuals with ASD. Social-communication impairment is one of the core deficits in individuals with ASD (APA, 2013). According to DSM-5, individuals with ASD may exhibit deficits in social-emotional reciprocity, which may include difficulty with conversational turn taking, lack of sharing interests and emotions, or lack of initiation and/or response to social interactions. The DSM-5 criteria for ASD also includes deficits in nonverbal communication, such as problems with eye contact and difficulties using and understanding gestures. Finally, individuals with ASD frequently exhibit deficits in developing and maintaining relationships, which may include difficulty adjusting to social contexts (APA, 2013).

Social skills for individuals with ASD are well researched in the literature. Much of the social skills research also focuses on communication skills, similarly to the DSM-5

diagnostic criteria, as social skills and communication skills can be difficult to separate. Social skills impairments will be discussed according to three categories described by the DSM-5 criteria: nonverbal communication, social-emotional reciprocity, and relationship development (APA, 2013). One additional area of social skills deficits, social cognition, identified by Boutot and Myles (2011) will also be discussed as it relates to relationship development.

Nonverbal communication. Individuals with ASD have deficits in nonverbal communication that may include either a lack of awareness of nonverbal cues or misinterpretation of nonverbal cues (Boutot & Myles, 2011; Stone, Ousley, Yoder, Hogan, & Hepburn, 1997; Wetherby, Watt, Morgan, & Shumway, 2007). Stone et al. (1997) compared the nonverbal communicative behaviors of young children with ASD to their same age peers with developmental disabilities and language impairments. They utilized an assessment that is designed to examine the communication of children, particularly with regard to commenting and requesting. They found that children with ASD made fewer communication attempts than other children, and their communication attempts were characterized by more frequent requests and fewer comments. Participants with ASD were less likely to use nonverbal communication such as gestures and eye contact to communicate. Furthermore, participants with ASD often physically interacted with an adult, such as moving the experimenter's hand, to communicate and request items.

Although there have been mixed results in research, there is evidence that individuals with ASD exhibit an impairment in identifying facial affect (Demopoulos, Hopkins, & Davis; 2013; Harms, Martin, & Wallace, 2010; Holdnack, Goldstein, & Drozdick, 2011). Individuals with ASD have shown impairment in understanding facial expressions in

pictures of people interacting (Holdnack et al., 2011). In fact, eye-tracking experiments have shown that individuals with ASD spend less time looking at social stimuli than typically developing participants (Klin, Jones, Schultz, Volkmar, & Cohen, 2002; Riby & Hancock, 2008). Klin et al. (2002) found that the amount of time participants spent looking at objects while viewing a social scene in a video clip was predictive of lower levels of social adaptation.

Joint attention is another area of nonverbal social-communication skill that individuals with ASD frequently show impairment (Dawson et al., 2004; Mundy, Sigman, Ungerer, & Sherman, 1986; Wetherby et al., 2007). Joint attention is the ability to attend to an object or event in coordination with another person (Mundy et al., 1986). Joint attention has been well researched in the literature, and has been shown to differentiate young children with ASD, typically developing peers, and individuals with other developmental disabilities (Dawson et al., 2004).

Social-emotional reciprocity. Another key area of social-communication impairment for individuals with ASD is social-emotional reciprocity, which may include problems with social initiation and maintenance of social interactions (APA, 2013). Boutot and Myles (2011) describe social reciprocity as the exchanges between individuals and their partners during social interactions. Individuals with ASD have impairments in initiating interactions, and they do so less frequently than their peers (Hobson & Lee, 1998; Jones & Schwartz, 2009; Koegel, Koegel, Frea, & Fredeen, 2001). Individuals with ASD seem to have difficulty initiating interactions with peers rather than adults (Koegel et al., 2001). However, Jones and Schwartz (2009) found that children with ASD between the ages of three and seven made fewer initiations to their parents at dinnertime than typically

developing peers. While some individuals with ASD show less initiation generally, others do initiate interactions but do so inappropriately (Boutot & Myles, 2011).

Responding to the initiations of others and maintaining interactions are important to social-emotional reciprocity. Mundy et al. (1986) found that children with ASD exhibited problems with responding to initiations by others and maintaining or continuing interactions. Jones and Schwartz (2009) found that children with ASD ignored or rejected parent initiations during dinnertime more frequently than did typically developing peers. Murray, Ruble, Willis, and Molloy (2009) interviewed parents and teachers about social skills of students with ASD. They found that teachers and parents gave the lowest ratings to the children's ability to initiate and maintain interactions. Adolescents with high-functioning ASD have reported less pleasure and enjoyment during social situations than typically developing peers (Chevallier, Grèzes, Molesworth, Berthoz, & Happé, 2012), which may also affect the reciprocity and initiation of social interactions.

Relationship development. The ability to develop and maintain relationships is an important aspect of social-communication functioning for all individuals, including those with ASD. A study by Jones and Frederickson (2010) found that peers of students with ASD were more likely to rate their classmates with ASD as being more difficult to cooperate with than other peers. Many individuals with ASD receive fewer friendship nominations from peers and were less involved in their classroom social network (Kasari et al., 2011). Locke, Ishijima, Kasari, and London (2010) examined measures of the social lives of adolescents with ASD compared to their typically developing peers. Measures included friendships, social networks, and loneliness. They found that students with ASD had fewer and lower quality friendships, were less involved in their social network, and reported more

loneliness than their typically developing peers. Bauminger et al. (2008) observed two participants playing together during specific games and activities. Play groups included the participant (either a child with ASD or a typically developing child) and an identified close friend of the participant. They found that during play participants with ASD spent more time in parallel play than in coordinated play. Further aspects of difficulty in developing and maintaining social relationships will be discussed with regards to social cognition, such as the ability to change behavior based on social context.

Social cognition. An area of social-communication functioning that is not directly identified by DSM-5 diagnostic criteria, but is worth discussing is social cognition. Social cognition involves the processing of social information, and is likely to have great affect on social-communication functioning of individuals with ASD (Boutot & Myles, 2011). Social cognition involves knowledge, self-awareness, and perspective taking (Boutot & Myles, 2011). The self-awareness aspect of social cognition refers to an individual's ability to monitor and control their own actions during social interactions (Boutot & Myles, 2011). Barbaro and Dissanayake (2007) examined the abilities of children with ASD who were 4- to 10-years old and their typically developing peers to hide their own affect when playing a trick on an experimenter, in which one experimenter led the participant to hide a ball from another experimenter. Participants with ASD used less effective strategies to hide their affect than did typically developing participants who were better able to control their affect.

The perspective taking aspect of social cognition concerns the ability to take another person's point of view into consideration (Boutot & Myles, 2011). This relates to a highly researched area of social functioning in ASD, theory of mind. Researchers have long felt that individuals with ASD have delays in the development of theory of mind (Baron-Cohen

et al., 1985). Baron-Cohen et al. (1985) tested 20 children with ASD, 14 children with Down syndrome, and 27 typically developing children on the Sally-Anne test using dolls as the characters. All participants were able to answer memory and fact questions, such as the location of the item. However, participants with ASD were less likely to answer the belief questions of the Sally-Anne test correctly than both the typically developing participants and the participants with Down syndrome. Their conclusion was that this deficit was not related to IQ or understanding of the task, but was an impairment in understanding that the Sally doll had a perception different from their own. Peterson, Slaughter and Paynter (2007) tested children with high-functioning autism, Asperger's disorder, and typical development on four false belief tasks, verbal mental age, and teacher perception of social maturity. Results indicated that children with autism had lower scores on the false belief tasks than the other groups. Furthermore, individuals with autism and Asperger's disorder had lower scores on the social maturity measure than both age-matched typically developing participants and younger but verbal mental age matched typically developing participants.

Individuals with ID. Social skills impairment is considered as one part of the adaptive functioning impairment, which is one of the diagnostic criteria for ID in DSM-5 (APA, 2013). In order to receive a diagnosis of ID, an individual must have "deficits in adaptive functioning that result in failure to meet developmental and sociocultural standards for personal independence and social responsibility" (p. 33). These deficits may limit functioning such as social participation in daily life (APA, 2013). Gresham and Elliott (1987) suggest that adaptive behavior and social skills are interconnected and form the basis for an individual's social competence. In order to develop positive relationships with peers, students with ID must receive instruction on social skills (Drew & Hardman, 2007).

A number of studies have found impairments in social skills of individuals with ID, and have found that IQ positively correlated with social skills (De Bildt et al., 2005; Nota et al., 2007). Researchers found that children with ID had lower scores on a measure of socialization, and that ID severity level was negatively associated with the levels of social skills (De Bildt et al., 2005). Nota et al. (2007) examined the social skills of individuals with ID who were 16- to 65-years old. They found that individuals with more severe ID had lower social skills than the individuals with less severe ID, and that higher social skills were related to higher quality of life.

Social skills deficits have been found to be related to ID, developmental delay, and the IQ of students (Bellanti & Bierman, 2000; Cutts & Sigafoos, 2001; Merrell & Holland, 1997). Merrell and Holland (1997) examined social skills of 398 preschool children with developmental delays (the type and degree of delay were unknown) using the Preschool and Kindergarten Behavior Scales (Merrell, 1994). They found that children with developmental delays had significantly lower levels of social skills. Social skills measured by the assessment included sharing toys, following rules, inviting others to play, participating in discussions, working and playing independently, and attempting new tasks before asking for help. Bellanti and Bierman (2000) measured prosocial behaviors of kindergarten and first grade students. They found that children with lower IQs had lower ratings of prosocial behavior than those with higher IQs. Children with lower IQs were also more likely to be rated as not liked by their peers. Similar analyses of social skills using standardized measures have shown that high school students with ID showed social skills below the age-matched, normative sample (Cutts & Sigafoos, 2001).

Social skills of individuals with ID have also been studied by examining the

interactions between students with ID and their peers (Bortoli & Brown, 2008; Guralnick & Weinhouse, 1984, Guralnick, Neville, Hammond, &Connor, 2007). These studies have revealed that individuals with ID showed delays in social-emotional reciprocity similar to those seen in individuals with ASD, particularly with regard to maintenance of interactions. Bortoli and Brown (2008) found that while preschool students with ID were able to engage in social interactions they had a more difficult time sustaining those interactions than their typically developing peers. Guralnick and Weinhouse (1984) examined social interactions of young children (2- to 6-year-olds) with developmental disabilities during play activities. Students were divided into two groups based on age and level of cognitive delays. Younger students and those with more severe delays were placed in one group. Children in this group engaged primarily in unoccupied and solitary play, and interacted rarely with peers. When children in this group did interact with peers, their interactions tended to be brief and were characterized by simple initiations and responses. Children in the older and mildly delayed group engaged primarily in solitary and parallel play activities, and spent far less time in group play than what is frequently seen in similarly aged typically developing peers. This group of children did interact with peers more frequently, but their social initiations often did not lead to maintained interactions. Guralnick et al. (2007) examined social interactions of young students with developmental delays over time. They found that over time, students with developmental delays developed more positive social skills such as talking with friends and becoming more responsive to interactions. However, the social play of students with developmental delays did not increase over time, and was less than would be expected of typically developing peers (Guralnick et al., 2007).

Kemp and Carter (2002) examined social interactions and social skills of 7- to 11-

year-old students with ID who were educated in inclusive classrooms. They found that students with ID spent significantly more time alone or interacting with teachers than typically developing peers, while typically developing peers spent more time interacting with other typically developing peers. Students with ID also experienced significantly fewer reciprocal friendships and received fewer friendship nominations. Finally, Cutts and Sigafoos (2001) examined social interactions of high school students with ID. They observed students with ID who were educated in an inclusive high school. They found that students with ID primarily interacted with other students with ID, with only 34% of the social interactions that students with ID displayed included a typically developing student. These studies indicate that students with ID spent less time interacting with peers (Cutts & Sigafoos, 2001; Kemp & Carter, 2002), and that students with ID may have a difficult time sustaining interactions and participating in group play activities (Bortoli & Brown, 2008; Guralnick & Weinhouse, 1984, Guralnick et al., 2007).

Social cognition, particularly with regards to social problem solving, is another frequently studied area in the social skills of students with ID. Researchers have found deficits on theory of mind tasks, including the Sally-Anne false belief task described earlier, for individuals with ID (Charman & Campbell, 2002; Fiasse & Nader-Grosbois, 2012). Researchers have examined the ability of students with ID to interpret social cues and situations, as well as their ability to generate solutions to problem scenarios (Jacobs, Turner, Faust, & Stewart, 2002; Leffert, Siperstein, & Millikan, 2000). Leffert et al. (2000) showed elementary school students with ID and typically developing peers video vignettes showing two types of social conflict commonly experienced in the classroom: peer entry and peer provocation. The vignettes also included hostile, benign, or ambiguous features or

intentions. Participants were asked to suggest strategies for dealing with the conflict, and the researchers categorized their suggestions into five areas: aggressive, assertive, accommodating, appeal to authority, and avoidant. Researchers found that students with ID had a more difficult time understanding the social conflicts in the vignette and understanding benign intent. Furthermore, students with ID were more likely to suggest aggressive strategies or request help from the teacher to solve the conflicts, whereas typically developing peers were more likely to suggest assertive, accommodating, and avoidant strategies.

Gomez and Hazeldine (1996) conducted a similar study using drawings to depict situations of social conflict with 5- to 12-year-old students with ID and typically developing peers. They found that students with ID had a more difficult time understanding the scenarios than chronologically-age matched peers. They also found that students with ID tended to generate more aggressive suggestions than their peers. However, Jacobs et al. (2002) conducted a study in which they examined suggestions generated in response to social problems by 9- to 13-year-olds with ID and their typically developing peers. They found that students with ID were more likely to select assertive suggestions to hostile situations than typically developing peers, although the majority of peers with ID still offered or chose a suggestion that sought help from another person.

These studies indicate that students with ID show impairments in social skills (Bellanti & Bierman, 2000; Cutts & Sigafoos, 2001; Merrell & Holland, 1997), spend less time interacting with peers (Kemp & Carter, 2002), have difficulty maintaining interactions with peers (Bortoli & Brown, 2008; Guralnick & Weinhouse, 1984, Guralnick et al., 2007), and have difficulty interpreting social problems and generating appropriate solutions

(Gomez & Hazeldine, 1996; Jacobs et al., 2002; Leffert et al., 2000).

Educational Settings of Students with ASD and Students with ID

Historically, individuals with disabilities have been segregated from their typically developing peers and even more broadly from society in general (Winzer, 2007). Those who were identified and labeled as individuals with disabilities were often sent to institutions or segregated special classes. It was not until the first IDEA law passed in 1975 that individuals with disabilities had the right to a free and appropriate public education (FAPE) in the least restrictive environment (LRE), which refers to the right to be educated to the maximum extent appropriate with general education peers (Katsiyannis, Yell, & Bradley, 2001; LaNear & Frattura, 2007; Winzer, 2007).

The 1954 decision by the Supreme Court in Brown v. Board of Education that separate was not equal led to a civil rights movement for individuals with disabilities and their families (Katsiyannis et al., 2001; Winzer, 2007). One of the larger victories during that time was the adoption of the Education for All Handicapped Children Act (EAHCA, PL 94–142) in 1975. This law mandated FAPE and the creation of an IEP for school-aged students with disabilities. There are also provisions in EAHCA requiring that students with disabilities be educated with their typically developing peers as much as possible, and that placement in special or separate settings only occur if the severity of the disability precludes education in the regular classroom. The language used is very similar to that used today. The law has since been amended several times and renamed IDEA, which is how it is referred to today. In the amendments that have followed, the definition and requirements of LRE have become clearer. It was the IDEA Amendments of 1997 that truly began to emphasize the importance of the LRE. For example, in the 1997 Amendment of IDEA,

Congress stated in its findings the intent to make special education a service for students with disabilities instead of a setting for them to receive their education (20 U.S.C. § 1400 (c)(5)(C)).

Today LRE means that students with disabilities must be educated as much as possible in the regular classroom with appropriate supports alongside their typically developing peers (IDEA, 2004). If a decision is made to provide services outside of the regular classroom, the student's IEP must include the reasons that the education cannot be provided within the general education classroom with additional supports. The 2004 amendments to IDEA states with regard to the LRE:

> In general.--To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (Title I, Part B, Section 612 (a)(5)(A))

As was previously noted, the inclusion of students with disabilities in the general education classroom has been increasing throughout the years (US DOE, 2000; US DOE, 2014). This trend towards increased inclusion, along with the LRE mandate, have implications for the education of students with disabilities. The social demands of inclusive classrooms are likely to be far greater than those of self-contained or segregated classrooms.

As such, it is important to consider the social implications of educating students with disabilities in the inclusive classroom.

Advocates of inclusion argue that the general education classroom is where individuals with disabilities develop social networks and skills, which is often considered an important goal of inclusion for some individuals with disabilities. Stainback et al. (1994) articulate the goal of inclusion is to, "...create a community in which all children work and learn together and develop mutually supportive repertoires of peer support…" (p. 486). Fisher and Meyer (2002) found that students with severe disabilities who were educated in inclusion made more significant gains on social competence than peers with disabilities who were educated in self-contained classrooms. In a review of the research literature, Freeman and Alkin (2000) found that students with ID who were educated for the full day in general education had better social outcomes than students with ID who were educated only part of the time in general education. Rafferty et al. (2003) examined the language development and social competence of preschoolers in self-contained versus inclusive classrooms. Preschoolers with severe disabilities educated in inclusive classrooms made greater gains on social competence than those educated in self-contained classrooms, however the same was not shown for preschoolers with disabilities that were not classified as severe. In observations of expressive communication of students with ASD, Chiang and Lin (2008) found that students with ASD communicated more frequently with their peers when they were educated in settings with typically developing peers.

Social Skills Interventions for Students with ASD and Students with ID

Previous studies have examined interventions that target social behaviors of individuals with disabilities, especially those of students with ASD. Several social skills

intervention review studies have been conducted (e.g., Bellini, Peters, Benner, & Hopf, 2007; Reichow & Volkmar, 2010; Rogers, 2000; Wang & Spillane, 2009; Wong et al., 2014). A number of evidence-based social-communication interventions have been identified (Reichow & Volkmar, 2010; Wong et al., 2014). For example, Reichow and Volkmar (2010) used a "best evidence synthesis" (p. 150) model to examine and identify evidence-based social skills interventions for children with ASD. To be included in their analyses studies must have: the majority of participants identified with ASD; targeted social skills; used either randomized controlled trial, quasi-experimental, or single-case research design; and met at least acceptable rigor ratings according to the Evaluative Method for Determining Evidence-Based Practices in Autism developed by Reichow, Volkmar and Cicchetti (2008). After selecting studies, Reichow and Volkmar (2010) then coded and categorized studies based on a number of variables such as the age of participants, interventionist, and intervention type. They identified interventions that met criteria for evidence-based practices specifically for social skills. These interventions include social skills groups and video modeling.

Wong et al. (2014) conducted a review of evidence-based practices across all domains for individuals with ASD. The purpose of the review was to identify evidence-based practices for individuals with ASD. To be included in their review studies had to: include participants with ASD; have interventions and outcomes that were "behavioral, developmental, and/or educational" (p. 10); compare two conditions that were adequately described; and had to use an experimental, quasi-experimental, or single case design. Protocols were developed and refined for describing and reviewing the quality indicators of a study. Through this process, Wong et al. (2014) identified several evidence-based

practices for social skills interventions which include strategies such as prompting, reinforcement, modeling, naturalistic interventions, peer training, pivotal response training, scripting, social narratives, and social skills training.

Based on the reviews by Reichow and Volkmar (2010) and Wong et al. (2014), this study included instructional strategies that have been identified as evidence-based for students with ASD. Unfortunately, similar reviews do not exist regarding evidence-based social skills interventions for students with ID. Nonetheless, many of the reviewed studies and instructional strategies have been used with students with ID (Carter, Cushing, Clark, & Kennedy, 2005; Hunt, Alwell, & Goetz, 1991; Sasso, Mundschenk, Melloy, & Casey, 1998). Instructional strategies that have been identified as successful in the interventions reviews that were used in this study included: modeling, prompting, reinforcement, naturalistic instruction, peer-mediated instruction, pivotal response training, scripting, social stories, role-play, and video modeling.

Social Skills Instruction Strategies.

Modeling. In modeling, interventionists perform target behaviors for students to imitate, which eventually leads to the performance of the behavior independently by the student (Cox, 2013a). It has been shown to be effective for individuals from birth to 22-year-olds (Charlop-Christy, Le, & Freeman, 2000; Cox, 2013a; Frea & Hughes, 1997; Matson, Box, & Francis, 1992; Schrandt, Townsend, & Poulson, 2009).

A single case design study by Schrandt et al. (2009) used modeling and prompting to increase physical and vocal responses that represented empathy in 4- to 8-year-old children with ASD. Instructors used a doll or puppet to show short vignettes to students that showed sadness and pain, happiness and excitement, or frustration. The instructor then modeled and

prompted appropriate physical and vocal responses. The participants increased their rates of making physical and vocal empathic responses during the intervention.

Another study paired modeling and reinforcement to increase labeling objects or people's names for two students with ASD and selective mutism (Matson et al., 1992). Participants were 3- and 5-year-olds. During treatment conditions, the interventionist followed a sequence in which they showed the student the object or picture and asked the student to name it. The interventionist then waited. If a name was not provided after ten seconds, the interventionist modeled the name and asked the student to say the word. The interventionist then waited ten seconds again, followed by showing a reinforcer. The interventionist once again provided a model, and asked the student to say the word to receive the reinforcer. Target students engaged in approximately 25 sessions over a two month period, with each session lasting anywhere between 20 and 75 minutes. Results indicated that both students increased labeling of the objects and names.

Charlop-Christy et al. (2000) compared modeling and video modeling on the effects of emotion labeling, play skills, greetings, and conversational speech of five participants with ASD. Participants were between the ages of seven and eleven, and intervention took place in a therapy room in an after school program each participant attended. Depending on the phase, participants either watched the target behavior modeled by familiar therapists in the program, or they watched the behavior modeled via video. Results of the study indicated that target behaviors increased during both modeling and video modeling, but video modeling resulted in more rapid increases in the target behaviors.

Prompting. Prompting is the use of verbal, gestural, or physical support or directions to help students perform or learn a behavior (Cox, 2013b). It has been shown to

be effective for individuals from birth to age twenty-two (Cox, 2013b).

Harris, Handleman, and Alessandri (1990) used prompting to increase the helping behavior of three adolescent students with ASD. During the intervention, participants witnessed an individual complain that they were having trouble completing a task. If the participant did not offer to help, the researcher provided a verbal prompt to the participant to help. Researchers found that all three participants increased their use of helping behavior.

Prompting is frequently used with other effective strategies in interventions (Cox, 2013b). Barton and Wolery (2010) used a combination of prompting and reinforcement to increase the functional play behavior of young students with ASD, developmental delays, and language delays. Researchers trained teachers to implement the intervention, which took place in the students' classrooms. Teachers were given a short manual and participated in four training sessions that lasted 20 to 45 minutes each. The training taught teachers how to identify, prompt, and reinforce pretense behaviors during play. Pretense behaviors included object substitution, imagining absent objects, assigning absent attributes, and functional play with pretense. Results of the study indicated that all students increased their frequency of pretense behaviors during play.

Taylor and Hoch (2008) also used prompting and reinforcement to increase joint attention of three students with ASD. Students were between the ages of 3- and 8-years old. Measures of joint attention included moving eye gaze between another person and an object, initiating joint attention, and responding to joint attention. During the intervention, a room in the students' school was arranged with a number of motivating toys that were arranged in novel ways. A researcher used a series of least to most prompts to prompt the student to respond to the researcher's bids for joint attention. Conversely, a series of most to least

prompts was used to teach initiation of joint attention. Results indicated that all three participants increased both their responses to bids and initiations of bids for joint attention, although more dramatic results can be seen for the responses to bids for joint attention.

Prompting has also been used to increase social-communication behaviors of students with ID (Hunt et al., 1991). Researchers attempted to increase conversation initiation and turn-taking skills of two students with ID and one student with cerebral palsy and a visual impairment. Students were 15- to 17-years old. Researchers used a communication book to prompt the conversation skills. The books were created using pictures and phrases that the target students preferred, which were used as prompts for the conversation. The target students were taught to point to pictures and say relevant words and phrases. General education students were taught skills to be conversation partners, such as appropriate turn taking and prompting the target student. Conversation took place in several settings, such as the classroom, home, and other community settings. Results of the study indicated that all participants increased both initiations and turn taking during conversations with trained peers.

Most often, prompting is delivered verbally, gesturally, or physically by a teacher or other interventionist. Shabani et al. (2002) used a vibrating device placed in the pocket of a student to prompt verbal initiations and responses to peers during play. Three 6- to 7-year-old students with ASD were participants in the study, which took place in the classroom for two participants and at home for one participant. During the intervention, when the device was activated one of three phrases was prompted during play. The use of the vibrating device to prompt the students resulted in increases of verbal initiations and responses for each student during play.

Reinforcement. According to Kucharczyk (2013) reinforcement is giving the student something they want (positive reinforcement) or taking away something they do not want (negative reinforcement) after the student performs a behavior. This is done to increase the desired behavior. It has been shown to be effective for students from birth to age twenty-two (Kucharczyk, 2013).

Newman (2005) used both self-managed reinforcement and reinforcement received from another person to develop the initiation skills of three students with ASD. Staff members in the school served as interventionists. During the intervention, one interventionist played with objects in the room. During the phase in which reinforcement was provided by another person, one interventionist prompted the student to play with the other interventionist and provided tokens when the student initiated. During the self-reinforcement phase, the interventionist faded prompts and the giving of tokens. Instead, the interventionist allowed the student to award themselves tokens based on whether or not the student felt they had initiated. Results of the study indicated that student initiations increased during the phase in which another person provided reinforcement, and were maintained during the self-managed reinforcement stage.

Reinforcement is frequently used in larger intervention packages. For example, Kohler, Strain, Maretsky, and DeCesare (1990) used reinforcement in a larger social skills training intervention to target the increase of initiations, responses, and maintenance of interactions. Participants in the intervention were two young students with ASD. The teacher implemented a social skills training group every day for 15 minutes in the classroom that involved the target students and their typically developing peers. The training taught students how to organize play and how to share and assist with offers and requests from

others. Students earned happy faces for performing the target behaviors. Reinforcement conditions were alternated, so that students either earned reinforcement independently or as a group. Results of the study indicated that both the individual and group reinforcement resulted in increases in the target social behaviors of students with ASD.

Naturalistic instructional strategies. Wong (2013a) defines naturalistic interventions as, "a collection of practices including environmental arrangement, interaction techniques, and strategies based on applied behavior analysis principles" (p. 66). The interests of the student are considered in naturalistic instructional strategies. Naturalistic instructional strategies are implemented in the environment the child typically participates (Wong, 2013a). According to Wong (2013a), naturalistic instructional strategies have been shown to be effective for toddlers and elementary age students.

Kohler, Anthony, Steigner, and Hoyson (2001) describe naturalistic interventions as being comprised of two components: manipulating the environment to elicit responses and the use of strategies that consider the student's interests. Participants in the study were four students with ASD who were all 4-years-old. The study took place in the students' inclusive preschool classroom. In their study they used seven naturalistic strategies: use of novel and motivating toys, the teacher joining the activity, allow the child to make choices, use of sabotage and other incidental strategies, use of comments and questions during play, requirement of the child to extend verbalizations, and encouragement of the involvement of peers. Teachers received regular feedback during the implementation of the strategies. Results indicated that all students increased social interactions, although some students experienced greater increases in interactions than others.

McGee and Daly (2007) utilized naturalistic instruction to increase the social phrases

of three students with ASD. Students were 4- to 5-years old, and the intervention took place in their inclusive preschool classroom. The teacher used highly motivating toys to teach the use of common social phrases (e.g. "All right" and "You know what?"). Students were prompted to say the phrases at appropriate times during play with the teacher. All three students increased their use of the target social phrases during the intervention.

Hancock and Kaiser (2002) used a type of naturalistic instruction called enhanced milieu therapy to work on social-communication skills during play. The intervention included the manipulation of the environment and interaction by the teacher. Furthermore, the milieu teaching strategies of prompting, modeling, and providing reinforcement were used during the intervention. The milieu strategy began with a child making a request, which was followed by a sequence of prompts, and ended with positive feedback. Results of the study indicated that all participants increased their use of social communication target behaviors.

Peer-mediated instructional strategies. Researchers have used a number of peer-mediated strategies in multiple settings to improve the social skills of individuals with disabilities with different functioning levels and ages. These strategies have been primarily studied with students with ASD, but students with ID have been included in some research studies. According to Fettig (2013a), peer-mediated interventions have been used effectively for students ranging in age from preschool to high school.

Odom and Strain (1984) identified three types of peer-mediated interventions. These include peer-proximity, prompt and reinforce, and peer initiation (Odom & Strain, 1984). Peer-proximity interventions occur when peers are put in an environment with the target student with autism and told to play or interact with the student with ASD. No specific

training or strategies are provided to the peer-mediators (Odom & Strain, 1984). Prompt and reinforce peer-mediated interventions occur when peers are trained to prompt and reinforce the behaviors of children with ASD (Odom & Strain, 1984). Finally, peer-initiation interventions occur when peers are trained to initiate social interactions with students with ASD (Odom & Strain, 1984). Prompt and reinforce and peer-initiation strategies typically involve training for typically developing students on specific strategies for interacting with students with disabilities. Occasionally, students with disabilities are involved in the training sessions.

Laushey and Heflin (2000) implemented a class wide peer-mediated intervention in a kindergarten classroom. In a whole group lesson, students were taught to stay with your buddy, play with your buddy, and talk to your buddy. They were also taught how the buddy system would work. Students buddy pairs changed daily, and the intervention was implemented during the regular classroom centers. Target students were two students with ASD in the classroom, and the target behaviors were asking for objects, gaining attention, waiting for your turn, and looking at the person speaking to you. Results of the study indicated that both participants with ASD improved in their appropriate use of the target social behaviors.

Carter et al. (2005) used peer-mediated instruction to increase interactions for one student with ID and two students with ASD and their typically developing peers. Participants were 12- to 17-years old, and the intervention took place in inclusive classrooms in middle and high schools. The typically developing peers received training over two to four days. Peers were taught strategies for working with the students with disabilities. Strategies included adapting class activities, providing instruction, providing

feedback, and promoting communication. Peers were set up in groups, so that the student with a disability either worked with one or two peers at a time. Results indicated that the target student's level of interaction increased during the intervention, particularly when working with two peers.

Sasso et al. (1998) also studied peer-mediated instruction in groups. Participants were four students with ID who were ages nine to ten. Target behaviors included social initiations, responses, cooperative play, and instructional initiations. Students with disabilities worked with their general education peers in either groups of two or groups of three. Results indicated that target behaviors increased, but results were more positive when students worked in groups of two.

Sasso et al. (1998) conducted a second peer-mediated instructional intervention with two students with ID and one student with ASD who were 9- to 11-years old. The intervention took place in the inclusive classroom during free play. Target behaviors included initiations, responses, and sustaining interactions. The special education teacher conducted a one-hour training with peers. Students worked in groups of three. Each group had one student with a disability. The general education peers were arranged such that there were either two high status peers, two low status peers, or one high status and one low status peer in the group. Results of the study indicated that the target students increased initiations, responses, and sustained interactions in all group arrangements.

In the study by Kasari, Rotheram-Fuller, Locke, and Gulsrud (2012) participants with ASD were randomized to receive one of the following conditions: peer-mediated strategies, child-mediated (direct instruction which included role play) strategies, a combination of the two strategies, or no intervention. In the peer-mediated strategies, peers

were taught strategies for identifying, initiating, and engaging in play with isolated peers on the playground. Participants with ASD were not directly identified to the peers as target participants. In the child-mediated strategy, participants with ASD were taught specific skills that were important for playing and interacting on the playground. The researcher taught these skills using didactic instruction, role-play, and practice. Participants in the combined condition received both peer-mediated and child-mediated strategies. Results indicated that participants who received both the peer- and child-mediated strategies improved most in their social network standing in their classroom, and those who received peer-mediated only had greater gains than those who received child-mediated only.

Pivotal Response Training. Koegel, Koegel, Harrower, and Carter (1999) describe Pivotal Response Training (PRT) as the teaching of pivotal behaviors. When changed or improved, these pivotal behaviors are presumed to create improvements in other areas. Pivotal areas include motivation, responding to multiple cues, child self-initiation, and self-management (Koegel et al., 1999). It is a naturalistic strategy that considers student interests, and is effective for developing social-communication skills (Wong, 2013b). It has been shown to be effective for students from birth to 15-years old (Harper et al., 2008; Koegel & Frea, 1993; Kuhn, Bodkin, Devlin, & Doggett, 2008; Wong, 2013b).

Koegel and Frea (1993) implemented a PRT intervention to work on appropriate facial expressions related to the situation, eye gaze towards a conversation partner, appropriate nonverbal gestures, appropriate voice volume, and staying on topic. The intervention was implemented for two students with ASD; one was 13- and the other 16-years old. The intervention took place in typical settings for the students, such as restaurants or the park. The intervention took place over a fourteen-week period. During the

intervention, students learned to identify appropriate examples of behavior. Students were rewarded for displaying the appropriate behavior for extended periods of time. Results indicated that each participant improved in all target behaviors, and that other behaviors improved as well.

Kuhn et al. (2008) taught special education peers to implement PRT with two students with ASD. Participants were 7- and 8-years old, and intervention took place in an empty classroom at the school. Over the course of eight, 20 minute training sessions, peers were taught to implement several PRT strategies including: make sure the student is paying attention, offer choices, provide reinforcement, expand on conversations, model behaviors and take turns, and verbally describe play. Results indicated that target behaviors increased for all students, however some peers did have difficulty implementing the strategies.

Scripting. Scripting is the use of verbal or written descriptions that models the skill for the student (Fleury, 2013). Scripts are typically practiced before the situation occurs, and is slowly removed as the student becomes proficient in using the skill. Scripts have been successfully implemented with students ages three to eighteen (Fleury, 2013).

Charlop-Christy and Kelso (2003) implemented a scripting intervention to develop conversational speech of three students with ASD. The intervention was implemented by the researcher in a therapy room in an after school program. Conversational scripts that included a statement and question were given to students on cue cards. The researcher asked a participant a question relevant to a predetermined conversation, and then gave the student the cue cards to read. Results indicated that all participants increased their use of conversational speech.

Krantz and McClannahan (1993) implemented a scripting intervention to develop the

initiation skills of four students with ASD. They utilized simple scripts containing either a question or statement during art time. The teacher physically prompted reading of the script, and faded prompts over time. All students increased initiations using the scripts during the intervention.

Social stories. Social stories are short stories that describe activities and provide examples of appropriate behaviors (Wong, 2013c). They are frequently written in the point of view of the student, and it is beneficial if they include images. They have been shown to be beneficial for students who are 3- to 18-years old (Wong, 2013c).

Chan and O'Reilly (2008) created social stories for two students with ASD to work on inappropriate interactions, hand raising, inappropriate vocalizations, and initiations. Participants were 5- and 6-years old. The intervention was implemented in a private room located at the school. The target behaviors were assessed in the inclusive classroom. Intervention lasted between five and ten weeks, with approximately 13 to 18 sessions taking place. Results indicated that participants improved on their specific target behaviors.

Sansosti and Powell-Smith (2006) used social stories to work on the social engagement of three students with ASD. Social engagement varied for each participant, and was sportsmanship, joining in, or maintaining a conversation. Participants were 9 to 11-years old. The primary caregiver read the social stories with the participants two times per day. Observations took place at the participants' school. Two of the three participants increased their target behaviors.

Role-playing. Role-playing is one of the social skills training components (Fettig, 2013b). It requires participants to practice the taught strategies/skills with a student with TD or an interventionist. Role-playing, as part of social skills training, has been shown to be

effective from birth to age twenty-two (Fettig, 2013b).

Using a randomized wait-list control trial, Lopata et al. (2010) implemented a social skills training intervention to increase the development of social skills for 36 students with ASD. Participants were 7- to 12-years old. Graduate and undergraduate research staff on a college campus implemented the intervention. The intervention was implemented in groups. Intervention took place over a five-week period, with five treatment cycles per day. Each treatment cycle lasted 70 minutes, with 20 minutes of intense instruction on social skills followed by 50 minutes of activity. During instruction, a skill was first defined and modeled. Participants then practiced the skill using role-play, and received feedback and homework. Results of the study indicated that participants increased social skills knowledge according to standardized assessments.

Leaf et al. (2009) implemented social skills training to work on social skills such as toy sharing, staying on topic, compliments, and choosing a peer to work with for three students with ASD. Participants were 5- to 7-years old, and enrolled in an inclusive summer program. A teacher implemented social skills training individually for each student in a separate room at the school. Each training session lasted 30 minutes, and occurred each day of the summer program. At the beginning of each session the behavior to be worked on was identified. A rationale was provided, and the student was asked to name the steps involved in the skills. The skill was then modeled by the teacher. The student and teacher then role-played and feedback was provided to the student. Results indicated that all students improved on the target behaviors.

Video modeling. Video modeling is the use of videos to model desired social skills (Plavnick, 2013). Videos can be of people other than the student showing the skill, of the

student showing the skill, or can be filmed in the point-of-view of the student (Plavnick, 2013).

Buggey, Hoomes, Sherberger, and Williams (2011) used video modeling to increase the initiations of four students with ASD. Participants were 3- to 4-years old. The intervention was implemented in the students' classrooms. Students watched the video a total of 10 times over the course of two weeks. Videos were created and edited to show the target student performing the target behavior. Results indicated that three of the four participants increased their social initiations.

Charlop, Dennis, Carpenter, and Greenberg (2010) used videos to teach three students with ASD to make comments, facial expressions, gestures, and intonation in speech. The participants were 7- to 11-years old. The intervention was implemented at an after school program that each participant attended. The videos showed familiar adults exhibiting the target behaviors. Results indicated that all participants increased their use of the target behaviors.

Summary and Rationale

Students with disabilities are increasingly being included in general education classrooms (U.S D.O.E., 2012), and are expected to interact with and work with their peers in the classrooms. Students with ASD and students with ID have impairments in social skills (e.g. APA, 2013; Drew & Hardman, 2007). Navigating social situations and developing friendships may be quite difficult for many of these students (Kasari et al, 2011).

Social skills interventions are recommended practice for students with ASD (NRC, 2001), and should be included in the IEP of students with disabilities who show a delay in social skills. A number of social skills interventions have been identified as evidence-based

practices (Reichow & Volkmar, 2010; Wong et al, 2014). However, little is known if teachers employ any of these strategies with students with ASD and students with ID in schools. It is important that research examine the strategies teachers use in the classroom, their attitudes regarding those strategies, and if these strategies relate to higher social skills of students with disabilities.

Research Questions

The following research questions were addressed:

Research Question 1: Do classroom teachers teach social skills to students with ASD or students with ID?

Research Question 2: Are there relationships between teacher characteristics and whether or not teachers teach social skills to students with ASD or students with ID?

Research Question 3: What kind(s) of social skills instructional strategies do teachers use?

Research Question 4: What are the barriers or reasons that teachers do not use a particular strategy and that teachers face with teaching social skills to students with ASD and students with ID?

Research Question 5: What resources or supports do teachers need to conduct social skills interventions?

Research Question 6: What are the characteristics of the students of the participating teachers (e.g., age, gender, the levels of social skills, others)?

Research Question 7: Are there relationships between student characteristics and whether or not participating teachers teach social skills?

Research Question 8: What are the student and teacher factors predictive of social

skills of students ASD and students with ID?

Chapter III

Method

Participants

Participants of this study were 66 general and special education teachers of students with ASD or students with ID. The inclusion criteria included: (a) a general or special education teacher, (b) taught one or more students with ASD or one or more students with ID during the 2013-2015 school years; (b) his/her students' age must be between the ages of 5-18.

One hundred twenty seven people visited the questionnaire link and indicated that they qualified as participants. However, only 82 participants completed the consent portion of the questionnaire. A further 16 people who agreed to participate in this study did not fully complete the study. Thus, the total valid sample of this study was 66.

Participating teachers were asked to answer questions about a student with ASD or a student with ID in their classroom, and complete a social skills assessment about the student. Participants were asked to place the names of all students with ASD and students with ID that they teach in a cup and then randomly select one name from the cup. The students were never personally identified, but demographic information such as age and diagnosis on the IEP were reported by the participating teachers. A total of 51 students with ASD and 15 students with ID were identified by participating teachers. The students' age ranged from 5-18 years.

Research Design

The research design used in this study was a cross-sectional research design utilizing a questionnaire and a social skills assessment. This study used a researcher-designed

questionnaire and the Social Emotional Assets and Resilience Scales (SEARS; Merrell, 2011).

Institutional Review Board (IRB) approval was obtained from Teachers College, Columbia University prior to implementation of this study. The recruitment flyer was sent to potential participants by word-of-mouth and snowballing (see Appendix A). Teachers were required to sign consent forms (see Appendix B) prior to completing the researcher-designed questionnaire (See Appendix C) and SEARS.

Measures

Researcher-Designed Questionnaire. The primary measure was a researcher-designed questionnaire. The beginning of the questionnaire included a short screening measure to ensure that potential participants qualified to participate in the study. Demographic information was gathered in the questionnaire to determine the characteristics of the classroom and the teacher; including teaching placement, grade level, degree level, and years of experience.

The questionnaire also collected demographic and communication information on a randomly selected target student with ASD or ID of the participating teachers. Teachers were asked to randomly select one of their students who had ASD or ID based on their IEP classification. Personally identifiable information was not collected about the target student. Teachers were asked to provide information about the student including age, grade, gender, communication skills (e.g. below, similar to, or above same age peers), communication style (e.g. doesn't communicate, mainly communicates with verbal words, mainly communicates with body gestures, mainly communicates with communication board or pictures, or other), number of functional words (e.g. nonverbal, 1-5 functional words, 6-19 functional words,

and more than 20 functional words), assessment type (regular or alternate), whether or not the student has friends in class, and the number of friends.

There were a series of questions pertaining to the types of social skills strategies teachers implemented in their classrooms, the frequency of implementation, location and time of implementation, perceived effectiveness of each of the social skills strategies, and barriers of using each of the social skills strategies. Social skills strategies included in the questionnaire were modeling, naturalistic instructional, peer-mediated instruction, PRT, prompting, reinforcement, role-play, scripting, social stories, and video modeling. Furthermore, there were questions that gauged the barriers of teaching social skills to students with disabilities, and the resources and supports teachers need to conduct social skills interventions. Finally, there were questions that asked participants if they had any suggestions for teacher preparation programs regarding preparing pre-service teachers to conduct social skills interventions. See Appendix C for the questionnaire.

Social Emotional Assets and Resilience Scales. Participating teachers completed the SEARS (Merrell, 2011) regarding the randomly selected target student with ASD or ID. The SEARS is a strength-based assessment of social-emotional assets and resiliencies, which the author defines as "adaptive characteristics that are important for success at school, with peers, and in the outside world" (Merrell, 2011, p. 3). The SEARS-Teacher rating form allows teachers to assess students between the age of 5-18 years on social and emotional behaviors. The assessment results in a total score ($\alpha = .98$); as well as four scales, which include self-regulation ($\alpha = .95$), social competence ($\alpha = .94$), empathy ($\alpha = .91$), and responsibility ($\alpha = .95$). The internal reliability of the SEARS total scores and its subscales, as measured by Cronbach Alpha scores, were calculated for the participants in this study and

can be found in Table 1.

Table 1
Reliability of the SEARS for Participants in the Present Study

	Sample (N = 51)
SEARS Total	**.94**
Self-Regulation	.91
Social Competence	.82
Empathy	.87
Responsibility	.88

The SEARS-Teacher rating form includes 41 items, and higher scores reflect higher levels of social competence and assets. For each item, the participant was asked to indicate the frequency (e.g., *never, sometimes, often, or always*) of the listed behavior that the target student displayed. The self-regulation scale has 13 items, which measures the student's ability to regulate and manage their behaviors. The social competence scale has 12 items that measure the ability to interact, develop, and maintain friendships. The empathy scale has six questions that measure the ability to empathize with and understand others. Finally, the responsibility scale has 10 questions that measure the ability to act responsibly and to be reliable and trustworthy.

The SEARS was scored according to the protocols in the publisher's manual, which resulted in standardized *T*-scores for the total assessment as well as *T*-scores for the four scales. *T*-scores have a mean of 50 and a standard deviation of 10. Scores can fall into one of three tiers. Tier 1 scores are considered average to high functioning. *T*-scores that range from approximately one to less than two standard deviations below the mean fall in to Tier 2 and are considered at risk. According to the manual, those that fall in this tier would benefit from further assessment, and potential social-emotional interventions. Finally, *T*-scores that

fall approximately two standard deviations below the mean are in Tier 3, which is considered high risk. According to the manual, individuals who have scores in the high risk range are good candidates for social-emotional interventions.

The Dependent Variable and Independent Variables. The dependent variable and the independent variables are listed in Table 2.

Table 2
Dependent Variable and Independent Variables and Corresponding Instruments

Variable	Instrument	Number of Items
Dependent Variable		
Social Skills	SEARS-T	41
Independent Variables		
Disability (Student)	Researcher-Designed Questionnaire	1
Age (Student)	Researcher-Designed Questionnaire	1
Grade (Student)	Researcher-Designed Questionnaire	1
Gender (Student)	Researcher-Designed Questionnaire	1
Verbal Skills (Student)	Researcher-Designed Questionnaire	1
Communication Style (Student)	Researcher-Designed Questionnaire	1
Communication Skill (Student)	Researcher-Designed Questionnaire	1
Friends (Student)	Researcher-Designed Questionnaire	1

Table 2
Dependent Variable and Independent Variables and Corresponding Instruments

Variable	Instrument	Number of Items
Assessment Type (Student)	Researcher-Designed Questionnaire	1
Position (Teacher)	Researcher-Designed Questionnaire	1
Years of experience	Researcher-Designed Questionnaire	1
Highest education level	Researcher-Designed Questionnaire	1
Taught Social Skills	Researcher-Designed Questionnaire	1
The number of used social skills instructional strategies	Researcher-Designed Questionnaire	1
Modeling (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Naturalistic instructional strategies (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Peer-mediated instructional strategies (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
PRT (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7

Table 2
Dependent Variable and Independent Variables and Corresponding Instruments

Variable	Instrument	Number of Items
Prompting (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Reinforcement (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Role Play (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Scripting (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Social Stories (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Video Modeling (use, knowledge, frequency of use, location of use, time of use, effectiveness, barriers)	Researcher-Designed Questionnaire	7
Rank of effectiveness	Researcher-Designed Questionnaire	1
Rank of ease	Researcher-Designed Questionnaire	1
General barriers to implementing social skills	Researcher-Designed Questionnaire	1
Resources and supports	Researcher-Designed	1

Table 2
Dependent Variable and Independent Variables and Corresponding Instruments

Variable	Instrument	Number of Items
needed	Questionnaire	
Suggestions for teacher preparation programs	Researcher-Designed Questionnaire	1

Procedure

Recruitment. Participants were recruited through snowball sampling. Potential participants were sent a recruitment flier or email inviting them to participate in the study (see Appendix A). The recruitment flier was also posted on the Teachers College myTC Message Center. The flier contained a link to the questionnaire, and participants were able to share the flier with others who might qualify to participate.

Obtaining consent. The consent form was read and signed online using Survey Monkey prior to beginning the study. The consent form was presented prior to the questionnaire. Participants were asked to read the purpose of the study and the consent form. Contact information for the researcher was provided to participants in the event that they had questions regarding the consent process or the study. Participants provided a digital signature indicating their consent to participate in the study. The consent form must be signed prior to the participant being able to proceed to the questionnaire and SEARS.

Administration of instruments. After providing consent, participants began the researcher-developed questionnaire on Survey Monkey. Once the questionnaire was completed, participants were sent an email containing a link to the SEARS-Teacher Form online from the PARiConnect system.

Data Analysis

SPSS was used for all statistical analyses. Participants were given an identification number. Numeric codes were assigned for categorical and nominal data. Frequencies and percentages were calculated for these data. Descriptive statistics including means and standard deviations were calculated for continuous data.

With regard to research question one, frequencies were calculated to learn the percentage of the teachers who had taught social skills. This was calculated from a yes or no question that asked participants if they taught social skills to the randomly chosen target student with ASD or ID. Furthermore, the percentage of the general education teachers who had taught social skills to students with ASD or students with ID and the percentage of the special education teachers who had done that were also calculated.

Analyses for research question two included chi-square tests to examine the relationships between teacher characteristics [e.g., position type (general or special education), highest degree earned (bachelors, masters, doctoral), and specific position when teaching the target student (e.g. general education teacher in an inclusive classroom, special education teacher in an inclusive classroom, special education teacher in a resource room, special education teacher in a self-contained classroom at a regular school, or special education teacher in a self-contained classroom at a special school)] and whether or not the participant had taught social skills to the student. An independent samples t-test was conducted to examine the relationship between years of teaching experience and teaching social skills. Because of a high number of statistical analyses conducted, statistical significance for all tests was determined at $p < .01$ to avoid type I error.

Research question three required the calculation of frequencies to determine which

social skills strategies teachers know and use with students with ASD or ID. This was calculated from two yes/no questions for each social skill instructional strategy presented, which asked the participants if they knew the strategy and if they used the strategy. Frequencies were also used to examine where, when, and how often the teacher used each social skills strategy. In order to examine where participants implemented social skills instructional strategies, participants were asked if they taught each social skill instructional strategy in the general education classroom, special education classroom, and/or others. In order to examine when participants implemented social skills instructional strategies, participants were asked if they taught each social skill instructional strategy during in-class instructional time, lunch, recess, and/or others. Furthermore, to examine how often participants implemented the social skills instructional strategies, participants were asked to indicate the number of times they used the strategy per week. The mean and standard deviation were calculated to determine the perceived effectiveness of each individual social skills instructional strategy. To determine effectiveness, participants were asked to identify the effectiveness on a five-point Likert scale from "very ineffective" to "very effective". Participants were asked to rank the social skills strategies for effectiveness and ease of use. The mode for the ranks were calculated. Correlations between rank of effectiveness and rank of ease were conducted to determine the relationship between the perception of effectiveness and ease of implementation.

Research questions four and five also utilized frequencies. Question four was examined by using frequencies to learn the frequent barriers for each social skills instructional strategy and the ones for teaching social skills in general. For each individual strategy, participants were asked to identify the barriers from nine researcher-identified

barriers. Participants could select as many barriers as they liked, and were also able to write-in any variable that wasn't listed. Furthermore, frequencies were also calculated for general barriers to the implementation of social skills interventions broadly. Participants were able to choose as many barriers as they liked from 12 researcher-identified barriers, as well as identify any additional barriers not provided. Question five utilized frequencies to calculate the commonly identified resources and supports identified as needed for conducting social skills interventions. Participants were able to choose as many resources/supports as they liked from a list of ten researcher-provided resources or supports, as well as identify any additional resources or supports that were not listed on the questionnaire.

Research question six was examined by analyzing the means and standard deviations of the SEARS-Total *T*-score and subscales *T*-scores to determine the social skills profiles of students with ID and ASD. The mean and standard deviation of the *T*-score of the SEARS-Total was calculated for students with ASD and ID, as well as the mean and standard deviation of the *T*-score for each scale: self-regulation, social competence, empathy, and responsibility. Because of the small number of students identified as having an ID, the Mann-Whitney U test was used to compare the SEARS scores of students with ID and ASD.

In order to analyze research question seven, chi-square tests were used to examine the relationships between the students' gender, disability, friends, assessment type, and communication skills and whether or not she/he had received social skills instructions. Mann-Whitney *U* tests were conducted to examine the relationships between the students' age and SEARS scores and receipt of social skills instruction.

Finally with regard to research question eight, stepwise multiple linear regression

analyses were used to determine the factors predictive of social skills of students with ASD and students with ID.

Chapter IV

Results

The results chapter will first examine the characteristics of the study sample followed by analyses for each of the eight research questions. The characteristics of the sample summarize variables that measured demographic information about participants.

Demographic Information about Participants

The final sample consisted of 66 participating teachers. Of the 66 participants, 77.3% reported that they were special education teachers and 22.7% reported that they were general education teachers. Information was gathered about the specific position of the participant when they taught the randomly chosen student with ASD or ID. Of the total sample, 22.7% reported that they were general education teachers in an inclusive classroom, 15.2% were special education teachers in an inclusive classroom, 12.1% were special education teachers in a resource room, 24.2% reported that they were special education teachers in a self-contained classroom in a regular school, and 25.8% were special education teachers in a self-contained classroom in a special school. The mean years of teaching experience for all participating teachers was 10.14 (SD = 9.58), with a range of 1-40 years. The distribution of participants' years of experience can be found in Figure 1. General education and special education teachers did not differ in years of teaching experience (general education = 8.2, SD = 8.96; special education = 10.7, SD = 9.78; z = -1.01, p = .311). Finally, of the 66 participants, 18.2% reported that their highest degree was a Bachelors degree, 78.8% of participants reported that they had a Masters degree, and 3% had a Doctoral degree. General education and special education teachers did not differ according to their highest degree earned (X^2 (2, N = 66) = 1.978, p = .372). A summary of

participant characteristics can be found in Table 3.

Figure 1. Distribution of Participants' Years of Experience

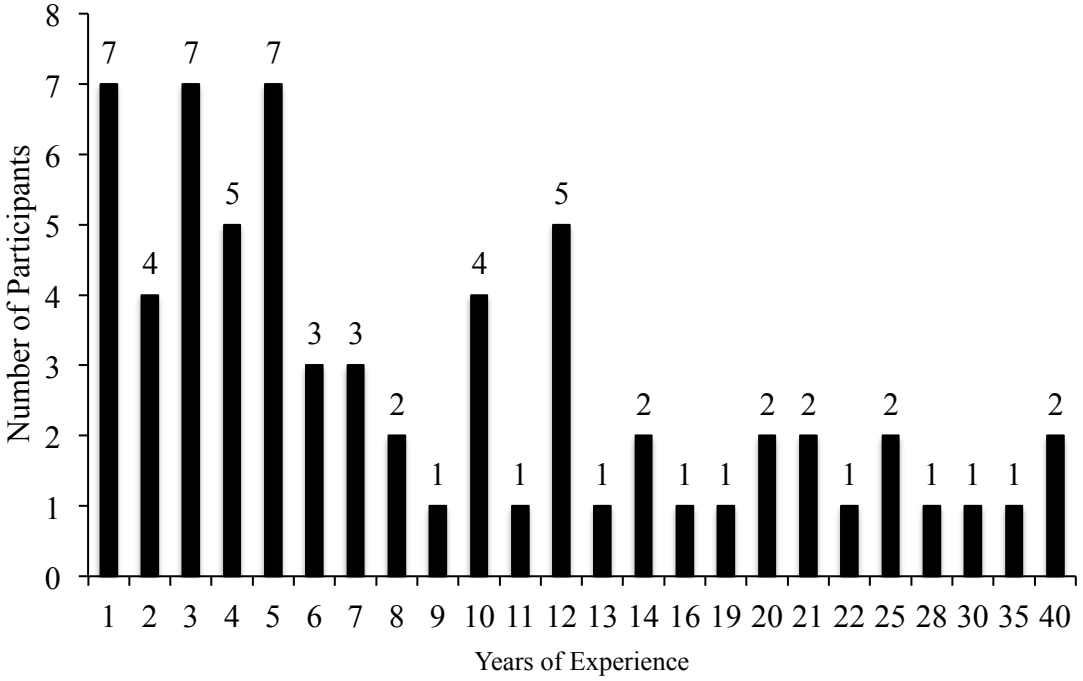


Table 3
Participant Characteristics

	n	Percent
Position Type		
General Education in Inclusive Classroom	15	22.7
Special Education in Inclusive Classroom	51	77.3
Specific Position		
General Education in Inclusive Classroom	15	22.7
Special Education in Inclusive Classroom	10	15.2
Special Education in Resource Room	8	12.1
Special Education in Self-Contained Room at Regular School	16	24.2
Special Education in Self-Contained Room at Special School	17	25.8
Degree		
Bachelors	12	18.2
Masters	52	78.8
Doctoral	2	3.0

Results for Research Questions

The main analyses are organized according to the research questions. Research question one and two analyze the number of participating teachers who had taught social skills to students with ASD or ID, as well as examining the relationships between participating teacher's characteristics and teaching of social skills. The relationships between teacher characteristics and teaching social skills were analyzed by conducting chi-square tests of associations and independent samples *t*-tests as appropriate for the variables. Question three was analyzed by examining the frequencies of the participants who knew about and used specific social skills instructional strategies. The analysis also examined the location, time, and frequency of use of the social skills instructional strategies. Finally, this question also examined effectiveness of each social skills instructional strategy. Question four identified the most frequent barriers across all strategies, as well as the barriers to teaching social skills generally. Question five examined the most frequently identified resources and supports needed for conducting social skills interventions. Question six describes the demographic data regarding the randomly selected target students, and compares students with ASD to students with ID. Question seven examined the relationships between student characteristics and the receipt of social skills instruction by conducting chi-square tests of associations and Mann-Whitney *U* tests as appropriate. Finally, question eight examined the factors predictive of the target students' social skills by conducting multiple stepwise multiple linear regressions.

Research Question 1. Do classroom teachers teach social skills to students with ASD or students with ID? The first research question addressed if participating teachers reported teaching social skills to their student with ASD or ID. Of the 66 participating

teachers, 71.2% reported that they taught social skills to students with ASD or ID. More specifically, 46.7% of general education teachers and 78.4% of special education teachers reported teaching social skills to students with ASD or ID. Table 4 reports the frequency and percentages of those who had taught social skills in terms of their teaching position.

Table 4
Number and Percent of Participants who Taught Social Skills by Teaching Position

	General education teacher in an inclusive classroom (n = 15)		Special education teacher in an inclusive classroom (n = 10)		Special education teacher in a resource room (n = 8)		Special education teacher in a self-contained classroom in a regular school (n = 16)		Special education teacher in a self-contained classroom in a special school (n = 17)	
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
Taught Social Skill										
Yes	8	53.3	10	100	6	75	11	68.8	13	76.5
No	7	46.7	0	0	2	25	5	31.3	4	23.5

Research Question 2. Are there relationships between teacher characteristics and whether or not teachers teach social skills to students with ASD or students with ID? A series of chi-square tests of association and independent *t*-tests were conducted to examine the relationships between teacher characteristics and whether or not the participating teacher taught social skills to a student with ASD or ID. A chi-square test of association was conducted between the teaching of social skills social skills and the following variables: degree earned, general or special education, and specific position and

placement. Statistical significance was determined at $p < .01$ level. Degree earned (X^2 (2, N = 66) = .93, p = .63) and specific position (X^2 (4, N = 66) = 8.78, p = .067) were not related to teaching social skills. The relationship between teaching social skills and being a general or special education teacher approached significance (X^2 (1, N = 66) = 5.71, p = .017). An independent samples *t*-test was conducted to examine the relationship between years of experience as a teacher and whether or not the participant taught social skills to the student. There was not a significant relationship found between years of teaching experience and teaching of social skills ($t(64) = -0.44$, $p = .67$).

Research Question 3. What kind(s) of social skills instructional strategies do teachers use? In order to examine this question, frequencies and percentages were calculated to compare the number of teachers who knew about and used specific social skills instructional strategies (e.g. modeling, naturalistic instruction, peer-mediated instruction, PRT, prompting, reinforcement, role-play, scripting, social stories, and video modeling). This analysis only included the 47 teachers who reported that they had taught social skills. A summary of the frequencies and percentages of participants' knowledge and use of social skills instructional strategies can be found in Table 5. On average, participants indicated that they knew about 8 ($SD = 1.45$) and used 5 ($SD = 2.23$) strategies. The three strategies most frequently known by participants were prompting (n=47), reinforcement (n=46), and modeling (n=46). The three most frequently used strategies were prompting (n=47), reinforcement (n=44), and modeling (n=43). The strategy that many participants did not know was PRT (n=13), which was also the most rarely used (n=8).

Table 5
Participants' Knowledge and Use of the Social Skills Instructional Strategies

	Know				Use			
	Yes		No		Yes		No	
	n	%	n	%	n	%	n	%
Modeling	46	97.9	1	2.1	43	91.5	4	8.5
Naturalistic Instruction	32	68.1	15	31.9	31	66	16	34
Peer-mediated	38	80.9	9	19.1	22	46.8	25	53.2
PRT	13	27.7	34	72.3	8	17	39	83
Prompting	47	100	0	0	47	100	0	0
Reinforcement	46	97.9	1	2.1	44	93.6	3	6.4
Role-play	43	91.5	4	8.5	25	53.2	22	46.8
Scripting	40	85.1	7	14.9	22	46.8	25	53.2
Social Stories	40	85.1	7	14.9	32	68.1	15	31.9
Video Modeling	34	72.3	13	27.7	9	19.1	38	80.9

Note. Participants could select all of the strategies that they knew and used.

Location of use and time of use were also calculated for each social skills instructional strategy. Participants were asked if they had used a strategy, and where the strategy was used (e.g. general education classroom, special education classroom, other). Participants were also asked to indicate when they used the strategy (e.g. in-class instructional time, lunch, recess and/or other). Participants were able to select multiple options, and indicate any other locations or times that they used the strategies. Summary

data for location and time can be found in Table 6. The most common location of social skills instruction was the special education classroom, and the most common time of social skills instruction was during in-class instructional time. Other locations that were identified were the hallway, common spaces in the school, and the gym. Other times that were identified were fieldtrips, community instruction/outings, and special classes (art, physical education, etc.). Participants were also asked to indicate the number of times they used the instructional strategies per week, which can be found in Table 6.

Table 6
Location, Time, and Frequency of Use of Individual Social Skills Instructional Strategies

	Where the strategy was used		When the strategy was used			Number of Times the Strategy is Used per Week			
	General education classroom	Special education classroom	In-class instruction	Recess	Lunch	Less than 1	1 to 2	3 to 4	More than 5
	n	n	n	n	n	n	n	n	n
Modeling	17	30	42	19	18	0	7	10	26
Naturalistic instruction	12	20	31	11	14	2	3	10	16
Peer-mediated	9	15	21	6	7	5	11	2	4
PRT	0	7	7	2	2	1	3	2	2
Prompting	20	33	47	18	26	0	3	10	34
Reinforcement	19	31	42	16	22	2	2	12	28
Role-play	9	18	22	4	3	9	12	4	0
Scripting	7	17	20	8	7	2	11	4	5
Social Stories	9	28	28	7	7	8	13	6	4
Video Modeling	1	7	8	1	1	6	0	0	3

Note. Participants were asked to select all that apply, so the total n may be larger than 47.

Participants were asked how effective each strategy was on a five-point Likert scale from "very ineffective" to "very effective". The mode of these rating for each strategy were calculated, with higher scores indicating higher ratings of effectiveness. The mode for each social skills instructional strategy can be found in Table 7. The results indicated that the mode for each strategy was a 4 or higher. The distribution of effectiveness scores for each strategy can be found in Figures 2 to 11.

Table 7
Effectiveness of Social Skills Instructional Strategies

	Mode
Modeling	4
Naturalistic Instruction	4
Peer-mediated	4
PRT	4
Prompting	4
Reinforcement	5
Role-play	4
Scripting	4
Social Stories	5
Video Modeling	4

Note. Only teachers who reported that they used a strategy rated its effectiveness.

Figure 2. Distribution of Effectiveness Scores for Modeling

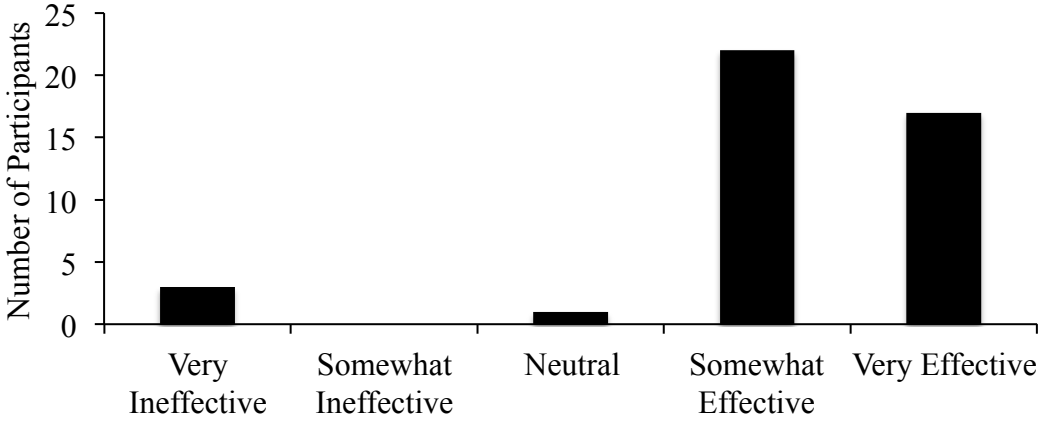


Figure 3. Distribution of Effectiveness Scores for Naturalistic Strategies

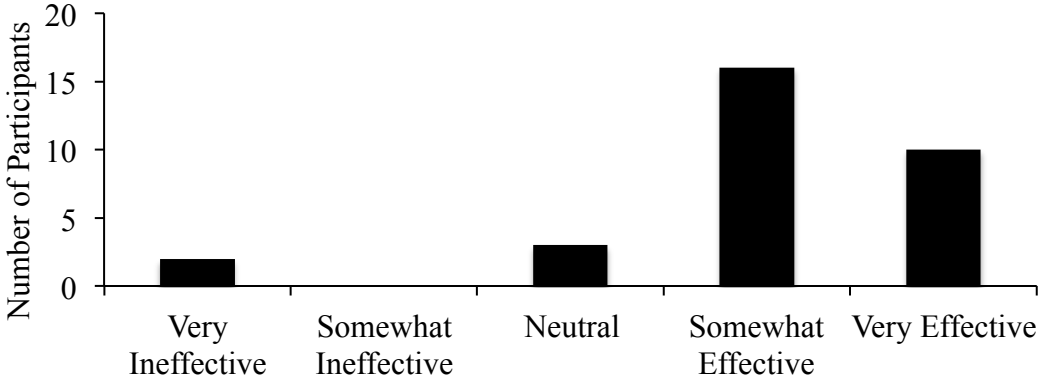


Figure 4. Distribution of Effectiveness Scores for PMII

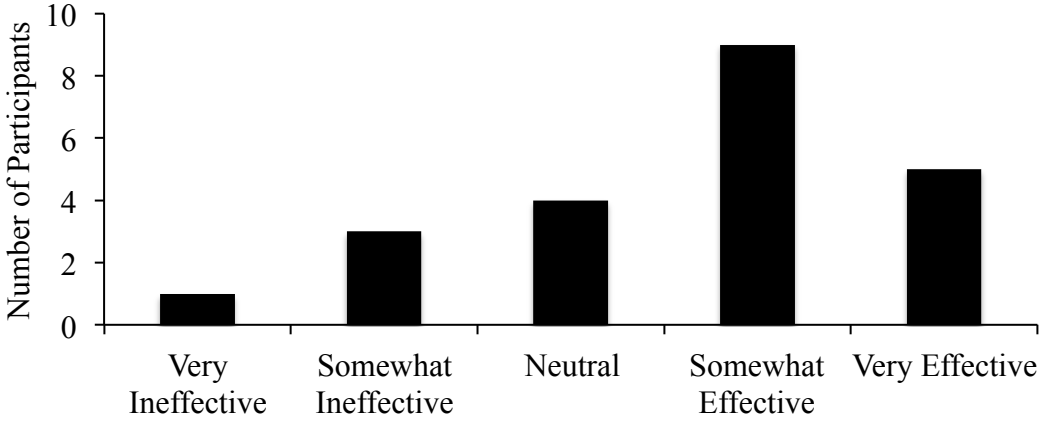


Figure 5. Distribution of Effectiveness Scores for PRT

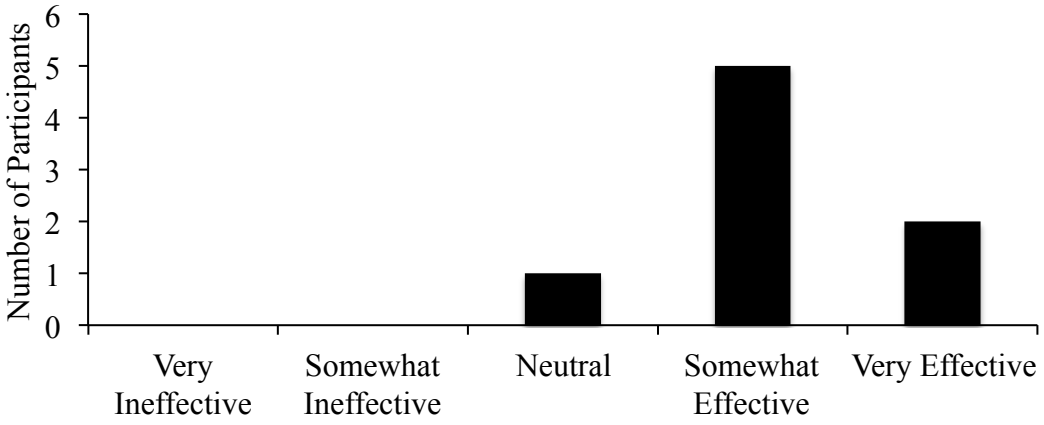


Figure 6. Distribution of Effectiveness Scores for Prompting

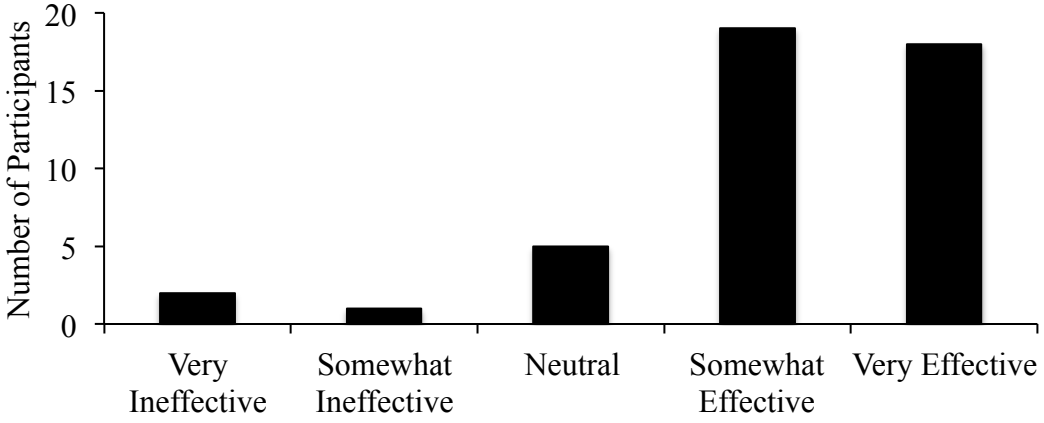


Figure 7. Distribution of Effectiveness Scores for Reinforcement

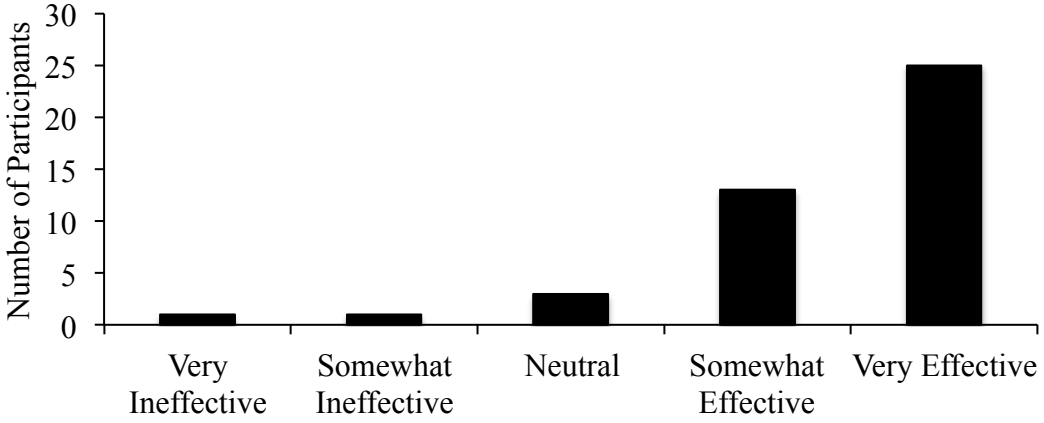


Figure 8. Distribution of Effectiveness Scores for Role Play

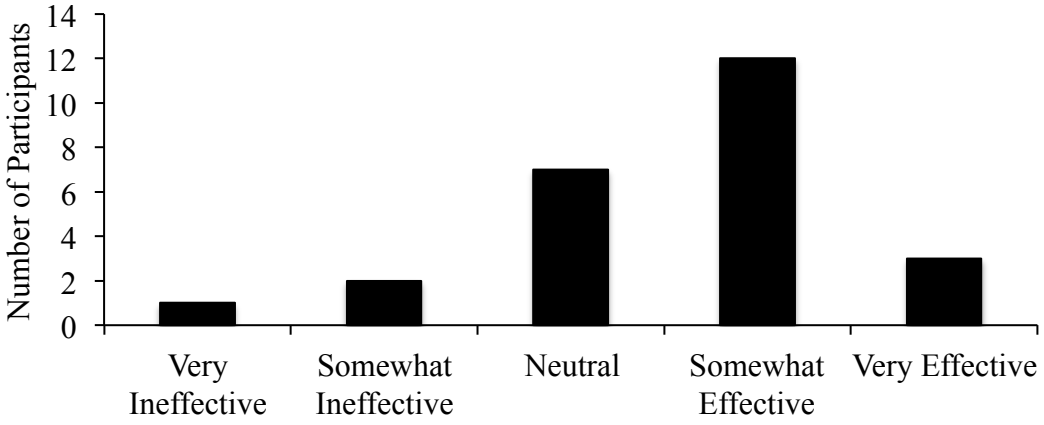


Figure 9. Distribution of Effectiveness Scores for Scripting

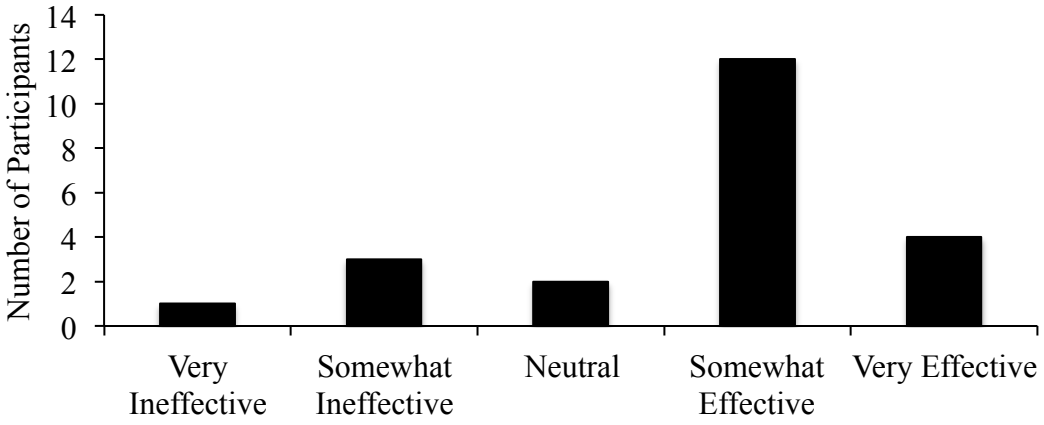


Figure 10. Distribution of Effectiveness Scores for Social Stories

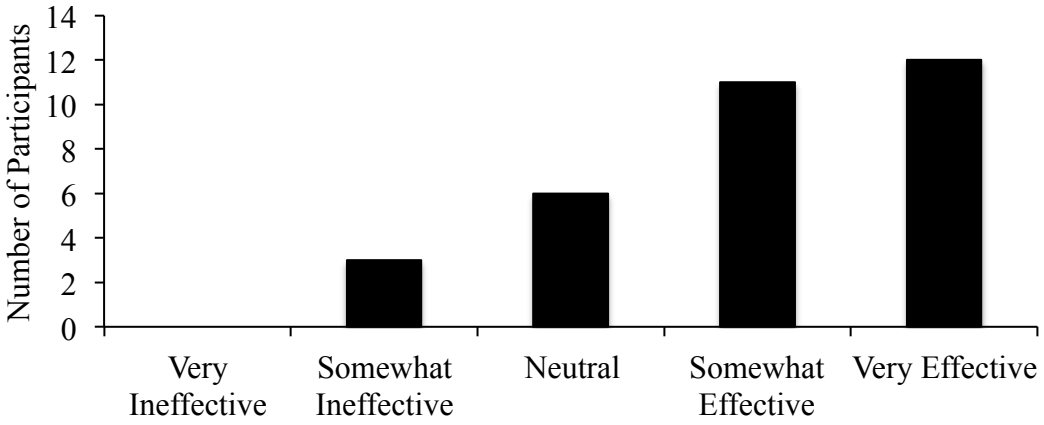
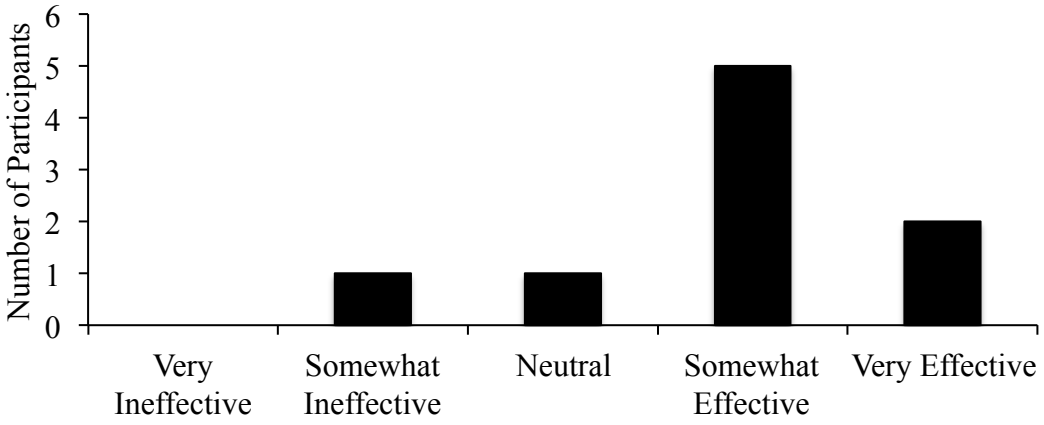


Figure 11. Distribution of Effectiveness Scores for Video Modeling



Finally, participants were asked to rank all the ten social skills strategies for effectiveness (1 as the most effective, 10 as the least effective) and ease of use (1 as the easiest, 10 as the most difficult). The means and standard deviations can be found in Table 8. The most effective strategy and easiest strategy was modeling, and the least effective strategy and most difficult to implement was video modeling. Spearman's *rho* correlations were conducted to determine the relationships between effectiveness and ease of use for all ten strategies, with a $p < .01$ indicating the existence of a significant relationship. This information can also be found in Table 8. It is interesting to note that there was a positive relationship between effectiveness and ease of use.

Table 8
Mean Ranks of Effectiveness and Ease of Use

	Effectiveness		Ease of Use		
	Mean	SD	Mean	SD	ρ
Modeling	2.52	1.88	1.87	1.41	.44*
Naturalistic Instruction	4.30	2.33	4.43	2.43	.57*
Peer-mediated	6.13	2.00	6.13	2.25	.47*
PRT	6.78	2.21	6.83	1.89	.55*
Prompting	4.09	2.48	3.22	1.86	.56*
Reinforcement	3.39	2.77	3.67	2.40	.67*
Role-play	6.61	2.49	7.00	2.20	.49*
Scripting	7.09	1.86	6.85	1.81	.53*
Social Stories	6.04	2.47	6.41	2.00	.68*
Video Modeling	8.04	2.65	8.59	2.48	.39*

Note. * Denotes factors that were significantly related at $p < .01$

Research Question 4. What are the barriers or reasons that teachers do not use a particular strategy and that teachers face with teaching social skills to students with ASD and students with ID? Participants were asked to identify the barriers to implementing each social skills instructional strategy. Participants were able to indicate multiple barriers from a list of nine options, as well as indicate others not listed by the researcher. The list of barriers included: I don't know about this strategy, I have no time to use this strategy, I have heard about this strategy, but don't know how to use it, this strategy is too difficult to use, I don't have enough resources and support to use this strategy, I don't

think my student will benefit from this strategy, my student's parents don't give me consent to use this strategy, my supervisor doesn't allow me to use this strategy, and this strategy doesn't correspond to my school's teaching philosophy. The most frequently identified barriers for each strategy can be found in Table 9. "I don't know about this strategy" appeared to be the most common identified barrier across all of the strategies. Another common barrier identified was "I don't think my student will benefit from this strategy."

Table 9
Barriers for Social Skills Instructional Strategies

	I don't know about it	I have no time to use it	I don't know how to use it	Too difficult to use	Not enough resources to use it	Student won't benefit from it	Parents don't consent to use it	Supervisor doesn't allow me to use it	Doesn't match school philosophy
Modeling	1	0	2	0	1	2	0	0	1
Naturalistic instruction	13	1	1	1	2	1	0	0	0
Peer-mediated	7	2	1	1	6	6	0	0	2
PRT	32	1	2	0	1	0	0	0	0
Prompting	0	0	0	0	0	0	0	0	0
Reinforcement	0	0	0	0	0	0	0	0	1
Role-play	2	2	1	1	3	11	0	0	0
Scripting	6	3	3	2	2	7	0	0	0
Social Stories	4	1	1	0	0	5	0	1	1
Video Modeling	8	7	4	4	13	6	2	2	2

Note. The numbers presented here were the total number of responses per barrier.

Participants were also asked to identify the difficulties and barriers they face with teaching social skills to students with disabilities. This list was not specific to individual strategies, but teaching social skills to students with disabilities in general. It consisted of 11 options designed by the researcher including: I don't know what strategies I can use, I don't have time to design social skills intervention, I don't have time to teach social skills, it is difficult for the students without disabilities to accept students with disabilities, I don't have enough funding/resources/support to implement social skills interventions, I have known social skills instructional strategies but don't know how to implement them in my classroom, it is difficult to find appropriate social skills curriculum, my school doesn't allow me to devote time to teach social skills, the parents of students with disabilities don't consent me to teach their children social skills, the parents of students without disabilities want me to devote more time to their children, it takes time to see students' improvement, and my colleagues don't support me in teaching social skills. The top five barriers identified by participants are listed in Table 10.

Table 10
General Barriers to Teaching Social Skills to Students with Disabilities

Barrier	n
No time to design social skills intervention	24
Difficult to find appropriate social skills curriculum	23
Not enough funding/resources support	22
Takes time to see student improvement	19
No time to teach social skills	16

Research Question 5. What resources or supports do teachers need to conduct social skills interventions? Participants were asked to identify the resources and supports needed to teach social skills to students with ASD or ID. A list of 10 options was provided to teachers, of which they were able to select multiple options. Participants were also able to identify any additional resources or supports that they needed but weren't provided in the list. The list of options on the questionnaire included: funding, curriculum, professional training/workshops, colleagues' support, the support of the parents of students with disabilities, the support of the parents of students without disabilities, the support of students with disabilities, teaching preparation time, flexibility in adjusting student's learning schedule, and a location for conducting social skills intervention. The five most frequently identified resources and supports can be found in Table 11.

Table 11
Resources and Supports Needed to Teach Social Skills

Resource/Support	n
Teaching preparation time	39
Curriculum	39
Training/Workshops	32
Flexibility in adjusting student's learning schedule	29
Funding	25

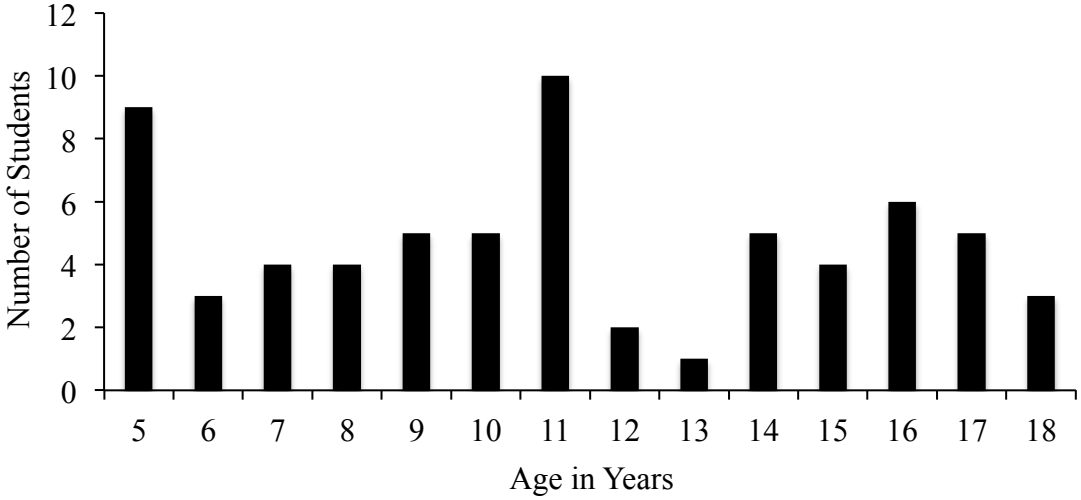
Participants were also asked to identify any suggestions that they had for teacher preparation programs. A list of three suggestions was provided, and participants were able to select multiple options. They were also able to write in suggestions for programs. The three suggestions provided were: not only introduce strategies but demonstrate how to use them, introduce social skills curriculum, and expose student teachers to social skills intervention while they are doing student teaching. Summary data for the suggestions can be seen in Table 12. Additional suggestions included providing training to general education teachers on social skills strategies and teach how to embed social skills instruction into the general curriculum and/or other content areas.

Table 12
Suggestions for Teacher Preparation Programs

Suggestion	n
Exposure to Strategies during Student Teaching	39
Introduce and Demonstrate Strategies	37
Introduce Social Skills Curriculum	33

Research Question 6. What are the characteristics of the students of the participating teachers (e.g., age, gender, the levels of social skills, others)? Participating teachers were asked to randomly select a target student in their class who had ASD or ID, as indicated on their IEP, to complete the study. Of the identified target students, 80.3% had ASD and 19.7% had ID according to the participating teachers. Target students ranged in age from 5- to 18-years (M = 11.1, SD = 4.14). A distribution of the students' ages can be found in Figure 12. The majority of target participants were male (71.2%), which was expected considering that individuals with ASD and individuals with ID are more likely to be male. Students with ASD and ID did not differ on age (ASD = 10.85, SD = 3.98; ID = 11.9, SD = 4.8) or gender.

Figure 12. Distribution of the Students' Age



Participating teachers reported that 59.1% of the target students had at least one friend. Furthermore, participants identified that 37.9% of students took regular assessments, while 62.1% took alternate assessments. Teachers were asked to identify the target student's communication skills compared to their peers, their communication style, and the number of functional words the student used. The majority of the students were verbal but had below average communication skills. The frequencies and percentages for gender, friends, assessment, and communication variables for the total group of target students, as well as for students with ID and students with ASD individually can be found in Table 13.

Table 13
Student Characteristics

	Total		ASD		ID	
	n	Percent	n	Percent	n	Percent
Total	**66**	**100**	**53**	**80.3**	**13**	**19.7**
Male	47	71.2	39	73.6	8	61.5
Female	19	28.8	14	26.4	5	38.5
Communication Style						
Mostly verbal	49	74.2	39	73.6	10	76.9
Mostly gestures	8	12.1	7	13.2	1	7.7
Communication board/pictures	4	6.1	4	7.5	0	0
Doesn't communicate	2	3	2	3.8	0	0
Other	3	4.5	1	1.9	2	15.4
Number of functional words						
Nonverbal	8	12.1	7	13.2	1	7.7
1-5	1	1.5	1	1.9	0	0
6-19	3	4.5	3	5.7	0	0
More than 20	54	81.8	42	79.2	12	92.3
Communication Skill						
Below same age peers	45	68.2	34	64.2	11	84.6
Similar to same age peers	17	25.8	15	28.3	2	15.4
Above same age peers	4	6.1	4	7.5	0	0
Friends						
Yes	39	59.1	29	54.7	10	76.9
No	27	40.9	24	45.3	3	23.1
Assessment						
Regular	25	37.9	22	41.5	3	23.1
Alternate	41	62.1	31	58.5	10	76.9

Participating teachers were asked to complete the SEARS about the randomly selected target student with ASD or ID in their classroom. Only 51 participants completed the SEARS assessment. Results can be seen in Table 14. *T*-scores were calculated for the SEARS and range from "high risk" to "average to high functioning". Scores for the entire sample had mean scores in the "at risk" level. Since there were only nine participants who completed the SEARS for a student with ID, a non-parametric Mann-Whitney U test was conducted to compare SEARS scores between the ASD group and ID group (Abu-Bader, 2011). Furthermore, examination of skewness, kurtosis, and box plots indicated that scores for the ID group were not normally distributed. The two groups had similar social skills (z =-1.15, p = .26). The Empathy *T*-scores were significantly different for the ASD (M = 37.29, SD = 7.89) and ID (M = 45.56, SD = 8.02) groups (z = -2.54, p < .01).

Table 14
Summary of SEARS Scores

	Total (n=51)		ASD (n=42)		ID (n=9)	
	Mean	SD	Mean	SD	Mean	SD
Total	37.22	6.38	36.45	5.68	40.78	8.48
Self-Regulation	37.84	6.51	37.21	5.76	40.78	9.12
Social Competence	37.88	6.24	37.67	6.08	38.89	7.22
Empathy*	38.75	8.46	37.29	7.89	45.56	8.02
Responsibility	40.61	7.21	39.86	6.21	44.11	10.48

Note. SEARS scores are reported as a *T*-score, with mean = 50 and SD = 10. Higher scores represent higher levels of social and emotional assets.
* Denotes factors that significantly differed between groups at p < .01

Research Question 7. Are there relationships between student characteristics and whether or not participating teachers teach social skills? A series of chi-square tests

of association and Mann-Whitney *U* tests were conducted to examine the relationships between student characteristics and the receipt of social skills instruction. Mann-Whitney *U* tests were used because of the small number of participants in each group (Abu-Bader, 2011). A chi-square test of association was conducted between social skills and the following variables: gender, disability, communication style, number of functional words, communication skills, friends, and assessment type. Statistical significance was determined at $p < .01$. Chi-square tests of association found no significant relationships for the teaching of social skills with any of the variables previously mentioned.

A Mann-Whitney *U* test was conducted to examine the relationship between the students' age and the receipt of social skills instruction. There was not a significant relationship found between the two variables ($z = -1.2$, $p = .23$). Furthermore, a Mann-Whitney *U* test was conducted to examine the relationship of SEARS-Total *T*-scores and whether or not the participating teacher taught social skills to the student, and there was not a significant relationship ($z = -.82$, $p = .42$).

Research Question 8. What are the student and teacher factors predictive of social skills of students ASD and students with ID? Stepwise multiple linear regression analyses were used to determine the factors predictive of social skills of students with ASD and students with ID. Five linear regression models were examined using the SEARS-Total and each of the SEARS subscales as dependent variables in each model. The process is discussed for each model. Only the 51 participants who completed the SEARS were included in the following analyses.

SEARS-Total. The SEARS-Total *T*-score was the dependent variable for the first model. Potential variables included student characteristics (e.g., disability, friends, number

of functional words, communication style, communication skill, age, gender, assessment), and teacher characteristics (e.g., if teachers had taught social skills, years of teaching, highest degree, number of social skills strategies used, type of teacher, frequency of teaching social skills).

Due to the large number of potential variables, the relationships between the dependent variable and independent variables were examined before performing a regression analysis.

Analyses were conducted to determine if SEARS-Total *T*-scores were related to student characteristics, such as age, gender, friends, communication style, communication skill, number of functional words, and assessment. A Pearson's *r* correlation was conducted to determine if a relationship existed between age and SEARS-Total *T*-scores. A significant relationship was not found ($r = .11$, $p = .46$). Mann-Whitney U tests were conducted to examine the relationship between student gender, friends, and assessment and SEARS-Total *T*-scores. The Mann-Whitney U tests were used because of the small number of participants in each group, as well as violations of the assumption of normality for the SEARS-Total *T*-scores for each variable of gender, friends, and assessment (Abu-Bader, 2011). For the friends variable, there were problems with skewness and kurtosis for the SEARS-Total *T*-scores for those who reported that the student had friends. Furthermore, there were problems of skewness and kurtosis for males on the SEARS-Total *T*-scores. Finally, there were also problems with skewness and kurtosis for those who reportedly took alternate assessments. There was not a significant relationship between SEARS-Total *T*-scores and gender ($z = -1.28$, $p = .20$) or assessment ($z = -1.55$, $p = .122$). There was a significant relationship between friends and the SEARS-Total *T*-score ($z = -4.26$, $p < .001$). Mann-

Whitney U tests were previously conducted to examine the relationship between SEARS scores and disability, and a significant relationship was not found between SEARS-Total *T*-scores and disability ($z = -1.15$, $p = .25$). Finally, Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS-Total *T*-scores and communication style, communication skill, and number of functional words. Kruskal-Wallis *H* tests were conducted because of the small sample size in each group (Abu-Bader, 2011). Communication skill was not associated with SEARS-Total *T*-scores ($X^2 = 2.20$, $df = 2$, $p = .33$). There was a significant relationship between SEARS-Total *T*-scores and communication style ($X^2 = 15.89$, $df = 4$, $p < .01$), and between the SEARS-Total *T*-scores and number of functional words ($X^2 = 13.56$, $df = 2$, $p < .01$). Post-hoc Tamhane's T2 test for communication style indicate that students who communicated using verbal words had significantly higher SEARS-Total *T*-scores than did the students who did not communicate ($p < .01$) using words. Results of these analyses can be found in Table 15.

Table 15
Relationships between SEARS-Total and Student Characteristics

Age	Disability	Gender	Friends	Assessment	Communication Style	Communication Skill	Functional words
r	*z*	*z*	*z*	*z*	X^2	X^2	X^2
.11	-1.15	-1.28	-4.26*	-1.55	15.89*	2.20	13.56*

Note. * Denotes significance at $p < .01$

Another set of analyses were conducted to determine if teacher characteristics were related to SEARS-Total *T*-scores. The characteristics examined included if teachers taught social skills to the student and the total number of social skills strategies the teacher used. Mann-Whitney U tests were conducted to determine the relationship between SEARS-Total

scores and the teaching of social skills and type of teacher. A significant relationship was not found for teaching social skills (z = -.82, p = .42) or the type of teacher (z = -1.32, p = .19). Pearson's r correlations were conducted to determine if a relationship existed between SEARS-Total T-scores and the following variables: the total number of social skills instructional strategies a teacher uses, the frequency of teaching social skills, and years of experience. A significant relationship was not found for the total number of social skills instructional strategies used (r = -.11, p = .43), the frequency of teaching social skills (r = -.11, p = .43), or years of experience (r = -.02, p = .89). Finally, Kruskal-Wallis H tests were conducted to examine the relationship of SEARS-Total T-scores and highest degree, and there was not a significant relationship found (X^2 = 1.88, df = 2, p = .39). A summary of these results can be found in Table 16.

Table 16
Relationships between SEARS-Total and Teacher Characteristics

Taught Social	Type of Teacher	Total Number of Strategies	Frequency of Teaching Social Skills	Years of Experience	Highest Degree
z	z	r	r	r	X^2
.82	-1.32	-.11	-.11	-.02	1.88

Only the variables that had significant relationships with the dependent variable were entered into the regression analysis, which included number of functional words, communication style, and friends. Dummy variables were created for each of these categorical variables.

Multicolinearity was examined for each of the variables by checking the values for VIF and tolerance, and by conducting Spearman's *rho* correlations. The values for VIF were all less than 10, and ranged from .87 to 5.43. Values for tolerance were all greater than

.10, and ranged from .18 to 1.00. None of the correlations were greater than .80, indicating that there was not a problem with multicolinearity.

The analysis excluded any variables that were three or more standard deviations from the mean, which resulted in the exclusion of one participant. The results of the stepwise multiple regression analysis revealed that two of the independent variables were significant predictors of the SEARS-Total score ($F = 17.88$, $p < .001$). This model explained 42.7% of the variance in SEARS-Total *T*-scores. Friends emerged as the strongest predictor of SEARS-Total scores with a beta of .43 ($p < .01$), and accounted for 31.9% of the variance overall. The second variable was number of functional words ($\beta = .35$, $p < .01$), which accounted for an additional 10.8% of the variance. The results indicate that SEARS scores are predicted by having friends and more than 20 functional words. Results of the regression are summarized in Table 17.

Table 17

Stepwise Multiple Regression Analysis of SEARS-Total T-scores

Source	r	r^2	β	*t*	*p*	*F*	*p*
Friends	.56	.32	.43	3.7	< .01	22.9	< .001
Functional Words – More than 20	.65	.43	.35	3.01	< .01	17.88	< .001

Note. Significance at $p < .01$

SEARS Self-Regulation scale. Stepwise multiple regression analyses were conducted using the *T*-scores from the four subscales of the SEARS as the dependent variable. These analyses followed the same process as used for the SEARS-Total. The SEARS Self-Regulation *T*-score was the dependent variable for this model. Potential

variables were the same as those for the SEARS-Total model, and included student characteristics (e.g., disability, friends, number of functional words, communication style, communication skill, student age, student gender, assessment) and teacher characteristics (e.g., if teachers had taught social skills, years of teaching, highest degree, number of social skills strategies used, type of teacher, frequency of teaching social skills).

Once again, due to the large number of potential variables, the relationships between the dependent variable and independent variables were examined before performing the regression analysis. A Pearson's *r* correlation was conducted to determine if a relationship existed between the students' age and SEARS Self-Regulation *T*-scores. A significant relationship was not found ($r = -.06$, $p = .68$). Mann-Whitney U tests were conducted to examine the relationships between student disability, gender, friends, and assessment and SEARS Self-Regulation *T*-scores. There was not a significant relationship between SEARS Self-Regulation *T*-scores and disability ($z = -1.0$, $p = .32$), gender ($z = -.75$, $p = .45$), or assessment ($z = -1.85$, $p = .07$). There was a significant relationship between the SEARS Self-Regulation *T*-score and friends ($z = -3.13$, $p < .01$). Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS Self-Regulation *T*-scores and communication style, communication skill, and number of functional words. There was not a significant relationship between SEARS Self-Regulation *T*-scores and communication skill ($X^2 = 3.56$, $df = 2$, $p = .17$), communication style ($X^2 = 11.13$, $df = 4$, $p = .03$), or number of functional words ($X^2 = 7.19$, $df = 2$, $p = .03$). Results of these analyses can be found in Table 18.

Table 18
Relationships between SEARS Self-Regulation and Student Characteristics

Age	Disability	Gender	Friends	Assessment	Communication Style	Communication Skill	Functional words
r	*z*	*z*	*z*	*z*	X^2	X^2	X^2
-.06	-1.0	-.75	-3.13*	-1.85	11.13	3.56	7.19

Note. * Denotes significance at $p < .01$

Analyses were also conducted to determine if teacher characteristics were related to SEARS Self-Regulation *T*-scores. Pearson's *r* correlations were conducted to determine if a relationship existed between SEARS Self-Regulation *T*-scores and the following variables: the total number of social skills instructional strategies a teacher uses, the frequency of teaching social skills, and years of experience. A significant relationship was not found for the total number of social skills instructional strategies used ($r = .21$, $p = .15$), the frequency of teaching social skills ($r = .21$, $p = .15$), or years of experience ($r = .01$, $p = .93$). Mann-Whitney U tests were conducted to determine the relationships between SEARS Self-Regulation scores and teaching of social skills and type of teacher. A significant relationship was not found for teaching social skills ($z = 1.78$, $p = .08$) or the type of teacher ($z = -1.81$, $p = .07$). Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS Self-Regulation *T*-scores and highest degree, and there was not a significant relationship found ($X^2 = 2.21$, $df = 2$, $p = .33$). A summary of these results can be found in Table 19.

Table 19
Relationships between SEARS Self-Regulation and Teacher Characteristics

Taught Social	Type of Teacher	Total Number of Strategies	Frequency of Teaching Social Skills	Years of Experience	Highest Degree
z	*z*	*r*	*r*	*r*	X^2
1.78	-1.81	.21	.21	.01	2.21

Since only the friends variable had a significant relationship with SEARS Self-Regulation *T*-scores, a simple linear regression was conducted with the SEARS Self-Regulation *T*-scores as the dependent variable and friends as the independent variable. The results of the simple linear regression analysis revealed that the variable friends was a significant predictor of SEARS Self-Regulation scores ($F = 11.37$, $p < .001$). Having friends accounted for 19% of the variance in SEARS Self-Regulation *T*-score, with a beta of .43 ($p < .001$). Results of the regression are summarized in Table 20.

Table 20
Simple Linear Regression Analysis of SEARS Self-Regulation T-scores

Source	r	r^2	β	*t*	*p*	*F*	*p*
Friends	.43	.19	.43	3.37	< .01	11.37	< .001

Note. Significance at $p < .01$

SEARS Social Competence scale. Stepwise multiple regression analyses were conducted using the Social Competence *T*-scores as the dependent variable. Potential variables were the same as those for the SEARS-Total model (disability, friends, number of functional words, communication style, communication skill, student age, student gender, assessment, if teachers had taught social skills, years of teaching, highest degree, number of

social skills strategies used, type of teacher, frequency of teaching social skills). The relationships between the dependent variable and independent variables were examined before performing the regression analysis. A Pearson's *r* correlation was conducted to determine if a relationship existed between the students' age and SEARS Social Competence *T*-scores, and a significant relationship was not found ($r = .12$, $p = .39$). Mann-Whitney U tests were conducted to examine the relationship between disability, gender, friends, and assessment and SEARS Social Competence *T*-scores. There was not a significant relationship between SEARS Social Competence *T*-scores and disability ($z = -.36$, $p = .72$), gender ($z = -1.78$, $p = .08$) or assessment ($z = -.38$, $p = .69$). There was a significant relationship between SEARS Social Competence *T*-scores and friends ($z = -3.94$, $p < .001$). Kruskal-Wallis *H* tests examined the relationship between SEARS Social Competence *T*-scores and communication style, communication skill, and number of functional words. There were not significant relationships between SEARS-Social Competence *T*-scores and communication skill ($X^2 = 2.16$, $df = 2$, $p = .34$) or communication style ($X^2 = 12.33$, $df = 4$, $p = .02$). There was a relationship between SEARS Social Competence *T*-scores and number of functional words ($X^2 = 9.70$, $df = 2$, $p < .01$). Results of these analyses can be found in Table 21.

Table 21
Relationships between SEARS Social Competence and Student Characteristics

Age	Disability	Gender	Friends	Assessment	Communication Style	Communication Skill	Functional words
r	*z*	*z*	*z*	*z*	X^2	X^2	X^2
.12	-.36	-1.78	-3.94*	-.38	12.33	2.16	9.70*

Note. * Denotes significance at $p < .01$

Analyses were also conducted to determine if teacher characteristics were related to SEARS Social Competence *T*-scores. Mann-Whitney U tests were conducted to determine the relationships between SEARS Social Competence scores and the teaching of social skills and type of teacher. A significant relationship was not found for teaching social skills (z = -.15, p = .88) or the type of teacher (z = -.54, p = .59). Pearson's *r* correlations were conducted to determine if a relationship existed between SEARS Social Competence *T*-scores and the following variables: the total number of social skills instructional strategies a teacher uses, the frequency of teaching social skills, and years of experience. A significant relationship was not found for the total number of social skills instructional strategies used (r = .01, p = .94), the frequency of teaching social skills (r = .01, p = .93), or years of experience (r = -.08, p = .58). Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS Social Competence *T*-scores and highest degree, and there was not a significant relationship found (X^2 = 1.39, df = 2, p = .50). A summary of these results can be found in Table 22.

Table 22
Relationships between SEARS Social Competence and Teacher Characteristics

Taught Social	Type of Teacher	Total Number of Strategies	Frequency of Teaching Social Skills	Years of Experience	Highest Degree
z	*z*	*r*	*r*	*r*	X^2
-.15	-.54	.01	.01	-.08	1.39

Number of functional words and friends had significant relationships with SEARS Social Competence *T*-scores, and were used as independent variables in a stepwise multiple linear regression analysis with SEARS Social Competence *T*-scores as the dependent variable. The results of the stepwise multiple linear regression analysis revealed that the

variable friends was a significant predictor of SEARS Social Competence scores ($F = 19.89$, $p < .001$). Having friends accounted for 29% of the variance in SEARS Social Competence *T*-score, with a beta of .54 ($p < .001$). Results of the regression are summarized in Table 23.

Table 23

Stepwise Multiple Linear Regression Analysis of SEARS Social Competence T-scores

Source	r	r^2	β	*t*	*p*	*F*	*p*
Friends	.54	.29	.54	4.46	< .001	19.89	< .001

Note. Significance at $p < .01$

SEARS Empathy scale. The same procedures were followed as with other scales to determine the predictors of the SEARS Empathy *T*-score. Once again, potential variables were the same as those used for other models (disability, friends, number of functional words, communication style, communication skill, student age, student gender, assessment, if teachers had taught social skills, years of teaching, highest degree, number of social skills strategies used, type of teacher, frequency of teaching social skills). A Pearson's *r* correlation was conducted to determine if a relationship existed between the students' age and SEARS Empathy *T*-scores, and a significant relationship was not found ($r = .17$, $p = .25$). Mann-Whitney U tests were conducted to examine the relationships between student gender, friends, and assessment and SEARS Empathy *T*-scores. There was not a significant relationship between SEARS Empathy *T*-scores and gender ($z = -.18$ $p = .86$) or assessment ($z = -.94$, $p = .35$), but there was a significant relationship between SEARS Empathy *T*-score and friends ($z = -3.25$, $p < .001$), and between SEARS Empathy *T*-score and disability ($z = -2.54$, $p < .01$). Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS Empathy *T*-scores and communication style, communication skill, and number of

functional words. There was not a significant relationship between communication skill and SEARS Empathy *T*-scores ($X^2 = 1.1$, $df = 2$, $p = .58$). There was a significant relationship between SEARS Empathy *T*-scores and communication style ($X^2 = 14.44$, $df = 4$, $p < .01$), and between the SEARS Empathy *T*-scores and number of functional words ($X^2 = 11.91$, $df = 2$, $p < .01$). Results of these analyses can be found in Table 24.

Table 24
Relationships between SEARS Empathy and Student Characteristics

Age	Disability	Gender	Friends	Assessment	Communication Style	Communication Skill	Functional words
r	*z*	*z*	*z*	*z*	X^2	X^2	X^2
.17	-2.54*	-.18	-3.25*	-.94	14.44*	1.1	11.91*

Note. * Denotes significance at $p < .01$

Analyses were also conducted to determine if teacher characteristics were related to SEARS Empathy *T*-scores. Mann-Whitney U tests were conducted to determine the relationship between SEARS Empathy scores and the teaching of social skills and type of teacher, and a significant relationship was not found for teaching social skills ($z = -.43$, $p = .66$) or the type of teacher ($z = -.88$, $p = .38$). Pearson's *r* correlations were conducted to determine if a relationship existed between SEARS Empathy *T*-scores and the total number of social skills instructional strategies a teacher used, the frequency of teaching social skills, and years of experience. A significant relationship was not found for the total number of social skills instructional strategies used ($r = .06$, $p = .68$), the frequency of teaching social skills ($r = .06$, $p = .67$), or years of experience ($r = .04$, $p = .81$). Kruskal-Wallis *H* tests were conducted to examine the relationship between SEARS Empathy *T*-scores and highest

degree, and there was not a significant relationship found ($X^2 = 4.85$, $df = 2$, $p = .09$). A summary of these results can be found in Table 25.

Table 25
Relationships between SEARS Empathy and Teacher Characteristics

Taught Social	Type of Teacher	Total Number of Strategies	Frequency of Teaching Social Skills	Years of Experience	Highest Degree
z	*z*	*r*	*r*	*r*	X^2
-.43	-.88	.06	.06	.04	4.85

Those variables that had significant relationships with the SEARS Empathy scores were placed in a stepwise multiple linear regression independent variables (friends, disability, communication style, functional words) with SEARS Empathy *T*-scores as the dependent variable. The results of the stepwise multiple regression analysis revealed that three of the independent variables were significant predictors of the SEARS Empathy score ($F = 10.87$, $p < .001$). This model explained 41% of the variance in SEARS Empathy *T*-scores. Friends emerged as the strongest predictor of SEARS Empathy scores with a beta of .33 ($p < .01$), and accounted for 23% of the variance overall. The second variable was more than 20 functional words ($\beta = .31$, $p = .015$), which accounted for an additional 10% of the variance. Finally, disability was the third variable ($\beta = .28$, $p = .017$), which accounted for an additional 9% of the variance. A summary of the stepwise multiple linear regression can be found in Table 26.

Table 26

Stepwise Multiple Regression Analysis of SEARS Empathy T-scores

Source	r	r^2	β	*t*	*p*	*F*	*p*
Friends	.48	.23	.33	2.72	< .01	14.46	< .001
Functional Words – More than 20	.58	.33	.31	2.53	.015	11.95	< .001
Disability	.64	.41	.23	2.48	.017	10.87	< .001

Note. Significance at $p < .01$

SEARS Responsibility scale. Finally, stepwise multiple regression analyses were conducted using the Responsibility *T*-scores as the dependent variable. The same potential variables from the previous models were examined prior to conducting the regression analysis (disability, friends, number of functional words, communication style, communication skill, student age, student gender, assessment, if teachers had taught social skills, years of teaching, highest degree, number of social skills strategies used, type of teacher, frequency of teaching social skills). A Pearson's *r* correlation was conducted to determine if a relationship existed between the students' age and SEARS Responsbility *T*-scores, and a significant relationship was not found ($r = .15$, $p = .31$). Mann-Whitney U tests were conducted to examine the relationship between disability, gender, friends, and assessment and SEARS Responsibility *T*-scores. There was not a significant relationship between SEARS Responsibility *T*-scores and disability ($z = -.78$, $p = .44$), gender ($z = -1.13$, $p = .26$) or assessment ($z = -1.74$, $p = .08$). There was a significant relationship between SEARS Responsibility *T*-scores and friends ($z = -2.66$, $p < .001$). Kruskal-Wallis *H* tests examined the relationship between SEARS Responsibility *T*-scores and communication

style, communication skill, and number of functional words. There were not significant relationships between SEARS Responsibility *T*-scores and communication skill ($X^2 = 1.35$, $df = 2$, $p = .51$) or communication style ($X^2 = 10.75$, $df = 4$, $p = .03$). There was a relationship between SEARS Responsibility *T*-scores and number of functional words ($X^2 = 12.70$, $df = 2$, $p < .01$). Results of these analyses can be found in Table 27.

Table 27
Relationships between SEARS Responsibility and Student Characteristics

Age	Disability	Gender	Friends	Assessment	Communication Style	Communication Skill	Functional words
r	*z*	*z*	*z*	*z*	X^2	X^2	X^2
.15	-.78	-1.13	-2.66*	-1.74	10.75	1.35	12.70*

Note. * Denotes significance at $p < .01$

Teacher characteristics were also examined to determine if there was a relationship with SEARS Responsibility scores. Mann-Whitney U tests were conducted to determine the relationship between SEARS Responsibility scores and the teaching of social skills and type of teacher. A significant relationship was not found for teaching social skills ($z = -.07$, $p = .94$) or the type of teacher ($z = -.89$, $p = .37$). Pearson's *r* correlations were conducted to determine if a relationship existed between SEARS Responsibility *T*-scores and the total number of social skills instructional strategies a teacher used, the frequency of teaching social skills, and years of experience. A significant relationship was not found for the total number of social skills instructional strategies used ($r = .03$, $p = .85$), the frequency of teaching social skills ($r = .03$, $p = .85$), or years of experience ($r = -.02$, $p = .89$). A Kruskal-Wallis *H* test was conducted to examine the relationship between SEARS

Responsibility *T*-scores and highest degree, and there was not a significant relationship (X^2 = 1.64, *df* = 2, *p* = .44). A summary of these results can be found in Table 28.

Table 28
Relationships between SEARS Responsibility and Teacher Characteristics

Taught Social	Type of Teacher	Total Number of Strategies	Frequency of Teaching Social Skills	Years of Experience	Highest Degree
z	*z*	*r*	*r*	*r*	X^2
-.07	-.89	.03	.03	-.02	1.64

Number of functional words and friends had significant relationships with SEARS Responsibility *T*-scores, and were used as independent variables in a stepwise multiple linear regression analysis with SEARS Responsibility *T*-scores as the dependent variable. The results of the stepwise multiple linear regression analysis revealed that number of functional words (more than 20) was a significant predictor of SEARS Responsibility scores (*F* = 11.8, *p* < .01). Having more than 20 functional words accounted for 19% of the variance in SEARS Responsibility *T*-score, with a beta of .44 (*p* < .01). Results of the regression are summarized in Table 29.

Table 29
Stepwise Multiple Linear Regression Analysis of SEARS Social Competence T-scores

Source	r	r^2	β	*t*	*p*	*F*	*p*
Functional Words (More than 20)	.44	.19	.44	3.44	< .01	11.8	< .01

Note. Significance at *p* < .01

Chapter V

Discussion

Individuals with ASD and individuals with ID frequently exhibit impairments in social skills performance and functioning (e.g. APA, 2013; Boutot & Myles, 2011; Drew & Hardman, 2007). Teachers are required to implement evidence-based practices to address the needs of students, including those with disabilities (IDEA, 2004; NCLB, 2001). Plans to remediate these needs should be included and listed in the student's IEP (The University of the State of New York & The State Education Department, 2010). Evidence-based social skills strategies have been identified in the research (Reichow & Volkmar, 2010; Wong et al., 2014), however little is known if teachers in school settings implement these strategies. The present study examined the use of evidence-based social skills instructional strategies by teachers of students with ASD and students with ID. The results of this study found that the majority of the teachers in this study (71.2%) had taught social skills to a student with ASD or a student with ID, which is contrary to the findings by Hume et al. (2005), which found that few parents reported that early interventionists provided social skills supports to students with ASD. The differences in the outcomes of the Hume et al. (2005) study and this study could be due to the participants in the studies. This study relied on the reports from teachers, while the Hume et al. (2005) study relied on the reports from parents.

This study also found that teacher characteristics do not affect whether or not the participants report teaching social skills to the target student, however special education teacher do appear to be more likely to report teaching social skills to the target student than general education teachers. Of the participants who reported that they taught social skills to the target student, the most common intervention strategies they reported using were

prompting, reinforcement, and modeling. The least common intervention strategies the participants reported using were PRT and video modeling. Those strategies that were most commonly reported to be used by the participants were also ranked by the participants as the most effective and easiest to use. The most frequently identified barriers or reasons that participants do not teach social skills were a lack of time to design social skills interventions and difficulty finding appropriate social skills curriculum. Participants identified the most common resources or supports needed to teach social skills as additional teaching preparation time and curriculum.

Finally, this study found that student characteristics, including the students' SEARS scores, were not related to whether or not participating teachers reported teaching social skills to the target student. The regression analyses indicated that the student having friends and more than 20 functional words were predictors of the students' SEARS scores.

Teacher Implementation of Social Skills Intervention Strategies

Social skills instruction is a beneficial and recommended practice for students with ASD and students with ID (e.g. NRC, 2001). Participating teachers who indicated that they had taught the student social skills, reported that they were knowledgeable about eight of the evidence-based strategies and used approximately five strategies. These results indicate that teachers are knowledgeable about evidence-based strategies and have adopted these strategies for their students.

Special education teachers appear to be more likely to use social skills strategies with students with ASD and students with ID. This is not surprising considering that special education teachers receive training on the needs of and appropriate instruction for students with disabilities. The Council for Exceptional Children's (CEC) initial level preparation

standards for special educators states that beginning educators should understand the affect that disabilities have on development and learning, and must be knowledgeable of and able to use a variety of evidence-based strategies based on the needs of their students (CEC, 2012). The training for special education teachers has been designed to specifically meet the needs of students with disabilities. Pre-service teacher's attitudes towards inclusion of students with disabilities in general education classrooms have been examined in the literature (McHatton & Parker, 2013). McHatton and Parker (2013) found that special education majors had overall more favorable attitudes about inclusion than did general education majors. However, the attitudes of general education majors improved after taking a course that covered material about students with disabilities, while the attitudes of special education majors stayed relatively the same with a slight decline.

Highest degree and years of experience are commonly thought to be related to teacher quality and student achievement. However, this study found that these two variables were not related to whether or not teachers taught social skills or students' levels of social skills. Research has indicated that years of experience is associated with student academic achievement but it explains little variance in the areas of math and reading after the initial years of teaching (Rivkin, Hanushek, & Kain, 2005). The study by Rivkin et al. (2005) was conducted to determine the factors, including school and teacher factors, that predict student achievement. It should be noted that the Rivkin et al. (2005) study looked at student outcomes and achievement and not the strategies that teachers used with their students. While years of experience did predict student outcomes, most of the changes occurred in the first few years of teaching when beginning teachers make rapid gains in practice (Rivkin et al., 2005). For example, beginning mathematics teachers performed significantly worse than

experienced teachers, but differences in student outcomes dissipated as teachers gained experience (Rivkin et al., 2005). On average, the teachers in this study had 10 years of teaching experience, thus these teachers were not beginning teachers and can be considered experienced teachers. Given that they were experienced teachers, it might be difficult to determine the relationship between years of teaching and students' social skills levels. In addition, this may explain why a high percentage of the teachers in this study had taught social skills. In terms of the highest degree, the majority of the participants in this study had Masters degrees (78.8%), which may account for why there was no relationship between highest degree and teaching social skills and students' social skill levels.

Prompting, modeling, and reinforcement were the most frequently used strategies by teachers. These strategies were also ranked as being the most effective and the easiest to use. It seems that teachers are more likely to use the strategies that they felt were easy to implement in the classroom. Furthermore, if they felt the strategies were easy to use, they were more likely to regard it as effective. This is similar to findings by Carter and Pesko (2008), which found that use of strategies was correlated with ratings of effectiveness and feasibility of use. The rating of ease of use relates directly to the most commonly cited barrier and resource needed for the implementation of social skills instructional strategies. Teachers indicated that the most common barrier to implementing social skills intervention strategies was that they did not have time to design the interventions. Similarly, Odom et al. (1993) found that teachers identified time as a frequent barrier to implementing social skills interventions with preschool students. Teachers identified the most common resources needed to implement social skills intervention strategies were additional planning time and social skills curriculums. Therefore, teachers may opt to use the strategies that they perceive

will not take as much planning time to prepare and that they perceive as easier to implement in the classroom.

PRT was reportedly used the least by teachers. The most common barrier or reason for not using it was that teachers were unfamiliar with PRT. While PRT is well-researched in the literature (e.g. Koegel & Frea, 1993; Koegel et al., 1999; Koegel et al., 2001), it is a comprehensive program that may require specified training in its methods. In fact, individuals are able to receive training and become certified in the use of PRT (Koegel Autism: Pivotal Response Treatment (PRT)® Training and Services, n.d.). For these reasons, many educators may not have knowledge of or experience of using PRT. Another strategy that was infrequently used was video modeling. The most frequently cited barrier to the use of video modeling was a lack of resources to use the strategy. Knowledge of the strategy and lack of time to implement the strategy were also frequently cited barriers. Video modeling requires the use of video equipment, which many teachers may not have access to. Commercially made videos are available for purchase, but may not be appropriate for the needs of a student or a given target skill. It's possible that teachers may also feel intimidated by the process of making videos, as well as any editing that may need to occur (Bellini & Akullian, 2007). Finally, the creation of videos may take a substantial amount of time to create and edit, which teachers may not be willing to devote their time to doing. As previously mentioned, it appears that teachers are more likely to select the strategies that they perceive as easy to implement thus require less time and resources.

If teachers used a certain strategy, they were asked to rate its effectiveness. All of the strategies were frequently identified as at least somewhat effective or very effective. This indicates that teachers tend to used the strategies they perceive to be effective. It is

intuitive that teachers would be unlikely to select strategies for implementation with their students if they do not feel that the strategy would benefit the student or be effective in changing the behavior. For example, while many teachers do not use PRT, those who do use it rate it as effective.

Teachers who indicated that they taught social skills were asked to rank the strategies for effectiveness. These rankings closely mirrored those of popularity. This indicates that teachers tend to regard those frequently used strategies as effective ones and as easy to use. In other words, teachers tend to regard the strategies that are easy to use as the effective ones. These findings suggest critical information for the researchers aiming to develop strategies for teachers to use in school settings, such that strategy development should consider the ease of use for teachers implementing the strategies in classrooms.

Teachers were also asked to indicate how frequently they used particular strategies per week. Those strategies that many teachers used and were ranked as more effective and easier to use (modeling, prompting, reinforcement) were also implemented more frequently per week. For example, of the 47 teachers that used prompting as a social skills instructional strategy, 34 indicated that they used it five or more times per week. Those strategies that were rated as more difficult to use and were used by fewer teachers, were also reportedly used less frequently throughout the week. For example, of the nine teachers who reported that they used video modeling, six of them reported that they used it less than one time per week. Again, these findings suggest critical information that those strategies seen as easier to use are more likely to be used by teachers and are used more frequently. Teacher preparation programs and professional development should support teachers in finding ways to implement strategies that are perceived as more difficult to use. Perhaps if teachers have

the opportunity to practice designing and using strategies they perceive as difficult, they may be more likely to use the strategy in the future with their students.

Barriers and Resources for Teaching Social Skills

One goal of this study was to identify the reasons teachers do not use certain strategies. It is particularly beneficial to examine these reasons or barriers for strategies in which many teachers identify that they know a strategy but do not use the strategy (e.g. peer-mediated instruction, role-play, scripting, and video-modeling). For peer-mediated instruction, the most frequently identified barrier was "I don't know about this strategy" followed by "I don't have enough resources and supports to use this strategy" and "I don't think my student will benefit from this strategy." For scripting and role-play, the most frequently identified barrier or reason for not using the strategy was "I don't think my student will benefit from this strategy." Finally, for video-modeling the most frequently identified barrier or reason for not using the strategy was "I don't have enough resources or supports to use this strategy." The reasons that account for why teachers do not use the strategies that they know about are that they do not feel it will benefit the student and they do not have adequate resources to use the strategy.

Another goal of this study was to identify the difficulties and barriers to teaching social skills generally, as well as the resources and supports teachers identify as necessary to conducting social skills interventions. The results of this questionnaire found that the most frequently identified barrier to teaching social skills to students generally was the lack of time to design social skills interventions and the most frequently identified resource or support was additional teacher preparation time. Odom et al. (1993) similarly found that time was identified as a barrier to implementing social interaction interventions. This

finding also relates to research regarding teacher workload and planning time. Research has shown that 95% of teachers spent time outside of school hours on preparing teaching materials (Bivona, 2002). It should be noted that heavy workload and lack of planning time have contributed to teacher stress and satisfaction (Liu & Ramsey, 2008).

Another frequently identified barrier, flexibility in adjusting student's learning schedule, relates directly to a frequently identified resource, limited time to teach social skills. Research has indicated that pressures regarding student performance on high-stakes standardized tests have left teachers feeling that they have no time to devote to the areas that are not covered by those tests (Pedulla et al., 2003). Teachers often report that they spend much less time on academic areas not on the tests and other types of enrichment activities because of accountability and emphasis placed on testing (Pedulla et al., 2003).

Finally, several barriers and resources identified by teachers related to a lack of funding and resources. For example, many teachers identified that they lacked and needed social skills curriculum to implement social skills strategies with their students with ASD and students with ID. While a number of commercially available social skills curriculums exist, it appears that schools have not provided these resources to many of the teachers in this study. Furthermore, a lack of resources and funding were identified as barriers and needed resources. This is not surprising with the recent economic recession and cash-strapped educational systems (Oliff, Mai, & Leachman, 2012). Many schools suffer from a lack of resources and funding, with some schools receiving disproportionately lower levels of funding (Biddle & Berliner, 2002). A survey of special education teachers in Texas indicated that the vast majority (90%) reported that they did not have adequate resources, supplies, and materials (Kaufhold, Alverez, & Arnold, 2006). Issues regarding resources and

funding were greatly impacted by the recession, which brought with it significant cuts to school funding (Oliff et al., 2012).

Social Skills of Students with ASD and Students with ID

This study examined the social-emotional skills of students with ASD and students with ID as reported by their teachers using the SEARS. Results indicated that the average scores of students with ASD and students with ID fell in the at risk range. This suggests that these students indeed needed social skills interventions (Merrell, 2011). Students with ASD and students with ID showed similar levels of social skills and they only differed on the Empathy subscale of the SEARS. The results indicated that SEARS-Total *T*-scores were not related to the age, gender, communication skills, or assessment type of the student. However, whether or not the student had friends, the communication style of the student (e.g. verbal, gestures, etc.), and the number of functional words were related to the SEARS-Total scores of the student. It is surprising to note that teacher use of social skills strategies and the total number of strategies used by teachers were not related to SEARS-Total scores. This may be because teachers who taught social skills did so based on student needs, and therefore their student's SEARS scores would be lower. In fact, a visual comparison of the SEARS-Total *T*-score means shows that those who did not receive social skills instruction (M = 38.31, SD = 6.22) had a slightly higher mean than those who received social skills instruction from their teachers (M = 36.84, SD = 6.48).

Results of the stepwise multiple linear regression indicated that having friends and having more than 20 functional words were predictors of SEARS-Total scores. These two variables were also significant predictors in a number of the SEARS subscale linear regression analyses. This finding suggests the importance of these variables on social skills

development of students with ASD and students with ID. Students with ASD and students with ID with higher social skills are more likely to have a friend. The students who had at least one friend had mean SEARS-Total *T*-scores of 39.85, while those who did not have friends had mean SEARS-Total *T*-scores of 32.39. Having a friend provides more opportunities to practice social skills, which may result in higher social skills for students with ASD and students with ID. This connection between having friends and social skills has received limited attention in the literature. However, the friendships of students with ASD have received attention. Research has indicated that students with ASD frequently report having friendships, but these friendships are more likely to be of poor or low quality (Locke et al., 2010). Furthermore, higher ratings in terms of quality of friendship have been found to be related to perceptions of self-worth for individuals with ASD (Bauminger, Shulman, & Agam, 2004). Research also shows that individuals with ID report having friends, and that more time interacting with friends is related to lower levels of loneliness for adults with ID (McVilly, Stancliffe, Parmenter, & Burton-Smith, 2006). Furthermore, individuals with ID who report having more friends also report more leisure activities (McVilly et al., 2006). The promotion of friendships between students with disabilities and their peers, particularly friendships of higher quality, may support social skill development and other positive outcomes for people with disabilities.

The relationship between language skills and social skills is not surprising. The DSM-5 criteria combine social and communication impairments into one category in the new diagnostic criteria, as the two areas are difficult to separate (APA, 2013). To receive a diagnosis of ASD, individuals must have impairments in social-communication skills. Furthermore, this relationship has been examined in research. An examination of

communication and social skills of adolescent males with high-functioning autism indicated that communication and social skills were correlated (Klin et al., 2007). Similar results were found in a study of toddlers with ASD, which found that measures of speech were related to measures of social skills (Wetherby et al., 2007). Language skills have been shown to be related to cognitive skills and autism severity (Kjellmer, Hedvall, Fernell, Gillberg, & Norrelgen, 2012). Similarly to social skills, communication and language skill development have received a significant amount of attention in the research literature. Students with ASD and students with ID often experience delays and deficits in communication, including spoken language (e.g. APA, 2013; Hall, 2009; Drew & Hardman, 2007). Observations of students with ASD who had limited verbal language in naturalistic settings showed that teacher use of verbal prompts and modeling were related to elicited expressive communication of students with ASD (Chiang, 2009). Therefore, teachers may wish to use verbal prompts and modeling to increase speech and expressive communication for students with ASD.

Considering the importance of having friends and more than 20 functional words in the SEARS scores, teachers should promote friendship and communication development in order to improve their students social and emotional skills. Teachers may be able to support friendship development in a number of ways, such as encouraging peers and the student to interact and work together. The use of peer-mediated strategies already discussed in this study may be particularly beneficial for friendship development. In these strategies, peers are often carefully selected based on a number of criteria such as having good language and social skills, able to follow directions, teacher percpetion of the peers' appropriateness and ability for the intervention, and willingness to participate (e.g. Carter et al., 2005; Chan et

al., 2009; Kasari et al., 2012). The careful selection of peers may result in more positive outcomes of the intervention including more time spent interacting with peers and friendship development, while also reducing concerns about bullying when using these strategies (Chan et al., 2009). In an analysis of mothers' perceptions of the friendships of their children with ASD, Bauminger and Shulman (2003) found that mothers identified the friends's characteristics, such as responsiveness and kindness, as important to the friendship beginning and persisting. Therefore, teachers may wish to promote friendships between their typically developing peers who have these positive characteristics with their students with ASD. The mothers in the Bauminger and Shulman (2003) study also identified common interests as beneficial to the beginning and persistence of friendships. In fact, the mothers in the study recommended that teachers identify potential friendships based on common interests and support the friendship development by creating activities and projects for the students to work on together. The mothers in the study also emphasized communicating with parents about the friendships that are developing in the classroom.

In a review of communication intervention strategies for students with ASD, Paul (2008) reviewed three types of approaches for students with emerging language: didactic, naturalistic, and developmental. According to Paul (2008), didactic approaches are those based in behaviorist methodology, and include such methods as discrete trial instruction (sometimes referred to as discrete trial teaching), prompting, and reinforcement. Naturalistic strategies are described as those that attempt to make behavior strategies more natural, and include milieu teaching strategies such as teaching in natural environments, teaching throughout the day, and considering the preferences of the student (Paul, 2008). Finally, developmental approaches use strategies such as following the student's lead,

following the typical sequence of communication development, capitilizing on learning opportunities that occur naturally, and identifying and teaching functional communication skills (Paul, 2008). Similar techniques are suggested for students with moderate and severe disabilities, including students with intellectual disability (Browder & Spooner, 2011). Naturalistic strategies such as modeling, incidental teaching, and enhanced milieu teaching are recommended for students with moderate and severe disabilities who exhibit delays in language (Browder & Spooner, 2011). Teachers may wish to use these strategies to improve verbal skills of students, which may also promote the development of social skills of students with ASD and students with ID.

Future Research

This study provides evidence that teachers do use evidence-based strategies to teach social skills to students with ASD and students with ID. However, this study relies only on self-report. Future research should examine the use of social skills intervention strategies with students with ASD and students with ID by conducting observations in classrooms. These observations could help to provide more details regarding the types of social skills strategies used by teachers, and if teachers use these strategies with fidelity. Future research should examine the fidelity of teacher implementation of the social skills strategies identified in this study. While teachers identified whether or not they used the strategies in this study, it is unknown if the teachers are implementing the strategies correctly or in line with how they are described in the research literature. Definitions of the strategies were provided in the survey, but teachers may be using the strategies differently than how they were described in this study and in other research. This is an important step in the examination of the adoption of evidence-based practices, and is vital to the reduction of the

research-to-practice gap (Greenwood & Abbott, 2001; Odom et al., 2005). Considering the relationship between ease of use and the popularity of the strategy, researchers should examine the ease of use and implementation of strategies by teachers. Ease of use by teachers should particularly be examined when researchers are evaluating new intervention strategies.

Furthermore, future research should examine the relationship between friendship in students with ASD and students with ID and social skills, since this study only focused on whether or not the student had friends but not friendship quality. Research indicates that individuals with ASD often report to have friends (Bauminger et al., 2008; Locke et al., 2010), but these friendships may not be of high quality and stable (Bauminger et al., 2008). Having friends has been associated with other positive factors (e.g. higher perceptions of self worth, lower levels of loneliness, more participation in leisure activities) for individuals with disabilities (Bauminger et al., 2004; McVilly et al., 2006), but knowing the quality of friendship may provide more information for designing social skills interventions for them.

Limitations

Several limitations of the current study exist. This study utilized snowball sampling methods, and was therefore not a random sample. It is possible that teachers who completed this study worked in the same schools and/or graduated from the same teacher preparation programs, which may have certain policies or programming regarding the teaching of social skills to students with ASD and students with ID. These potential confounds would likely affect the results of this study, but are impossible to examine within this study. Furthermore, teachers who are interested in social skills strategies may be more likely to

self-select to participate in this study since it was advertised as a study focusing on social skills instruction with students with ASD and students with ID.

Another limitation of this study was that several demographic variables were not collected, such as the ethnicity of teachers or the setting of the teachers' school (i.e. urban, suburban, rural). Furthermore, information was not gathered on paraprofessionals or teacher's assistants that may be in the classroom. These adults are often responsible for implementing intervention strategies and teaching social skills to students with disabilities, therefore it would be beneficial to know if other adults were in the classroom providing these supports.

This study would have also benefited from a larger sample size, particularly with regard to students with ID and general education teachers. It would have also been beneficial to collect information regarding students who had both ASD and ID, since these disabilities are not mutually exclusive and some participants may have been diagnosed as both.

Another limitation of this study was that information was not collected on the certification of the teachers who completed the questionnaire. While information was collected regarding their position, it is possible that many of the teachers have dual certifications in both general and special education.

Participants who reported that they did not teach social skills were asked to skip questions relating to the specific social skills strategies. It would have been beneficial to gather information from them regarding their knowledge of the strategies and barriers to using the strategies. Furthermore, participants who did teach social skills were asked to rank all of the strategies for ease of use and effectiveness. Some of the participants may not have

known or used some of the strategies. This may have affected the results of the overall rankings of effectiveness and ease of use.

It would have also been beneficial to determine if the target students had any co-occurring disabilities, especially if target students had both ID and ASD. According to the DSM-5, approximately 70% of individuals with ASD have a comorbid disorder (APA, 2013). The co-occurrence of ASD and ID, or one of the disabilities (ASD or ID) with other disabilities such as ADHD or anxiety may affect both social skills and the intervention decisions that teachers make for their students. Finally, this study did not use a specific measure to examine possible challenging behaviors of the target students. A measure of behavior problems of the target students would have been beneficial for this study to examine a possible relationship between behavior problems and social skills of the target students.

References

Abu-Bader, S. H. (2011). *Using statistical methods in social science research: With a complete SPSS guide*. Chicago, IL: Lyceum Books.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Barbaro, J., & Dissanayake, C. (2007). A comparative study of the use and understanding of self-presentational display rules in children with high functioning autism and asperger's disorder. *Journal of Autism and Developmental Disorders, 37*, 1235-1246.

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a theory of mind? *Cognition, 21*, 37-46.

Barton, E. E., & Wolery, M. (2010). Training teachers to promote pretend play in young children with disabilities. *Exceptional Children*, *77*, 85-106.

Bartsch, K. & Estes, D. (1996). Individual differences in children's developing theory of mind and implications for metacognition. *Learning and Individual Differences, 8*, 281-304.

Bauminger, N., & Shulman, C. (2003). The development and maintenance of friendship in high-functioning children with autism maternal perceptions. *Autism*, *7*, 81-97.

Bauminger, N., Shulman, C., & Agam, G. (2004). The link between perceptions of self and of social relationships in high-functioning children with autism. *Journal of Developmental and Physical Disabilities*, *16*, 193-214.

Bauminger, N., Solomon, M., Aviezer, A., Heung, K., Gazit, L., Brown, J., & Rogers, S. J. (2008). Children with autism and their friends: A multidimensional study of friendship in high-functioning autism spectrum disorder. *Journal of Abnormal Child Psychology, 36*, 135-150.

Bellanti, C. J., & Bierman, K. L. (2000). Disentangling the impact of low cognitive ability and inattention on social behavior and peer relationships. *Journal of Clinical Child Psychology, 29*, 66-75.

Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. *Exceptional children*, *73*, 264-287.

Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007). A meta-analysis of school-based social skills interventions for children with autism spectrum disorders. *Remedial and Special Education*, *28*, 153-162.

Biddle, B. J., & Berliner, D. C. (2002). Unequal School Funding in the United States. *Educational Leadership*, *59*(8), 48-59.

Bivona, K. N. (2002). *Teacher morale: The impact of teaching experience, workplace conditions, and workload*. Retrieved from ERIC database. (ED467760)

Bortoli, A. M., & Brown, P. M. (2008). The social attention skills of preschool children with an intellectual disability and children with a hearing loss. *Australian Journal of Early Childhood, 33*(4), 25-33.

Boutot, E. A., & Myles, B. S. (2011). *Autism spectrum disorders: Foundations, characteristics, and effective strategies* (pp. 68-92). Upper Saddle River, NJ: Pearson.

Browder, D. M. & Spooner, F. (2011). *Teaching students with moderate and severe disabilities*. New York, NY: Guilford Press.

Buggey, T., Hoomes, G., Sherberger, M. E., & Williams, S. (2011). Facilitating social initiations of preschoolers with autism spectrum disorders using video self-modeling. *Focus on Autism and Other Developmental Disabilities*, *26*, 25-36.

Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). Prosocial foundations of children's academic achievement. *Psychological science*, *11*, 302-306.

Carter, E. W., Cushing, L. S., Clark, N. M., & Kennedy, C. H. (2005). Effects of peer support interventions on students' access to the general curriculum and social interactions. *Research and Practice for Persons with Severe Disabilities*, *30*, 15-25.

Carter, E. W., & Hughes, C. (2005). Increasing social interaction among adolescents with intellectual disabilities and their general education peers: Effective interventions. *Research and Practice for Persons with Severe Disabilities*, *30*, 179-193.

Carter, E. W., & Pesko, M. J. (2008). Social validity of peer interaction intervention strategies in high school classrooms: Effectiveness, feasibility, and actual use. *Exceptionality, 16*, 156-173.

Chan, J. M., Lang, R., Rispoli, M., O'Reilly, M., Sigafoos, J., & Cole, H. (2009). Use of peer-mediated interventions in the treatment of autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders, 3*, 876-889.

Chan, J. M., & O'Reilly, M. F. (2008). A Social Stories™ intervention package for students with autism in inclusive classroom settings. *Journal of Applied Behavior Analysis*, *41*, 405-409.

Charlop, M. H., Dennis, B., Carpenter, M. H., & Greenberg, A. L. (2010). Teaching socially expressive behaviors to children with autism through video modeling. *Education and Treatment of Children*, *33*, 371-393.

Charlop-Christy, M. H., & Kelso, S. E. (2003). Teaching children with autism conversational speech using a cue card/written script program. *Education and Treatment of Children, 26,* 108-127.

Charlop-Christy, M. H., Le, L., & Freeman, K. A. (2000). A comparison of video modeling with in vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders*, *30*, 537-552.

Charman, T., & Campbell, A. (2002). Theory of mind and social competence in individuals with a mental handicap. *Journal of Developmental and Physical Disabilities, 14*, 263-276.

Chevallier, C., Grèzes, J., Molesworth, C., Berthoz, S., & Happé, F. (2012). Brief report: Selective social anhedonia in high functioning autism. *Journal of Autism and Developmental Disorders*, *42*, 1504-1509.

Chiang, H. M. (2009). Naturalistic observations of elicited expressive communication of children with autism: An analysis of teacher instructions. *Autism*, *13*, 165-178.

Chiang, H. M., & Lin, Y. H. (2008). Expressive communication of children with autism. *Journal of Autism and Developmental Disorders*, *38*, 538-545.

Cook, B. G., & Odom, S. L. (2013). Evidence-based practices and implementation science in special education. *Exceptional Children*, *79*, 135-144.

Cook, B. G., & Schirmer, B. R. (2003). What is special about special education? Overview and analysis. *The Journal of Special Education*, *37*, 200-205.

Coolahan, K., Fantuzzo, J., Mendez, J., & McDermott, P. (2000). Preschool peer interactions and readiness to learn: Relationships between classroom peer play and learning behaviors and conduct. *Journal of Educational Psychology*, *92*, 458-465.

Council for Exceptional Children. (2012). *Initial preparation standards with elaborations.* Retrieved from: https://www.cec.sped.org/~/media/Files/Standards/Professional%20Preparation%20Standards/Initial%20Preparation%20Standards%20with%20Elaborations.pdf

Cox, A. W. (2013a) *Modeling fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Cox, A. W. (2013b) *Prompting (PP) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Cutts, S., & Sigafoos, J. (2001). Social competence and peer interactions of students with intellectual disability in an inclusive high school. *Journal of Intellectual and Developmental Disability, 26*, 127-141.

Dawson, G., Toth, K., Abbott, R., Osterling, J., Munson, J., Estes, A., & Liaw, J. (2004). Early social attention impairments in autism: Social orienting, joint attention, and attention to distress. *Developmental Psychology, 40*, 271-283.

De Bildt, A., Serra, M., Luteijn, E., Kraijer, D., Sytema, S., & Minderaa, R. (2005). Social skills in children with intellectual disabilities with and without autism. *Journal of Intellectual Disability Research*, *49*, 317-328.

Demopoulos, C., Hopkins, J., & Davis, A. (2013). A comparison of social cognitive profiles in children with autism spectrum disorders and attention-deficit/hyperactivity disorder: A matter of quantitative but not qualitative difference? *Journal of Autism and Developmental Disorders*, *43*, 1157-1170.

Drew, C. J., & Hardman, M. (2007). *Intellectual disabilities across the lifespan*. Upper Saddle River, NJ: Pearson Prentice Hall.

Dunn, J., & Cutting, A. L. (1999). Understanding others, and individual differences in friendship interactions in young children. *Social Development*, *8*, 201-219.

Durand, K., Gallay, M., Seigneuric, A., Robichon, F., & Baudouin, J. Y. (2007). The development of facial emotion recognition: The role of configural information. *Journal of Experimental Child Psychology*, *97*, 14-27.

Education of All Handicapped Children Act of 1975, P.L. 94-142. 20 U.S.C. § 1400 *et seq.*

Eggum-Wilkens, N. D., Fabes, R. A., Castle, S., Zhang, L., Hanish, L. D., & Martin, C. L. (2014). Playing with others: Head Start children's peer play and relations with kindergarten school competence. *Early Childhood Research Quarterly*, *29*, 345-356.

Farah, M. J., Wilson, K. D., Drain, M., & Tanaka, J. N. (1998). What is" special" about face perception? *Psychological Review*, *105*, 482-498.

Farrant, A., Boucher, J., & Blades, M. (1999). Metamemory in children with autism. *Child Development, 70*, 107-131.

Fettig, A. (2013a). *Peer-mediated instruction and intervention (PMII) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Fettig, A. (2013b). *Social skills training (SST) fact sheet*. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Fiasse, C., & Nader-Grosbois, N. (2012). Perceived social acceptance, theory of mind and social adjustment in children with intellectual disabilities. *Research in Developmental Disabilities, 33*, 1871-1880.

Fisher, M., & Meyer, L. H. (2002). Development and social competence after two years for students enrolled in inclusive and self-contained educational programs. *Research and Practice for Persons with Severe Disabilities*, *27*, 165-174.

Fleury, V. P. (2013). Scripting (SC) fact sheet. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Frea, W. D., & Hughes, C. (1997). Functional analysis and treatment of social-communicative behavior of adolescents with developmental disabilities. *Journal of Applied Behavior Analysis*, *30*, 701-704.

Freeman, S. F., & Alkin, M. C. (2000). Academic and social attainments of children with mental retardation in general education and special education settings. *Remedial and Special Education*, *21*, 3-26.

Gomez, R., & Hazeldine, P. (1996). Social information processing in mildly mentally retarded children. *Research in Developmental Disabilities, 17*, 217-227.

Greenwood, C. R., & Abbott, M. (2001). The research to practice gap in special education. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, *24*, 276-289.

Gresham, F. M. (1986). Conceptual and definitional issues in the assessment of children's social skills: Implications for classifications and training. *Journal of Clinical Child Psychology*, *15*, 3-15.

Gresham, F. M., & Elliott, S. N. (1987). The relationship between adaptive behavior and social skills issues in definition and assessment. *The Journal of Special Education*, *21*, 167-181.

Gresham, F. M., & Elliott, S. N. (1990). *Social Skills Rating System (SSRS)*. American Guidance Service.

Gresham, F. M., Elliott, S. N., Vance, M. J., & Cook, C. R. (2011). Comparability of the social skills rating system to the social skills improvement system: Content and psychometric comparisons across elementary and secondary age levels. *School Psychology Quarterly, 26*, 27-44.

Gresham, F. M., Sugai, G., & Horner, R. H. (2001). Interpreting outcomes of social skills training for students with high-incidence disabilities. *Exceptional Children*, *67*, 331-344.

Guralnick, M. J., Neville, B., Hammond, M. A., & Connor, R. T. (2007). The friendships of young children with developmental delays: A longitudinal analysis. *Journal of Applied Developmental Psychology, 28*, 64-79.

Guralnick, M. J., & Weinhouse, E. (1984). Peer-related social interactions of developmentally delayed young children: development and characteristics. *Developmental Psychology, 20*, 815-827.

Hall, L. J. (2009). *Autism spectrum disorders: From theory to practice*. Upper Saddle River, NJ: Pearson.

Hancock, T. B., & Kaiser, A. P. (2002). The effects of trainer-implemented enhanced milieu teaching on the social communication of children with autism. *Topics in Early Childhood Special Education*, *22*, 39-54.

Harms, M. B., Martin, A., & Wallace, G. L. (2010). Facial emotion recognition in autism spectrum disorders: A review of behavioral and neuroimaging studies. *Neuropsychology Review, 20*, 290-322.

Harper, C. B., Symon, J. B. G., & Frea, W. D. (2008). Recess is time-in: Using peers to improve social skills of children with autism. *Journal of Autism and Developmental Disorders, 38*, 815-826.

Harris, S. L., Handleman, J. S., & Alessandri, M. (1990). Teaching youths with autism to offer assistance. *Journal of Applied Behavior Analysis*, *23*, 297-305.

Hobson, R. P., & Lee, A. (1998). Hello and goodbye: A study of social engagement in autism. *Journal of Autism and Developmental Disorders, 28*, 117-127.

Holdnack, J., Goldstein, G., & Drozdick, L. (2011). Social perception and WAIS-IV performance in adolescents and adults diagnosed with Asperger's syndrome and autism. *Assessment*, *18*, 192-200.

Hughes, C., Rodi, M. S., Lorden, S. W., Pitkin, S. E., Derer, K. R., Hwang, B., & Cai, X. (1999). Social interactions of high school students with mental retardation and their general education peers. *American Journal on Mental Retardation, 104*, 533-544

Hume, K., Bellini, S. & Pratt, C. (2005). The usage and perceived outcomes of early intervention and early childhood programs for young children with autism spectrum disorder. *Topics in Early Childhood Special Education, 25*, 195-207.

Hunt, P., Alwell, M., & Goetz, L. (1991). Interacting with peers through conversation turntaking with a communication book adaptation. *Augmentative and Alternative Communication*, *7*, 117-126.

Individuals with Disabilities Education Act Amendments of 1997, P.L 105-17, 20 U.S.C. § 1400 *et seq.*

Individuals with Disabilities Education Improvement Act of 2004, P.L. 108-446, 20 U.S.C. § 1400 *et seq.*

Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science*, *12*, 18-23.

Jacobs, L., Turner, L. A., Faust, M., & Stewart, M. (2002). Social problem solving of children with and without mental retardation. *Journal of Developmental and Physical Disabilities, 14*, 37-50.

Jones, A. P., & Frederickson, N. (2010). Multi-informant predictors of social inclusion for students with autism spectrum disorders attending mainstream school. *Journal of Autism and Developmental Disorders*, *40*, 1094-1103.

Jones, C. D., & Schwartz, I. S. (2009). When asking questions is not enough: An observational study of social communication differences in high functioning children with autism. *Journal of Autism and Developmental Disorders*, *39*, 432-443.

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

Kasari, C., Locke, J., Gulsrud, A., & Rotheram-Fuller, E. (2011). Social networks and friendships at school: Comparing children with and without ASD. *Journal of Autism and Developmental Disorders, 41*, 533-544.

Kasari, C., Rotheram−Fuller, E., Locke, J., & Gulsrud, A. (2012). Making the connection: Randomized controlled trial of social skills at school for children with autism spectrum disorders. *Journal of Child Psychology and Psychiatry, 53*, 431-439.

Katsiyannis, A., Yell, M. L., & Bradley, R. (2001). Reflections on the 25th anniversary of the Individuals with Disabilities Education Act. *Remedial and Special Education*, *22*, 324-334.

Kaufhold, J. A., Alverez, V. G., & Arnold, M. (2006). Lack of school supplies, materials and resources as an elementary cause of frustration and burnout in south Texas special education teachers. *Journal Of Instructional Psychology*, *33*, 159-161.

Kemp, C., & Carter, M. (2002). The social skills and social status of mainstreamed students with intellectual disabilities. *Educational Psychology: An International Journal of Experimental Educational Psychology, 22*, 391-411.

Kjellmer, L., Hedvall, Å., Fernell, E., Gillberg, C., & Norrelgen, F. (2012). Language and communication skills in preschool children with autism spectrum disorders: Contribution of cognition, severity of autism symptoms, and adaptive functioning to the variability. *Research in Developmental Disabilities*, *33*, 172-180.

Klin, A., Jones, W., Schultz, R., Volkmar, F., & Cohen, D. (2002). Visual fixation patterns during viewing of naturalistic social situations as predictors of social competence in individuals with autism. *Archives of General Psychiatry*, *59*, 809-816.

Klin, A., Saulnier, C. A., Sparrow, S. S., Cicchetti, D. V., Volkmar, F. R., & Lord, C. (2007). Social and communication abilities and disabilities in higher functioning individuals with autism spectrum disorders: The Vineland and the ADOS. *Journal of Autism and Developmental Disorders*, *37*, 748-759.

Koegel Autism: Pivotal Response Treatment (PRT)® Training and Services. (n.d.). Retrieved February 16, 2015, from http://www.autismprthelp.com/online-prt-certification.php

Koegel, R. L., & Frea, W. D. (1993). Treatment of social behavior in autism through the modification of pivotal social skills. *Journal of Applied Behavior Analysis*, *26*, 369-377.

Koegel, L. K., Koegel, R. L., Harrower, J. K., & Carter, C. M. (1999). Pivotal response intervention I: Overview of approach. *Research and Practice for Persons with Severe Disabilities*, *24*, 174-185.

Koegel, L. K., Koegel, R. L., Frea, W. D., & Fredeen, R. M. (2001). Identifying early intervention targets for children with autism in inclusive school settings. *Behavior Modification, 25*, 745-761.

Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001). Teaching social interaction skills in the integrated preschool: An examination of naturalistic tactics. *Topics in Early Childhood Special Education, 21*, 93-113.

Kohler, F. W., Strain, P. S., Maretsky, S., & DeCesare, L. (1990). Promoting positive and supportive interactions between preschoolers: An analysis of group-oriented contingencies. *Journal of Early Intervention*, *14*, 327-341.

Krantz, P. J., & McClannahan, L. E. (1993). Teaching children with autism to initiate to peers: Effects of a script-fading procedure. *Journal of Applied Behavior Analysis*, *26*, 121-132.

Kucharczyk, S. (2013). *Reinforcement (R+) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Kuhn, L. R., Bodkin, A. E., Devlin, S. D., & Doggett, R. A. (2008). Using pivotal response training with peers in special education to facilitate play in two children with autism. *Education and Training in Developmental Disabilities*, *43*, 37-45.

Lane, K. L., Givner, C. C., & Pierson, M. R. (2004). Teacher expectations of student behavior social skills necessary for success in elementary school classrooms. *The Journal of Special Education*, *38*, 104-110.

Lane, K. L., Wehby, J. H., & Cooley, C. (2006). Teacher expectations of students' classroom behavior across the grade span: Which social skills are necessary for success? *Exceptional Children*, *72*, 153-167.

Lanear, J., & Frattura, E. (2007). Getting the stories straight: Allowing different voices to tell an 'effective history'of special education law in the United States. *Education and the Law*, *19*, 87-109.

Laushey, K. M., & Heflin, L. (2000). Enhancing social skills of kindergarten children with autism through the training of multiple peers as tutors. *Journal of Autism and Developmental Disorders, 30*, 183-193.

Leaf, J. B., Taubman, M., Bloomfield, S., Palos-Rafuse, L., Leaf, R., McEachin, J., & Oppenheim, M. L. (2009). Increasing social skills and pro-social behavior for three children diagnosed with autism through the use of a teaching package. *Research in Autism Spectrum Disorders*, *3*, 275-289.

Leffert, J. S., Siperstein, G. N., & Millikan, E. (2000). Understanding social adaptation in children with mental retardation: A social-cognitive perspective. *Exceptional Children, 66*, 530-545.

Liddle, B., & Nettle, D. (2006). Higher-order theory of mind and social competence in school-age children. *Journal of Cultural and Evolutionary Psychology*, *4*, 231-244.

Liu, X. S., & Ramsey, J. (2008). Teachers' job satisfaction: Analyses of the teacher follow-up survey in the United States for 2000–2001. *Teaching and Teacher Education*, *24*, 1173-1184.

Locke, J., Ishijima, E. H., Kasari, C., & London, N. (2010). Loneliness, friendship quality and the social networks of adolescents with high-functioning autism in an inclusive school setting. *Journal of Research in Special Educational Needs*, *10*, 74-81.

Lopata, C., Thomeer, M. L., Volker, M. A., Toomey, J. A., Nida, R. E., Lee, G. K., ... Rodgers, J. D. (2010). RCT of a manualized social treatment for high-functioning autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *40*, 1297-1310.

Matson, J. L., Box, M. L., & Francis, K. L. (1992). Treatment of elective mute behavior in two developmentally delayed children using modeling and contingency management. *Journal of Behavior Therapy and Experimental Psychiatry*, *23*, 221-229.

McGee, G. G., Almeida, M. C., Suizer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal interactions via peer incidental teaching. *Journal of Applied Behavior Analysis, 25*, 117-126.

McGee, G. G., & Daly, T. (2007). Incidental teaching of age-appropriate social phrases to children with autism. *Research and Practice for Persons with Severe Disabilities*, *32*, 112-123.

McHatton, P. A., & Parker, A. (2013). Purposeful preparation longitudinally exploring inclusion attitudes of general and special education pre-service teachers. *Teacher Education and Special Education*, *36*, 186-203.

McLeskey, J., & Billingsley, B. S. (2008). How does the quality and stability of the teaching force influence the research-to-practice gap? A perspective on the teacher shortage in special education. *Remedial and Special Education*, *29*, 293-305.

McLeskey, J., Lander, E., Williamson, P., & Hoppey, D. (2010). Are we moving toward education students with disabilities in less restrictive settings? *The Journal of Special Education, 46*, 131-140.

McVilly, K. R., Stancliffe, R. J., Parmenter, T. R., & Burton-Smith, R. M. (2006). 'I get by with a little help from my friends': Adults with intellectual disability discuss loneliness. *Journal of Applied Research in Intellectual Disabilities*, *19*, 191-203.

Mendez, J. L., & Fogle, L. M. (2002). Parental reports of preschool children's social behavior: Relations among peer play, language competence, and problem behavior. *Journal of Psychoeducational Assessment*, *20*, 370-385.

Merrell, K. W. (1994). The Preschool and Kindergarten Behavior Scales. *Austin, TX: PRO-ED.*

Merrell, K. W. (2011). Social and emotional assets and resilience scales (SEARS). *Lutz, FL: Psychological Assessment Resources*.

Merrell, K. W., & Holland, M. L. (1997). Social-emotional behavior of preschool-age children with and without developmental delays. *Research in Developmental Disabilities, 18*, 393-405.

Morales, M., Mundy, P., Delgado, C. E., Yale, M., Messinger, D., Neal, R., & Schwartz, H. K. (2000). Responding to joint attention across the 6-through 24-month age period and early language acquisition. *Journal of Applied Developmental Psychology*, *21*, 283-298.

Mundy, P., Sigman, M., Ungerer, J., & Sherman, T. (1986). Defining the social deficits of autism: The contribution of non-verbal communication measures. *Journal of Child Psychology and Psychiatry, 27*, 657-669.

Murray, D. S., Ruble, L. A., Willis, H., & Molloy, C. A. (2009). Parent and teacher report of social skills in children with autism spectrum disorders. *Language, Speech, and Hearing Services in Schools*, *40*, 109-115.

National Research Council (2001) *Educating Children with Autism*. Committee on Educational Interventions for Children with Autism. Catherine Lord and James P.McGee, eds. Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

Nelson, C. A. (2001). The development and neural bases of face recognition. *Infant and Child Development, 10*, 3-18.

Newman, B. (2005). Self-management of initiations by students diagnosed with autism. *The Analysis of Verbal Behavior*, *21*, 117-122.

Newton, E., & Jenvey, V. (2011). Play and theory of mind: Associations with social competence in young children. *Early Child Development and Care*, *181*, 761-773.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Nota, L., Ferrari, L., Soresi, S. & Wehmeyer, M. (2007). Self-determination, social abilities and the quality of life of people with intellectual disability. *Journal of Intellectual Disability Research, 51*, 850-865.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional Children*, *71*, 137-148.

Odom, S. L., McConnell, S. R., & Chandler, L. K. (1993). Acceptability and feasibility of classroom-based social interaction interventions for young children with disabilities. *Exceptional Children, 60*, 226-236.

Odom, S. L., & Strain, P. S. (1984). Peer-mediated approaches to promoting children's social interaction: A review. *American Journal of Orthopsychiatry, 54*, 544-557.

Oliff, P., Mai, C., & Leachman, M. (2012). New school year brings more cuts in state funding for schools. *Washington: Center on Budget and Policy Priorities*, 1-14.

Parke, R.D., & Clarke-Stewart, A. (2011). *Social development*: John Wiley & Sons.

Parten, M. B. (1932). Social participation among pre-school children. *The Journal of Abnormal and Social Psychology*, *27*(3), 243-269.

Paul, R. (2008). Interventions to improve communication in autism. *Child and Adolescent Psychiatric Clinics of North America*, *17*, 835-856.

Pedulla, J., Abrams, L., Madaus, G., Russell, M., Ramos, M., & Miao, J. (2003). *Perceived effects of state-mandated testing programs on teaching and learning: Findings from a national survey of teachers.* Chestnut Hill, MA: Center for the Study of Testing, Evaluation, and Educational Policy, Boston College.

Peterson, C. C., Slaughter, V. P., & Paynter, J. (2007). Social maturity and theory of mind in typically developing children and those on the autism spectrum. *Journal of Child Psychology and Psychiatry*, *48*, 1243-1250.

Plavnick, J. B. (2013). *Video modeling (VM) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Rao, P. A., Beidel, D. C., & Murray, M. J. (2008). Social skills interventions for children with Asperger's syndrome or high-functioning autism: A review and recommendations. *Journal of Autism and Developmental Disorders*, *38*, 353-361.

Rafferty, Y., Piscitelli, V., & Boettcher, C. (2003). The impact of inclusion on language development and social competence among preschoolers with disabilities. *Exceptional Children, 69*, 467-479.

Reichow, B., & Volkmar, F. R. (2010). Social skills interventions for individuals with autism: Evaluation for evidence-based practices within a best evidence synthesis framework. *Journal of Autism and Developmental Disorders, 40*, 149-166.

Reichow, B., Volkmar, F. R., & Cicchetti, D. V. (2008). Development of the evaluative method for evaluating and determining evidence-based practices in autism. *Journal*

of Autism and Developmental Disorders, *38*, 1311-1319.

Riby, D. M, & Hancock, P. J. B. (2008). Viewing it differently: Social scene perception in Williams syndrome and autism. *Neuropsychologia, 46*, 2855-2860.

Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica*, *73*, 417-458.

Rogers, S. J. (2000). Interventions that facilitate socialization in children with autism. *Journal of Autism and Developmental Disorders, 30*, 399-409.

Sansosti, F. J., & Powell-Smith, K. A. (2006). Using social stories to improve the social behavior of children with Asperger syndrome. *Journal of Positive Behavior Interventions*, *8*, 43-57.

Sasso, G. M., Mundschenk, N. A., Melloy, K. J., & Casey, S. D. (1998). A comparison of the effects of organismic and setting variables on the social interaction behavior of children with developmental disabilities and autism. *Focus on Autism and Other Developmental Disabilities*, *13*, 2-16.

Shabani, D. B., Katz, R. C., Wilder, D. A., Beauchamp, K., Taylor, C. R., & Fischer, K. J. (2002). Increasing social initiations in children with autism: Effects of a tactile prompt. *Journal of Applied Behavior Analysis*, *35*, 79-83.

Schrandt, J. A., Townsend, D. B., & Poulson, C. L. (2009). Teaching empathy skills to children with autism. *Journal of Applied Behavior Analysis*, *42*, 17-32.

Stainback, S. & Stainback, W. (1992). Including students with severe disabilities in the regular classroom curriculum. *Preventing School Failure, 37*, 26-30.

Stainback, S., Stainback, W., East, K., & Sapon-Shevin, M. (1994). A commentary on inclusion and the development of a positive self-identity by people with disabilities. *Exceptional Children*, *60*, 486-490.

Stone, W. L., Ousley, O. Y., Yoder, P. J., Hogan, K. L., & Hepburn, S. L. (1997). Nonverbal communication in two-and three-year-old children with autism. *Journal of Autism and Developmental Disorders*, *27*, 677-696.

Taylor, B. A., & Hoch, H. (2008). Teaching children with autism to respond to and initiate bids for joint attention. *Journal of Applied Behavior Analysis*, *41*, 377-391.

Tomasello, M., & Rakoczy, H. (2003). What makes human cognition unique? From individual to shared to collective intentionality. *Mind & Language*, *18*, 121-147.

The University of the State of New York & The State Education Department, (2010). *Guide to Quality Individualized Education Program (IEP) Development and*

Implementation. Albany, NY.

Trembath, D., Balandin, S., Togher, L., & Stancliffe, R. J. (2009). Peer-mediated teaching and augmentative and alternative communication for preschool-aged children with autism. *Journal of Intellectual & Developmental Disability, 34*, 173-186.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs. (2000). *Twenty-second Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act.* Washington, D.C.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, (2010). *Thirty-five Years of Progress in Educating Children With Disabilities Through IDEA,* Washington, D.C.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs (2014), *35th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2013*, Washington, D.C. 2014.

Vygotsky, L. S. (1978). *Mind and society: The development of higher mental processes.* Cambridge, MA: Harvard University Press.

Wang, P., & Spillane, A. (2009). Evidence-based social skills interventions for children with autism: A meta-analysis. *Education and Training in Developmental Disabilities*, *44*, 318-342.

Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development*, *72*, 655-684.

Wetherby, A. M., Watt, N., Morgan, L., & Shumway, S. (2007). Social communication profiles of children with autism spectrum disorders late in the second year of life. *Journal of Autism and Developmental Disorders*, *37*, 960-975.

Widen, S. C., & Russell, J. A. (2003). A closer look at preschoolers' freely produced labels for facial expressions. *Developmental Psychology, 39*, 114-128.

Winzer, M. A. (2007). Confronting difference: An excursion through the history of special education. In L. Florian (ed.), *The Sage Handbook of Special Education (pp. 21–34).* London: Sage Publications.

Wong, C. (2013a). *Naturalistic intervention (NI) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Wong, C. (2013b). *Pivotal response training (PRT) fact sheet*. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

Wong, C. (2013c). *Social narratives (SN) fact sheet*. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders

Wong, C., Odom, S. L., Hume, K. Cox, A. W., Fettig, A., Kucharczyk, S., … Schultz, T. R. (2013). *Evidence-based practices for children, youth, and young ddults with Autism Spectrum Disorder.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group.

Appendix A
Recruitment Flyer and Email Sent to Potential Participants

Hello:

I am writing to invite you to take part in a study about social skills strategies that teachers may use with students in their classes who have Autism Spectrum Disorder or Intellectual Disability. This study asks you to complete an online survey and a social-emotional assessment of a randomly selected student with Autism Spectrum Disorder or Intellectual Disability that you have taught during 2013-2014 or 2014-2015 school years. This online study is being conducted by Kalli Kemp, a doctoral student at Teachers College, Columbia University.

In order to qualify for this study, you must meet the following conditions:

(a) are either a general education or special education teacher,
(b) teach students who are between the ages of 5 to 18, and
(c) have one or more students with Autism Spectrum Disorder or one or more students with Intellectual Disability during 2013-2015 school years.

If you meet the above qualifications and would like to participate, you may click on the link below to participate. You will learn more about that study when you click on the link, and then may begin the survey.

https://www.surveymonkey.com/s/social_skills

Participants who complete both the survey and the social-emotional assessment will receive a $7.00 gift card to Starbucks. Gift cards will be sent via email.

If you know others who qualify as the participants for this study, you may forward this email to them.

If you have questions regarding the study, you may contact me at kak2192@tc.columbia.edu.

Sincerely,

Kalli Kemp

Teachers College, Columbia University

IRB Protocol # 14-374

Teaching Social Skills to Students with Autism Spectrum Disorders and Students with Intellectual

Kalli Kemp
kak2192@tc.columbia.edu

Teachers College, Columbia University

You are invited to take part in an online study about social skills strategies that teachers may use with students in their classes who have Autism Spectrum Disorder or Intellectual Disability.

In order to qualify for this study, you must meet the following conditions:
(a) are either a general education or special education teacher,
(b) teach students who are between the ages of 5 to 18, and
(c) have one or more students with Autism Spectrum Disorder or one or more students with Intellectual Disability during 2013-2015 school years.

This study asks you to complete an online survey and a social-emotional assessment of a randomly selected student with Autism Spectrum Disorder or Intellectual Disability that you have taught during 2013-2014 or 2014-2015 school years.
If you meet the above qualifications and would like to participate, you may go to the link below to participate. There you will learn more about that study, and then may begin the survey.
https://www.surveymonkey.com/s/social_skills

Participants who complete both the survey and the social-emotional assessment will receive a $7.00 gift card to Starbucks. Gift cards will be sent via email.
If you know others who qualify as the participants for this study, you may share or forward this information with them.

Appendix B
Informed Consent and Participant's Rights

Teachers College, Columbia University
525 West 120th Street
New York NY 10027
212 678 3000
www.tc.edu

INFORMED CONSENT

DESCRIPTION OF THE RESEARCH: You are invited to participate in a research study on social skills strategies that you, as a teacher, use with students with Autism Spectrum Disorder or students with Intellectual Disability in your class. The purposes of this research are to: (a) identify social skills strategies teachers use with students with Autism Spectrum Disorder (ASD) and students with Intellectual Disability (ID) in the classroom (b) examine teachers' beliefs of the effectiveness of the interventions they implement, and (c) identify factors associated with the social skills of students with ASD and students with ID. Using Survey Monkey, you will answer questions about your knowledge and use of social skills strategies with particular regards to a randomly selected target student. You will also be asked to complete a social-emotional assessment regarding the randomly selected target student. In order to complete the social-emotional assessment, the researcher will send you an email containing a link to the assessment after you have completed the Survey Monkey portion of the study. The email will be sent from noreply@parinc.com, and the subject will be "Assessment for Teaching Social Skills Study". Click on the link in the email to complete the assessment. The research will be conducted by Kalli Kemp, a doctoral student at Teachers College.

RISKS AND BENEFITS: The potential risks of this study are minimal and no greater than that of completing other surveys. Potential risks include fatigue and boredom. You can refuse to participate or stop participating at any time. There are no direct benefits to participants in this study. However, the findings of this study may provide critical information for teachers to teach social skills to students with ASD and students with ID. You can refuse to participate or stop participating at any time.

PAYMENTS: Participants who complete both the Survey Monkey survey and the social-emotional assessment will receive a $7.00 gift card to Starbucks. The gift card will be sent via email.

DATA STORAGE TO PROTECT CONFIDENTIALITY: All personally identifiable information will be kept confidential. Codes will be randomly assigned to participants for data analysis. Names will be removed from data. A master list will be kept on the principal investigator's computer, which is password protected. The Survey Monkey account belongs to the principal investigator, and is password protected. For information on Survey Monkey's security policies, please see https://www.surveymonkey.com/mp/policy/security/.

Participants will be sent a link via email to complete the social-emotional assessment, the SEARS. This will be done using PARiCo
nnect. The PARiConnect account belongs to the principal investigator, and is password protected. Participant names will not be entered into PARiConnect. For information regarding PARiConnect security policies, please see https://www.pariconnect.com/security.aspx.

TIME INVOLVEMENT: Your participation will take approximately 50 minutes.

HOW WILL RESULTS BE USED: The results of the study will be used as part of the researcher's doctoral dissertation. Data may be presented at meetings, published in journals, or may be used for other educational purposes. However, no participant's name will appear on any publications.

Teachers College, Columbia University
525 West 120th Street
New York NY 10027
212 678 3000
www.tc.edu

PARTICIPANT'S RIGHTS

Principal Investigator: Kalli Kemp
Research Title: Teaching Social Skills to Students with Autism Spectrum Disorders and Students with Intellectual Disabilities

- I have read the Research Description. If I have questions regarding the purposes and procedures regarding this study, I may email (kak2192@tc.columbia.edu) or call (512-507-9477) the researcher who will answer my questions.
- My participation in research is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status or other entitlements.
- The researcher may withdraw me from the research at his/her professional discretion.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If at any time I have any questions regarding the research or my participation, I can contact the investigator, who will answer my questions. The investigator's phone number is (512) 507-9477.
- If at any time I have comments, or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact the Teachers College, Columbia University Institutional Review Board /IRB. The phone number for the IRB is (212) 678-4105. Or, I can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY, 10027, Box 151.

- I should print or save a copy of the Research Description and this Participant's Rights document.
- Typing my name into the signature line means that I agree to participate in this study.

Participant's signature: _____ Date:____/____/____

Appendix C
Researcher-Designed Questionnaire

In order to qualify for this study, you must meet the following conditions:
(a) are either a general education or special education teacher
(b) teach students who are between the ages of 5 to 18
(c) have one or more students with Autism Spectrum Disorder or one or more students with Intellectual Disability during 2013-2015 school years.

Please do not complete the survey if you do not meet these qualifications.

1. Do you meet the above qualifications?
   - o Yes (Please proceed to the next page)
   - o No (Please stop here)

About the Target Student

You will select one student in your class who has Autism Spectrum Disorder (ASD) or Intellectual Disability (ID). You may select from students who were in your 2013-2014 or 2014-2015 class. The student should be randomly selected from all students in your class who have ASD or ID. In order to randomly select your target student, write down the names of all students who have ASD or ID on separate small pieces of paper. Fold the papers up, place them in a cup, and then randomly draw one name from the cup. You will complete the rest of the survey about this student. In order to maintain confidentiality, DO NOT enter the student's name anywhere in this survey or in subsequent assessments that are part of this study.

2. What type of disability does the target student have (Based on the student's most recent IEP)?
   - o Autism Spectrum Disorder
   - o Intellectual Disability

3 How old is the target student?

4. What grade is the target student?

5. What is the gender of the target student?
   - o Male
   - o Female

6. How is the target student's verbal skills?
   - o Nonverbal
   - o Has 1-5 functional words
   - o Has 6-19 functional words
   - o Has more than 20 functional words

7. How does the student communicate with other people?
   - Doesn't communicate
   - Mainly communicates with verbal words
   - Mainly communicates with body gestures
   - Mainly communicates by using a communication board or pictures
   - Other (please specify)

8. How is the student's communication skill?
   - Below his/her same age typically developing peers
   - Similar to his/her same age typically developing peers
   - Above his/her same age typically developing peers

9. Does the student have friends in class?
   - Yes
   - No

10. If the student has friends in class, how many friends does the student have?

11. Does the student participate in regular State or districtwide assessments or alternate assessments?
   - Regular state or districtwide assessments
   - Alternate assessments

About You

12. What is your position when you teach the target student?
   - General education teacher in an inclusive classroom
   - Special education teacher in an inclusive classroom
   - Special education teacher in a resource room
   - Special education teacher in a selfcontained classroom at a regular school
   - Special education teacher in a selfcontained classroom at a special school

13. How many years of teaching experience do you have?

14. What is your highest level of education?
   - Bachelors Degree
   - Masters Degree
   - Doctoral Degree

15. How long have you been/were you the teacher of the target student?

16. Have you taught social skills to the target students?
   - Yes
   - No (skip to question 91)

17. If you have taught social skills to the student, how many hours per week have you taught social skills to the target student?

18. If you have taught social skills to the student, how many times per week do you teach social skills to the student?

Modeling

In modeling, interventionists demonstrate target behaviors for learners to imitate (Wong et al., 2014).

19. Do you know about modeling as a strategy?
    - Yes
    - No

20. Have you used modeling as a social skills strategy?
    - Yes
    - No (Answer 21, then move to question 26)

21. If you have not used modeling as a social skills strategy, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

22. How often do you use modeling for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

23. Where do you use modeling as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

24. When do you use modeling as a social skills strategy? Check all that apply.

- In-class instruction time
- Recess
- Lunch
- Other (please specify)

25. How effective do you think modeling is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Naturalistic strategies (includes milieu teaching)

Kohler et al. (2001) describe naturalistic strategies as being comprised of two components: structuring of the environment to elicit responses and the use of strategies that match the student's interests. Examples of naturalistic strategies include but are not limited to: allowing for student choice, arranging objects to invoke interest, planned forgetfulness and sabotage, and providing comments that relate to the student's actions or the activity.

26. Do you know about naturalistic strategies?
    - Yes
    - No
27. Have you used naturalistic strategies for teaching social skills?
    - Yes
    - No (Answer 28, then move to question 33)

28. If you have not used naturatlistic strategies to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

29. How often do you use naturalistic strategies for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week

- Less than 1 time per week
- Other

30. Where do you use naturalistic strategies for social skills? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

31. When do you use naturalistic strategies as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

32. How effective do you think naturalistic strategies are as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Peer-mediated instruction

In peer-mediated instruction, peers are taught to implement strategies with the target student (Wong et al., 2014).

33. Do you know about peer-mediated instruction as a strategy?
    - Yes
    - No

34. Have you used peer-mediated instruction as a social skills strategy?
    - Yes
    - No (Answer 35, then move to question 40)

35. If you have not used peer-mediated instruction to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.

- Other (please specify)

36. How often do you use peer-mediated instruction for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

37. Where do you use peer-mediated instruction as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

38. When do you use peer-mediated instruction as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

39. How effective do you think peer-mediated instruction is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Pivotal Respnse Training

Koegel, Koegel, Harrower, and Carter (1999) describe Pivotal Response Training (PRT) as the teaching of pivotal behaviors that are "central to wide areas of functioning". When changed, these pivotal behaviors are presumed to "produce large collateral improvements in other areas."

40. Do you know about pivotal response training as a strategy?
    - Yes
    - No

41. Have you used pivotal response training as a social skills strategy?
    - Yes
    - No (Answer 42, then move to question 47)

42. If you have not used pivotal response training to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.

- I don't know about this strategy.
- I have no time to use this strategy.
- I have heard about this strategy, but don't know how to use it.
- This strategy is too difficult to use it.
- I don't have enough resources and support to use this strategy.
- I don't think my student will benefit from this strategy.
- My student's parents don't give me the consent to use this strategy.
- My supervisor doesn't allow me to use this strategy.
- This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
- Other (please specify)

43. How often do you use pivotal response training for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

44. Where do you use pivotal response training as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

45. When do you use pivotal response training as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

46. How effective do you think pivotal response training is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Prompting

Prompting is the use of verbal, gestural, or physical assistance or directions to help learners engage in and learn a target behavior (Wong et al., 2014).

47. Do you know about prompting as a strategy?
    - Yes

- No

48. Have you used prompting as a social skills strategy?
    - Yes
    - No (Answer 49, then move to question 54)

49. If you have not used prompting to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

50. How often do you use prompting for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

51. Where do you use prompting as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

52. When do you use prompting as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

53. How effective do you think prompting is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Reinforcement

According to Wong et al. (2014), reinforcement is the establishment of the relationship between a behavior and consequences that increase the likelihood that the student performs the behavior.

54. Do you know about reinforcement as a strategy?
    - Yes
    - No

55. Have you used reinforcement as a social skills strategy?
    - Yes
    - No (Answer 56, then move to question 61)

56. If you have not used reinforcement to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

57. How often do you use reinforcement for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

58. Where do you use reinforcement as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

59. When do you use reinforcement as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

60. How effective do you think reinforcement is as a social skills strategy?

- Very ineffective
- Somewhat Ineffective
- Neutral
- Somewhat effective
- Very effective

Scripting

Scripting is the use of verbal or written descriptions of a skill that provides the student with a model. Scripts are typically practiced before the situation occurs, and is faded as the student becomes proficient in using the script. Scripts have been successfully implemented with students ages three to eighteen (Wong et al., 2014).

61. Do you know about scripting as a strategy?
    - Yes
    - No

62. Have you used scripting as a social skills strategy?
    - Yes
    - No (Answer 63, then move to question 68)

63. If you have not used scripting to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

64. How often do you use scripting for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

65. Where do you use scripting as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

66. When do you use scripting as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

67. How effective do you think scripting is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Social Stories

Social stories are short stories that describe social situations and provide example for appropriate responses. Their purpose is to help students understand the situation. They are usually written in the first person or child's point of view, and it is beneficial if they include visuals (Wong et al., 2014).

68. Do you know about social stories as a strategy?
    - Yes
    - No

69. Have you used social stories as a social skills strategy?
    - Yes
    - No (Answer 70, then move to question 75)

70. If you have not used social stories to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.
    - This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
    - Other (please specify)

71. How often do you use social stories for social skills?
    - 5+ times per week
    - 3 to 4 times per week

- 1 to 2 times per week
- Less than 1 time per week
- Other

72. Where do you use social stories as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

73. When do you use social stories as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

74. How effective do you think social stories is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Role playing

Role playing requires target students to practice the taught strategies/skills with a student or an interventionist.

75. Do you know about role playing as a strategy?
    - Yes
    - No

76. Have you used role playing as a social skills strategy?
    - Yes
    - No (Answer 77, then move to question 82)

77. If you have not used role playing to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.
    - I have no time to use this strategy.
    - I have heard about this strategy, but don't know how to use it.
    - This strategy is too difficult to use it.
    - I don't have enough resources and support to use this strategy.
    - I don't think my student will benefit from this strategy.
    - My student's parents don't give me the consent to use this strategy.
    - My supervisor doesn't allow me to use this strategy.

- This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
- Other (please specify)

78. How often do you use role playing for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

79. Where do you use role playing as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

80. When do you use role playing as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

81. How effective do you think role playing is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Video Modeling

Video modeling is the use of videos to model desired social skills. Videos can be of people other than the student showing the skill, of the student showing the skill, or can be filmed in the pointofview of the student (Wong et al, 2014).

82. Do you know about video modeling as a strategy?
    - Yes
    - No

83. Have you used video modeling as a social skills strategy?
    - Yes
    - No (Answer 84, then move to question 89)

84. If you have not used video modeling to teach social skills, please indicate the barriers or reasons you have not used the strategy. Check all that apply.
    - I don't know about this strategy.

- I have no time to use this strategy.
- I have heard about this strategy, but don't know how to use it.
- This strategy is too difficult to use it.
- I don't have enough resources and support to use this strategy.
- I don't think my student will benefit from this strategy.
- My student's parents don't give me the consent to use this strategy.
- My supervisor doesn't allow me to use this strategy.
- This strategy doesn't correspond to my school's teaching philosophy. this strategy is not among the strategies suggested by my school.
- Other (please specify)

85. How often do you use video modeling for social skills?
    - 5+ times per week
    - 3 to 4 times per week
    - 1 to 2 times per week
    - Less than 1 time per week
    - Other

86. Where do you use video modeling as a social skills strategy? Check all that apply.
    - General education classroom
    - Special education classroom
    - Other (please specify)

87. When do you use video modeling as a social skills strategy? Check all that apply.
    - In-class instruction time
    - Recess
    - Lunch
    - Other (please specify)

88. How effective do you think video modeling is as a social skills strategy?
    - Very ineffective
    - Somewhat Ineffective
    - Neutral
    - Somewhat effective
    - Very effective

Social Skills Strategies

89. Please rank the social skills strategies for effectiveness, 1 is the most effective and 10 is the least effective.
    - Modeling
    - Naturalistic strategies
    - Peer-mediated instruction
    - Pivotal response training
    - Prompting
    - Reinforcement

- Scripting
- Social stories
- Role playing
- Video modeling

90. Please rank the social skills strategies for ease of use in the classroom, 1 is the easiest to implement and 10 is the most difficult to implement.
- Modeling
- Naturalistic strategies
- Peer-mediated instruction
- Pivotal response training
- Prompting
- Reinforcement
- Scripting
- Social stories
- Role playing
- Video modeling

Thoughts on Social Skills

91. What are the difficulties and barriers you face with teaching social skills to students with disabilities? Check all that apply.
- I don't know what strategies I can use
- I don't have time to design social skills intervention
- I don't have time to teach social skills
- It is difficult for the students without disabilities to accept students with disabilities
- I don't have enough funding/resources/support to implement social skills interventions
- I have known social skills instructional strategies but don't know how to implement them in my classroom
- It is difficult to find appropriate social skills curriculum
- My school doesn't allow me to devote time to teach social skills
- The parents of students with disabilities don't consent me to teach their children social skills
- The parents of students without disabilities want me to devote more time to their children
- It takes time to see students' improvement
- My colleagues don't support me in teaching social skills
- Other (please specify)

92. What resources or support do you need to conduct social skills interventions? Check all that apply.
- Funding
- Curriculum
- Professional training/workshops
- Colleagues' support

- The support of the parents of students with disabilities
- The support of the parents of students without disabilities
- The support of students with disabilities
- Teaching preparation time
- Flexibility in adjusting student's learning schedule
- A location for conducting social skills intervention
- Other (please specify)

95. Do you have suggestions for teacher preparation programs for preparing teachers to conduct social skills interventions?

- Yes
- No

96. If yes, what suggestions would you make to teacher preparation programs? Check all that apply.

- Not only introduce strategies but demonstrate how to use them
- Introduce social skills curriculum
- Expose student teachers to social skills intervention while they are doing student teaching
- Other (please specify)

End of Survey

A link will be sent to you via email to complete the social-emotional assessment of the target student for whom you randomly selected for the study. The email will be sent from noreply@parinc.com, and the subject will be "Assessment for Teaching Social Skills Study". Click on the link in the email to complete the assessment. The first page you see once you've clicked the link will show demographic information, such as name and age of child. You will notice that the first and last name says "NA". This is to protect the identify of the target student. You will be unable to edit this information. In order to maintain confidentiality of the target student, you should not share the name of the target student at any time with the researcher.

Drawing winners will be notified and sent their Amazon gift card via email.

Thank you for completing the survey portion of the study.