SOCIAL SKILLS TRAINING FOR ADOLESCENTS WITH ASPERGER’S SYNDROME AND HIGH-FUNCTIONING AUTISM

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A Project

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Abstract

of

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Both authors shared equal responsibility of the research, writing, and editing of this project which gives a broad overview of best practices of social skills training for adolescents with Asperger’s syndrome and/or high-functioning autism (AS/HFA). Rising problems with bullying, depression, and anxiety have made social skills training not only helpful for adolescents with AS/HFA but also necessary to maintain healthy mental and emotional states. The challenge that many new and tenured educators face is the practicalities of implementing such a social skills curriculum. The goal of this project is to help educators bridge this gap.

A review of current journal articles as well as published books formed the basis of what the authors believe to be the most important topics educators need to know regarding a social skills training: what, how, when, where, and why. Sub-topics such as hygiene, cognitive-behavioral therapy (CBT), and bullying are included for the purposes of making this project as practical as possible.

In totality, the project is a four to five hour training workshop that includes a presenter’s manual, four handouts, PowerPoint slides, and corresponding presenter notes. Any educator with some background knowledge of ASD can present the workshop to any range of workshop attendees. It is the hope of the authors that both the presenter and the attendees will complete the workshop as educated consumers of social skills training topics and tools.

____________________________, Committee Chair
Stephen E. Brock, Ph.D.

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Date

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To our husbands:

For supporting and encouraging us throughout the creation of this project.
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SOFTWARE SPECIFICATIONS

Appendix B contains presentation slides and corresponding notes that are meant to be supported with paper handouts and a manual found in Appendix A. Together, these slides, notes, and handouts form the foundation of the social skills training workshop. Slides should ideally be viewed using the most recent Microsoft® PowerPoint software.
Chapter 1
INTRODUCTION

Recent Center for Disease Control reports indicate the prevalence of autism in the United States is now estimated to be 1 in every 110 children and 1 in every 70 boys. These rates represent an increase in comparison to the 2007 findings which indicated 1 in every 150 children were diagnosed somewhere on the spectrum (Autism Speaks Organization, 2011). With ratings such as these there is no doubt that in recent years, autism spectrum disorders (ASDs) have been a popular subject internationally. ASD’s continue to receive a great deal of attention by a variety of individuals ranging from parents, professionals in the field, to celebrities. Greater awareness in recent years may be due to several factors including more in depth and improved diagnosis methods, earlier diagnosis and intervention, and ongoing research on the epidemiology of autism, and strategies on how to manage the characteristics of the disorder. Nevertheless, ASDs, no matter where an individual may be identified on the spectrum, appear to be a diagnosis that receives a larger amount of awareness than other disabilities. Continued public awareness and concern related to autism spectrum disorders, turns into educational distress and responsibility. It is the duty of public education in the United States to provide every child with free and appropriate education, thus ways to address the varying needs of individuals on the spectrum became significantly evident in school settings across the nation.

In 1991, autism became a federally recognized special education category. Since then there have been ongoing efforts to keep with trends and newly released
information related to autism spectrum disorders, in order to understand how the needs of individuals with ASD can be addressed educationally (Ruble & Akshoomoff, 2010).

While “classic” autism is still a very popular educational topic, other diagnoses along the spectrum have recently been receiving a lot of extra attention and research. The two that appear to be most popular recently include; Asperger’s syndrome and high-functioning autism. This is likely because of the very unique and specific social and communication needs of these individuals as compared to the common deficits in other individuals diagnosed along the spectrum (Kasari, & Rotheram-Fuller, 2005).

According to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) and the Centers for Disease Control and Prevention (2009), autism spectrum disorders include; autistic disorder, commonly referred to as “classic autism”, Asperger syndrome, and pervasive developmental disorder-not otherwise specified. In addition to these official classifications, there is an unofficial category commonly known as high-functioning autism. High-functioning autism refers to individuals who tend to be generally less impaired than other individual’s diagnosed with autistic disorder. Individual’s identified as having high-functioning autism (HFA) also tend to have average to above average intellectual functioning and slightly to vastly improved language development than an individuals diagnosed with the classic form of autism (Sansosti & Powell-Smith, 2010). While high-functioning autism is not a diagnostic term, it is often used as such because it tends to be more helpful in school placement consideration and intervention planning.
Asperger’s however, is a diagnostic term used to classify individuals diagnosed along the spectrum. Asperger syndrome criteria refers to individuals on the spectrum that exhibit behavioral and social impairments similar to those associated with autistic disorder, but generally do not display delays in the early development stages. Specifically, that there are no clinically significant delays in language or cognitive development (American Psychiatric Association, 2000).

The two commonalities that are shared between individuals identified as having high-functioning autism (HFA) and Asperger’s (AS) include a general lack of language and cognitive delays as well as the existence of social and communication impairments. While individuals identified as being on the higher functioning end of the spectrum are usually classified as having either HFA or AS, research documents that there are few distinct differences and more significant similarities between the two classifications (Attwood, 2003). Therefore, interventions for the two often include similar objectives. As individuals with HFA and AS get older the similarities in the display of their characteristics tend to become even more evident. There is no clear conclusion if this manifestation is based on commonalities of the two classifications alone, or if it is more related to the similar experiences adolescents encounter in the school age years of middle and high school. Nevertheless, there is a clear indication that adolescents with AS and HFA face social and communication challenges that make both life and the school environment challenging and anxiety provoking.
Background of the Problem

As mentioned previously, in recent years there has been much research and attention dedicated to autism awareness and intervention (Lord & Bishop, 2010). The majority of these intervention efforts have primarily been focused on early intervention services for young children. The concept of early intervention is based on thorough and compelling research supporting early, intensive, and frequent intervention techniques and therapies in order to promote the likeliness of more successful outcomes. While early intervention appears to be effective at improving basic communication skills, adaptive functioning, and sensory motor skills, there is little documented evidence of how early intervention services attempt to combat challenges that come later in a child’s life as they mature (Baker & Abbott-Feinfield, 2003). It is well known fact that as any individual grows, they encounter a different set of expected skills and circumstances. Therefore, it is evident that there needs to be an additional focus put on appropriate intervention services for adolescents. This is even more relevant for adolescents with HFA and AS because of their common skill deficits in social and communication skills, which are particularly challenging for any teenage individual.

Statement of the Research Problem

To reiterate, individuals with AS and HFA have unique characteristics and needs when compared to other individual’s diagnosed on the spectrum. While historically there has not been a lot of research or focus placed on these specific differences, it has become an area of particular interest in recent years. This has been occurring simultaneously to
the trend surrounding how to better identify and provide intervention services to any individual on the spectrum (Koyma, Tachimori, Osada, Taked, & Kurita, 2007).

In comparison to the general characteristics of individuals with ASD, deficits in social interaction and peer communication are two areas of prominent concern for individuals with AS/HFA (Ozonoff, Dawson, & McPartland, 2002). Social interaction and peer communication are both considered skills involved in the overall skill set of social skills. Thus it is emphasized that social skills are an essential area to address for individuals with AS/HFA. An even higher importance should then be placed on addressing social skills for adolescents with AS/HFA because social interactions and peer relationships are survival skills during adolescents. There are higher expectations set on social situations and there is a greater need to address the interplay of social skills during adolescents in order to have a successful transition into adulthood (Willey & Jackson, 2003).

**Purpose of the Project**

This project is primarily designed for any educator that works with or may work with adolescents diagnosed or classified as having AS or HFA. The information provided in this project may be relevant for regular or special education teachers, administrators, school psychologists, or therapists. The over riding purpose of this project is to address the growing need for appropriate social skill training for adolescents with AS and HFA. The some of the specific topics addressed include; what social skill deficits are present for individuals with AS/HFA, which social skill areas are important to
cover, different approaches to providing social skill training, and outcomes associated with research based social skill training approaches.

Information included in this project has been developed into a minimum three hour workshop applicable for any educator. However, it should be noted that targeted members of the audience should have at least an introductory background to autism. This is because there is minimal information provided about identification, characteristics, and diagnosis. It is hoped that this project will provide any educator that works with adolescents with AS/HFA the knowledge and tools to make informed decisions about how to best provide their students with appropriate social skill training that will aide them in having successful adolescent and adult outcomes.

**Statement of Collaboration**

This project was created and developed collaboratively. Each co-author had equal responsibility in the writing, research, and overall project compilation. Parts of the literature review, power point creation, and chapters in this project, were divided between the two co-authors to compile a comprehensive project. All duties and responsibilities performed in the development of the project and training workshop were shared equally.
Chapter 2

LITERATURE REVIEW

Recently there has been an increased demand to provide adolescents diagnosed with AS/HFA appropriate social skills interventions in the educational setting (Myles, 2002). To improve the social skills of adolescents with AS/HFA, attention needs to be paid to what the specific social skill needs are and what the best programs and approaches include. From these assumptions and needs, this literature review will explain what social skills need to be taught, how to teach them, and why there is a need to teach social skills to adolescents with AS/HFA.

Background and History of AS/HFA

Asperger’s Syndrome

Asperger’s syndrome was first described in 1944 when Hans Asperger wrote about four children who appeared to exhibit language impairments, behavioral deficits, and limited interests (Klin, McPartland, & Volkmar, 2005). Hans Asperger’s work occurred shortly after that of Leo Kanner who originally described the phenomenon that eventually became known as “classic autism” (Klin et al., 2005). It was not until the work of Lorna Wing in the 1980’s that the term “Asperger’s” became associated with individuals who meet appropriate developmental milestones but exhibited social and behavioral impairments similar to characteristics of autism (Koegel & Koegel, 2006). Individuals with Asperger’s are also often classified as having an average to above average Intelligence Quotients (IQ) and can have associated features of impaired motor coordination and planning (Klin et al., 2005). According to the Diagnostic and Statistical
Manual of Mental Disorders (4th edition, Text Revision; DSM-IV-TR), the basic distinctions between autism and Asperger’s disorder include; the absence of a clinically significant general delay in language, cognitive development, and adaptive behavior, other than social interaction and curiosity of ones environment in childhood (American Psychiatric Association, 2000).

**High-Functioning Autism**

Individual’s described as having HFA share characteristics of both individuals classified as having “classic autism” as well as those diagnosed with Asperger’s. Individuals with HFA are considered to have “less impaired” autism and as being on the less severe end of the spectrum (Sansosti & Powell-Smith, 2010). According to Sansosti and Powell-Smith:

There is no specific diagnostic criteria for HFA, however an individual is classified as having HFA if they meet the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR: APA, 2000) criteria for autism, but display cognitive ability in the low average to above average range. (p. 2)

Additionally, individuals considered to have HFA may also exhibit odd social mannerisms, childlike communication styles, and display specific interests that are rare or unique (Landa, 2000).

**Social Skills Needs of Individuals with AS/HFA**

There is no argument that deficits in social skills exist among all individuals diagnosed with an autistic spectrum disorder. However, since individuals with AS/HFA have some language capabilities, the use of appropriate social skills becomes increasingly
important to build peer relationships, prevent social anxiety, and navigate school and community settings (Quill, 2005). Social skills can be described as “being a multifaceted set of obvious and concealed behaviors, which optimize the likeliness of developing, maintaining, or improving social proficiency or status by supporting an ability to create positive interactions with others” (Bellini, 2006, p. 140). There are several skills within the spectrum of “social skills” that individuals with AS/HFA have difficulty with. Kalyya (2010) argues it is the largest deficit within the triad of AS impairments. The triad of impairments includes impairments in social relationships, social communication, and imagination. A basic description of the typical social difficulties individuals with AS/HFA experience include: difficulties decoding facial expressions, understanding the feeling of others, and being able to accurately adjust and participate with the diverse conversational needs of their listeners (Kalyva, 2010).

Additional socially related skill sets that are challenging for individuals with AS/HFA include Theory of Mind and social reciprocity. Theory of Mind (ToM) is the ability to understand and anticipate other people’s opinions or emotions based on external behavioral cues and circumstances (Baron-Cohen, 1995). A study done by Simon Baron-Cohen, Therese Jolliffe, Catherine Mortimore, and Mary Roberston confirmed that individuals with AS/HFA who have normal to above normal IQ still displayed impairments on a subtle ToM test (Baron-Cohen, Jolliffe, Mortimore, & Roberston, 1997). Wilkinson (2010) describes social reciprocity as:

The back-and-forth flow of social interaction or how the behavior of one person influences and is influenced by the behavior of another person and vice versa. As
well as the mutual responsiveness in the context of interpersonal contact, such as awareness of and ability to respond appropriately to other people. (p. 161)

One study that examined the concept of social reciprocity was done by Guststein and Shelly (2002). This study involved applying a relationship development model that aimed to develop foundational friendship and communication skills in children with ASD. An additional study, done by the same researchers, on AS and social reciprocity involved gifted children with AS. According to this study, it is common for individuals with Asperger like symptoms to be overlooked for diagnostic purposes because of their higher level of intelligence (Guistein & Sheely, 2002). Instead, it is often their struggles in peer communication and social reciprocity that set them apart from their typical peers (Neihart, 2000). Both of these studies identify that there are several areas of social ability that present challenges for individuals diagnosed along many points of the Autistic Spectrum. There is an evident growing need to implement helpful interventions for individuals with AS/HFA.

**Specific Social Skill Considerations for Adolescents**

Three issues that are linked to social skills deficits and frequently affect adolescents with AS/HFA include increased levels of anxiety, peer bullying, and depression. While these three issues are further explored later in this document, one of the biggest concerns related to social skill acquisition for adolescents with AS/HFA is the high level of anxiety that many develop. The Indiana Institute on Disability and Community conducted a study that suggested “adolescents with autism spectrum disorders exhibit anxiety levels significantly higher than those of the general population”
(Bellini, 2006, p. 138). High levels of stress and anxiety related to social situations, often defers individuals with AS/HFA from seeking and creating meaningful social relationships (Bellini, 2006). While there are several factors that contribute to social anxiety for individuals with AS/HFA, social skills deficits are one of the areas that can be addressed directly within educational and community settings. The common social skill deficits typically displayed by adolescents with AS/HFA include: “reciprocity, initiation of interactions, maintenance of eye contact, ability to share enjoyment, empathy, and ability to infer the interests of others” (Bellini, 2004, p. 79). These skill areas can have even more adverse effects when applied to the specific social needs and situations that adolescents encounter. It is a well-known fact that navigating adolescence in itself is a challenge. Adolescence is a transitional time when many changes occur. Such changes include physical, psychological, and social change (Patrick, 2008, p. 16). The physical changes that happen during adolescence occur in the process of puberty. Changes in hormones and physical growth can often cause a certain level of distress and identity confusion in adolescence. The psychological changes that occur during adolescence and puberty entail both cognitive and emotional growth. These changes include increases in problem solving abilities, the development of coping skills, as well as determining how to balance out emotional overload (Patrick, 2008). Lastly, the social changes that are simultaneously occurring are intertwined with the physical, cognitive, and emotional changes occurring simultaneously. Thus making adolescence a very complicated and anxiety provoking time for any teenager.
During this stage of development, adolescents are becoming increasingly consumed by social relationships with peers and being socially accepted (Patrick, 2008). Adolescents with AS/HFA are battling the same pubescent issues as all teenagers during these years. However, adolescents with AS/HFA have additional social skills deficits that make this time increasingly challenging and stressful. Therefore, it becomes even more evident that adolescence may be the perfect time to focus on increasing social competency for individuals AS/HFA. Social skills need to be addressed and taught to assist individuals with AS/HFA in being more independently successful in their social journey through adolescence (Patrick, 2008).

**Social Skill Improvements for Adolescents as a Result of Intervention**

A study conducted at the Child and Adolescent Psychiatry at the Montreal Children’s Hospital presented parents and adolescents with AS/HFA a questionnaire before and after a 12 week group that focused on social skills training. The results of the training indicated that the adolescents reported more perceived skills improvements than the parents did. However, the parents’ questionnaire results indicated improvements in social skill areas that were generalized outside the treatment group (Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007). This study described a social skills training program that centered around teaching new social skills weekly, using role-play exercises followed by recreational time to practice using the newly addressed social skills. At the conclusion of 12 weeks, measured skill acquisition and generalization was found in social, emotional, and communication skills (Tse et al., 2007).
An additional study involving adolescents with AS/HFA also yielded significant social functioning improvements. This study consisted of a 14 week treatment using the Program for the Education and Enrichment of Relational Skills (PEERS). The goal of the PEERS program is to assist adolescents in overcoming core deficits in friendship skills. Skills addressed included: necessary conversational skills, appropriate humor, how to enter and exit a conversation, how to choose well suited friends, handle disagreements, and how to deal and address issues associated with teasing and bullying (Busko, 2008). Significant social skill improvements and generalization of such skills identified in both of these studies highlights the importance of focusing on social skills training for adolescents with AS/HFA.

**Supported Improvements in Social Skill Acquisition for Adults**

While improvements are noted in adolescents that participate in various social skills trainings, positive outcomes for adults with AS/HFA are also evident. Even though the social skill areas affected in adults with AS/HFA are slightly different than the social needs of adolescents, there is still a correlation between social skill acquisition in adolescents with AS/HFA and adults with similar social deficits. The translation of social skill building from adolescence to adulthood is supported by the results of a study done by Mesibov (1984). This study implemented ongoing social skills training to 15 adults on the spectrum. The outcome of the study indicated that participants progressed in their conversational skills, their selection of relevant conversation topics, as well as their own perceptions of themselves (Mesibov, 1984). This study also addressed the importance of understanding and treating adolescents and adults with ASD as well as the
viability of social skills training models. Social skill gains in adults with AS/HFA provide additional evidence that focusing on social skills even earlier in adolescent years will further support successful socially integrated adults (Patrick, 2008).

**Screening and Referral Procedures to Address Social Skills Needs**

Having a consistent method to place students in a training skills or social skills curriculum is essential. While research supports that there is a need to address social skills in adolescence with AS/HFA, it is also important that students are grouped according to their specific social skill needs. Many students have different levels of acquired social skill ability as well as preferred modes of learning modalities. One screening method that can be used to determine what the social needs are for adolescents with AS/HFA is the Social Skills Rating System (SSRS) or the recently released Social Skills Improvement System (SSiS). These tools are commonly used to measure social skills and identify behavioral areas that may need intervention for individuals age 3 to 18. As mentioned in a previous study, the SSSR was used to determine the needs of individuals with AS/HFA before beginning a social skills training program as well as after the study to measure improvements (Tse et al., 2007). Kalyya (2010) used a similar social skills rating tool that the adolescents filled out themselves as well as the parents. This was done to first determine the needs of the students to ensure a homogeneous group but to also identify congruence between the parents and students ratings.

Another tool that may be helpful in identifying the main concerns in individuals with AS/HFA that can also assist in properly placing them in the appropriate social skills intervention program is the High-Functioning Autism Spectrum Questionnaire (ASSQ).
This questionnaire addresses a wide range of common symptoms as well as subtle social impairments typically displayed by individuals with AS/HFA (Ehlers, Gillberg, & Wing, 1999). It should be noted that while this questionnaire is intended to screen for common characteristics of ASD as well as AS, it may also be helpful to use in order to identify the common social needs of groups of adolescents with AS/HFA for social skill intervention placement (Ehlers et al., 1999). The tools mentioned in this section will not only be useful in identifying social skill areas of need but they will also assist in determining the most appropriate intervention program.

**What to Teach in a Social Skills Curriculum**

Without attention and specific intervention from supportive adults, individuals with AS/HFA will continue to have high levels of anxiety related to social skills, peer interaction, and relationships as they get into adulthood (Koning & Magil-Evans, 2001). The following sections provide insight into what specific social skills should be focused on to meet the social needs of adolescents with AS/HFA.

**Typical Adolescent Social Situations**

The social situations that need to be covered for adolescents with AS/HFA include situations that are typical to all teens. Some situations include handling peer pressure, drug and alcohol exploration, dating, pursuing a driver’s license and the responsibility of driving, decision making, and determining self-identity (Ryan, 2001). These social situations are often stressful situations even for the typically developing teenager and even more anxiety provoking for adolescents with AS/HFA due to their lack of foundational social skills (Bellini, 2006). Topics covered will likely include aspects
that are outside of the educational realm and are typically intertwined with what is commonly referred to as the “hidden curriculum.” The hidden curriculum refers to a set of universal guidelines that are usually not directly taught but rather assumed to be known and understood (Smith-Myles, Trautman, & Schelvan, 2004). For individuals with AS/HFA, the hidden curriculum addresses reading cues from others, decoding body language, and understanding social language (slang), figurative speech, and idioms (Smith-Myles, Trautman, & Schelvan, 2004).

**Dating and Interacting with Same Age Peers of Interest**

As similarly stated above, dating is an acquired activity of significance for most adolescents. The majority of typically developing teens have awkward “run ins” and difficulties approaching individuals of interest. These social anxieties surrounding dating are then exacerbated for adolescents with AS/HFA. In the book *Asperger’s Syndrome and Sexuality: From Adolescent to Adulthood*, Isabelle Henault and Tony Attwood simply state:

Individuals with AS have the same interests and sexual needs as the general population; however, their mode of expression is different. Their communication difficulties add to the obstacles that they encounter when establishing interpersonal and sexual relationships. (Henault & Attwood, 2006, p. 11)

In another book written by a married couple with AS, there is an example of an adolescent student named John who shares his personal struggles in a supportive peer group regarding a fascination he has with an attractive female peer. He then adds that this female does not share his same feelings, and he talks about the pain that this causes him (Newport & Newport, 2002). This sample alone demonstrates a need to address
typical adolescent sexuality and how to battle its many complications, along with how to handle the emotional aftermath.

Additionally, there was a 1991 study done by Ousley and Mesibov that examined the sexual knowledge and interest of adolescents and adults with ASD as well as Mental Retardation. Anecdotal evidence demonstrated that while some of the adolescents and adults with ASD demonstrated they had some knowledge of sexuality, this did not necessarily directly correlate with their interest or experience. This demonstrates that there is likely a disconnect with what is learned in a class such as biology or health education and how to actually apply the skills of interacting and building relationships with persons of interest (Ousley & Mesibov, 1991).

While there is limited research studies addressing the need to cover social skills related to dating and sexuality of adolescents with AS/HFA, there is no doubt that it is of importance. In order to develop a healthy and adequately socially adjusted adolescent/adult with AS/HFA, there is a need to cover issues around dating and sexuality in a way that is structured, systematic, and appropriate for the school setting.

Understanding Physical Changes in the Body

The time frame adolescents become interested in dating occurs almost simultaneously as the developmental stage of puberty. Puberty is a challenging time for both adolescents and parents. Navigating the physical and emotional changes one goes through during puberty is tough for any adolescent, but the challenges associated with being an adolescent with AS/HFA intensify exponentially (Glasberg, 2008). In a clinical report titled Sexuality of Children and Adolescents with Developmental Disabilities, the
authors highlight the tribulations puberty causes for individuals with developmental disabilities. Murphy and Roy-Elias (2006) state:

Puberty can further challenge children with disabilities, who may be socially immature, by affecting an already altered body image and self-esteem, increasing the complexity of self-care and hygiene activities. (p. 399)

While many of the other challenges associated with adolescence and puberty have been mentioned previously, one the important aspects of puberty that is essential to address is the physical and hormonal changes that warrant the need for a regimented hygiene routine (Mahler, 2009). In the book Hygiene and Related Behaviors for Children and Adolescents with Autism Spectrum and Related Disorder, author Kelly Mahler writes of a hygiene success story below:

Clay, 10th grader- Clay detested showering…For years, his parents and teachers had emphasized to Clay how important hygiene is, how “everyone showers every day,” etc., but it wasn’t until Clay started receiving instruction using activities that changes started occurring. The visual, structured nature of the activities helped Clay see the powerful impact that his hygiene, or lack thereof, was having on his ability to fit in socially. (Mahler, 2009, p. 2)

This excerpt from Mahler’s book presents a series of activities that can be used to address hygiene needs and paints the perfect picture as to why there is a need to cover the specific issues of hygiene and physical changes associated with puberty. While hygiene appears to be a separate issue from social skills, hygiene maintenance is related to the common social struggles of adolescents with AS/HFA. Hygiene plays are part in trying to fit in, developing friendships, and seeking out desired relationships.
Peer Problem Solving

Tension and difficulties among peers can cause a host of negative emotions for adolescents. These emotions often include anxiety, bullying, and depression. The need to prevent such emotions in adolescents with AS/HFA is supported in a wealth of research. One social skill concern that encompasses all of these aspects, is the concept of appropriate and successful peer problem solving. In the article *Behavioral Forms of Stress Management for Individuals with Asperger’s Syndrome*, the authors focus on the use of behavioral therapy and modification in order to increase social understanding of problem solving, foster self-awareness of feelings, and to promote methods of self-calming (Myles, 2003). Embedded in the social skill of problem solving is the ability to appropriately handle anger and manage stress when confronted or interacting with others. There is no research suggesting individuals with AS or HFA are inherently prone to aggression (Cumpata & Fell, 2010). However, social deficits associated with the disorder can often create frustration and irritation that can result in aggression (Simpson & Smith-Myles, 1998). Furthermore, individuals with AS/HFA are often frequently stressed and highly emotional, making them prone to having anger outbursts with peers. In addition to anger control and stress management, there are several other factors that contribute to difficulties with peer relations. Simpson and Smith-Myles state that: Children and adolescents with Asperger’s syndrome often find themselves socially isolated or entangled in conflicts due to a number of social factors which can include, a lack of understanding of the rules of social behavior, a lack of awareness of accepted protocol, a lack of common sense, a propensity to misinterpret social cues and unspoken messages,
and a tendency to display socially unaccepted responses” (Simpson & Smith-Myles, 1998). To promote successful peer relationships, peer problem solving, as well as anger and stress management, social skills trainings must revolve around these aspects.

**Appropriate Social and Behavioral Expectations at School**

High Schools and Junior Highs can be frightening places for adolescents with AS/HFA. While they are facing multiple challenges in physical changes, social emotional difficulties, and peer struggles, students with AS/HFA are expected to go to school, follow the rules, and get passing grades, just as expected of any other student. Some of the typical expectations that are necessary for adolescents with AS/HFA to be successful in school include: understanding and use of informal greetings, realizing the significance of and paying attention in class, learning how to ask for help when needed, understanding the importance of completing work and assignments, as well as learning and practicing how to utilize basic organizational skills and having the appropriate materials for class (Cumpata & Fell, 2010). In the book *A Quest for Social Skills for Students with Autism or Asperger’s*, authors Cumpata and Fell present a six-unit social skills program that highlights a variety of topics some of which include the school expectations mentioned above. In the book, there is an experiential story explaining the expectations of greeting different individuals. Here is an excerpt:

There are many ways to greet people at school. Sometimes students need to be quiet, like in class or in the library. Students can use silent greeting by smiling or waving at a person. When a student smiles or waves it is important that the other person is looking at them. In the halls and at lunch at school, or in the community, students can say, “Hello,” “Hi,” or “How are you?” when they greet one another. Sometimes students even use interesting or creative greetings like,
“What up?” or “Hey.” Students may also use names when greeting each other, like, “Hey Jim, how are you?” (Cumpata & Fell, 2010, p. 4)

This experiential description of greetings is just one example of how to address some of the social and behavioral expectations of school. There are several ways school and behavioral social expectations can be covered in any social skills training. The important point to remember is that there is a need to cover these specific skills for adolescents diagnosed with AS/HFA in order to minimize further anxiety and allow them to be successful students.

**Options for How to Teach a Social Skills Curriculum**

While there are specific topics that should be addressed while developing a social skills curriculum for adolescents with AS/HFA, there are also specific methodologies that have been proven to yield social growth. The authors’ literature review found the following four methodologies as the most relevant to School Psychologists and educational settings: social stories, social groups, cognitive behavioral therapy, and virtual environments. These methodologies are further explored in the following sections specifically regarding: typical definition and implementation, a research example, general benefits, general challenges, and an overall summary of the methodology. It is important to note that it is beyond the scope of this literature review to claim one methodology as best. Rather, the purpose of the following section is to empower School Psychologists to become educated consumers of social skills teaching methods for adolescents with AS/HFA.
Social Stories

**Definition and typical implementation of social stories.** Social stories were created in 1993 by Carol Gray (Rust & Smith, 2006). They typically are brief, written in the first person, and in paper format. The focus of these stories are to teach persons with ASD what to do in a given situation, when to do it, how to do it, and, most importantly, why to do it. Each social story typically contains four types of sentences: perspective, directive, affirmative, and descriptive. Perspective statements inform the reader of what someone within the story may be thinking (Scattone, Wilczynski, Edwards, & Rabian, 2002). Directive statements suggest an appropriate behavior to the situation (Rust & Smith, 2006). These statements are usually followed by affirmative statements that reassure the reader of the reason behind the behavior such as, “This is the right thing to do.” The descriptive statement which is the only sentence that is “required” contains the facts of the situation presented (i.e., who, what, and where) (Rust & Smith, 2006, p. 126). Lastly, Gray specified a ratio of two to five descriptive, perspective, and/or affirmative statements for every directive statement (Scattone et al., 2002).

**Research example demonstrating efficacy of social stories.** The following research example is based on a 2002 study by Scattone et al. John is a 15-year-old male who stares at females inappropriately during recess; staring is defined as looking at a female for more than three seconds. According to the *Kaufman Assessment Battery for Children* (KABC), John’s Mental Processing Composite was an 82. Each day, he would read his social story to his teacher’s aide one hour before recess. The baseline frequency
of staring began at 66.9% (range 50 – 85%) of intervals during one observed session and
decreased to an average of 18.3% of intervals during one observed session.

An interesting data point was found during session 17. John pulled his sweatshirt
over his head for the entire duration of the observation. Thus, although inappropriate
staring was reduced, an appropriate replacement behavior did not increase. In addition,
after John read the story for the first time, his staring immediately decreased to 42% of
the intervals observed which was a significant reduction from his lowest baseline.
Furthermore, when John refused to read the social story on session 10, his staring
reverted back to 58% of intervals observed which neared baseline. After John agreed to
read his social story the following day on session 11, his staring significantly decreased
again to 26% of intervals observed. In conclusion, the relationship between reading
social stories and decreasing staring seemed to be positively correlated (Scattone et al.,
2002).

General benefits of social stories. Timing of social stories does not seem to be a
hard and fast rule written by Gray, but it is supported by a meta-analysis of social stories
(Kokina & Kern, 2010). John’s example in the previous section demonstrates that social
stories may be extremely effective as an intervention to use right before the target setting
will be encountered. This ease of timing and overall implementation makes social stories
an easy part of an adolescent’s routine (Scattone et al., 2002). Routine is a unique goal of
persons with ASD; thus, social stories offer rigid routines that adolescents with AS/HFA
can adhere to on a daily basis. Additionally, social stories are one of the safest, least
intrusive, and predictable interventions available to teach social skills to adolescents with
AS/HFA. Most importantly, according to a powerful 2010 meta-analysis of social stories, this specific methodology seems to be most beneficial at reducing inappropriate behaviors (Kokina & Kern, 2010).

According to some research, social stories are cognitively appropriate for adolescents with AS/HFA at least in terms of memory. In a 2005 study by Williams, Goldstein, and Minshew, performance of persons with ASD but without a diagnosis of intellectual disability showed no deficits in immediate or delayed memory of stories.

Social stories seem to also address the deficits that adolescents with ASD have in either ToM or weak central coherence (WCC; Kokina & Kern, 2010). Social stories are able to address these supposed deficits because they purposely address perspective and overall meaning struggles.

When compared to other methodologies for social skills training, social stories offer a controlled visual component without high verbal demands (Scattone et al., 2002). This visual component of social stories seems to pertain to the idiosyncrasies of persons with AS/HFA. The ability to control how much content is on each page (i.e., one sentence per page) allows adolescents with AS/HFA to focus on one piece of data at a time (Rust & Smith, 2006). Additionally, the presence of pictures on each page is supported by research that states persons with ASD respond well to visual representations.

It is important to note that much of the research done on social stories has been experimented on persons from ages five to 15-years-old. Thus, the efficacy and effectiveness of this methodology has not been formally researched on the full age range.
of adolescents. However, a significant number of participants chosen in research on social stories were diagnosed either with AS/HFA. Moreover, most research conducted on social stories occurred within the confines of educational environments. Thus, due to the adolescent and educational focus of this literature review, social stories are believed to be an appropriate methodology that addresses the idiosyncratic qualities of adolescents with AS/HFA (Rust & Smith, 2006).

**General challenges of social stories.** Social stories need much preparation before the intervention can be implemented. Moreover, social stories address specific behaviors in specific situations. Thus, it is difficult to quickly adapt a social story for adolescents with AS/HFA if varying behavior and language levels are an issue. This brings forth the issue of sufficient funding and resources and whether purchasing social stories from a private vendor is financially feasible.

Furthermore, social stories are often thought of as enjoyable for participants. However, regarding John’s research example described above, John was often resistant to reading his social story and repeatedly asked not to have to read it. It is important to note that John was one of three participants in the study and the other two participants showed no resistance to reading their stories (Scattone et al., 2002).

**Overall summary of social stories.** Aside from two independent studies on social stories, none of the research on social stories focuses on change in both appropriate and inappropriate behaviors (Rust & Smith, 2006). Studies either focus only on a decrease of inappropriate behavior or an increase in appropriate behaviors. Thus, future research needs to be focused on both.
Due to the varying length of presentation of the intervention and measure of the change of behavior, the ideal timing of social stories is still yet to be determined. In addition to varying length, there is great variety of how many times social stories were presented to readers; frequency of presentation ranges from once every three days to three times a day. Furthermore, in a 2010 meta-analysis, there is evidence to support that Gray’s initial ratio of statements might actually be less than ideal; better outcomes seemed to emerge when more directive than descriptive sentences were included (Kokina & Kern, 2010).

Finally, and perhaps most importantly, numerous confounding variables exist in the research that has been performed on social stories (Scattone et al., 2002). For example, the first study of social stories also included a response-cost system and a behavioral social skills training model. Thus, although all three participants of Swaggert’s study improved regarding their behavior, this success cannot be attributed to social stories alone or even at all.

Due to the limited research available of social stories, it is uncertain if social stories are worth significant financial and educational investments. However, their ease of use and play into the visual and routine preferences of adolescents with AS/HFA may prove to be beneficial for social skills training.

**Social Groups**

**Definition and typical implementation of social groups.** Due to the human nature of social groups, this methodology has many shapes and forms. One of the first to describe social groups as a social skills training method to teach persons with ASD was
Mesibov in 1984 (Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007). This study was based on 15 adolescents and adults with ASD; social groups consisted of individual teaching, weekly group sessions, skills practice, role-play, and even “joke time.” This is far different from other social group curriculums that emphasize conversation skills and ToM. Therefore, an overall review of the literature shows that social groups come in a variety of forms.

**Research example demonstrating efficacy of social groups.** The following example is from a 2007 study by Tse et al. Forty-six adolescents between the ages of 13 – 18 were divided into groups of seven or eight. The groups were led by a social worker and psychologist who specialized in working with adolescents in psychiatry. Each group met weekly for 12 weeks, and sessions lasted between 60 to 90 minutes after school.

Assessment was based on the Social Responsiveness Scale (SRS), the Aberrant Behavior Checklist (ABC), and the Nisonger Child Behavior Rating Form (N-CBRF). Scores demonstrated effect sizes for subscales to be statistically significant: .34 to .46 for the SRS/N-CBRF and .34 to .72 for the ABC (Tse et al., 2007, p. 1962).

**General benefits of social groups.** Research has shown that the majority of quality friendships are within a larger informal peer group or social network (Locke, Ishijima, Kasari, & London, 2010). In a 2004 study by Orsmond, Krauss and Seltzer, it was found that adolescents and adults with AS/HFA commonly participated in group activities (i.e., church) which is contrary to the idea that persons with ASD are unmotivated to be part of a social network. Thus, social groups offer socialization that
adolescents with AS/HFA may find natural. Furthermore, social groups offer the need for a safe environment to practice social skills (White, Keonig, & Scagill, 2007).

In the example research study, 13 participants from two separate groups were asked to complete an anonymous survey (Tse et al., 2007). Ten indicated that they enjoyed the group, 5 indicated that they enjoyed the group “a lot,” while one participant indicated dislike of the group but gave no reason. Thus, it is believed that the majority of adolescents with AS/HFA would enjoy social groups as a social skills training methodology.

It is important to note that in the example research study, groups were led by personnel who were not previously trained in working with persons with AS/HFA or even ASD in general. Therefore, this suggests that social groups can be successfully implemented by School Psychologists, School Counselors, and even teachers within a supervised setting.

Another benefit for social groups is the opportunity for parents to play a pivotal role. In the 2004 study by Ormond et al., it was found that the level of social participation a mother has within social networks correlates with how willing her child is able to also socialize in groups. This suggests that parents can be an impetus for participation in social groups amongst adolescents with AS/HFA simply by modeling.

**General challenges of social groups.** Seventeen parents from three groups of the 2007 Tse et al. study completed anonymous surveys. Although 15 parents reported that their child seemed to enjoy the group, the majority of parents indicated that there was only “a little” overall improvement in their child’s social behavior (Tse et al., 2007, p.
1965). It is also important to note that many parents desired to have a greater role within the groups and even recommended a parallel parent group.

As with most methodologies used to teach social skills, social groups seem to be confined to teaching specific skills that participants with AS/HFA struggle to generalize (White et al., 2007). This struggle with generalization not only seems to be the issue with the skills being taught but also with using the skills outside of the social groups and, instead, in real-world scenarios.

**Overall summary of social groups.** A review of all published studies of social groups (over 200 citations) revealed numerous technical research flaws (i.e., the lack of control groups and treatment manuals) that prevent the conclusion that social groups are, indeed, effective social skills training tools (White et al., 2007). Perhaps the greatest of these flaws is the lack of manualized curriculums (Tse et al., 2007). Varying group instruction, topics, and activities have made cross-analysis nearly impossible. Despite these research flaws, social groups still show growth in socialization, can be led by a variety of staff, and are comparatively less expensive than other methodologies.

**Cognitive Behavioral Therapy (CBT)**

**Definition and typical implementation of CBT.** As with social groups, implementation of CBT varies greatly from study to study not only within the realm of ASD but also with persons without ASD as well. Moreover, from a review of the few studies available regarding CBT and adolescents with AS/HFA, many of them focus on decreasing symptoms of anxiety rather than purely on social skills training. However,
since anxiety and social skills intersect regarding emotional well-being and growth of friendships, CBT is included in this literature review as a relevant methodology.

The basis of CBT lies in its attempt to examine distorted thinking and replacing that thinking with more adaptive and positive thoughts (Burns, 1999). The goal is to ultimately lead participants to healthier feelings about themselves and their situations. This is practically done via counseling as well as behavioral components such as doing homework, participating in positive activities, and practicing new skills.

Most studies of CBT and its efficacy on persons with ASD use a traditional model of CBT but with some modification to address the idiosyncratic needs of persons with ASD (White, Ollendick, Scahill, Oswald, & Albano, 2009). All in all, the foundational methodology is based on traditional CBT and includes modifications such as visual aids, parental involvement, and increased structure within sessions.

**Research example demonstrating efficacy of CBT.** The following example is from a 2002 study by Bauminger. Fifteen persons with HFA between the ages of 8.08 and 17.33 years were chosen for a study of CBT’s influence on social skills. The mean Intelligence Quotient (IQ) according to the Wechsler Intelligence Scale for Children (WISC-R) was 81.36. CBT was implemented by the general education teacher along with the children’s parents. The Individualized Education Plan (IEP) for each child required the intervention to be implemented three hours per week over seven months. In addition to this hourly requirement, each child was required to meet with a typically developing peer once a day after school and during one school recess each week.
Assessment of positive social growth was formally based on the Problem-Solving Measure by Lochman and Lampron (PSM), which measures social cognition. Results indicated that performance before and after the seven month intervention showed that the children could offer “more relevant solutions” and suggested fewer “nonsocial solutions” (Bauminger, 2002, p. 291). Furthermore, an emotional inventory was used to measure emotional understanding of four simple emotions (happy, sad, afraid, and angry) and six complex emotions (pride, embarrassment, loneliness, guilt, affection, and jealousy). Each child defined the emotion then explained a time when he or she felt that emotion in the past. Only 60% of children could provide an example of the four simple emotions before the intervention, but 100% of children could fully complete the task at the end of the intervention. Additionally, only 27% of children could provide an example of five out of the six complex emotions, but 53% of the children could provide examples of all six by the end of the study.

Overall results show positive social growth in all three areas of the intervention: social problem solving, emotional understanding, and social interaction. In addition, participants of the study showed increased eye contact with others and spoke more of others’ interests than before; this growth was in addition to decreased repetitive and ritualistic inappropriate social behaviors. Bauminger (2002) concluded the study by stating, “These findings highlight that emotions can be taught and that social understanding can be improved as an outcome of training” (p. 293).

**General benefits of CBT.** Perhaps the greatest benefit of CBT is the hope that learning can exceed the specific cases given and can become a global social competence.
The participants provided more specific and personal examples when asked about the 10 emotions; this suggests that participants developed a greater awareness of their own emotional states. Moreover, many of the participants would describe situations in relation to the listener as opposed to merely talking out loud which suggests their greater awareness of other people. Perhaps most importantly, teacher reports show that participants of the study improved social skills with other peers aside from the ones that were assigned to them which, again, suggests significant global social competence (Bauminger, 2002).

**General challenges of CBT.** While the benefits of CBT as seen from this study seem tremendous, it is critical to emphasize that this study had no control group. In fact, probably the most evident challenge of CBT as a social skills training tool is the lack of research present regarding its efficacy with persons with ASD. Although the use of CBT as a treatment method for adolescents with AS/HFA has grown in recent years, only a “handful of studies” have actually examined the efficacy of its treatment (White et al., 2009, p. 1653).

Lastly, regarding typical education institutions, a real challenge of choosing CBT as a social skills training tool is the formal training needed to implement it. Even most School Psychologists would need additional training to implement CBT with adolescents with AS/HFA.

**Overall summary of CBT.** The lack of research regarding CBT make it an uncertain option regarding social skills training for adolescents with AS/HFA. Moreover, CBT requires highly qualified personnel to implement it which may be far from practical
in typical school settings. However, from the review of the literature, it seems to be the only methodology that seems to emphasize the generalization of skills rather than the teaching of specific behaviors in specific situations. The authors of this literature believe this is the ultimate goal of any social skills training methodology which is why CBT has still been included as a methodology to consider despite numerous challenges.

**Virtual Environments (VE’s)**

**Definition and typical implementation of VE’s.** Virtual Environments (VE’s) are typically visual, interactive, three-dimensional, computer-generated settings which allow users to perceive themselves as within a specific setting. Implementation usually consists of a computer, a mouse, and a joystick if navigation through spaces is one of the tasks (Parsons, Leonard, & Mitchell, 2006). The computer screen displays computer-generated humans within a setting and text boxes; each experience lasts about 20 - 30 minutes. Typically, the user will start at an easy level and, depending on progress, literally move to more difficult levels that contain advanced social decisions. Ideally, all sessions are navigated with supervision so that in addition to the positive computer-generated feedback such as “well done,” users can discuss their progress and challenges (Parsons et al., 2006).

**Research example demonstrating efficacy of VE’s.** The following research example is based on the 2006 study by Parsons et al. John and Mike, ages 14.0 and 17.7, are two adolescents chosen for a study regarding the efficacy of VE’s. Both participants were studied regarding their knowledge of appropriate behavior in a bus and a café. Data on their answers and choices were gathered immediately before the VE intervention and
three months afterwards. Realistic situations were created such as what to do when all seats are taken on the bus except for one seat that is being occupied by a purse. The number of difficult social situations increased as John and Mike progressed levels, just as one does in a video game.

Both John and Mike displayed understanding of new social rules learned from the VE’s immediately after exposure to one VE session as well as three-months afterwards. Moreover, in the case of John, application of social rules from the VE bus scenario to the London Underground showed promise of generalization which is typically thought of as a rarity (Parsons et al., 2006).

**General benefits of VE’s.** VE’s closely resemble video games; thus, it is the belief that VE’s are enjoyable for most users. Additionally, since VE’s are typically implemented via short sessions, they can easily become a daily routine of adolescents with AS/HFA. Moreover, perhaps the greatest justification of VE’s is the opportunity for repeated practice of social skills in a controlled and safe environment.

Many promising aspects arise due to the nature of computer-based learning. A study of 14 typically developing adolescents and 10 children with ASD demonstrated that there seems to be no difference between how adolescents with ASD and those without perceive the realities of VE’s (Wallace et al., 2010). In other words, although persons with ASD are known to have difficulty with imagination, both groups claimed to imagine themselves equally as well within the virtual reality.

Finally, studies show that practice with VE’s may not lead to perfect but at least to improvement. A 2001 study by Silver and Oakes (2001) researched 22 adolescents
with AS separated into an experimental group and a control group. In just two weeks of 10 half-hour sessions of VE’s, the experimental group made more gains compared to the control group on all measures accounted for.

**General challenges of VE’s.** Nevertheless, there are challenges that come with the use of VE’s. Unless the VE is specifically programmed with extensive “tricky” situations, the teaching of the social skills can be quite limited. Furthermore, due to the non-social nature of persons with ASD, users might become overly reliant on VE’s instead of attempting to learn skills through real world situations (Parsons et al., 2006).

**Overall summary of VE’s.** Due to the practical nature of VE’s, this methodology seems to be a safe way for adolescents with AS/HFA to repeatedly practice specific social skills. Given that, VE’s need to be programmed to address the wide range of social scenarios that may occur even in just one setting.

**Overall Summary of Options for How to Teach Social Skills**

The method of teaching social skills to adolescents with AS/HFA ultimately needs to address how to read social cues in different situations, expand behavioral options in different situations, and expand knowledge of social and cultural norms (Bauminger, 2002). In other words, the best teaching methodologies of social skills will include how to read others and respond appropriately.

Moreover, a teaching method is only effective if it aligns with motivations from the participant. In other words, if a participant dislikes video games but loves reading, then it would be logical to choose social stories instead of VE’s. Furthermore, a review of the literature shows that social stories and VE’s seem to be more “products” to
purchase while social groups and CBT seem to be more “processes” to adapt. To obtain balance, it may be beneficial to choose a combination of product and process rather than two products or two processes. This would be in the best interest of both time and financial resources.

In conclusion, best current practice for selecting a social skills training methodology for adolescents with AS/HFA seems to simply be choosing a methodology that matches the idiosyncrasies of the presented individual or group.

At What Age Should Social Skills Training Be Implemented

As can be seen from the lack of research on almost all of the social skills training methodologies, there are many variables that are missing regarding best practice. One of these missing variables is the ideal age to offer adolescents with AS/HFA social skills training. An obvious answer would be for the entire duration of school, but this is often logistically impossible especially if resources are sparse.

A review of the literature revealed one study that specifically included age as a variable. The aforementioned social group 2007 study by Tse et al. studied the 46 adolescents with AS/HFA based on whether there was a difference in social change based on age. Results showed that there was no statistically significant difference between participants ages 14 and under and participants ages 15 and over. Therefore, this suggests that as long as social skills training is offered during some time of adolescence, social change is feasible and plausible.
Where Should Social Skills Training Be Taught

Social stories research shows that integrated environments are more conducive to acquire social skills than segregated environments (Rust & Smith, 2006). This is supported by a 2010 meta-analysis of social stories that found improvements when the methodology was used within the general education setting (Kokina & Kern, 2010). Furthermore, in the aforementioned research example of CBT, 14 out of the 15 participants who demonstrated positive social change were fully included in regular education for at least one year before the study (Bauminger, 2002).

It is important to note that while the focus of this literature review is social skills improvement, a sub goal is also peer relationships improvement. A peer relationship study found that “whether or not the individual is or was educated in an inclusive setting (i.e., with children who did not have disabilities) was unrelated to having peer relationships” (Orsmond et al., 2004, p. 253). In other words, friendships of adolescents with AS/HFA are predicted by the adolescents’ social functioning and not by environment. It needs to be emphasized that this study focused on peer relationships and not social skills trainings.

These findings are further supported by a 2010 study by Locke et al. The study was based on a general education drama class that contained both typically developing (TD) adolescents and adolescents with ASD. Results showed that the adolescents with ASD had no significant connections with TD peers and were, instead, forming two outside groups. Moreover, one adolescent with ASD indicated having no friendships in the general education drama class at all.
This study suggests that if full inclusion is implemented with adolescents with AS/HFA, there needs to be substantial and perhaps legal effort (denoted by an IEP) to ensure that these adolescents become socially connected and integrated within the classroom. In other words, school staff cannot expect adolescents with AS/HFA to naturally make quality friendships within general education settings; this is a goal that needs professional intervention, guidance, and even supervision.

**Why Implementation and Further Research is Necessary**

**The Stage of Adolescence Poses Possibility of Isolation and Bullying**

The stage of adolescence has “shown to place these children at higher risk for experiencing loneliness and depression due to their greater awareness of their own social difficulties” (Bauminger, 2002, p. 294). Isolation becomes more prevalent during adolescence due to the transition from being in one classroom with one set of classmates and one teacher to having numerous classrooms, numerous classmates, and numerous teachers (Locke et al., 2010). In other words, the social world of adolescence becomes less controllable and more complex.

On the other hand, research shows that the threat of loneliness may serve as a unique impetus for social growth. This is based on a study that found that “loneliness is a powerful motivating factor for neurotypical children to initiate or to take part in social relationships and interactions with peers. Perhaps this holds true for individuals with ASD as well” (Locke et al., 2010, p. 74). This is supported by the 2004 study by Ormond et al. that surprisingly found that participants who were initially most withdrawn had the largest increase in participation in social activities during the study.
Nonetheless, despite what social opportunities may arise from the state of isolation, opportunities for bullying arise as well. Research shows that adolescents with quality friendships are less likely to be bullied than those without. Research also shows that most friendships amongst adolescents with ASD are of lower quality, are strained, and are sometimes not even reciprocated. Therefore, research demonstrates the need for social skills training for adolescents with AS/HFA to prevent isolation which would, more often than not, prevent bullying (Locke et al., 2010).

**An Increase in Comorbidity of Depression, Anxiety, and ASD**

Seven adolescents with ASD and 13 TD adolescents were part of a study that researched loneliness and friendship (Locke et al., 2010). Participants were given the 24-item Loneliness Scale that assessed loneliness and social dissatisfaction. Participants were also given the 23-item Friendship Qualities Scale that assessed companionship, help, security, closeness, and conflict. Finally, the Friendship Survey was given to the participants to identify who they did and did not enjoy being with. Participants were then given a list of classmates and asked to place a star by the name of their best friend.

All seven adolescents with ASD had best friends with ASD. The seven adolescents with ASD had 24 friendships in total; only 2 of those 24 friendships were with TD adolescents. The Loneliness Scale evidenced that the adolescents with ASD felt lonelier than the TD adolescents. It is important to note that data from a 2004 study by Ormond et al. indicates that this loneliness remains even after the stage of adolescence and well into adulthood unless intervention takes place.
Persons with ASD are “caught in a vicious circle of social isolation” (Bauminger, 2002, p. 283). One study found that pre-adolescents and children with autism and normal intelligence reported “greater loneliness and less satisfaction with their friendships when compared with their typically developing peers” (Locke et al., 2010, p. 74). Another 2010 study compared the Behavior Assessment System for Children (BASC-2) scores of 62 adolescents with HFA to 62 adolescents without ASD (Volker, Lopata, Smerbeck, Knoll, Thomeer, Toomey, & Rodgers, 2010). Data showed that adolescents with HFA had significantly higher scores on all scales. Moreover, the average scores for the adolescents with HFA group fell in the Clinically Significant range for Withdrawal and the At-Risk range for Depression.

Another study demonstrated that when adolescents are admitted into clinical treatment centers, anxiety is one of the most common reasons for referral (White et al., 2009). Recent statistics indicate that 11-84% of children and adolescents with ASD experience impairing anxiety. This is intensified by certain types of anxiety that emerge during adolescence such as social and self-evaluative anxiety.

The Need for Social Skills Training as Evidenced by a Lack of Research

Until recently, there has not been a difference in social skills interventions given to persons with moderate to severe autism and those with AS/HFA (Bauminger, 2002). Moreover, most studies to date focus only on simple emotions as opposed to complex emotions that those with normal intelligence could possibly understand. Furthermore, despite numerous studies on friendship quality, there are a limited number of studies that include persons with ASD (Locke et al., 2010). Therefore, it is the hope of the authors
that this literature review demonstrates the need for further work to be done regarding social skills training both within the realm of research and real-world settings.

**The Need for Social Skills Training as Evidenced By Anecdotal Statements**

Perhaps the greatest piece of evidence that validates the need for social skills training is from the viewpoints of those who would benefit the most. A 15-year-old female with ASD informed the Nottingham Evening Post regarding VE’s, “I think it’s brilliant. I really enjoy doing it and it may help me in the future because sometimes I have done the wrong thing” (Parsons et al., 2006, p. 188). One father of a child who received CBT stated, “I think that the most powerful contribution of this intervention is the growth in my child’s self-confidence. He is much less afraid of being actively involved with peers now” (Bauminger, 2002, p. 295). Finally, regarding the aforementioned VE study with John and Mike, John was asked how he felt after he implemented what he learned from the VE’s in a real world situation. John replied, “Quite proud!” (Parsons et al., 2006, p. 195).

**High but Realistic Hopes**

In the aforementioned research example of social groups, it should be emphasized that the post-treatment total score on the Social Responsiveness Scale (SRS) was still within the expected range for adolescents with ASD. This data is used as the closing of this literature review to make an important point: adolescents with AS/HFA will always struggle with social skills.
That being said, growth in terms of social skills can happen. It is simply a matter of becoming educated as to what to teach and how to teach. The following workshop addresses both of these issues.
Chapter 3

METHODOLOGY

The following workshop was created via collaboration of two school psychology graduate students enrolled at the California State University, Sacramento (CSUS). The topic chosen was a result of participation in graduate courses primarily offered through the CSUS’ Department of Special Education, Rehabilitation, School Psychology, and Deaf Studies between Fall 2008 and Spring 2011 semesters. Additionally, shadowing experiences and fieldwork gained in local school districts also influenced the topic selection. In the end, a need for further research regarding social skills training for students with ASD emerged which, subsequently, formed the underlying foundation of the presented topic.

In September 2010, further refining of the workshop topic occurred during CSUS’ graduate course EDS 239 Education Specialist Seminar taught by Melissa Holland, Ph.D. Dr. Holland fined tuned the workshop topic during class meetings and via e-mail. Between October and November 2010, information presented in the workshop was gathered via a research review of journal articles and published books. Journals primarily focused on ASD and general child psychology (i.e., Autism, Journal of Child Psychology and Psychiatry, etc.) were the types of sources used. Moreover, professional databases such as SpringerLink were used to access these journal articles. All in all, social skills training for persons with AS/HFA was the primary subject researched, and information was later funneled down to only include literature primarily focused on adolescents with AS/HFA.
By November 2010, a draft of the literature review was examined by two fellow classmates and suggestions were made. In December 2010, a 30-minute preview of what would become the final workshop was given to all participants of EDS 239. This presentation helped the authors grasp what seemed to be most relevant for a workshop targeted towards educators. It was also during this time that Dr. Holland reviewed and edited the literature review. This review and edit occurred once again during CSUS’ graduate course EDS 542 Education Specialist Project taught by Stephen Brock, Ph.D.

It was during EDS 542 that the information found in the final literature review was used to create a workshop PowerPoint presentation along with presenter notes and activities which can be found in the addendum. It was also during this time that Chapters 1, 3, and 4 were written and given to Dr. Brock for review and edit suggestions. The final result is described in detail in Chapter 4.
Chapter 4
RESULTS

The result of the aforementioned methodology is a workshop designed to help educators understand some of the best practices of social skills training for adolescents with AS/HFA. The workshop consists of a PowerPoint presentation; this presentation is in the format of slides with correlating presenter notes and related activities scattered throughout. The slides take around three hours to present and also include an additional two hours worth of activities. Four handouts accompany the PowerPoint presentation either as aides for the included activities or tools for disseminating further information. All in all, the workshop is meant to either be presented over the span of one full school day or broken up into two shorter presentations. The workshop can easily be divided by stopping the first presentation after the second break which is after Group Activity #2. Although this workshop was originally intended to be presented by any school psychologist, it essentially can be presented by any educator. That being said, it is important that both the presenter and the attendees of the workshop have some sort of background knowledge of ASD.

Workshop Summary

The overall scope of the workshop includes three broad topics: what to teach, how to teach, and why to teach social skills to adolescents with AS/HFA. The first portion of the workshop consists primarily of the “what.” This includes topics such as puberty, dating, hygiene, etc. The second portion of the workshop focuses primarily on the “how.” This includes processes that can be implemented such as social groups and
purchasable products such as social stories. The third and last portion of the workshop concludes with the “why.” This includes some data on bullying, depression, and anxiety but, more importantly, also gives insight as to what receivers of social skills training think and experience.

**Recommendations**

It is the authors’ recommendation that the presenters of the workshop read or, at the very least, skim Chapter 2 for it will help give additional background information for the topics presented. Moreover, it is important to note that this workshop is not to be used as an actual social skills training for adolescents with AS/HFA since that is far beyond the scope of its intention. In fact, it is crucial for the presenter to remind attendees of the workshop’s primary goal: to inform educators as to the best practices of social skills training for adolescents with AS/HFA.
APPENDIX A

Presenter’s Manual
Social Skills Training for Adolescents with Asperger’s Syndrome and High-Functioning Autism Presenter’s Manual

Introduction

There is a limited amount of resources available to assist educators in providing effective and appropriate social skills training for adolescents with Asperger’s syndrome and high-functioning autism (AS/HFA). This manual and accompanying PowerPoint presentation are designed to assist educators in creating a social skills training program that meets their students’ needs. Topics covered include: suggested social skill topics to address, a variety of different methods of implementing social skills training, as well as the reasoning behind the need for social skill training for adolescents with AS/HFA. The information included in this manual and PowerPoint presentation is based on a literature review performed between August and December 2010.

Nature of the Presentation

The presentation included in this project is designed for an audience of educators. Educators that may benefit from information provided include: administrators, general and special education teachers, school psychologists, and school counselors.

The workshop is designed to last approximately four hours with two 15 – 20 minute breaks. Audience participation is incorporated throughout the presentation. Presenters need to implement appropriate presentation techniques such as pausing for questions, validating audience input, and practicing active listening to workshop participants.

In preparation for the workshop the presenter(s) should make enough available copies of the handouts, which are included directly following this manual. It is also essential that the presenter read over the slides and accompanying literature review.

Guidance for Presenters

The workshop is organized as a series of PowerPoint slides with 4 accompanying handouts for activities or supplemental information. The slides have all the information necessary for presenting the workshop. Within the notes section of each slide, there is sample language. Throughout the slide notes, there are prefaced words to provide guidance on what the presenter needs to be doing. Questions have a bold prefaced ASK and suggested script or language is prefaced with the bolded words SAY or READ. Although the presenter(s) may add or change any of the sample language, the script is there to explain and discuss the purpose of each slide.

The workshop is designed to include audience participation and discussion. Questions and activities are embedded throughout the slide notes. Some slides will use the animation feature of Microsoft PowerPoint. On some of the slides information will emerge after a click of the computer mouse or presentation clicker.
The presentation can be performed with one or multiple presenters. If there are two or more presenters, the presenters can choose how they would like to split up the presentation. No matter how many presenters there are, each individual should take time to introduce himself or herself in the beginning of the presentation.

A recommended timeline for the workshop is as follows:

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**About the Authors**

Noelle Law and Leslie Sachs are school psychologist interns who will soon be Nationally Certified School Psychologists. Both authors completed their Masters and Education Specialist degrees at California State University, Sacramento. This workshop was completed to satisfy part of the requirements for their Education Specialist degrees. Noelle Law is a school psychologist intern for the San Juan School District in Sacramento, California. Leslie Sachs is a school psychologist intern for North Thurston Public Schools in Lacey, Washington.
Activity # 1: Brainstorm Social Skill Needs

Directions: Take 10-15 minutes to discuss with your table group what types of social situations, interactions, and topics you think would be important to address for adolescents with Asperger’s Syndrome and high-functioning autism.

Activity # 2: Group Students and Plan Social Skill Topics

| Students: | Social Skill Topics: |
Methods to place students in a training group or to aide in selecting a social skills curriculum.

Rating Scales:

Two screening methods that can be used to determine what the social needs are for adolescents with AS/HFA is the Social Skills Rating System (SSRS) or the recently released Social Skills Improvement System (SSiS). These tools are commonly used to measure social skills and identify behavioral areas that may need intervention for individuals age 3 to 18. In a previous study, the SSRS was used to determine the needs of individuals with AS/HFA before beginning a social skills training program as well as after the study to measure improvements.

- **Social Skills Rating System (SSRS)**

  - The Social Skills Rating System allows you to obtain a more complete picture of social behaviors from teachers, parents, and even students themselves. Evaluate a broad range of socially validated behaviors - behaviors that affect teacher-student relationships, peer acceptance, academic performance, and more.

- **Social Skills Improvement System (SSiS) recently released and revised SSRS**

  - The SSIS screening system fills the need for a time-efficient, technically sound tool for class wide screening of key social, motivational, and academic skills. For use with students in preschool through high school, this universal screening instrument helps assess and document the performance level of all students, not just those in greatest need of intervention.

- **High-Functioning Autism Spectrum Questionnaire (ASSQ)**

  - The High-Functioning Autism Spectrum Screening Questionnaire (ASSQ) is a 27-item checklist for completion by parents or teachers when assessing symptoms characteristic of Asperger syndrome and other high-functioning autism spectrum disorders in children and adolescents with normal intelligence or mild mental retardation.
Activity # 3: Creation of Social Story

Directions:

1. Option to work individually or in groups.
2. Grab a pen and take as much paper as you want.
3. Spend 2 minutes choosing a specific social skill you’d like to focus on.
4. Spend 1 minute choosing what general age group you’d like to focus on.
5. Spend 2 minutes figuring out the general “when, how, and why” of the behavior.
6. Spend 5 minutes drafting on a piece of scratch paper the perspective, directive, affirmative, and descriptive sentences.
7. Spend 5 minutes writing the final sentences on one piece or several pieces of paper.
8. Spend 5 minutes drawing stick figure drawings for each page you have (just stick figures!)
9. Get ready to quickly show off your first social story creation!

Four types of sentences: Perspective, directive, affirmative, descriptive. Ratio of sentences can be up to you.

Focus on:

1. When to do a behavior
2. How to do a behavior
3. Why to do a behavior
Activity # 4: Brainstorm Social Group Ideas

Directions:

1. Break up into groups of 3.

2. Appoint a time keeper, a recorder, and a presenter.

3. Discuss for 7 minutes other field trip options.

4. Each group presents their ideas for 3 minutes while an electronic list is being created.

5. Spend the same amount of time (7 minutes brainstorming and 3 minutes presenting) for other options for celebrations and keeping in touch.

Examples:

- Field trips (restaurant, library)
- Final session celebrations (pizza party, picture collage party)
- Ways to keep in touch (alumni parties, mentorships)

Please note that the final list of ideas will be e-mailed to all presentation attendees to be used as a resource for future social groups.
APPENDIX B

Slides for Workshop Presentation
Welcome all workshop attendants:

Have each presenter introduce themselves: Name, title, # of years working in education. The introduction should also include what your role working with individuals with autism and Aspergers is and has been in the past as well as what your interest in the topic is and why. Presenters should take up to 3 minutes to introduce themselves.

-If the group is approximately 10-15 people, take time to have workshop attendants introduce themselves and share their title and job role.

-If the group is larger than 15 people, engage with the audience by asking questions such as:

**ASK:** By a show of hands…

1. How many of you are Special Education Teachers?

2. How many of you are General Education Teachers?

3. How many are School Psychologists? Speech and Language Pathologists? Other Educational Professionals?

4. Additionally, how many of you have worked with individuals with autism? Aspergers? High-functioning autism? How many of you have worked adolescents with Aspergers or high-functioning autism?
5. Finally, how many of you think that there is a need to address social skill acquisition for individuals, especially adolescents with Aspergers or high-functioning autism?

-Transition into Introduction to Presentation-  *The following is sample language that could be used:*

**SAY:** Many of you raised your hands to several on several of the questions just asked. This means that this workshop will likely give you some information and ideas on how to form and present social skills to the adolescent age students you work with that have Asperger’s or high-functioning autism, which are abbreviated as AS and HFA through out the presentation.

**SAY:** We would also like to let you know ahead of time that this presentation will last approximately 4 hours long and we will have a couple 15 - 20minute breaks.
Sample Introduction Language:

**SAY:** We will start by reviewing the goals of this workshop, which include: the what, the how, and the why in relation to providing social skills training to adolescents with AS/HFA.

- We will also cover the purpose statement that supports our goals and reason for wanting to present and spread information about this topic.

- Followed by an introduction to cover background information and provide you with the general definitions of both Aspergers and high-functioning autism to give you reference for the type of individuals this workshop is focused on.
Sample Introduction Language:

**SAY:** Next we will talk about the what? which will cover what the social skill deficits are for adolescents with AS/HFA as well as their social needs and what topics are important to cover.
Sample Introduction Language:

**SAY:** After we cover the What? We will cover a variety of options for presenting social skill groups, analyze a comparison of the methods, and go over screening and placement procedures.
Sample Introduction Language:

SAY: Finally, we will conclude with some compelling reasons as to why there is a need for social skill training based on improved outcomes for adolescents and adults who have received social skill training as well as examples of studies that included individuals who have and haven’t received social skill intervention.
Sample Presentation Language:

**SAY:** As mentioned earlier, the what, the how, and the why are the general goals of this workshop and make up the framework for how this presentation is organized.

- The what will cover several topics related to what the social skills needs are for adolescents with AS/HFA and what topics are important to cover.

- The How includes several different methods and approaches for addressing social skill needs as well as methods that can be used to identify the social needs of adolescents.

- And finally, the why which covers why there is a need to address and continue to research the social skills for adolescents with AS/HFA.
Sample Presentation Language:

**SAY:** The initial purpose for creating this workshop is because there seems to be a lack of research, information, and presentation methods available to provide adolescents diagnosed with Aspergers and high-functioning autism with appropriate social skill interventions.

**ASK:** By a show of hands, how many of you believe that the students you work with have the social skills needed to appropriately and successfully move on to adulthood as they transition out of the educational system?

**Respond accordingly if there is a large or small show of hands...**

*If there is a large show of hands* **SAY:** It’s great to see so many of you out there who are likely working very closely with the adolescents to provide them the skills to be successful after transition. Hopefully today with can provide you with a few more ideas to keep doing so.

*If there is a small show of hands* **SAY:** It is not surprisingly to see a small number of you raise your hands. The topic of addressing social skill needs for adolescents with AS/HFA isn’t a new topic, however it is becoming one that is more relevant to education and how we can help these individuals be successful adults.

**SAY:** Recent research suggests that…

**READ:** first slide bullet.
SAY: As we just mentioned, the skill training that is necessary is the educational systems responsibility so it is up to us as educators to help implement a program or method in order to address these increasing needs.

Click for next bullet.

READ: The second bullet…

SAY: Which is exactly the purpose of this workshop. To provide you the educators with the knowledge about what the important skills to cover are and options on how to approach covering various social skills.
INTRODUCTION:

Background:
- In recent years there has been a lot of attention and research dedicated to Autism Awareness and intervention (Lord and Bishop, 2010).
- There has also been a focus on the specific needs of individuals with Asperger’s and High-Functioning Autism (Koyama, Tsuchimori, Osada, Takeda, and Kurita, 2007).
- It wasn’t until recently that concern was raised regarding how the specific needs of adolescents diagnosed with AS/HFA can be met.

SAY: I think it is fair to say that in recent years there has been a lot of focus on autism awareness and intervention.

-We see this mostly as early intervention in preschool services and in the elementary years of school.

Click for next bullet.

SAY: Additionally there has been a specific focus on the needs of individuals with Asperger’s and HFA as compared to individuals with the more classic forms of autism.

-This is because the needs of individuals with AS/HFA are significantly different than those of individuals diagnosed with other forms of Autistic Spectrum Disorder.

Click for next bullet.

READ: Third bullet.

SAY: This is primarily because there are significantly different social needs than those of elementary age children with AS/HFA.
KEY DEFICITS IN INDIVIDUALS WITH AS/HFA

- In comparison to the general characteristics and deficits of individuals diagnosed with Autistic Spectrum Disorder, the prominent areas of concern for individuals with AS/HFA include:
  - Social Interaction
  - Poor Communication

(Ozonoiff, Dawson, and McFurtland, 2002).

ASK: Does anyone think they can identify what the two main social skills deficits are for individuals with AS/HFA versus those that are deficits for individuals with autism?

Wait for people to respond and call on individuals for their responses. After given participants time to brainstorm their own deficits…

READ: First bullet

SAY: I think it is also fair to say that social interaction and peer communication are the two social skill areas that play an important role in adolescent success for any teenage individual.

- Adolescence is the time when the expectations set on social situations and peer relationships are of the highest importance making them even more difficult skills to combat for individuals with AS/HFA because they don’t even have the foundational social skills mastered, let alone the knowledge for understanding how to interact and communicate effectively with their same age teenage peers.

- Therefore, it becomes increasingly clear there is an obvious need to cover social skills for adolescents with AS/HFA.
Important considerations to keep in mind while we continue with this workshop today are the definitions of both Aspergers and high-functioning autism.

**SAY:** Important considerations to keep in mind while we continue with this workshop today are the definitions of both Aspergers and high-functioning autism.

**READ:** First bullet.

**SAY:** The most significant of these developmental milestones being the their successful development of language.

**READ:** Second bullet
It is very common for individuals diagnosed with HFA to display several of the key symptoms and characteristics of autism. Such as repetitive movements/rituals or a limited focus of interest for certain topics or objects.

Similarly to the Aspergers criteria, individuals with HFA often have IQ’s within the average range.

HFA is basically considered to be the “less impaired” version of Autism or as being on the less severe end of the spectrum.

As mentioned in the first bullet, individuals with HFA often have a specific area of interest or a topic that they prefer. These areas of interest often appear to be more adult like in nature or involve a topic that is complex or advanced such as the solar system or classical music composition.
SAY: Now we will cover the what as it is related to social skills for adolescents with AS/HFA.
DEFINITION OF SOCIAL SKILLS

- Social skills can be described as “being a multifaceted set of obvious and concealed behaviors, which optimize the likeliness of developing, maintaining, or improving social proficiency or status by supporting an ability to create positive interactions with others” (Bellini, 2006, p. 140).

**READ**: bullet.

**SAY**: While there are several skills within the spectrum of “social skills” that individuals with AS/HFA have difficulty with. It has been researched that the largest deficits can be classified into what is called the triad of impairments for individual with AS/HFA.

**ASK**: Does anyone think they know or can guess what the three largest deficits are which also are known as the triad of impairments.

*Give time for participants to respond and share their ideas…*
TRIAD OF SOCIAL SKILL DEFICITS

The triad of impairments refers to impairments in:
- social relationships
- social communication
- imagination

SAY: Looking at the image in the right hand corner, these deficits can be classified into social and emotional interaction which represents social relationship, social communication and language, as well imagination and flexibility of thought.
GENERAL SOCIAL SKILL DEFICITS IN ADOLESCENTS WITH AS/HFA

- Reciprocity
- Initiation of interactions
- Ability to infer the interests of others
- Maintenance of eye contact
- Ability to share enjoyment and empathy
- Decoding facial expressions

**READ:** each bullet in order and provide clarification if needed.

Example, **SAY:** Reciprocity is the back and forth conversational flow between two individuals as well as the ability to predict how one person’s behavior will affect the other in conversation and how to respond appropriately.
Additional social skills that are more in depth and related to social skill deficits for individuals with AS/HFA are theory of mind and social reciprocity. 

**Theory of Mind (ToM)** is the ability to understand and anticipate other people’s opinions or emotions based on external behavioral cues and circumstances (Baron-Cohen, 1995).

**Social Reciprocity** is described as the back-and-forth flow of social interaction or how the behavior of one person influences and is influenced by the behavior of another person and vice versa. As well as the mutual responsiveness in the context of interpersonal contact, such as awareness of and ability to respond appropriately to other people. (p. 161)

SAY: Additional social skills that are more in depth and related to social skill deficits for individuals with AS/HFA are theory of mind and social reciprocity.

READ: first bullet

SAY: One research study confirmed that individuals with AS/HFA who have normal to above normal IQ still displayed impairments on a subtle ToM test. Emphasizing that individuals such as those with AS/HFA who have stable IQ’s still don’t have the skills and abilities to anticipate the feeling of others based on specific situations or individuals outward reactions.

SAY: The other related skill deficit is referred to as social reciprocity.

READ: second bullet.

SAY: Because individuals with AS/HFA have difficulties predicting the behavior of others it is also difficult for them to participate in a conversation which requires them to understand and respond accordingly to the other person. They often have difficulties picking up on what the topic the other person is discussing, miss the cue and proceed to talk about a topic of their own interest.
ISSUES FOR ADOLESCENTS RELATED TO SOCIAL SKILL DEFICITS

- Three common issues in adolescents that are linked to deficits in social skills include:
  - Increased levels in:
    - Anxiety
    - Peer Bullying
    - Depression
- It is a well known fact that adolescence is a time when peer groups and relationships become increasingly important.
- The high levels of stress and anxiety individuals with AS/HFA develop related to social situations, defer them from seeking and creating meaningful social relationships.

READ: Title of slide

SAY: Keeping in mind the deficits and related deficits just mentioned now we will touch on some of the issues that arise during adolescence for individuals with AS/HFA because of their deficits in social skills.

READ: First bullet.

SAY: The biggest concern of these three being the development of anxiety and these are the negative outcomes we want to avoid.

READ: Second bullet.

SAY: However, while peer groups are increasingly important…

READ: Third bullet.

SAY: Knowing that adolescence is the most important time to develop peer relationships, we want to support teens with AS/HFA by helping them to build the skills to do so.
SOCIAL SKILL NEEDS OF ADOLESCENTS WITH AS/HFA

- Navigating adolescence for any teen is a challenge. It is a time when many changes occur including:
  - Physical
  - Psychological
  - Social Change

- Adolescents with AS/HFA are battling the same pubescent issues as all teenagers during these years. However, adolescents with AS/HFA have additional social skills deficits that make this time increasingly challenging and stressful.

(Patrick, 2008, p. 16).

SAY: Building on what was just mentioned, we will continue to cover some of the other challenges associated with adolescents that are increasingly difficult for adolescents with AS/HFA.

READ: First bullet and Second bullet.
GROUP ACTIVITY # 1

- Take 10-15 minutes to discuss with your table group/team what types of social situations, interactions, and topics you think would be important to address for adolescents with Aspergers and high-functioning autism.

- After completing the activity please take a 10 min break as well.

-Read activity directions to participants and inform them they can record their brainstorming ideas onto their handout in the designated box for the 1st activity.

-Depending on the time the presentation started and how long the introduction took, inform the participants how long the activity should occur and when they should return back from their break to continue the workshop presentation.
SAY: Now that you have had an opportunity to brainstorm some social skill topics and typical situations you think would be important to cover. We will go over what the main topics that are important to cover that have been identified through research.

The following slides will briefly touch on each of the social skill areas and topics we found relevant to cover based on the research we did for our lit review. This section covers the what to teach and address.

READ: Each of the bullets.

**SPECIFIC SOCIAL SKILL TOPICS RELEVANT TO ADOLESCENTS WITH AS/HFA**

- Typical Adolescent Social Situations
- Dating and Interacting with similar age peers of interest
- Understanding Physical Changes of the body
- Peer Problem Solving
- Appropriate Social and Behavioral Expectations at School
READ: Title of slide

SAY: These are the types of social situations that often provoke anxiety in any adolescent, however this anxiety is worsened in individuals with AS/HFA because they lack foundational social skills which makes facing these types of situations even more complicated.

Click for next slide.
**Typical Adolescent Social Situations**

- Social Situations that need to be covered for adolescents with AS/HFA include situations that are typical to all teens.
  - Handling peer pressure
  - Drug and Alcohol exploration
  - Dating
  - Pursuing a driving license and the responsibilities of driving
  - Decision making
  - Determining self identity

**READ:** First bullet and sub bullets.

**SAY:** It’s important to note that while most of these situations are not educationally relevant they make up the” hidden curriculum” that is important to cover for individuals with disabilities in general and especially individuals with autism for them to be successful individuals in life, which is part of our job as educators as well.
DATING AND INTERACTING WITH PEERS OF INTEREST

READ: Slide title.

Click for next slide.
**DATING AND INTERACTING WITH PEERS OF INTEREST**

- These social anxieties surrounding dating are inflated for adolescents with AS/HFA.
  - “Individuals with AS have the same interests and sexual needs as the general population; however, their mode of expression is different. Their communication difficulties add to the obstacles that they encounter when establishing interpersonal and sexual relationships” (Heron and Attwood, 2006, p 11).

- There is limited research addressing the need to explicitly cover issues related to dating and the sexuality of adolescents with AS/HFA.
  - However, these issues can have a negative impact on individuals education and therefore need to be covered in a structured and systematic way that is appropriate for the school setting.

**READ:** First bullet.

**SAY:** Again, we know how awkward teenagers are when they have crushes on each other, so imagine how awkward and difficult it is for an adolescent with AS/HFA who doesn’t have the tools to know how to approach someone their interested or they may not know how to express that they have feelings for another individual.

**READ:** Quote.

**Presentation option:** Depending on the presenters experience with adolescents with AS/HFA this would be an appropriate time for the presenters to share stories about students they have worked with who may have struggled with how to approach peers of interest or go about dating.

**ASK:** Does anyone have any stories they would like to share about some of the challenges students you have worked with have gone through in relation to dating and interacting with peers of interest?

**Give participants as much time as necessary to share about their personal stories then proceed to finish the slide.**

**READ:** Second bullet.

**SAY:** The fact that there is a limited research regarding individuals with AS/HFA and dating, is proof enough that it is an important area to address.
There are a lot of physical changes that the teenage body goes through during puberty that can be confusing. Pimples are just one of the side effects.

Click for next slide.
Looking back to the three main changes that occur in adolescent, which included physical, psychological, and social changes. Physical changes in the body also simultaneously occur when adolescents become interested in dating like we just talked about.

Click for next bullet

READ: Bullet and sub bullets.

SAY: It is easy to see how attempting to figure out and adjust to physical changes could be difficult while simultaneously trying to combat other adolescent challenges.
Peer problem solving is an important social skill area to cover for adolescents with AS/HFA because it is very common for them to have difficulties with this skill in elementary years and it becomes an increasingly difficult task in middle and high school.

Click for next slide.
**Peer Problem Solving**

- Tension and difficulties among peers can cause a host of negative emotions for adolescents.
- Embedded in the social skill of problem solving is the ability to appropriately handle anger and manage stress when confronted or interacting with others.
- Peer Problem Solving skills to cover:
  - A focus on self-awareness of feelings
  - Promote self-calming techniques
  - Anger and frustration control
  - Stress management

**READ:** First bullet.

**Click** for second bullet.

**SAY:** While, there is no research documenting that individuals with AS/HFA are inherently angry. There is research documenting that their inability to accurately communicate their needs and emotions can cause them to become frustrated or irritated.

**ASK:** How many of you have examples to share of times when your students have had difficulties problem solving with peers, getting inappropriately mad or frustrated, or have not been able to deescalate themselves after a misunderstanding with a peer.

**Give time for participants to share their stories and have a discussion.**

**READ:** Third bullet.

**SAY:** Since we are trying to prevent the development of anxiety, bullying, and depression in adolescents with AS/HFA we need to try and counteract these types of emotional outcomes.
SAY: I believe the last topic and the stories that were shared also leads us into our final social skill topic.

READ: Slide title.
APPROPRIATE SOCIAL AND BEHAVIORAL EXPECTATIONS AT SCHOOL

- At the same time adolescents with AS/HFA are going through emotional, physical, and social change, they are also expected to go to school, follow the rules, and get passing grades.

- Expectations to cover for school success include:
  - Understanding the use of informal greetings.
  - Realizing the significance of paying attention in class.
  - Learning how to ask for help when needed.
  - Understanding the importance of completing work and assignments.
  - Instruction how to use organizational skills and being prepared for class.

**READ:** First bullet.

**SAY:** So even though they have all these other issues flooding their minds like, am I going to fit in, or does that girl like me, they still have challenges understanding how the school environment operates and how to effectively communicate with school staff and appropriately communicate with their same age peers within the academic setting.

**READ:** Second bullet and sub bullets.
GROUP ACTIVITY #2

- Take 20-30 minutes to plan with your table group/team what students you might plan on serving and what topics you think would be the most appropriate to cover for the group of students identified.
  - Questions to keep in mind:
    - How many students?
    - How many groups?
- After completing the activity please take a 10 min break as well.

-Read activity directions to participants and inform them they can record their brainstorming ideas onto their handout in the designated box for the 2nd activity.

- Depending on the time, inform the participants how long the activity should occur and when they should return back from their break to continue the workshop presentation.
Welcome back. So, we just covered what to teach. The question is now, “How do we teach it?”

Does anyone have any ideas? Or, has anyone heard about social skills training methods for adolescents with AS/HFA?

Respond accordingly if there is a large or small number of responses...

If there is a large response SAY: That is wonderful. I hope that the following slides will further grow your knowledge base of social skills training tools for adolescents with AS/HFA.

If there is a small response SAY: Specific social skills training for adolescents is something that we all could use further training on. So, I hope the following slides will help provide you with a foundation of information regarding social skills training tools that are appropriate for school settings.
FOUR METHODS MOST RELEVANT TO SCHOOL PSYCHOLOGISTS

1. Social stories
2. Social groups
3. Cognitive behavioral therapy (CBT)
4. Virtual environments (VE’s)

What will be covered:
1. Definition
2. Research
3. Benefits
4. Challenges

SAY: There are many ways to teach social skills. However, the four methods that seem to be most appropriate for school environments are:

1. Social stories
2. Social groups
3. Cognitive behavioral therapy (CBT)
4. Virtual environments (VE’s).

-I’ll spend about 20 minutes on each methodology and will specifically cover:

1. Typical definition and implementation of the methodology
2. A research example
3. General benefits
4. And, general challenges

-By the end of this presentation, my hope is for two things to happen:

1. That all of you will soon understand what each of these methods looks like, and
2. You’ll be able to start to figure out which method or which combination of methods is most appropriate for adolescents with AS/HFA at your school.

-It’s important to remember that it’s beyond the scope of this presentation to identify which methodology is “best”; research still hasn’t figured that out yet. Instead, my hope is that you will become an informed consumer of these methodologies that seem to be most appropriate for school settings.

-Let’s get started.
1. SOCIAL STORIES

SAY: Let’s start with the social story methodology.

ASK: With a quick show of hands, how many of you are familiar with social stories?

Respond accordingly if there is a large or small show of hands...

If there is a large show of hands SAY: It doesn’t surprise me that many of you know about social stories. You’ll soon see that they’ve been around for quite a while. I hope the next few slides will help give you a better sense of what social stories are and how you can even try to create one yourself.

If there is a small show of hands SAY: Well, I hope the next few slides will help give you a glimpse of what social stories are and how you can even try to create one yourself.
Social stories were created in 1993 by Carol Gray (Rust & Smith, 2006). They have been around for a relatively long time, which may be one of the reasons why they are so popular.

They also seem to be popular because they are pretty easy to understand and give. They are, simply put, short stories that describe a social skill. And, the focus of these stories seems to cover all the bases: teach what to do in a given situation, when to do it, how to do it, and, most importantly, why to do it.

It used to be that only one sentence could be on one page, but now paragraphs are placed on one page. And, of course, with technology, these paper social stories have now transformed to stories shown on a computer screen.
SAY: There has been one last change that I want to pay special attention to, and this has to deal with what is exactly written in these magical social stories.

- Each social story typically contains four types of sentences: perspective, directive, affirmative, and descriptive. Perspective statements inform the reader of what someone within the story may be thinking such as, “I get mad when people talk when I am talking” (Scattone, Wilczynski, Edwards, & Rabian, 2002).

ASK: Can anyone give me another example of a perspective statement?

*If statement is correct, presenter affirms. If statement is incorrect, presenter SAYS:* That is close, but that is actually an example of a ____ statement. Presenter then gives a correct example.

SAY: Directive statements suggest an appropriate behavior to the situation such as, “I will wait for other people to stop talking. Then I can talk” (Rust & Smith, 2006).

ASK: Can anyone give me another example of a directive statement?

*If statement is correct, presenter affirms. If statement is incorrect, presenter SAYS:* That is close, but that is actually an example of a ____ statement. Presenter then gives a correct example.

SAY: Directive statements are usually followed by affirmative statements that reassure the reader of the reason behind the behavior such as, “This is the right thing to do.”

ASK: Can anyone give me another example of an affirmative statement?
If statement is correct, presenter affirms. If statement is incorrect, presenter SAYS: That is close, but that is actually an example of a ____ statement. Presenter then gives a correct example.

SAY: The descriptive statement which is the only sentence that is “required” contains the facts of the situation presented (i.e., who, what, and where) such as, “Bob is talking in the hallway” (Rust & Smith, 2006, p. 126)

ASK: Can anyone give me another example of a descriptive statement?

If statement is correct, presenter affirms. If statement is incorrect, presenter SAYS: That is close, but that is actually an example of a ____ statement. Presenter then gives a correct example.

SAY: Lastly, Gray specified a ratio of two to five descriptive, perspective, and/or affirmative statements for every directive statement (Scattone et al., 2002). This is where things have changed a little bit. A 2010 meta-analysis showed that Gray’s initial ratio of statements might actually be less than ideal. It was found that more success came from social stories that had more directive than descriptive sentences (Kokina & Kern, 2010).

-So, the question all of you should now be thinking is, “Does it work? Do social stories actually work?”
SOCIAL STORIES (RESEARCH CASE)

- Bob (Scattone et al., 2002).
- 15-year-old male
- Inappropriately stares at females
- Reads social story one hour before recess every day

**SAY:** Well, according to Scattone et al. and many others, yes.

-The following research example is based on a 2002 study by Scattone et al.

-Bob is a 15-year-old male who stares at females inappropriately during recess; staring is defined as looking at a female for more than three seconds. So, he is given a social story as his intervention. He reads his social story to his teacher’s aide one hour before recess.

-Let’s take a look at what he read.
SOCIAL STORIES (RESEARCH CASE)

- There are lots of girls at school. Sometimes I see girls in my classroom. Sometimes I see girls in the hallways. Sometimes I see girls at pep rallies. Sometimes I see girls at recess. It’s OK to look at girls. When I look at a girl for a long time, she may get mad or sad. When I look at a girl, I will count slowly to two and then I will try to look at something else. I should try to look at something else until I slowly count to ten. After I slowly count to ten, I can look at the girl again if I want to.

- Comprehension Questions:
  - Is it OK to look at girls?
  - How long should I look at a girl for?
  - When I look away, what should I count to? (Scattone et al., 2002, p. 642)

ASK: Would anyone like to volunteer to read the social story?

*If someone volunteers, presenter thanks them for their willingness and says: “Please read the first bullet point.” If no one volunteers, presenter reads the first bullet point.*

ASK: Can anyone tell me a perspective sentence in this example?

*If statement is correct, presenter affirms. If statement is incorrect, presenter says: That is close, but that is actually an example of a ____ statement. Presenter then says: An example is, “When I look at a girl for a long time, she may get mad or sad.”*  

ASK: Can anyone tell me a directive sentence in this example?

*If statement is correct, presenter affirms. If statement is incorrect, presenter says: That is close, but that is actually an example of a ____ statement. Presenter then says: An example is, “When I look at a girl, I will count slowly to two and then I will try to look at something else.”*  

ASK: Can anyone tell me an affirmative sentence in this example?

*If statement is correct, presenter affirms. If statement is incorrect, presenter says: That is close, but that is actually an example of a ____ statement. Presenter then says: An example is, “It’s OK to look at girls.”*  

ASK: Can anyone tell me a descriptive sentence in this example?
If statement is correct, presenter affirms. If statement is incorrect, presenter SAYS: That is close, but that is actually an example of a ____ statement. Presenter then SAYS: An example is, “Sometimes I see girls in my classroom.”

SAY: Great! Now you are all experts on the four different types of sentences in social stories. Now, let’s bring this back to the research example. After Bob reads this, Bob then goes over the following questions with his teacher’s aide.

READ: second slide bullet.

SAY: Pretty straight forward. Let’s see what happens to Bob.

**SOCIAL STORIES (RESEARCH CASE)**

- Staring begins 66.9% of intervals
- After social story:
  - Session 1 – 42% of intervals
  - Session 10 – 58% of intervals
  - Session 11 – 25% of intervals
  - Session 17 – 0% of intervals

SAY: To make this really simple to understand, the higher the percentage of intervals, the more staring Bob is doing. The lower the percentage of intervals, the less staring Bob is doing. So, let’s start looking at the data.

-Bob’s staring began at 66.9%. After John reads the story only once, his staring immediately decreases to 42%. John then refuses to read the social story on session 10, and his staring shoots back up to 58%. He agrees to read the social story the next day, and his staring falls all the way down to 26%. And, finally, on session 17, John somehow manages to drop all the way down to 0%.

-ASK: Now, how could John have possibly done this? How does someone manage to not look at a female during an entire recess period? Any guesses?
-SAY: John pulled his sweatshirt over his head for the entire duration of the observation. So, what does this show us? That although inappropriate staring was reduced, an appropriate replacement behavior did not increase. And, this is the pattern that you’re going to be seeing throughout the rest of this presentation. All of the interventions work in some way, but none of them are perfect.
SAY: So, that brings us right into the pros and cons of social stories.

- Bob’s research case is a perfect example of how social stories are an easy intervention to use right before a target setting – in John’s case, recess.

- Routine is somewhat of a unique desire of persons with ASD, and social stories can easily be squeezed into a daily routine.

- Additionally, social stories are one of the safest, least intrusive, and predictable interventions available.

- And, finally, a powerful 2010 meta-analysis of social stories showed that this specific methodology seems to be most beneficial at reducing inappropriate behaviors – in John’s case, staring at girls (Kokina & Kern, 2010). So, it works…
SAY: But, not perfectly.

-Social stories need much preparation before the intervention can be implemented. In other words, they need to be created!

-Plus, social stories address specific behaviors in specific situations. Meaning, it is difficult to quickly adapt if varying behavior and language levels are an issue. This brings forth the touchy topic of money. If there is a huge range of reading levels or behavior issues at your school, you’re going to have to buy a huge supply of social stories.

-Lastly, social stories are often thought of as enjoyable for participants. However, Bob obviously showed resistance to reading his social story.

-ASK: Can anyone guess why this was the case? There is no right answer as it was not in the research case, but as educators, can you think of reasons why Bob did not want to read his social story?

Presenter acknowledges all guesses.

-SAY: The reason why I asked you to guess why Bob did not want to read his social story is for a very important reason: whatever intervention you choose, you must make an effort to make this process enjoyable for the adolescent. If the adolescent isn’t rewarded or motivated to participate, then all is for naught.
GROUP ACTIVITY #3 SOCIAL STORIES

- You will be creating your own social story!
  - Option to work individually or in groups
- Steps:
  - Grab a pen and take as much paper as you want.
  - Spend 2 minutes choosing a specific social skill you’d like to focus on.
  - Spend 1 minute choosing what general age group you’d like to focus on.
  - Spend 2 minutes figuring out the general “when, how, and why” of the behavior.
  - Spend 5 minutes drafting on a piece of scratch paper the perspective, directive, affirmative, and descriptive sentences.
  - Spend 5 minutes writing the final sentences on one piece or several pieces of paper.
  - Spend 5 minutes drawing stick figure drawings for each page you have (just stick figures!)
  - Get ready to quickly show off your first social story creation!

**SAY:** Okay, now that you’re experts in social stories, we’re going to make our own. Some of your schools may not have the funds to purchase numerous social stories. So, if you have a group of adolescents with AS/HFA that have a similar issue and can read, then creating your own social stories may be a plausible alternative. Let’s start practicing!

*Presenter hands out a box of pens and a stack of paper. Presenter also hands out instructions to each attendee while reading the same instruction on the PPT slide.*

**READ:** entire slide.

**SAY:** And, just in case you need some reminders, the following slide will remain up for the entire activity.
SAY: Remember…

READ: the four bullet points on the left.

SAY: And, on the right you will have Bob’s social story to also guide you.

ASK: Any questions?

Presenter answers questions according to information on previous slides. Presenter also reassures attendees that the true goal of this activity is not to create a usable social story but rather to entrench what was learned about social stories into their brains.
SAY: Alright, second method: social groups.

ASK: With a quick show of hands, who thinks they could lead a social skills group for adolescents with AS/HFA?

Respond accordingly if there is a large or small show of hands…

If there is a small show of hands SAY: It doesn’t surprise me that many of you would feel like that. You’ll soon see that this intervention still confuses even some researchers regarding the format. But, I hope the next few slides will help give you a better sense of what social groups are.

If there is a large show of hands SAY: How wonderful! It is rare to see such a confident pack of social group leaders! So, I hope the next few slides will help you be even more informed of the research, pros, and cons of social groups.

SAY: And, most importantly of all, I hope you’ll all soon see that social groups can be a feasible and even enjoyable intervention that can be implemented at your schools.
SAY: Anyone who has led a counseling group will soon see that social groups for adolescents with AS/HFA are not that different.

-Most social groups are between 6 – 8 adolescents. The groups usually involve group rules, individual teaching, weekly sessions, skills practice, role-play. Some groups even use “joke time” where appropriate humor is discussed, and some even have field trips! It all depends on the leader of the social group. This “human” factor allows a lot of flexibility which can obviously be a positive thing.

ASK: However, can anyone guess why this flexibility may cause some issues with this social skills intervention?

If incorrect answer is given, presenter SAYS: That is a good guess. But, the primary issue with flexibility is the lack of research control. Basically, it’s been hard to study social groups because of this core “human” factor.

If correct answer is given, affirm.

SAY: Regardless, research still shows many benefits of social groups. Let’s look at one of those research cases.
SOCIAL GROUPS (RESEARCH CASE)

- 2007 research case (Tse et al.):
  - 46 adolescents divided into groups of 7 or 8
  - 12 sessions over 12 weeks
  - Led by psychologist and social worker
  - Sessions were 60 – 90 minutes after school

SAY: The following example is from a 2007 study by Tse et al.

Forty-six adolescents between the ages of 13 – 18 were divided into groups of seven or eight. The groups were led by a social worker and psychologist who specialized in working with adolescents in psychiatry. Each group met weekly for 12 weeks, and sessions lasted between 60 to 90 minutes after school.
**SOCIAL GROUPS (RESEARCH CASE)**

1. **Check-in.** Each member discusses events and problems from their week. Other members are encouraged to ask questions and offer suggestions.

2. **Review.** Review of last week’s skill: Leaders ask if members had a chance to practice the previous skill.

3. **Intro of new skill.** Members are asked to talk about their ideas on a particular social skill. Members may be given a card describing the new skill.

4. **Role-play.** Members practice the new skill in pairs, one pair at a time, while the rest of the group watches and gives feedback.

5. **Staff break.** Members are encouraged to interact with one another during the break.

6. **Game.** Group games such as charades are played.

7. **Closing.** Members are encouraged to say goodbye to each other.

(Tse et al., 2007, p 1962)

**SAY:** During the first meeting, group rules were explained such as confidentiality, regular attendance, etc. Pretty regular stuff.

-This blue chart shows the “standard sequence” of each session after that first session (Tse et al., 2007, p 1962).

**READ:** entire blue chart.

**ASK:** Now seeing what Tse et al. did in 2007, have any of you led, co-led, or participated in a group similar to this?

**Respond accordingly if there is a large or small show of hands...**

*If there is a small show of hands* **SAY:** That’s alright. Many haven’t as groups are usually difficult to fit into your busy schedules, and educators aren’t often trained on how to lead them. But, I hope this chart gives you a sense of how feasible and controllable these social groups can be.

*If there is a large show of hands* **SAY:** Wow! Then many of you may want to consider social groups as a realistic intervention to use within your school.

**SAY:** Because in the end, the wonderful thing about social groups is...
SAY: They can be so much fun!

-In addition to the formal structure on the previous slide, Tse et al. included one field trip to a restaurant where adolescents practiced dining etiquette. The final session was a celebration that each group chose how to spend - usually a pizza party. And, after participants graduated, they were invited for “alumni” parties twice a year where they were encouraged to mingle with familiar and unfamiliar alums.
SAY: I always think it is helpful to have a list, almost like a menu, of options to choose from when I run groups. So, what we’re going to do now is spend the next 40-50 minutes brainstorming ideas for a document “Tips for Social Groups of Adolescents with AS/HFA.”

-We’re going to break up into groups of 3. Please appoint a time keeper, a recorder, and a presenter. Then each group is going to brainstorm for 7 minutes other field trip options that adolescents can learn social skills. Tse et al. did a restaurant to learn table etiquette. Another option could be the public library so adolescents can learn about using quiet voices. Presenter hands out paper and pens. Write these ideas down because after 7 minutes, each group is going to present their ideas while I type all ideas in a word document. I’m going to e-mail this document to you so that this can truly be a resource that you can use with social groups in the future. You’ll do the same thing for alternatives for final session celebrations (such as a picture collage party) and ways to keep in touch with others. Tse et al. did alumni parties, but another alternative could be setting up mentorships. The sky is the limit!

Presenter stops each group after 7 minutes and allows 3 minutes per group to present. After all groups have presented all 3 sections of ideas, presenter ASKS: Were there any favorites from the ideas given?

Presenter acknowledges each favorite.

SAY: What enjoyable ways to learn social skills! But, that brings up the question doesn’t it? Did these 46 adolescents learn social skills?
SAY: Let’s take a look at the results.

-Assessment was based on the scales you see on the screen. The SRS, the ABC, and the N-CBRF. Scores demonstrated effect sizes for subscales to be statistically significant. There’s a lot of numbers up there. But, what those numbers basically mean is there was a statistically significant growth in social skills and behavior. And, here is the exciting part, on all three scales! This rather simple social group worked!

ASK: So, let’s talk about why it worked. The benefits. Can anyone guess what are the main benefits of social groups?

Presenter affirms guesses based on next slide and discusses guesses that were not mentioned on the next slide.
SAY: So, let’s review the benefits. And, there are many.

-First, some of you may think, “Well, people with ASD don’t like to be social. So, they would never want to be part of a social group.” But, a 2004 study found that adolescents and adults with AS/HFA commonly participated in groups such as church. So, this actually can be quite natural and enjoyable for your students.

-Second, it is important to note remember that the Tse et al. research case was led by personnel who were not these specialists who were previously trained in working with adolescents with AS/HFA or even ASD in general. So, this suggests that social groups can be successfully implemented by school psychologists, school counselors, and even teachers within a supervised setting.

-Third, an important benefit for social groups is the opportunity for parents to play an important role. Some research shows that if a mother is involved in social groups, her child (even if her child has ASD) is more likely to be involved in social groups. This suggests that parents can model for their adolescents with AS/HFA how to participate in social groups.

-Finally, Tse et al. allowed topics to be covered in a flexible manner, and pace was determined by the needs of groups as a whole. Unlike social stories, this means that not much money has to be spent on trying to adapt for variety. The human nature of this intervention takes care of that. In other words, in the long run, it may be very cost and time efficient!

-ASK: But, like I said before, none of these interventions are perfect. Let’s talk about the challenges of social groups. Can anyone guess what are the main challenges of social groups?
Presenter affirms guesses based on next slide and discusses guesses that were not mentioned on the next slide.

**SOCIAL GROUPS (CHALLENGES)**

- Parents report “little” overall improvement (Tse et al., 2007, p. 1965).
- Difficulty with generalization
- Lack of curriculums

**SAY:** First, although the Tse et al. rating scales showed statistically significant change, the majority of parents anonymously surveyed said there was only a “little” overall improvement in their child’s social behavior. It’s important to note that these parents also said their child seemed to enjoy the group which you’ll see later may help with depression, but the focus of this presentation is first and foremost social skills training.

- Second, as you’ll start seeing with most methodologies used to teach social skills, social groups seem to be confined to teaching very specific skills. This is opposed to teaching generalized concepts which is, when it comes down to it, the ideal teaching method of social skills. Unfortunately, research on social groups shows that generalization is usually not achieved.

- Third, and perhaps most importantly, a review of all published studies of social groups (over 200 citations!) revealed numerous research flaws in social groups such as the lack of control groups and treatment manuals. As you can see, poor or little research on these social skills training tools is a common theme.
3. COGNITIVE BEHAVIORAL THERAPY (CBT)

**SAY:** Third method. Cognitive Behavioral Therapy also known as CBT.

**ASK:** How many of you have been trained in CBT? Not CBT specifically used with adolescents with AS/HFA, but simply CBT in general?

**Respond accordingly if there is a large or small show of hands...**

*If there is a large show of hands SAY:* That is impressive!

*If there is a small show of hands SAY:* It isn’t surprising that only a few of you have been trained in CBT.

**SAY:** So, for those of you who have had training in CBT, I hope that the new few slides will spur you on to attempt and try that skill set with adolescents with AS/HFA. And, for those of you who haven’t had training in CBT, I hope that this will help give you an idea of what is growing within this area of counseling.
COGNITIVE BEHAVIORAL THERAPY (CBT) (WHAT IS IT IN GENERAL?)

- CBT in regards to the general population (Burns, 1999):
  - Examine distorted thinking
  - Counseling
  - Behavioral components
    - Homework
    - Activities
    - Practicing

- Focus:
  - Healthier feelings about themselves and situations

SAY: So, first, let’s go over what CBT is in general. The basis of CBT is the attempt to examine distorted thinking and replacing that thinking with better thoughts (Burns, 1999). In summary, replace bad thoughts with good thoughts.

-How do we do this? Well, CBT uses homework, participation in positive activities, and practice of new skills.

-And, the ultimate goal is to help people have healthier feelings about themselves and their situations.
As with social groups, implementation of CBT varies greatly from study to study. And, this is for studies based both on the general population and those with ASD.

- However, most studies of CBT and people with ASD are consistent in that they use a traditional model of CBT – just with some modifications. I like to call it CBT+. These modifications address the idiosyncratic needs of persons with ASD (White, Ollendick, Scahill, Oswald, & Albano, 2009). These modifications are usually pictures (meaning visuals), parents (meaning parents have a huge role), peers (meaning general education peers), plans (meaning the CBT is regularly planned – it is a routine), and practice (meaning practice, practice, practice these social skills). How do I remember these modifications?
COGNITIVE BEHAVIORAL THERAPY
(RESEARCH CASE)

- 2002 case study (Bauminger):
  - 15 adolescents
  - IEP required CBT 3 hrs/wk over 7 months
  - Required meeting with peer 1x a day

**ASK:** Before we move on to the CBT case study, who thinks they can tell me one of the P’s for P^5?

*Affirm correct answers. For incorrect answers, SAY:* That’s a good guess, but not quite.

*Continue until pictures, parents, peers, plans, and practice have all been said.*

**SAY:** Okay, let’s move on. The following example is from a 2002 study by Bauminger. Fifteen students with HFA were chosen for a study of the effect of CBT.

-The Individualized Education Plan (IEP) for each child required CBT to be implemented three hours per week over seven months. This was in addition to requiring each student to meet with a typically developing peer once a day after school and during one school recess each week.
SAY: With traditional CBT, the two primary people are the counselor and the counselee. But, CBT in the realm of AS/HFA involves many people.

In the case of Bauminger’s study:

-The role of the teacher was primarily to supervisor the entire intervention.

-The role of the typically developing peer was to offer the person with HFA opportunities to practice social skills in a safe environment. For example, the first week of the study consisted of the children making telephone calls to each other. This was the child’s CBT homework.

-And, the parents’ role was primarily to support the child’s time and emotional struggles throughout the seven months. Parents were also expected to help their child plan for their homework such as choosing topics to discuss on the phone.

-So, the question again is, “Did all of this work?”
SAY: Results say, “Yes!”

-The assessment used is called the Problem-Solving Measure also known as the PSM. Results on the PSM indicated that the students could offer “more relevant solutions” and suggested fewer “nonsocial solutions” to social problems (Bauminger, 2002, p. 291).

-In addition to the PSM, an emotional inventory was used to measure understanding of four simple emotions (happy, sad, afraid, and angry) and six complex emotions (pride, embarrassment, loneliness, guilt, affection, and jealousy). Each child defined the emotion then explained a time when he or she felt that emotion in the past. Let’s take a look at the numbers.

-Only 60% of children could provide an example of the four simple emotions before the intervention, but 100% of children could fully complete the task at the end of the intervention. Only 27% of children could provide an example of five out of the six complex emotions, but 53% of the children could provide examples of all six by the end of the study.
COGNITIVE BEHAVIORAL THERAPY
(RESEARCH CASE)

“These findings highlight that emotions can be taught and that social understanding can be improved as an outcome of training”
(Bauminger, p. 293).

SAY: Here is the quote that takes it all home. Bauminger concluded the study by stating, “These findings highlight that emotions can be taught and that social understanding can be improved as an outcome of training” (p. 293).

ASK: Can anyone guess what benefit Bauminger is pointing out here?

Presenter waits for 10 – 15 seconds. If no response hint by SAYING: The benefit starts with the letter “g” and we’ve mentioned it earlier in the presentation.

Affirm correct response. For incorrect responses, SAY: That is a good guess! But, not quite.

SAY: Generalization! Which brings us nicely into the pros and cons once again.
SAY: Perhaps the greatest benefit of CBT is the hope that learning can exceed the specific cases given and can become a global social competence.

- Bauminger’s participants provided more specific and personal examples when asked about the 10 emotions; this suggests that participants weren’t just memorizing appropriate actions like what social stories focus on. With CBT, participants are actually creating answers all on their own.

- Moreover, many of the participants would describe situations in relation to the listener as opposed to merely talking out loud which suggests their greater awareness of other people.

- And, most importantly, teacher reports show that students of the study improved social skills with peers aside from the one they were assigned to. And, isn’t this the ultimate goal? To know how to socially act with anyone that you encounter.
CBT (CHALLENGES)

- Lack of research
  - “Handful of studies” (White et al., 2009, p. 1653).
- Formal training needed

SAY: Probably the biggest challenge of CBT as a social skills training tool is the lack of research present regarding how well it works with persons with ASD. Although the use of CBT as a treatment method for adolescents with AS/HFA has grown in recent years, only a “handful of studies” have actually examined the efficacy of its treatment (White et al., 2009, p. 1653).

-Lastly, a real challenge of choosing CBT as a social skills training tool is the formal training needed to implement it. Even most School Psychologists would need additional training to implement CBT with adolescents with AS/HFA. So, this means this intervention is usually expensive in one way or another.
4. VIRTUAL ENVIRONMENTS (VE’S)

**SAY**: Last method. Virtual environments. Also known as VE’s or video games.
SAY: Yes. The term VE’s really just refers to any video or computer game that has a character a human relates to or pretends to be. So, Tetris, for example, is not a VE because that only consists of blocks. But, Mario Brothers (does anyone remember that game?) is an example of a VE because the person playing the video game is trying to move and act as if he or she were Mario. So, if the term VE scares you a little, just replace it with the terms “video game” or “computer game.” That’s an easy way of defining it.

-But, let’s take a look at how research studies define VE’s. VE’s are usually interactive, three-dimensional, computer-generated settings, which allow users to perceive themselves as within a specific setting. Users play with a computer, a mouse, and a joystick if navigation through spaces is one of the tasks (Parsons, Leonard, & Mitchell, 2006).

-Just like some video games, the computer screen has text boxes that sometimes gives directions, praises, or corrections. Typically, the user will start at an easy level and, depending on progress, literally move to more difficult levels that contain advanced social decisions.

-Ideally, all sessions are navigated with supervision so users can discuss their progress and challenges.
SAY: The following research example is based on the 2006 study by Parsons et al.

- John and Mike are two adolescents chosen for a study regarding the efficacy of VE’s. John and Mike need to improve their behavior in buses and cafés.

- Realistic situations were created in their bus VE and café VE. For example, they needed to figure out what to do when all seats are taken on the bus except for one seat that is being occupied by a purse.

- The number of difficult social situations increased as John and Mike progressed levels, just like a video game.

ASK: By the way, with a quick show of hands, who in this room actually enjoys video games?

Acknowledge volunteers.

ASK: And, who knows of any adolescents with AS/HFA who enjoy video games?

Acknowledge volunteers. If there is at least one hand raised, SAY: This may be an intervention you may want to consider for those adolescents.

SAY: Okay, so can video games cause growth in social skills? Do VE’s work?
SAY: The results say, “Yes again!”

-Both John and Mike displayed understanding of new social rules learned from the VE’s immediately after playing one single VE session. And, more importantly, they both remembered what they learned three-months afterwards.

-Plus, John, applied social rules from the bus VE to the London Underground. While this may seem trivial, this is a huge step for many people with ASD.

ASK: Can anyone guess why application from the bus VE to the London Underground is such a big deal?

Presenter waits for 10 – 15 seconds. If no response hint by SAYING: The answer starts with the letter “g.”

Affirm correct response. For incorrect responses, SAY: That is a good guess! But, not quite.

SAY: Generalization! Which brings us nicely into the pros and cons for the last time.
SAY: The benefits. Let’s start with the most obvious. VE’s closely resemble video games; thus, it is the belief that VE’s are enjoyable for most users.

-Second, since VE’s are typically played in short sessions, they can easily become part of a daily routine.

-Finally, perhaps the greatest justification of VE’s is the opportunity for repeated practice of social skills in a controlled and safe environment. As you can tell, practice and safety keeps coming up throughout all of these interventions as a necessary component for interventions.

ASK: Can anyone now guess some challenges of VE’s?

*Presenter affirms answers if they are present on the following slide.*

*Presenter discusses answers if they are not present on the following slide.*
SAY: First, unless the VE is specifically programmed with extensive “tricky” situations, the teaching of the social skills can be quite limited.

-Second, most people in the education field are not computer programmers. So, you would have to buy these VE’s, and that obviously means money.

-Third, and most importantly, the non-social nature of persons with ASD might make VE’s too enjoyable. Meaning, users may become overly reliant on VE’s instead of attempting to learn social skills through real world situations.

VIRTUAL ENVIRONMENT’S (CHALLENGES)

- Difficult for true tricky situations
- Costly
- May become overused
WHICH OF THE 4 METHODS IS BEST?

1. Social stories
2. Social groups
3. Cognitive behavioral therapy (CBT)
4. Virtual environments (VE's)

SAY: Okay, now you have a foundation of knowledge on the four interventions up on the screen.

READ: All 4 intervention names.

ASK: So, the question is now, “Which one is best?” Does anyone want to guess?

Presenter acknowledges every guess and asks why that person guessed that.
SAY: Well, I don’t know which one is best. No one knows!

-Science isn’t far enough to say that this one method of teaching social skills to adolescents with AS/HFA is best. But, that doesn’t mean to just forget about teaching social skills. These four options are viable and realistic methods in the educational setting. And, I hope this chart can help sum up the pros and cons of each one.

-Let’s take a look at the screen. As you can see social stories and VE’s are pretty similar. And, CBT and social groups are pretty similar. Plus, social stories and VE’s seem to be more “products” to purchase while social groups and CBT seem to be more “processes” to adapt.

-In order to be balanced, it may be best to choose a combination of product and process rather than two products or two processes. This would be in the best interest of both time and financial resources.

-And, finally, let’s talk about that motivation piece again. A teaching method is only effective if it aligns with motivations from the participant. What does that mean? Well, if a student dislikes video games but loves reading, then it would be logical to choose social stories instead of VE’s.

-So, we could say that best current practice is to select a balanced method that matches the idiosyncrasies of the individual or group presented.
Now that we have covered what the different types of training models are, we will talk about how to form social skill training groups on how to decide what social skill deficits to cover for your specific group of students.

**SCREENING AND PLACEMENT PROCEDURES FOR SOCIAL SKILL TRAINING**

- Having a consistent method to place students in a training group or to aide in selecting a social skills curriculum is essential.
- While research supports that there is a need to address social skills in adolescence with AS/HFA, it is also important that students are grouped according to their specific social skill needs.
One screening method that can be used to determine what the social needs are for adolescents with AS/HFA is the Social Skills Rating System (SSSR) or the recently released Social Skills Improvement System (SSiS).

These tools are commonly used to measure social skills and identify behavioral areas that may need intervention for individuals age 3 to 18. In one study the SSSR was used to determine the needs of individuals with AS/HFA before beginning a social skills training program as well as after the study to measure improvements. In another study a similar social skills rating tool was used that the adolescents filled out themselves as well as the parents. This was done to first determine the needs of the students to ensure a homogeneous group in the study.

-These are two tool examples that can be used to help form your groups based on student need and social skills that are in need of development.
Another tool that may be helpful in identifying the main concerns in individuals with AS/HFA that can also assist in properly placing them in the appropriate social skills intervention program is the High-Functioning Autism Spectrum Questionnaire (ASSQ).

- On this slide is a few sample questions which the parent or teacher identifies whether each item doesn’t occur, somewhat occurs, does occur. By indicating no, somewhat, or yes.

- This questionnaire addresses a wide range of common symptoms as well as subtle social impairments typically displayed by individuals with AS/HFA. It should be noted that while this questionnaire is intended to screen for common characteristics of ASD as well as AS, it may also be helpful to use in order to identify the common social needs of groups of adolescents with AS/HFA for social skill intervention placement.
**SAY:** So, why? Why should you spend so much time and money on social skills training after seeing how much work it can be? This is probably the most important question of the entire night, and it is summed up in one slide for you – the very last slide of this workshop.
SOCIAL SKILL IMPROVEMENTS FOR ADOLESCENTS AS A RESULT OF INTERVENTION

- Research indicates that direct and purposeful social skill training is effective and increasing the chance of positive outcomes for adolescents with AS/HFA.
  - Examples:
    - Study completed at the Montreal Children’s Hospital Child and Adolescent Psychiatry Unit.
    - Study completed at UCLA

READ: Slide title and first bullet.

SAY: One study conducted at the Child and Adolescent Psychiatry at the Montreal Children’s Hospital presented parents and adolescents with AS/HFA a questionnaire before and after a 12 week group that focused on social skills training. The results of the training indicated that the adolescents reported more perceived skills improvements than the parents did. However, the parents’ questionnaire results indicated improvements in social skill areas that were generalized outside the treatment group.

- An additional study involving adolescents with AS/HFA also yielded significant social functioning improvements. This study consisted of a 14 week treatment using the Program for the Education and Enrichment of Relational Skills (PEERS). The goal of the PEERS program is to assist adolescents in overcoming core deficits in friendship skills. This is a program that is a part of a social skills training we will cover more in depth in a moment.
While improvements are noted in adolescents that participate in various social skills trainings, positive outcomes for adults with AS/HFA are also evident.

- Examples:
  - Study done by Mesibov 1984

READ: Slide title and first bullet.

SAY: Even though the social skill areas affected in adults with AS/HFA are slightly different than the social needs of adolescents, there is still a correlation between social skill acquisition in adolescents with AS/HFA and adults with similar social deficits.

- The translation of social skill building from adolescence to adulthood is supported by the results of a study done by Mesibov (1984). This study implemented ongoing social skills training to 15 adults on the spectrum. The outcome of the study indicated that participants progressed in their conversational skills, their selection of relevant conversation topics, as well as their own perceptions of themselves (Mesibov, 1984). This study also addressed the importance of understanding and treating adolescents and adults with ASD as well as the viability of social skills training models. Social skill gains in adults with AS/HFA provide additional evidence that focusing on social skills even earlier in adolescent years will further support successful socially integrated adults.

- However, I think the date of the study will further indicate newer research and attention to the subject of social skills for both adolescents and adults with AS/HFA.
IT WORKS

0 Without intervention:
   1. 11-84% of children and adolescents with ASD experience impairing
      Anxiety (White et al., 2009).
   2. Average scores for adolescents with HFA fell in the Clinically Significant
      range for Withdrawal and the At-Risk range for Depression (Volker, Lopata,
      Smerbeck, Knoll, Thomeer, Toomey, & Rodgers, 2010).
   3. "Persons with ASD are caught in a vicious circle of social isolation" (Bauminger,

0 With intervention:
   1. "I really enjoy doing it and it may help me in the future because sometimes I have
      done the wrong thing" (Parsons et al., 2006, p. 188).
   2. "I think that the most powerful contribution of this intervention is the growth
      in my child’s self-confidence. He is much less afraid of being actively
      involved with peers now" (Bauminger, 2002, p. 285).

SAY: Because it works. You should spend the time and the money to implement social skills
training to adolescents with AS/HFA because it works.

-This presentation ends with a visual of what can happen when no social interventions take place
and what can happen if they do. Let’s first take a look at research of those adolescents who have
had no interventions.

-Number one. Recent statistics show that 11-84% of children and adolescents with ASD
experience impairing anxiety (White et al., 2009). In fact, when adolescents are admitted into
clinical treatment centers, anxiety is one of the most common reasons for referral.

-Number two. There was a study of 62 adolescents with HFA who were given the Behavior
Assessment System for Children (BASC-2) (Volker, Lopata, Smerbeck, Knoll, Thomeer,
Toomey, & Rodgers, 2010). Average scores for these adolescents fell in the Clinically
Significant range for Withdrawal and the At-Risk range for Depression.

-Finally, number three. Persons with ASD are "caught in a vicious circle of social isolation"
(Bauminger, 2002, p. 283). I need to emphasize the word “persons” instead of “children” or
“adolescents.” Isolation, bullying, and depression don’t just stop when adolescence stops or
when students graduate from high school. If interventions never happen, these struggles carry
follow them into adulthood. These students can forever feel like this.

-Okay, so now let’s see what happens when interventions do take place. And, instead of quoting
more stats and statements from researchers, we’re going to end with words from the most
important people of this whole process – the adolescents and families themselves.
A 15-year-old female with ASD informed the Nottingham Evening Post regarding VE’s, “I think it’s brilliant. I really enjoy doing it and it may help me in the future because sometimes I have done the wrong thing” (Parsons et al., 2006, p. 188).

One father of a child who received CBT stated, “I think that the most powerful contribution of this intervention is the growth in my child’s self-confidence. He is much less afraid of being actively involved with peers now” (Bauminger, 2002, p. 295).

Finally, regarding the aforementioned VE study with John and Mike, John was asked how he felt after he implemented what he learned from the VE’s in a real world situation. John replied, “Quite proud!” (Parsons et al., 2006, p. 195).

So, on the left of this line, you see anxiety, withdrawal, depression, and a lifetime of feeling like this. And, on the right of this line, you see enjoyment, growth, self-confidence, interaction with peers, and pride.

Our hope for you as educators is twofold. First, that this last slide leaves you with a sense of urgency – to return to your schools and address this issue, not letting it get lost on a to-do list. But, second, that this whole presentation gives you confidence and knowledge in understanding just how feasible social skills training is and how to go about finding the right balance for both you and your students.
QUESTIONS?
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