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Cooperative Group Play Social Skills Training for Children with Social, Emotional, and Behavior Challenges: Impact on Self-Esteem and Social Skills

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Philadelphia College of Osteopathic Medicine

Department of Psychology

COOPERATIVE GROUP PLAY SOCIAL SKILLS TRAINING FOR CHILDREN
WITH SOCIAL, EMOTIONAL, AND BEHAVIOR CHALLENGES: IMPACT ON
SELF-ESTEEM AND SOCIAL SKILLS

By Bridget Hirsch

Submitted in Partial Fulfillment of the Requirements for the Degree of

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DEPARTMENT OF PSYCHOLOGY**

Dissertation Approval

This is to certify that the thesis presented to us by Bridget Hirsch
on the 5 day of May, 2016, in partial fulfillment of the
requirements for the degree of Doctor of Psychology, has been examined and is
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Abstract

Social skills training (SST) programs are a common component of treatment for children with social, emotional, developmental, and behavioral challenges. Because of social skills deficits, these children often face peer rejection and develop low self-esteem. Research on SST programs for clinical populations often fails to examine self-esteem or the research is outdated and demonstrates minimal changes in self-esteem. The investigator employed a quasi-experimental, within subjects, repeated measures (pre-post test) design to examine changes in self-esteem and social skills in children from 3rd to 9th grades attending an outpatient SST program that incorporated developmentally appropriate games (DAG). Parent- and self-report measures indicated that there was a small but insignificant change in social skills, and no change in self-esteem from pre- to post-intervention. These insignificant findings were attributed, in part, to the small sample size (N=16), which was due to the data collection challenges encountered at the SST program site. However, the non-significant findings are consistent with the growing literature that calls into question the utility of SST programs regarding their ability to make significant positive changes in self-esteem as well as result in the generalization of social skills across settings.

Keywords: self-esteem, social skills, autism, ADHD, social skills training

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Chapter 1

Introduction

Children with developmental, emotional, and behavioral disorders such as Autistic Spectrum Disorder (ASD) (White, Keonig, & Scahill, 2007; White & Robertson-Nay, 2008), Attention Deficit Hyperactivity disorder (ADHD) (Cantwell, 1996; Gresham, Sugai, & Horner, 2001; Hansen, Meissler, Ovens, 2000; Merrell & Gimpel, 1998) and other disruptive behavior disorders (e.g., conduct disorder; oppositional defiant disorder) (Lochman & Lampron, 1986, Merrell & Gimpel, 1998) typically demonstrate significant deficits in social skills. Given that 1 in every 68 children is diagnosed with Autistic Spectrum Disorder (ASD) (CDC, 2014), and 5% of children are diagnosed with ADHD (American Psychiatric Association, 2013) in the US, the need for social skills interventions is great. These populations are increasing in number and the symptoms associated with their diagnoses usually persist beyond childhood, highlighting the importance of intervening early in development (Rice, 2009; Schnoes, Reid, Wagner, Marder, 2006; White et al., 2007). Social competence becomes particularly acute for children with ASD, ADHD, and other behavioral disorders because of the direct or indirect long-term consequences of social skill deficits. These include academic and occupational underachievement, mood disorders, impairments in adaptive functioning (Coie, Terry, Lenox & Lochman, 1995; Elliott, Malecki, & Demaray, 2001; Howlin & Goode, 2004; Myles Bock, & Simpson, 2001), and the development of substance abuse problems (Greene, Biederman, Faraone, Wilens, Mick, & Blier, 1999).

Social skill deficits common among these populations include difficulties with social problem solving, social pragmatics, initiation of social interactions, and

interpretation of verbal and non-verbal cues, as well as aggressive, impulsive, and inappropriate responding (Barry, Frick, & Killian, 2003; Pepler, King, Craig, Byrd, & Bream, 1995; Rao, Beidel, & Murray, 2008). As a result of these skill deficits, children frequently experience peer rejection, which has a devastating impact on self-esteem/concept (Barry et al., 2003; Cantwell, 1996; Rao et al., 2008; Sim, Whiteside, & Dittner, & Mellon, 2006). Peer rejection and low self-esteem, are in turn, associated with numerous long-term and short-term consequences such as social isolation, depression, anxiety, substance abuse, suicide, and delinquency, (Barry et al., 2003; Blascovich & Tomaka, 1991; Chamberlain & Haaga, 2001; Kupersmidt & Dodge, 2004; White & Roberson-Nay, 2009). This strong association highlights the importance for social skill interventions not only to focus on improving social skills, but also to improve self-esteem.

Research concerning populations with social skill deficits has examined associated short- and long-term psychosocial outcomes (e.g., Bijstra, Bosma, & Jackson, 1994; Riggio, Throckmorton & DePaola, 1990), but has infrequently examined treatment interventions that demonstrate improvements beyond specific social behaviors (Barrett, Webster, & Wallis, 1999). Most social skill intervention programs are based on the assumption that improvement in social skills will correlate with improvements in self-esteem (Haney & Durlak, 1998). When SST studies do explore other domains, such as self-esteem, the results reflect positive changes in non-clinical populations (e.g., Bijstra, Bosma, & Jackson, 1994) and mixed findings in clinical populations (e.g., Haney & Durlak, 1998).

Social Skills Training (SST) interventions have become a core feature of multicomponent treatments to address the social skill deficits common among these clinical populations (e.g., children with ASD, ADHD and other behavioral disorders (Gresham, Sugai, & Horner et al., 2001; Merrell & Gimple, 1998; Spence, 2003). A majority of the research on SST interventions has been conducted in the school setting. Less attention has been paid to outpatient settings (Beelmann, Pfingsten, & Losel, 1994; Sim, Whiteside, Dittner, & Mellon, 2006; Barry, Klinger, Lee, Palardy, Gilmore, & Bodin, 2003). However, populations with social skills deficits frequently receive services at outpatient clinics (Barry et al., 2003). In fact, the National Health Interview Survey, which investigated ADHD and health service utilization, indicated that 45% of children with ADHD saw an outpatient mental health professional for psychological and/or behavior therapy (Cuffe, Moore, & McKeown, 2009). Outpatient SSTs for these populations are commonly utilized, either in addition to school services or in isolation, yet minimal research has adequately explored the effectiveness of outpatient SST interventions (Barry et al., 2003; Sim et al., 2006; Storch & Crisp, 2004).

Outpatient SSTs typically are administered in a group format and, depending on the orientation of the program, use role plays, peer feedback, reinforcement, and didactic instruction to address behavioral, social, and cognitive deficits (Barry et al., 2003). SST programs, both in schools and in outpatient clinics, have inconsistently assessed for additional important changes in correlates of social skill difficulties such as peer rejection and self-esteem (Antshel & Remer, 2003; Pepler, King, Craig, Byrd & Bream, 1995). This is notable because these correlates are associated with various negative, long-term

consequences (Chamberlain & Haaga, 2001; Barry et al., 2003; Blascovich & Tomaka, 1991; Harter, 1993; Kupersmidt & Dodge, 2004; White & Roberson-Nay, 2009).

SST programs primarily target goals related to improving specific social micro-level skills (e.g., appropriate ways to introduce oneself, making eye contact, conversational skills) and macro level-skills (e.g., problem solving, frustration tolerance, and perspective taking) (Spence, 2003). However, it has been argued that programs servicing clinical populations should also incorporate psychosocial goals such as addressing factors related to self-esteem (Barry et al., 2003). For instance, program leaders could focus on promoting positive peer interactions and improving perceptions of social support, which could reciprocally improve self-esteem among children with social skills deficits (Barry et al., 2003; Sim et al., 2006). Treatment efforts that promote peer acceptance and improvement in social skills can illuminate their potential roles in the improvement of self-esteem and related psychosocial outcomes.

Susan Harter's work provides theoretical justification as well as substantial evidence for the significant relationship between self-esteem, social competence, and psychosocial functioning (Harter & Younie, 1987; Harter, Marold, & Jackson 1991; Renick & Harter, 1989). For example, Harter (1993) has demonstrated that self-esteem is impacted when there is a discrepancy between a domain of importance for a child (e.g., peer acceptance) and perceived competence in this area (e.g., social competence). Peer acceptance and social competence depend on learning particular social skills. Harter proposes that when children learn pro-social skills, this could improve their social competence and increase approval from significant others (e.g., peers and caregivers).

This process would alter the child's perception of his or her social competence, thus having an impact on his or her self-esteem (Harter 1993; Harter & Younie, 1987).

Harter's (1993) model provides a useful framework that can be applied to clinical populations with social skills deficits, offering an explanation for how self-esteem develops, how it can be altered, and how self-esteem is related to social relationships. Harter's model argues for the critical importance of examining the relationship between social competence and self-esteem in SST for clinical populations. Based on Harter's theory, all SSTs have the potential to improve social competence, peer acceptance, and consequently, self-esteem (Harter, 1993). Thus, when evaluating SST programs, studies should consistently examine whether or not interventions improve social skills and also factors related to psychosocial functioning such as self-esteem. If changes in self-esteem are found, then it would be beneficial to determine which factors of a SST program influenced changes in self-esteem.

To address psychosocial outcomes further, and improve the generalizability of skills, some researchers argue that the actual design of SST programs should consider ecological-validity by providing environments that allow for "in-the-moment" skill development in real world contexts (e.g., playground). Programs designed around the consideration of ecological validity have been found more effective in providing generalizable skills (Hoag & Burlingame, 1997; Reddy et al., 2005), and, potentially, in improving self-esteem. One such program is a group cooperative play intervention utilizing Developmentally Appropriate Games (DAG; Reddy et al., 2001).

Although Reedy (2010) coined the term "Developmentally Appropriate Games" (DAGs) to refer to specific games that were incorporated into group cooperative play

SSTs, these types of group cooperative play interventions have been used for decades to address therapeutic goals. Group cooperative play utilizing DAGs requires children to be interdependent and work together to meet a common goal or to confront a challenge (Reedy, 2010). This is done through the use of structured, cooperative, and active games that take place in the context of a natural play environment (e.g., playground, gym) (Reddy et al., 2010). The use of group cooperative play using DAGs increases the child's degree of motivation and skill development (Reedy et al., 2010). Cooperative DAGs focus not only on improving social skills, but also on aiming to increase self-esteem through group physical, social, and cognitive tasks that promote persistence, group problem solving, and group acceptance (Bunker, 1991; Reedy, 2010). However, studies on group cooperative play using DAGs have mainly taken place in school settings and have primarily focused on non-clinical populations (Bay-Hinitz, Peterson, & Quilitch, 1994; Orlick, 1977, 1979, 1981; Garaigordobil, Carmen, & Etxeberria, 1996). Overall, these studies on DAGs have demonstrated significant improvements related to participation, cooperation, social skills, and self-esteem, compared with traditional school-based games (Ferland, 1997).

Research examining the use of DAGs as an intervention for clinical populations has provided support for their utility. One study employed a single group design with repeated measures to assess the effectiveness of an outpatient group intervention using DAGs for children who had experienced sexual abuse (Misurell, Springer, & Tryon, 2011). The results indicated that changes in social skills and self-esteem pointed in a positive direction and that there was a significant reduction in internalizing and externalizing behaviors (Misurell et al., 2011). Another study examined the use of a

school-based intervention using group play with DAG's as one component of a multimodal treatment for children experiencing ADHD (e.g., Children with ADHD Multimodal Program (CAMP) (Reedy et al., 2005). Self-esteem was not measured, but the findings indicated significant improvements in social skills, anger, and self-control (Reedy et al., 2002; Reedy et al., 2005).

In summary, children with significant social skills deficits such as those with ASD, ADHD, anxiety, and other disruptive behavior issues experience significant social skills deficits. Consequently, these children frequently experience peer rejection, which has a devastating impact on self-esteem. SST programs have become the primary treatment intervention to address these social skills deficits. A common assumption underlying SSTs is that increases in social skills will correlate with increases in self-esteem. Despite this assumption, SST effectiveness research infrequently assesses for changes in self-esteem in clinical populations or has evidenced inconsistent changes in self-esteem. An additional shortcoming of the SST research is that skills do not seem to generalize across settings or over time.

Group cooperative play using DAGs has been shown to be effective at improving social skills and self-esteem in non-clinical populations and has taken into account ecological validity to promote the generalization of skills (Ferland, 1997; Garaigordobil et al., 1996; Reedy, 2010). In addition, treatments utilizing DAGs have demonstrated positive changes in self-esteem, social skills, and internalizing/externalizing behaviors in children diagnosed with ADHD and in those who have experienced sexual abuse (Misurell et al., 2011; Reedy et al., 2002). SSTs could potentially benefit from utilizing a DAG framework. However, there is a need for research to explore further, the use of the

DAG model in outpatient settings with other clinical populations, such as those with significant social skill deficits, to determine if these programs improve social skills and self-esteem.

Purpose

The purpose of this study was to investigate the impact that a SST program, which incorporated group cooperative play, had on self-esteem and social skills. The study examined social skills and self-esteem at pre- and post- intervention points through self- and parent-report measures. It was hypothesized that the unique SST program incorporating DAGs would evidence improvements from pre- to post-intervention on both measures. In addition, it was also hypothesized that changes in social skills would predict changes in self-esteem.

To support this study, this paper initially explores the research and theory related to the development of self-esteem and its relationship to social competence. Evidence is provided regarding the important role that social skills and self-esteem play in the development of healthy psychosocial functioning in clinical populations characterized by significant social skills deficits (e.g., ASD, ADHD, anxiety, other disruptive behavior disorders). Following this discussion, the review presents a critical examination of the literature regarding the effectiveness of school and outpatient SST programs that aim to improve social skills and self-esteem. This review concludes with a discussion and with the implications of the findings as well as directions for future research.

Harter's Model of Self-Esteem

The interest and importance of examining the construct of self-esteem in the social sciences has resulted in an overwhelming amount of literature on this topic.

Researchers point out that the 1970s gave way to the self-esteem movement, which assumed that many of the problems faced by Americans were related to low self-esteem (Baumeister, Campbell, & Krueger, 2005). Although this assumption is unfounded, research has evidenced the fact that self-esteem is correlated with various academic, psychosocial, and behavioral outcomes (Haney & Durlack, 1998; Marcinao & Kazdin, 1994; Sim et al., 2006). Harter (1993) defines self-esteem as “the global regard that one has for the self as a person” (Harter, 1993, p.89). The concept of the self has been described as a cognitive construction that serves a protective function by evolutionary design (Harter, 1993). Despite this protective function, the occurrence of low self-esteem is prevalent, especially in clinical populations (Barry, Frick, & Killian, 2003; Barry, Klinger, Lee, Palardy, Gilmore, & Bodin, 2003; Slomkowski, Klein, Mannuzza, 1995). In order to understand this phenomenon, one must understand the process in which self-esteem develops. Harter and colleagues have studied the concept and development of self-esteem or self-worth for many years and have developed a theoretical conceptualization supported by empirical findings (Harter, 1982; Harter, 1993; Harter & Pike, 1984; Harter & Marold, 1994; Harter, Marold, Whitesell, & Cobbs, 1996; Harter & Younie, 1987).

Harter’s (1993) formulation of self-esteem is based on the work of two well-known scholars of the self - James and Cooley. James (1882) purported that self-esteem is based on self-evaluations in domains perceived as important to the “self”. His theory focused on the cognitive evaluation of competence. High self-esteem is established when individuals perceive themselves as competent in a domain they deem important or in which they want to experience success. Similarly, low-self esteem is the result of

demonstrating a lack of competence in domains in which an individual wishes to excel. James (1882) emphasized that lack of success in domains regarded as unimportant do not have a negative impact on self-esteem. Although James maintained that self-esteem was established through cognitive evaluation, Cooley (1902) argued that the causes of self-esteem are social in nature. He developed the “looking-glass-self” formulation, positing that self-esteem is determined by social support or positive regard from significant others, such as peers and caregivers. Basically, Cooley (1902) argued that an individual internalizes the reflected appraisals of others and these opinions form one’s self-esteem.

Harter’s model takes into consideration formulations from Cooley (1902) and from James (1882). Harter hypothesizes that two factors, perceived competence in domains deemed personally important and the presence of positive regard from significant others or “social support”, are determinants of self-esteem (Harter, 1993). Harter (1982) found that beginning around 8 years of age, domain-specific evaluations develop; these are related to the youth’s competence as well as to a global concept of self-worth. Harter (1982) investigated which domains were most important for children and adolescents in order to experience perceived competence. The domains of perceived competence found most meaningful for youth were scholastic competence, athletic competence, social acceptance, physical appearance, and behavioral conduct (Harter, 1982). When a discrepancy exists between a domain deemed important and one’s perceived success or incompetence in that domain, self-esteem is impacted and the larger this discrepancy, the lower one’s self-esteem. The correlations between a domain of importance and perceived competence have ranged from .60 to .70, providing strong evidence for this assumption (Harter, 1993).

It should be noted that competence in domains deemed important for older children and adolescents impact children 7 years and younger to a lesser degree (Harter, 1984). Young children (i.e., 7 years and younger) are unable to make judgments about their self-worth or compare themselves with others in meaningful ways (Harter, 1983; Harter, 1993; Higgins, 1989; Jerome Fujiki, Brinton, & James, 2002). For instance, younger children have not developed descriptors and trait labels such as “smart,” “popular,” and “athletic.” Instead, the self-representations of young children tend to include behavioral descriptions, abilities, and preferences (Jerome et al., 2002). Younger children use behavioral descriptions of their specific abilities such as running fast or playing with friends (Harter & Connell, 1984). Therefore, Harter (1983) has found the most significant domains for young children appear to be those of perceived cognitive and physical competence (e.g., being good at puzzles, good at counting, good at swinging, and good at running) and peer and maternal acceptance (e.g., has friends on playground, gets asked to play with others, parent plays with the child, parent talks to the child).

In addition to perceiving the self as competent in specific domains deemed important by youth, Harter’s model argues that positive appraisals from significant others such as peers and caregivers are important determinants of self-esteem. Harter investigated which of the five previously identified domains were critical for youth’s friends and parent’s children to demonstrate competence (Harter, 1982; Harter & Connell, 1984). Findings indicated that one’s peers place significant value on physical appearance, social acceptance, and athletic competence of similar aged peers. However, parents place more importance on the scholastic competence and the behavioral conduct

of their children (Harter, 1982). These findings are important because a child's level of competence has a direct influence on the amount of social support (e.g., support from parents and peers) he or she receives. Domains such as physical appearance, peer likability, and athletic competence have a stronger relationship to peer support, compared with parent support. In contrast, scholastic competence and behavioral conduct have a stronger relationship to parent support rather than to one's peer's support. If the amount of approval one receives from significant others (e.g., peers and parents) is contingent upon demonstrating competence in these domains, then self-enhancing social support will not be available for those children that have deficits in these domains (Harter, 1993).

Understanding the causes and correlates of self-esteem is important because the significant impact that self-esteem has on the emotional health of children and adolescents (Renouf & Harter, 1990). For decades, self-esteem has been thought to play a central role in depression (Blatt, 1974). This makes sense given the fact the one's self-esteem significantly influences his or her self-evaluations (Harter, 1993). When individuals have negative self-evaluations related to areas in which they wish to excel, depression, anxiety, and hopelessness can emerge (Abramson, Metalsky, & Alloy, 1989; Baumeister, 1990; Higgins, 1987; Overholser et al., 1995). Research has demonstrated that self-esteem and affect are strongly related in youth, with correlations ranging from .72 to .80. (Harter, 1993). Renouf and Harter (1990) found that children and adolescents who reported low self-esteem consistently reported depressed affect, providing further evidence that self-esteem is highly correlated with affect. Low self-esteem has not only been implicated in depressive reactions, but also has also been correlated with general hopelessness as well (Harter, 1993; Beck 1986). According to Harter (1993), both a

discrepancy between a domain deemed important and perceived competence, as well as lack of social support incite powerful emotional reactions that can result in a depressed mood state for the child or adolescent with low-self esteem (Harter, 1993). Important to note is that lack of social support, low self-esteem, depressed affect, and hopelessness have been identified as correlates that are predictive of suicidal behaviors (Baumeister, 1990; Beck, 1986; Cicchetti & Schneider-Rosen, 1986).

Overall, healthy self-esteem in children and adolescents can be viewed as a protective factor that helps an individual adapt to environmental demands (Harter, 1993; Jerome et al., 2002), and that deficits in self-esteem can have devastating psychosocial consequences (Haney & Durlack, 1998; Sim et al., 2006). Harter (1993) proposes that shifts in competence in important domains, as well as changes in approval or disapproval from significant others, should result in corresponding changes in self-esteem. Therefore, intervention efforts to reduce the discrepancy between competencies in domains of importance and to provide support that validates the self can lead to improvements in self-esteem.

Social Skills and Self-Esteem

Harter's (1993) theory of self-esteem provides insight into the critical connection between social skills and self-esteem. According to Harter, social acceptance is one of the most salient domains of competence for youth (Harter, 1982); therefore, social competence plays a vital role in self-esteem. Within the plethora of literature on social skills, the terms "social skills" and "social competence" tend to be used synonymously. However, many authors pointedly distinguish between these terms (e.g., Magg, 2006). The definition of social skills has undergone numerous variations over the past several

decades (Libet & Lewinsohn, 1973; Trower, 1980). Most commonly, social skills are conceptualized as learned behaviors or abilities that individuals use to gain or maintain reinforcement in interpersonal situations (Kelly, 1982). Social skills are necessary to interact successfully with others and to develop social competence (Gresham, 1988). Gresham (1988) describes social competence as an indicator of an individual's social functioning. The adequacy of one's social competence is determined primarily by increased ratings on acceptance by peers and positive appraisals from significant others in the child's life (Gresham, 1988). Social competence increases the likelihood that individuals will be sought out for future interpersonal opportunities and be more psychosocially adjusted, compared with those individuals with social skill deficits (Kelly, 1982). For the purposes of this paper, the term social skills will refer to specific pro-social behaviors and abilities, whereas social competence is considered the outcome or result of adequate social skills.

The vast research literature on this topic distinguishes between two levels of social skills (i.e., micro-level skills and macro-level skills) (Spence, 2003), and two categories of social skill deficits (i.e., acquisition deficits and social skill performance deficits) (Gresham, 1997). In order to provide effective interventions and identify appropriate goals for social skill interventions, it is necessary to identify the level and category of specific skill deficits. Micro- and macro – level skills are considered two significant, integrated factors that determine social competence (Spence, 2003). Micro-level skills refer to non-verbal and verbal responses such as eye-contact, facial expression, and tone and volume of voice. Macro-level skills are more complex and involve recognizing moments appropriate for initiating on-topic conversation,

appropriately saying “no,” joining a group, asking for help, etc. (Spence, 2003). During social interactions, individuals with micro- and macro- level deficits are faced with many challenges such as monitoring their behaviors, interpreting social cues, and understanding the body language of others. The degree to which a child possesses micro – and macro-level deficits can determine the success rate of social interactions (Spence, 2003).

Furthermore, Gresham (1997) has identified two categories of skill deficits – acquisition and performance. Children with acquisition deficits are conceptualized as not possessing a specific social skill in their behavioral repertoires. In contrast, performance deficits occur when children have acquired the skills, but fail to demonstrate them appropriately in interpersonal situations (Gresham, 1997). These deficits are not mutually exclusive and a child can have a combination of both (Spence, 2003).

Whether children have acquisition or performance social skill deficits, they are at higher risk for developing low self-esteem compared to their socially competent peers (Jerome et al., 2002). Social skill deficits have been associated with numerous negative consequences such as academic and occupational underachievement, mood disorders, and impairments in adaptive functioning (Coie et al., 1995; Elliott et al., 2001; Howlin & Goode, 1998; Myles et al., 2001), and the development of substance abuse problems (Greene et al., 1999). Clinical populations, specifically those with Attention Deficit Hyperactivity Disorder (ADHD), high functioning Autistic Spectrum Disorder (ASD), anxiety, and other disruptive behaviors of childhood are challenged by social tasks and frequently experience peer rejection as a result of their socially undesirable behavior (Barry et al., 2003; Cantwell, 1996; Lochman & Lampron, 1986; Rao, Beidel, & Murray, 2008; Sim, Whiteside, & Dittner, & Mellon, 2006; White & Robertson-Nay, 2009).

According to Harter (1993), peer acceptance is one of the most salient domains for children and adolescents in combination with social support/acceptance from peers and caregivers, leading potentially to a positive sense of self. Conversely, peer rejection and associated lack of social support/acceptance is predictive of low self-esteem. Deficits in social skills in combination with low self-esteem and peer rejection often experienced by these clinical populations, demands attention because of associated long term and short term consequences such as anxiety, depression, substance abuse, school failure, social isolation, suicide, and delinquency (Barry et al., 2003; Blascovich & Tomaka, 1991; Chamberlain, 2001; Kupersmidt & Dodge, 2004; White & Roberson-Nay, 2009).

Social Skill Deficits in Clinical Populations

The specific types of social skill deficits displayed by the aforementioned clinical populations vary; however, they commonly result in undesirable behavior that often leads to rejection by peers and lack of social support/acceptance from peers and caregivers. The population of children affected by significant social skills deficits is alarming, particularly in consideration of the reported statistic that 1 in every 68 children is diagnosed with Autistic Spectrum Disorder (ASD) (CDC, 2014). Although ASD is not the only mental health disorder of childhood that is marked by social skills deficits, it is the only one that has social skill deficits as diagnostic criteria (APA, 2013). The language and cognitive abilities differ significantly in children with high functioning ASD, compared with children with low functioning ASD, yet many times the same social skills interventions are used for both populations (Attwood, 2000; Rao et al., 2008). Specifically, children identified as low functioning ASD often have significant deficits in language and cognitive abilities, whereas children considered higher functioning have an

IQ at or above average (Volkmar & McPartland, 2014). In addition, research frequently considers children with ASD a homogenous population disregarding the unique differences among this population. As a result, SST outcome literature on children with ASD rarely examines findings separately for children on the higher end of the spectrum (Rao et al., 2008). This is unfortunate because the SSTs for children with ASD are not designed to target the specific skill deficits present in children with high functioning ASD (Rao et al., 2008).

Children with high functioning ASD have language and intelligence within normal limits, but they demonstrate many macro-level skills deficits such as perspective taking and sharing the affective experience of others, which are necessary to establish social reciprocity and friendships (Gutstein & Whitney, 2002; Rao et al., 2008). Children with high functioning ASD often have a preoccupation with an interest that is excessive in intensity or focus (APA, 2013; Barry et al., 2003) and are rigid in their thinking, have weak central coherence, and deficits in theory of mind (Gutstein & Whitney, 2002). For instance, children with high functioning ASD have a tendency to monopolize conversations or suddenly leave a conversation while another person is trying to interact with them (Barry et al., 2003). These deficits can make it difficult for children with ASD to interact socially and develop friendships with peers. Research on children with high functioning ASD points out that, contrary to popular belief, these children have an acute awareness of their challenges with social interactions and as a result are susceptible to loneliness, anxiety, and depression (Attwood, 2000; Barry et al., 2003; Rao et al., 2008; White & Roberson-Nay, 2009).

Another commonly referenced clinical disorder that is frequently associated with social skills deficits is Attention Deficit Hyperactivity (ADHD). ADHD is one of the most frequently diagnosed childhood mental health disorders and affects between 3% - 7% of school age children (Polanczyk & Rohse, 2007). Children with ADHD often demonstrate undesirable behavior because of their symptoms related to inattention, impulsivity, and hyperactivity (APA, 2013). Klimkeit, Graham, and Morling (2006) found that children diagnosed with ADHD have more deficits in social and communication skills, compared with children and adolescents without ADHD. Social impairments in children with ADHD are compounded by the fact that approximately 60% of children diagnosed with the disorder have comorbid disorders such as conduct disorder (CD) or oppositional defiant disorder (ODD), which can make them more resistant to treatment interventions (Barkley, Fischer, Edelbrock, & Smallish 1990; Wilens et al., 2002). Children with ADHD often present with undesirable social behavior demonstrated by less sharing, less cooperation, and less turn taking (Barkley, 2006). In addition, Barkley (2006) has found that children with ADHD frequently demonstrate intrusive, commanding, and hostile behavior, with up to 70% of children losing most close friends by 3rd grade, especially if the disorder is comorbid with CD or ODD. Overall, children with ADHD have been found to lack friends, have difficulty with peer relationships, have fewer reciprocal friendships, and frequently experience peer rejection (Barkley et al., 1990; Becker et al., 2006).

Similar to children with ASD and ADHD, children with other disruptive behavior issues (including those that demonstrate oppositional behavior and conduct problems) have also been shown to have social skills deficits and consequently, experience peer

rejection (Pepler et al., 1995). Conduct problems and oppositional behavior can present alone or are frequently comorbid with other mental health disorders such as ADHD (Barkley et al., 1990; Wilens et al., 2002). Children who present with conduct and oppositional behavior problems tend to exhibit biases in social problem solving and with deficiencies in various cognitive processes, which are thought to be causal factors related to their conduct problems (Dodge & Pettie, 2003; Kazdin, 2010). For instance, children with these behavioral issues often experience perceived provocation and make negative attributions to others about the motivation for their own actions (Kazdin, 2010). In addition, these children have difficulty with generating alternative solutions to interpersonal problems, with understanding the “cause and effect” of their behaviors, and with problem solving (Kazdin, 2010).

Children can have social skills deficits for many reasons; the severity and consequences of these deficits vary on a continuum. However, children with high functioning ASD, ADHD, or who present with anxiety or other disruptive behaviors have significant social skills deficits and are at a greater risk for experiencing peer rejection and low self-esteem, compared with their typical peers (Barkley, 2006; Pepler et al., 1995; White & Roberson-Nay, 2009). As result of the negative outcomes associated with deficits in social skills, social skill training has become a common intervention to address these deficits among these clinical populations.

Social Skill Training (SST)

Clinical populations with significant social skills deficits are growing, highlighting the need for effective interventions (Polanczyk & Rohde, 2007; Rao et al., 2008). Social Skill Training (SST) programs are a standard in multicomponent

interventions for populations with deficits in this area (Spence, 2003). SSTs have been used for decades to promote children's social skills and social competence (Beelmann et al., 1994; Kelly, 1982). Additionally, these interventions have been employed with a variety of populations with social problems ranging from socially isolated and withdrawn (Kelly, 1982) to children presenting with aggressive behaviors (Kazdin, 1987). Over the course of years, the quantity of research literature on SSTs has become overwhelming, thus making it difficult to draw consistent conclusions, to organize, and present overall findings. In an effort to organize and make sense of the vast amount of SST literature, conducting meta-analysis and even "mega" analysis has become a trend. The majority of research in this review will be based on findings from the most recent or most recognized analyses conducted on heterogeneous populations with social, emotional, or behavioral issues because these are the most highly representative of the population in this study (e.g., Beelmann et al., 1994; Cook, Gresham, Kern, Barreras, Thornton, & Crews, 2008; Gresham, Sugai, Horner, 2001; Quinn, Kavale, Mathur, Rutherford, Forness, 1999; Magg, 2006).

Social Skills Training is a broad term and these trainings vary in format, technique, and setting. The curriculum implemented is dependent on the developmental level, cognitive abilities, and specific social deficits and goals shared by the children (Cartledge & Milburn, 1995). To clarify the term "social skills training" for the purposes of this paper, a brief overview of the different approaches is offered from a meta-analysis conducted by Beelmann et al., (1994). Beelmann et al. (1994) proposed four "conceptions" (p. 260) upon which SSTs are based. The first is referred to as the "social skills approach." SSTs, in this conceptualization, teach specific behavioral skills to

improve social interactions and cognitive competencies. For instance, concrete motor responses are taught, using modeling and reinforcement (Beelmann et al., 1994). In addition, modifying unhelpful social cognitions, which lead to improvements in interpersonal interactions, are other examples (Kendall, Howard, & Hays, 1981). The second approach is the “social problem-solving approach.” This approach is geared toward teaching competencies in understanding the cause and effect of behavior, generating alternative solutions and means-ends thinking. The third approach, identified by Beelmann et al. (1994) highlights the important role of “social perspective taking” in interpersonal interaction. In this approach, children practice perceiving and evaluating interactions from a peer’s perspective. The fourth approach in the SST literature is identified as “self-control trainings” (Beelmann et al., 1994). The trainings aim to improve the child’s ability to make a decision to act or inhibit action before responding in social situations (e.g., Camp, Blom, Herbert, & van Doornick 1977). Ultimately, the goal of SST programs is to improve upon the acquisition, the performance, generalization, and/or maintenance of prosocial behaviors and eliminate or decrease competing problem behaviors (Cook et al., 2008).

Social skills trainings have evolved and have become more complex, incorporating situational, behavioral, cognitive, and emotional training approaches. Because of this, Beelmann et al. (1994) suggests that SSTs should instead be referred to as social competence trainings (SCT). Beelmann et al.’s., (1994) rationale for using the term “SCT” makes sense because SST’s ultimately aim at improving social competence; however, for simplicity and the fact that the majority of the literature utilizes the term “social skills” trainings, this review will also employ the term SSTs. Borrowing from the

definition of SST from Beelmann et al. (1994) and Cook et al. (2008), the SSTs referred to in this review are considered behavioral and/or cognitive interventions that are designed to train or modify the motor (e.g., reciprocal play), cognitive (e.g., perspective taking), and/or affective (e.g., anger management) components of social behavior, enabling the child to experience greater success in his or her social environment.

Numerous narrative, mega-, and meta-analytic reviews have been conducted to examine the efficacy of SSTs and results have been mixed (Beelmann et al., 1994; Cook et al., 2008; Gresham, et. al., 2001; Gresham et al., 2004; Haney & Durlak, 1998; Magg, 2006; Quinn et al., 1999; Schneider, 1992). Three notable mega-analyses conducted over the past fourteen years include Gresham et al. (2001), Magg (2006), and Cook et al. (2008). These reviews are notable because they include reviews of SST studies that have been consistently referenced in the literature over the past several decades. Gresham et al. (2001) and Magg (2006) reviewed both narrative studies and meta-analytic studies, but Cook et al. (2008) focused solely on meta-analyses. These three mega-analysis focused specifically on students with high-incidence disabilities (e.g., learning disabilities, emotional disturbance, attention deficit hyperactivity disorder) or “emotional and behavior” disorders; effect sizes ranged from very low (Quinn et al., 1999) to very high (Schneider, 1992). Specifically, the reviews were interested in examining whether or not SST is effective at improving social competence by increasing the acquisition, performance, and generalization of prosocial behavior and enhancing interpersonal relationships with peers and adults.

Although narrative reviews provide important data, Magg (2006) points out that they must be reviewed with caution. Gresham et al. (2001) reviewed twelve studies, six

of which were narrative and Magg (2006) reviewed thirteen studies, nine of which were narrative. Magg (2006) argues that narrative reviews are challenging to summarize because researchers use their own professional judgments, and that these types of reviews are considered very subjective (Magg, 2006). Despite the subjective nature of narrative reviews, a brief discussion of their findings is warranted. From the six narrative reviews examined by Gresham et al. (2001), the following conclusions were made: behavior procedures such as modeling, coaching, and reinforcement appeared to be the most effective strategies; cognitive-behavioral strategies such as social problem-solving and self-instruction demonstrated weaker efficacy, compared with behavioral approaches; generalization of skills across settings and over time appeared to be a consistent problem; studies using cognitive behavioral interventions frequently used outcome measures lacking social validity (e.g., measures of social cognition); there seems to be a correlation between the dose of SST interventions and the effects, and matching intervention strategy with social skills deficits seemed to produce positive results (Ager & Cole, 1991; Gresham, 1988, McIntosh & Zaragoza 1991; Zaragoza, Vaughn, & McIntosh, 1991). Magg (2006) reported that conclusions from the narrative reviews were described as ranging from “lack of evidence” and “cautious optimism” to “strong support” and “promising results” (Ager & Cole, 1991; Coleman, Wheller, & Webber, 1993; Landrum & Lloyd, 1992; Mathur & Rutherford, 1991; Zaragoza et al., 1991). Reflected in these conclusions are the inconsistent findings regarding the efficacy of SSTs.

To glean a more detailed understanding of the inconsistent findings related to the efficacy of SSTs, an examination of the meta-analyses is warranted. Gresham et al. (2001) reviewed six meta-analyses that included youth with or at risk of emotional and

behavioral disorders (Beelmann et al., 1994; Coleman et al., 1993; Denham & Almeida, 1987; Forness & Kavale, 1999; Mathur, Kavale, Quinn, Forness, & Rutherford 1998; Schneider, 1992). Maag (2006) reviewed three meta-analyses and one “quantitative” review on the efficacy of SSTs for children with emotional and behavioral disorders. The three meta-analytic reviews (see Beelmann et al., 1994; Mathur et al., 1998; Quinn et al., 1999) demonstrated inconsistent findings. The two meta-analyses using all group designs, Quinn et al. (1999) and Beelmann et al. (1994) had effect sizes ranging from *ES* of 0.199 to an *ES* of 0.85. The third meta-analysis, Mathur et al. (1998), was based on single subject designs and demonstrated that SST was mildly effective (PND score of 64%) (Magg, 2006).

Magg (2006) pointed out that caution should be taken when reviewing Beelmann’s (1994) positive findings. Beelmann’s et al. (1994) meta-analysis divided subjects into three categories, which included “at-risk,” “externalizing syndromes,” and “internalizing syndromes.” The “at-risk” group, which fared the best (*ES* = .85), were children who had minimal deficits in social competence and were defined as children experiencing “social deprivation and confronted with critical life-events” (Beelmann et al., 1994, p.263). This group produced the highest effect size (*ES* = 0.85), but, as Magg (2006) pointed out, the other two groups produced moderate effect sizes – “externalizing syndromes” (*ES* = 0.48) and “internalizing syndromes” (*ES* = 0.50) (Beelmann et al., 1994). These findings imply that children identified as already experiencing an internalizing or externalizing disorder will demonstrate less improvement, compared with “at risk” peers.

Other researchers have pointed out the limitations of the meta-analysis conducted by Quinn et al. (1999). For example, Gresham, Cook, and Crews (2004) critically examined a number of SST meta-analyses on children with emotional and behavioral disorders. Gresham et al. (2004) argue that the findings from Quinn et al. (1999) should not be considered as demonstrating the status of SST for youth with emotional and behavioral disorders because only two studies in the meta-analysis examined a sample of children that had emotional and behavioral disorders (Gresham et al., 2004). This is important because research often refers to Quinn et al. (1999) when reporting that SSTs are ineffective. More promising outcomes were found for the one quantitative analysis reviewed by Magg (2006). This review included 28 studies (see Singh, Deitz, Epstein, & Singh, 1991). The studies were summarized using a 3 point coding scale; 16 of them received a rating of 2 (75% to 100% mean reduction from baseline); seven were rated at a 1 (51% - 74% mean reduction), and five were rated at a 0 (less than or equal to 50% mean reduction from baseline).

Cook et al. (2008) conducted a more recent mega-analysis on five meta-analyses with samples of participants with or at risk for “emotional and/or behavioral” disorders, aged 11 to 19 years old (Ang & Hughes, 2001; Beelmann, et al., 1994; Durlak, Fuhrman, & Lampman, 1991; Losel & Beelmann, 2003; Schneider & Byrne, 1985). The weighted mean effect size across studies was $r = .32$, which indicated medium effects for SST, according to Cohen (1992). These findings suggest that the overall rate of improvement for youth aged 11 – 19 years old receiving SST is 66%, compared with a 34% improvement rate for controls (Cook et al., 2008). According to Cohen (1992), a medium effect size is one in which the effect would be noticeable in everyday life. The five meta-

analyses reviewed in the Cook et al. (2008) study demonstrate that the youth participating in SSTs evidenced practically important changes in social behavior, relative to controls. These findings are consistent with the Gresham et al. (2004) critical review of meta-analysis, which concluded that SST for children with emotional and behavior disorders show improvement in 63% of the participants receiving SST, as compared with 37% of controls.

A consensus has been reached in the literature that SSTs are an effective intervention in the short term. However, the degree to which the SST is effective is dependent on many variables (Beelmann et al., 1994, Reichow & Volkmar, 2010; White et al., 2007). Gresham et al. (2001) argued that these inconsistent findings are the result of five major issues that continue to be relevant today. These issues include: population characteristics, absence of matching treatments to the type of social skill deficit, treatment integrity issues, assessment issues, and generalization issues. In terms of population characteristics, the presenting problems and age of the subjects may be factors that influence change. Gresham et al. (2001) suggested some students may show a “resistance to intervention”, which is thought to be the absence of change in target behaviors as a function of a given intervention. Basically, an absence of change from pre- to post-intervention may be due to the low strength or intensity of the intervention, relative to the severity of the problem behavior (Gresham et al., 2001). Thus, the dose of treatment is an important factor to consider along with the presenting problem behaviors. In addition, age may be a factor that influences the amount of change demonstrated from a given intervention. For instance, the average age in Mathur et al.’ (1998) and Kavale and Forness’ (1999) meta-analyses was 12 years old and in Cook et al. (2008), youth

ranged from 11 years to 19 years. Gresham et al. (2001) pointed out that SST interventions may not be able remediate significant social skills deficits successfully in children 12 years and older because these patterns of behavior may be too deeply ingrained. Similarly, Kazdin (2010) suggests that in order to change behavior patterns, the ideal age for intervention is younger than 8 years old.

Another criticism offered by Gresham et al. (2001) was that treatment interventions do not often consider the specific skill deficits students may have. Research on SSTs demonstrates that there is rarely an assessment made about whether or not the youth even need to be taught the target behaviors selected in the SST (Forness & Kavale, 1999; Gresham et al., 2001). Acquisition deficits require different treatment interventions compared with performance deficits (Gresham et al., 2001). Acquisition deficits imply the child has not learned the behavior and interventions that would include modeling, coaching, and rehearsal, usually in a small-group setting. Conversely, performance deficits require reinforcement of desired social behavior because these skills have already been acquired. Interventions would ideally be conducted in a naturalistic setting (e.g., playground) and would include strategies such as peer initiation strategies and incidental learning to manipulate antecedents, or contingency contracting and group-oriented contingency systems to manipulate consequences (Gresham et al., 2001). This important distinction is often ignored and SSTs often disregard matching the skill deficits with the intervention. Furthermore, treatment is also frequently delivered with disregard for integrity, resulting in ineffective outcomes. Greshman et al. (2001) points out that treatment integrity data is absent in the SST research, therefore making it difficult to draw conclusions about the causes of ineffective treatments.

The last two issues contributing to inconsistent effective sizes are related to outcome assessment and generalization/maintenance issues, and are common criticisms across reviews in the SST literature (Beelmann et al., 1994; Greshman et al., 2001; Magg, 2006). A common flaw discussed across studies was that outcome measures show little correspondence with the behaviors being taught and those being assessed. SST research has been accused of using a variety of strategies when using outcome measures, such as “home made” measurements and results on social cognition tests (Greshman et al., 2001). Greshman et al. (2001) argue that reliability and validity, specifically social validity, are disregarded. Undoubtedly, this could be a contributing factor to the weak effects found in some SST research. Gresham et al., (2001) suggested that the use of measures, such as those of peer acceptance/rejection, friendship status, teacher or parent judgments, and types of archival data would be beneficial because they are considered socially valid, compared with measures such as observations of social behavior. The issue related to outcome assessments also highlights the potential importance of the dose of treatment. Gresham et al. (2001) noted that large changes in prosocial behaviors may require longer periods of time in order to be reflected on outcome measures. Gresham et al. (2001) argued that most SSTs are a total of 30 hours or shorter in duration over 10 -12 weeks, and that this may not be a long enough time for improvements to be seen on outcome measures.

Last, the most frequently mentioned issue in the SST literature currently and for the past few decades, is generalization and maintenance issues (Beelmann et al., 1994; Cook et al., 2008; Gresham et al., 2001; Magg, 2006). SSTs are often taught in a didactic manner in a small group setting (Gresham et al., 2001). Haring and Breen (1992) argues

that this approach uses contrived situations and decontextualizes social behavior. The nature of social behavior is contextual; therefore interventions that disregard context will face significant generalization difficulties (Gresham et al., 2001). One frequent recommendation for using a contextual approach is using a naturalistic setting and incorporating the use of incidental learning or teachable moments. Environments such as a playground or community setting offer contextually relevant opportunities for learning prosocial behavior (Gresham et al., 2001). Rao, Beidel, and Murray (2008) also argue that the use of naturalistic settings and “programmed practice “(p. 359) can ensure generalization. The opportunity to practice skills with unfamiliar adults and peers in unfamiliar naturalistic settings seems to be a necessary treatment component (Rao et al., 2008).

Social Skills Training and Self-Esteem

Based on Harter’s (1993) theory of self-esteem, self-esteem and social skills can be understood as having a mutually reinforcing relationship. High self-esteem would indicate positive social support and social competence through strong social skills. Similarly, strong social skills indicate social competence and social support, which reinforces high self-esteem.

A common premise of SST’s is that improving social skills will result in positive changes in self-esteem (Haney & Durlak, 1998). Many SST programs do assume that changes in self-esteem will occur as social skills improve; however, SST research on this relationship for clinical populations is sparse and outdated. Conversely, there is an abundance of SST literature on self-esteem and non-clinical populations (Barrett, Webster, & Wallis, 1999; Bijstra & Jackson, 1998; Haney & Durlak, 1998). These

studies have predominately been conducted in the school setting and findings support the assumption that SSTs can improve self-esteem in non-clinical populations (Barrett et al, 1999; Bijstra & Jackson, 1998). SST research on clinical populations has either neglected to incorporate self-esteem outcome measures or is outdated and has evidenced mixed findings for improvement in self-esteem (Haney & Durlack, 1998; Schneider, 1992).

Schneider (1992) conducted a meta-analysis of 79 controlled studies of children's SSTs. The studies included SSTs conducted on a range of populations and the sample of children was divided into five categories. These included twenty-five studies with children that were classified as "not diagnosed exceptional," nine categorized as unpopular, nine as withdrawn, thirteen as aggressive, and sixteen as "other." The meta-analysis selected two dependent variables: source of information and outcome variable. The source of information dependent variable included self-, teacher-, peer- ratings, observation, and role-play. The dependent variable for outcome variables included social interaction, peer acceptance, aggression, self-concept, social-cognitive, and academic achievement. Findings indicated that the social interaction outcome had a moderate effect ($ES = .42$), followed by the outcomes of social-cognitive (.33), peer acceptance (.22), aggression (.20), academic achievement (.19); the lowest effects were found for self-concept ($ES = .16$). Several considerations must be taken into account when reviewing these findings. First, there was a wide range of populations included in this meta-analysis, such as youth presenting with non-clinical and with clinical issues. Second, outcome measures ranged in quality and were not always representative of global self-esteem or self-concept. Last, SST was defined broadly and consisted of prevention and intervention programs using a variety of methods (e.g., coaching, modeling, assertiveness training,

and role-play). These considerations call into question the accuracy of the low effect for improvements in self-concept.

Haney and Durlak (1998) also conducted a meta-analysis examining changes in self-esteem in youth; it evidenced mixed support for the relationship between SST and improvement in self-esteem. The review included 116 controlled studies on a variety of interventions. Haney and Durlak (1998) separated studies into two categories. One category included 49 studies with the primary goal of increasing self-esteem/self-concept (SE/SC studies); the second category included 71 studies that had a different primary focus (e.g., improve social skills), but included an outcome measure of self-esteem/self-concept (non-SE/SC studies). Prevention studies accounted for 51.6% of the meta-analysis and 48.4% of the analysis was based on treatment studies. Findings indicated that the mean *ES* for SE/SC studies was significantly higher, compared with the mean *ES* from all non-SE/SC interventions (0.57 vs. 0.10, respectively, $p \leq .01$), and that treatment studies were more effective, compared with prevention programs at changing self-esteem. The investigators concluded that gains in self-esteem be made only when an intervention's primary goal is to improve self-esteem. Basically, interventions with other primary goals, such as improving social skills, would not be successful at improving self-esteem. However, caution should be taken in generalizing these findings to SSTs, which were considered a non-SE/SC group. For instance, an examination of the non-SE/SC studies revealed a range of interventions, including those to improve academic achievement, support children of divorce, teach relaxation, affective education, and parent training. There were only a few SST interventions in the non-SE/SC studies and

they presented mixed findings related to improvements in self-esteem (e.g., Amerikaner & Summerlin, 1982; Biermann & Furman, 1984; Kendall & Braswell, 1982).

Amerikaner and Summerlin (1982) investigated the effects of a social skills training and relaxation training on self-concept and classroom behavior. The study included 46 first and second grade students identified as having learning disabilities. The outcome measure for self-concept was the *Primary Self-Concept Inventory* (Muller & Leonetti, 1974), which included three subscales: personal self (global self-esteem), social self (perceived social competence), and intellectual self (academic competence). The *Walker Problem Behavior Identification Checklist* (Walker, 1976) was used to measure classroom behavior. Findings indicated that the SST group had higher scores of positive social self-concept, compared with the relaxation and control group, and no changes were found in any group on the personal self or intellectual self subscales. According to these findings, children in the SST evidenced higher scores on social competence, but no changes were found in global self-esteem or academic competence. However, this study presented significant flaws. For instance, only post-intervention data were collected and the two intervention groups were composed of 15 children, and the control group 16 children. The low sample size and absence of pre-intervention data call into question the accuracy and validity of these findings.

Similar to Amerikaner and Summerlin (1982), Bierman and Furman (1984) also found that SST was associated with improvements in social competence, as opposed to self-esteem. Bierman and Furman (1984) assigned 56 fifth- and sixth grade children, identified as unaccepted by peers and as having deficits in conversational skills, into 1 of 4 treatment conditions. The treatment conditions included individual conversational skills

training, group peer involvement under superordinate goals, conversational skills training combined with peer involvement, and a no-treatment control. Although the investigators claimed to measure self-perception, the measures used were not reflective of this construct. Self-perception was measured by the *Social Self-Efficacy Scale* (Bierman & Furman, 1984), which was designed by the investigators, and the social competence subscale of Harter's (1982) *Perceived Competence Scale for Children*. Both of these scales demonstrated a significant main effect for peer involvement. However, although the investigators reported they were measuring self-perception/self-concept, the measures employed were measures of social competence. For instance, only the social competence subscale was utilized from Harter's (1982) perceived competence measure, and social competence was the only domain assessed by the investigators measure. Ultimately, the children that received the group treatments rated themselves as more socially competent at post-treatment, compared with the individual skills training group and no-treatment controls. These findings demonstrate support for the use of group interventions to improve social competence, but do not offer any evidence supporting the relationship between SSTs and improvements in self-esteem. Despite this fact, Bierman and Furman's (1984) study was included in the meta-analysis conducted by Haney and Durlak (1998), which claimed to be investigating changes in youth self-esteem. The presence of studies in this meta-analysis that do not actually measure self-esteem provides more reason to view the findings from Haney and Durlak (1998) with caution.

Another SST study included in Haney and Durlak's (1998) review was conducted by Kendall and Braswell (1982) and demonstrated a relationship between a cognitive-behavioral self-control therapy and improvements in self-esteem. Kendall and Braswell

(1982) investigated the effects and differences between a cognitive-behavioral self-control therapy, behavior self-control therapy, and attention-control condition, and included an outcome measure of self-esteem. The subjects ranged from 8 – 12 years old and were identified as “non-self-controlled problem children.” There were several outcome measures consisting of behavior rating scales, behavior observations, self-report of the child’s self-esteem from the *Piers-Harris Children’s Self-Concept Scale* (Piers-Harris, 1969), and an in-therapy measure. The cognitive-behavioral intervention was identified as the only group to show significant improvements in self-concept when pretreatment to post-treatment, within-group changes were examined; these were in addition to improvements in self-control and hyperactivity (Kendall & Braswell, 1982). This study provides evidence that improvements in self-control and self-esteem can be made for children with behavior issues, using a CBT based SST (Kendall & Braswell, 1982). As demonstrated by the few studies conducted on the relationship between SST and self-esteem, it remains unclear if SSTs can improve self-esteem.

Research has shown that children with significant social skill deficits experience peer rejection, which damages their sense of “self” and results in low self-esteem (Barry et al., 2003; Cantwell, 1996; Rao et al., 2008; Sim et al., 2006). The relationship between SSTs and improvement in self-esteem is important (Riggio et al., 1990) and many SSTs are based on the assumption that improvement in social skills will also result in an increase in self-esteem (Haney & Durlak, 1998). Research on SSTs for non-clinical populations provides support for this relationship (Barrett et al., 1999); however, the SST literature as it pertains to clinical populations is outdated and reveals mixed findings (Haney & Durlak, 1998; Schneider, 1992). The reasons for the inconsistent findings can

be attributed to two notable factors that emerged from the current review. For instance, the term SST is often used as an umbrella term to label a large variety of interventions making it difficult to draw conclusions about which SSTs have an impact on self-esteem. In addition, self-esteem is also defined differently throughout the studies and is represented by various outcome measures (e.g., self-perception, social competence). Without a consistent description of the elements that constitute a SST and consistent definition of self-esteem with representative outcome measures, the findings will remain inconsistent. In light of the fact that clinical populations with significant social skills deficits often face significant peer rejection impacting their self-esteem (Coie et al., 1995; Bijstra & Jackson, 1998; Elliott et al., 2001; Howlin, Goode, Hutten, & Rutter, 2004), SST programs that can successfully address these factors, in addition to social skills, would be beneficial. One important step toward identifying these programs involves the call for research to consistently incorporate outcome measures that accurately represent self-esteem.

Overall, the SST literature reveals that SSTs are a promising intervention for youth with social skills deficits and that there are many variables that contribute to the effectiveness of a given SST. Three major criticisms are apparent and are important to note, after reviewing the studies on SSTs. First, the generalization and maintenance of skills, across time and settings, are lacking and must to be addressed (Gresham et al., 2001). Second, the majority of the research has been conducted primarily on student populations in the school environment (Cook et al., 2008; Gresham et al., 2001; Magg, 2006). Last, due to the frequent experience of peer rejection and the important role of self-esteem in the psychosocial development of youth with social skills deficits, accurate

and reliable outcome measures of self-esteem should be consistently included in studies. Including such measures will help identify which SST programs impact self-esteem, in addition to improving specific social skills (Bijstra & Jackson, 1998). The question remains, concerning whether or not SST's that incorporate interventions aimed at improving self-esteem can improve social skills, increase self-esteem, and facilitate peer acceptance in populations with significant social skills deficits.

Cooperative Group Play and Developmentally Appropriate Games

One promising treatment model that addresses issues of generalization by using naturalistic environments and incorporates improving self-esteem as a treatment goal is group cooperative play, using developmentally appropriate games (DAGs). Teaching children in the context in which they work and play has been shown to promote generalization of skills (Hoag & Burlingame, 1997; Reddy et al., 2001). It has also been well established that play is an important factor in child development, serving as an instrument for communication and socialization (Bay-Hinitz et al., 1994; Garaigordobil, Maganto, & Etxeberria, 1996; Isenberg & Quisenberry, 1998). Play has been described as, "...the child's workshop, a place where rules, behaviors, and consequences are explored, changed, and learned" (Bay-Hinitz et al., 1994, p. 435). Thus, it follows that the use of play would be an appropriate avenue for youth to learn social skills, and games are a central component of play (Bay-Hinitz et al., 1994).

Research has long demonstrated the positive effects that play, specifically cooperative games, has on the socialization and prosocial behaviors of children (Ames, 1981; Bay-Hinitz et al., 1994; Garaigordobil et al., 1996; Orlick, 1981). Based on the positive findings evidenced by the research on cooperative play, Reddy et al. (2001)

developed the concept of Developmentally Appropriate Games (DAGs). Reedy et al., (2010) discussed the concept that DAGs are physical activities that are based on three principles:

- (1) Each child has the opportunity to choose to participate at his or her ability level,
- (2) Opportunities to play and practice skills increase as the DAG proceeds. Elimination of a group member is not possible. As a result, children become more active members of the group and exhibit greater cooperation, cohesion, and problem solving, and
- (3) Children who vary in ability can interact positively with each other (p. 150).

The underlying assumptions of DAGs are that the most effective interventions are based on cooperative learning and are taught and reinforced in the context in which children work and play (Reedy et al., 2010). Although the term “DAGs” is more recent, the concepts of cooperative learning and cooperative play have been utilized for decades and have been shown to make significant improvements in self-esteem, peer acceptance, cooperative behavior, and self and interpersonal evaluations (Ames, 1981; Aronson, 1975; Bay-Hinitz et al., 1994; Garaigordobil et al., 1996; Orlick, 1981).

Cooperative play emerged from research conducted decades ago on cooperative learning in the classroom setting. Elliot Aronson is a prominent researcher who has studied the effects of cooperative learning and his findings have demonstrated that cooperative learning is associated with increased self-esteem, an increase in positive attitudes toward school, promoting group cohesion and friendship (Aronson, Blaney, Sikes, Stephan, & Snapp, 1975; Aronson, Blaney, Stephan, Sikes, & Snapp, 1978). His research has led to the creation of a cooperative learning model, the Jigsaw Classroom

that is implemented in schools today to promote better learning and improve student motivation (Aronson & Patnoe, 2011).

Ames (1981) also examined the positive effects of cooperative groups in the school setting and argues that low-performing students can improve perceived competence and self-esteem through the success of cooperative groups. Ames (1981) investigated the effects of cooperative and competitive reward contingencies on eighty, sixth grade children performing high and low level achievement tasks. The children in the cooperative structure demonstrated improved perceptions of self and interpersonal evaluations, compared with the children in the competitive structure (Ames, 1981).

Based on the positive findings from research on cooperative learning, Orlick (1976, 1979, 1981) was interested in investigating the effect of cooperative games on the socialization of elementary school children. The games in these studies required children to work together cooperatively to meet a challenge or reach the goal of the game. The cooperative game groups were compared with control groups exposed to traditional games of the same duration. Results indicated that cooperative games were effective at eliciting positive socialization among the elementary school children (Orlick, 1976, 1979, 1981). Cooperative games have also demonstrated improvements in preschool children that demonstrate aggressive behavior. Bay-Hinitz et al. (1994) investigated the effects of competitive and cooperative games on cooperative and aggressive behaviors, using an experimental design including both multiple baseline and reversal components. The study included 70 children (4 to 5 years old) from three preschools. Behaviors were measured during game conditions and findings revealed an increase in cooperative behavior and a decrease in aggressive behavior during the cooperative games. Conversely, competitive

games showed an increase in aggressive behavior and a decrease in cooperative behavior (Bay-Hinitz et al., 1994).

Similar to the findings related to the positive effects that cooperative learning has on socialization (Orlick, 1981), cooperative games have also been found to promote positive peer interactions and peer acceptance (Garaigordobil et al., 1996). Garaigordobil et al. (1996) examined the effects that a cooperative game-program, conducted in school, had on socio-affective relationships and group cooperation capacity. The study included 125 non-clinical subjects ages 6 and 7 that were compared with 53 control subjects using pretest-posttest intervention over 22 play sessions. Findings revealed that the intervention promoted children were leaders and demonstrated increased acceptance of peers within the groups, decreased peer rejection in the school, and increased behaviors such as giving and taking, asking and receiving, and helping behaviors, compared with controls. Garaigordobil et al. (1996) concluded that it is the nature of cooperative games that led to these positive findings. The principles on which these games are founded include cooperation and helping behaviors, and as a result stimulate communication, cohesion, and confidence within players (Garaigordobil et al., 1996).

The majority of the reviewed studies, utilizing DAGs were conducted in the school setting with non-clinical populations, with the exception of one study that utilized preschoolers identified as aggressive (Bay-Hinitz et al., 1994). Reddy et al. (2001) argue that a large number of children were experiencing ADHD in the school setting; therefore, the utilization of DAGs in school for these children would be an effective and beneficial intervention. Reddy et al. (2001) investigated the utilization of DAGs within a multicomponent treatment program (Child ADHD Multimodal Program: CAMP) for

youth that were diagnosed with ADHD (Reedy et al., 2001). One component of the program, the ADHD Child Training Group (Reedy et al., 2001) utilized DAGs to improve social skills, anger and stress management, and self-control. The first preliminary outcome study included 19 children (6 – 8 years old) and used multiple parent and teacher measures at pre – and post- intervention. Children were faced with cognitive, social, and physical challenges that promoted perseverance and encouraged them to try alternative solutions. Groups consisted of 8 to 10 children with one therapist for every two children and were held for 90 minutes, once per week for 11 sessions. Findings on parent reports indicated statistically and clinically significant improvements on children's behaviors at home, such as reduced aggressiveness, impulsivity, hyperactivity and anxious/shy behavior, and improved concentration and social skills. Teachers also reported decreases in hyperactivity, restlessness, and withdrawn behavior, and increases in social behavior and cooperation at post- treatment (Reddy et al., 2001). The second outcome study on the Child Training Group using DAGs included adding a parent-training component, based on Barkley (1997). The study was composed of eight children (6 – 7 years old), five fathers and eight mothers. There were 11 parent sessions that were 1.5 hours in duration and ran simultaneously with the child-training group. The goals for the parent group included: reduce stress, increase psychoeducation about ADHD, learn behavior techniques to manage undesirable behavior, build healthy family interactions, and identify their child's strengths and challenges. The same parent and teacher measures were used as in the first outcome study and indicated significant improvements in their children's concentration in compliance situations, in reducing aggressiveness, oppositional behavior, and internalized distress. In addition, parents

reported a decrease in overall stress and in stress related to their perceived competence as a parent and in the ability to manage their child's behavior. The addition of the parent-training group evidenced greater improvements in reducing children's aggressive and disruptive behavior and parent's stress (Reddy et al., 2001).

More recently, studies on treatments that incorporate DAGs have also been conducted on children who have experienced sexual abuse (Misurell, Springer, & Tryon, 2011; Springer & Misurell, 2010; Springer, Misurell, & Hiller, 2012). The DAGs were used as a component of an outpatient Game-Based Cognitive-Behavioral Therapy (GB-CBT) group program (Misurell et al., 2011). The overall goals of the program included decreasing sexually inappropriate behaviors, improving internalizing and externalizing behaviors and improving self-esteem, and social skills deficits (Misurell et al., 2011). The combination of group therapy and DAGs was assumed to provide an entertaining and engaging environment that allows for cohesion, validation, and interpersonal learning. The games in the GB-CBT model were structured and promoted the practice of several social and emotional skills in an entertaining and motivating manner (Misurell et al., 2011). A preliminary study was conducted, investigating the effectiveness of the program and included 48 participants with the mean age of 7.28 years old (Misurell et al., 2011). The program ran for 12 sessions, once per week, and lasted 1.5 hours. Parent and child self-report measures were administered at pre- and post – intervention. Measures assessed internalizing and externalizing behaviors, age-inappropriate sexual behavior, social skills, trauma, and self-perceptions. Findings evidenced improvements in internalizing and externalizing symptoms, a decrease in sexually inappropriate behaviors, and an increase in the psychoeducation of abuse and self-protection. Findings related to social skills and

self-perception did not demonstrate statistically significant improvements; however, they pointed in a positive direction with effect sizes for social skills ranging from .25 (school age) to .29 (preschool) and an effect size of .47 for global self-worth (Misurell et al., 2011). The studies, to date, on cooperative group play using DAGs has provided some support for continued research on this model.

Children that experience ASD, ADHD and other disruptive behavioral issues have significant social skills deficits that not only impact their perceived self-competence in the social domain, but also frequently result in peer rejection. As a result, individuals with deficits in social skills are at higher risk for many negative psychosocial outcomes, compared with their typically developing peers. Peer rejection and low self-esteem have been correlated with social isolation, depression, anxiety, substance abuse, suicide, and delinquency, (Barry et al., 2003; Blascovich & Tomaka, 1991; Chamberlain & Haaga, 2001; Kupersmidt & Dodge, 2004; White & Roberson-Nay, 2009). The social emotional challenges faced by children with social skills deficits highlights the importance of developing effective interventions that increase prosocial behavior and peer acceptance, in turn improving self-esteem. Based on Harter's (1993) framework of self-esteem, SSTs have the potential to address social skill deficits, peer rejection, and consequently, self-esteem.

SST programs have become a common element in the treatment for children with social skills deficits. However, the effectiveness of such interventions is inconsistent, lacks generalizability of skills to other settings, and has been explored primarily, on student populations in the school setting. In addition, although many SSTs assume that

the intervention will enhance self-esteem, the research is inconsistent on this correlation in clinical populations.

Group cooperative play using DAGs is a treatment framework that emphasizes teaching children in naturalistic environments. Teaching children in the context in which they work and play has been shown to promote generalization of skills (Hoag & Burlingame, 1997; Reddy et al., 2001). The DAG framework is based on cooperative learning and has evidenced improvements in aggressive children, children with ADHD, and children who have experienced sexual abuse (Bay-Hinitz et al., 1994; Misurell et al., 2011; Reddy et al., 2001). Based on the findings from cooperative learning and DAG studies, this framework has the potential to provide SSTs with the ability to teach social skills that will generalize and improve children's self-esteem. To date, there is an absence of research that has examined SSTs based on a DAG framework for children with significant social skills deficits. This calls attention to the importance of investigating the benefits of such a program with these populations.

Hypotheses

1. The investigator hypothesized that social skills, as measured by the *Matson Evaluation of Social Skills for Youngsters*, parent-report (MESSY; Matson, 1990), and self-esteem as measured by the global self-worth subscale of the *Self-Perception Profile for Children and Adolescents* (Harter, 2012, 1984) would increase from pre – to post- intervention. Based on the literature, group cooperative play using DAGs has helped improve social skills and self-esteem in other populations (Misurell et al., 2011); therefore, it was hoped that the benefits of the program would make similar changes in the sample being studied.

2. The investigator also hypothesized that a change in social skills would be a predictor of change in self-esteem. In concert with Harter's (1993) theory, the investigator predicted that as social skills improved, global self-worth would improve. Conversely, a decrease in social skills would predict a decrease in global self-worth. Harter (1993) proposes that shifts in competence in important domains (e.g., social acceptance), as well as changes in approval or disapproval from significant others (e.g., peers and parents), should result in corresponding changes in self-esteem. Basically, a positive increase in social skills would result in an increase in peer acceptance and overall social support, in turn increasing self-esteem.

Chapter 2

Method

Design

This quasi-experimental study employed a within subjects, repeated measures (pre-post) test design, using data that were collected from a Social Skills Training (SST) program. The study examined the changes in self-esteem and social skills that occurred over four-months from a group SST based on a Developmentally Appropriate Games (DAG) framework (Reddy, 2010). Specifically, the study examined the changes in and relationship of social skills and self-esteem in children with social, emotional, developmental, and behavioral issues.

Participants

The current study analyzed program evaluation data collected during the beginning of the 2013 academic school year through the end of December 2013 from a SST program conducted in an outpatient clinic located in the Northeastern United States. The clinic provided group SST based on a cooperative play, theoretical framework (e.g., DAG) for children and adolescents with a range of social, emotional, developmental, and behavioral impairments.

Initially, once the SST program began in September 2013, all children that attended the program were supposed to receive an evaluation packet (N = 239). However, prior to distribution, the decision was made to exclude pre-school through 2nd graders (N= 25) because the global self-worth measure being used excluded that grade range. Consequently, children between 3rd and 9th grades and their caregivers (N = 214; male = 172, female = 42) were provided with the program evaluation packets. The literature on survey research and nonresponse issues reported that typical response rates fall around

approximately 40% of the total surveys distributed (Miller & Smith, 1983). However, a disappointing 13% of the 214 families that received the packets responded at least one time. A total of 16 participants (male = 13, female = 3), referred to as completers, completed both pre- and post- intervention packets, and 12 participants (male = 7, female = 5), referred to as non-completers, completed only pre-intervention packets. The participants ranged in age from 8 to 14 years old (Completers $M = 11$; Non-completers $M = 10$). The youth participants, completers and non-completers ($N = 28$), represented a homogenous sample overall and had a range of social, emotional, developmental, and behavioral issues. Several participants did not have an official diagnosis ($N = 8$). However, those participants that were reported by their guardian to have an official diagnosis included high functioning Autistic Spectrum Disorder (ASD, $N = 8$), Attention Deficit Hyperactivity Disorder (ADHD; $N = 2$), sensory processing disorders ($N = 3$), anxiety ($N = 6$), and one child was categorized by their guardian as “gifted.” Of the 28 participants, 27 identified as Caucasian and 1 as biracial. In addition, all 28 participants reported English as their primary language and only 1 participant was identified as being adopted. Further, more than half of the children did not take medication (completers $N = 9$; non-completers $N = 10$) and the majority of children had previous behavioral health treatment (completers $N = 13$; non-completers $N = 9$), as well as school accommodations (e.g. Individualized Educational Plan (IEP) or 504 plans) (completers $N = 11$; non-completers $N = 6$). Several completers were receiving additional behavioral health services at the time ($N = 11$), as compared with the non-completers ($N = 4$). In regard to the amount of time the children had been attending the SST program, about half had been there one year or less (completers $N = 9$; non-completers $N = 6$), but some children had

been attending for two years (completers N= 2; non-completers N = 4), three years (completers N= 2; non-completers N = 1) and four or more years (completers N= 3; non-completers N = 1).

Guardians of the completers and non-completers also represented a homogenous sample, ranging in age from 35 to 55 and identifying predominately as Caucasian (N= 26), using English as their primary language (N=28). Most participants resided in a suburban area (completers N= 14; non-completers N = 9), had at least a Bachelor's degree (completers N= 16; non-completers N = 9), were married (completers N= 12; non-completers N = 11), and for those that did report income, fell within the \$100,000 to over \$150,000 category (completers N= 6; Would rather not say N= 7; non-completers N = 7, Would rather not say N= 4). Table 1, 1.2, and 2 represent the demographics for all completers and non-completers, children and guardians.

Table 1*Demographic Characteristics of Children*

		Completers		Non-Completers		
Variable		N = 16	%	N = 12	%	
Gender	Male	13	81.2%	7	58.3%	
	Female	3	18.8%	5	41.7%	
Age	8	2	12.5%	3	25%	
	9	1	6.25%	4	33.33%	
	10	3	18.75%	1	8.33%	
	11	2	12.5%	2	16.67%	
	12	3	18.75%	1	8.33%	
	13	3	18.75%	1	8.33%	
	14	2	12.5%	0	0%	
Race/Ethnicity	Caucasian/White	16	100%	11	91.67%	
	Other	0	0%	1	8.33%	
Grade	3	3	18.75%	4	33.33%	
	4	2	12.5%	3	25%	
	5	1	6.25%	2	16.67%	
	6	3	18.75%	1	8.33%	
	7	3	18.75%	1	8.33%	
	8	2	12.5%	1	8.33%	
	9	2	12.5%	0	0%	
	Adopted	Yes	1	6%	0	0%
No		15	94%	12	100%	
Primary Language	English	16	100%	12	100%	
	Other	0	0%	0	0%	
Medication	Yes	7	44%	2	17%	
	No	9	56%	10	83%	
	Previous Treatment					
ASD	Yes	13	81.25%	9	75%	
	No	3	18.75%	3	25%	
	Diagnosis	None	3	18.75%	5	41.67%
		ADHD	6	37.5%	2	16.67%
		Anxiety	1	6.25%	1	8.33%
		Gifted	4	25%	2	16.67%
		Sensory Processing	1	6.25%	0	0%
School Accommodations						
None	1	6.25%	2	16.67%		
IEP	5	31.25%	6	50%		
504	10	62.5%	4	33.33%		

Table 1.2
Demographics of Children Continued

Variable	Completers		Non- Completers	
	N= 16		N= 12	
Receiving Other Services				
Yes	11	68.75%	4	33.33%
No	5	31.25%	8	66.67%
Years attending STT				
1 or <	9	56.25%	6	50%
2	2	12.5%	4	33.33%
3	2	12.5%	1	8.33%
4+	3	18.75%	1	8.33%
Siblings				
Yes	13	81.25%	11	91.67%
No	3	18.75%	1	8.33%

Table 2
Demographic Characteristics of Guardians

Variable	Completers		Non-Completers	
	N = 16	%	N = 12	%
Age Range				
35 - 40	2	12.5%	3	25%
41 - 45	4	25%	5	41.67%
46 - 50	6	37.5%	4	33.33%
51 - 55	4	25%	0	0%
Race/Ethnicity				
Caucasian/White	15	93.75%	11	91.67%
Other (biracial)	1	6.25%	1	8.33%
Income				
Would rather not say	7	43.75%	4	33.33%
\$50,000 – 74,000	2	12.5%	0	0%
\$75,000 - \$99,000	1	6.25%	1	8.33%
\$100,000 - \$150,000	1	6.25%	4	33.33%
Over \$150,000	5	31.25%	3	25%
Marital Status				
Single	1	6.25%	0	0%
Married	12	75%	11	91.67%
Divorced	3	18.75%	1	8.33%
Widow	0	0%	0	0%
Primary Language				
English	16	100%	12	100%
Other	0	0%	0	0%
Level of Education				
Some College	0	0%	3	25%
Bachelors	6	37.5%	3	25%
Masters	9	56.25%	4	33.33%
Professional Degree	1	6.25%	2	16.67%

Inclusion and Exclusion Criteria.

Inclusion criteria for study participation specified that child participants were identified as having significant social skills deficits, based on parent reports from the demographic questionnaire. In addition, participants that voluntarily completed both measures correctly, for both pre- and post-intervention, were included. Exclusion criteria for study participation included subjects that did not complete any measures at pre-intervention and children in pre-school through 2nd grade.

In addition to the inclusion and exclusion criteria for participation in this study, the SST program also had specific inclusion and exclusion criteria that children were required to meet before beginning the program. In order to determine whether or not a child met inclusion criteria for the SST program, a parent and child assessment was conducted. Two masters' level counselors employed the assessment. Specifically, one counselor interviewed the parent by asking a series of questions relating to the academic, social, developmental, and emotional functioning of the child. In addition, the other counselor brought the child into a large gym space and played a series of physically active games while assessing cognitive, social, and emotional functioning. The games allowed the counselor to gain an understanding of the child's developmental level, problem solving skills, frustration tolerance, conversational skills, coordination, and through conversation, the child's perceived social competence and willingness to work with peers. The counselors then compared the data collected from both parent and child interviews to determine if the child was an appropriate fit for the program. Exclusion criteria included children with moderate to severe intellectual disability, children with a clinical presentation absent of social skills deficits as a predominant feature of

symptomology, severe conduct problems, and child with ASD with severity requiring substantial support, accompanying intellectual impairment and/or with catatonia.

Instruments

Demographics.

Caretakers were requested to complete a “Caretaker Information” form. The form had two sections; one to gather information about the caretaker and another to gather information about the child. The caretaker portion consisted of seven multiple choice questions and inquired about age, level of education, race/ethnicity, material status, approximate income, and type of area in which they reside (e.g., urban, suburban, and rural). The child portion consisted of eleven questions, both multiple choice and open ended. These questions related to primary language, adoption status, diagnosis or learning issues, previous treatment, medication, amount of time they have attended the program, and school accommodations.

Child Measures.

Global Self-Worth Subscale of the Self-Perception Profile for Children (3rd – 8th Grade) (SPPC): Self-Report

The SPPC (Harter, 2012) self-report measures perceived self-competence in different domains of the child’s life. The measure is a 36-item questionnaire that identifies the child’s sense of self-adequacy in six domains: Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Behavioral Conduct, and Global Self-Worth. The Global Self-Worth subscale has 10 separate items that are scored independently of the other five domains and is the only domain used to assess self-esteem in this study. The Global Self-Worth subscale measures the degree to which an individual

appreciates oneself overall as a person (Harter, 1985). The question format, “structured alternative format” (Harter, 1982), was designed differently from previous self-concept scales (e.g., two choice response and Likert-type scales) to avoid socially desirable responding. Each item is split into two statements, with one on the left and one on the right. The child is initially asked to choose which statement is most representative of him or her. Once the child makes a choice, he or she is then asked to check a box next to one of two statements: “Sort of true for me” or “Really true for me.” Items are scored as 4, 3, 2, or 1, 4 representing the most adequate self-judgment and 1 representing the least adequate self-judgment (Harter, 2012). The SPPC has demonstrated high internal consistency, ranging between .73 to .86, and all subscales were found to have high test-retest reliability over a nine-month period ranging from .75 to .87 (Harter, 1982).

Global Self-Worth Subscale of the Self-Perception Profile for Adolescents

(SPPA): Self-Report

The SPPA (Harter, 2012) self-report is similar to the SPPC and has 45 items with nine specific self-concept domains. These include Scholastic Competence, Social Competence, Athletic Competence, Physical Appearance, Job Competence, Romantic Appeal, Behavioral Conduct, Close Friendship, and Global Self-Worth. Similar to SPPC, the Global Self-Worth subscale was the only domain used to assess self-esteem. Similar to the SPPC (Harter, 1982) and to avoid socially desirable behavior, the question format is in a “structured alternative format” (Harter 1982). This format provides adolescents with a variety of choices rather than only two, such as “True or False.” For example, the rater is first asked to pick between two statements, “Some teenagers do very well at their class work BUT other teenagers don’t do very well at their classwork.” Once this choice

is made, the adolescent must check a box next to one of two statements: “Really true for me” or “Sort of true for me.” Items are scored the same way as on the SPPC (Harter, 2012). Internal consistency reliabilities using Cronbach’s *alpha* demonstrates acceptable values ranging from .85 to .93 (Harter, 2012).

Parent Measure.

Matson Evaluation of Social Skills with Youngsters (MESSY): Parent Report Form

The MESSY Parent/Teacher (Matson, 1990) form is an instrument that assesses a variety of appropriate and inappropriate social skills from an observer’s perspective. The Teacher/Parent form has two scales with 64 items. The rater is asked to endorse behaviors at the frequency with which they occur: 1 = *Not at all*, 2 = *A little*, 3 = *Some*, 4 = *Much of the time*, and 5 = *Very much*. The Teacher/Parent scales include categories such as Appropriate Social Skills, Inappropriate Social Skills, and Miscellaneous Items; the scores from these scales are added to create a total score where lower scores mean lower social skills. The items are presented to the subject as statements related to specific social skills (inappropriate and appropriate) and situations in which these behaviors might occur. Wierzbicki and McCabe (1988) obtained estimates as high as .90 on test-retest reliability for the Parent Report scales. Factor analysis was conducted for the 64-item Teacher/Parent Form on the primary samples of 422 and 322 children. The resulting factors and the eigenvalues were used to construct the MESSY scoring system (Matson, Rotatori, & Helsel, 1983).

The SST Program.

Prior to describing the procedures employed in the study, it is important to provide some detail regarding the history, structure, rationale, and specific interventions used in the SST program. Initially, the program began in 1954 and served as a boxing, self-defense and activity program for boys. At this point, there was a very strong father-son emphasis to the program. Boys attended the program twice a week, once in a peer group and once with their father.

During 1979, a psychologist took over and drastically changed the programs focus. Specifically, he removed the boxing and self-defense aspects and shifted the program's focus toward fostering healthy psychological and social growth in children through play.

This approach continued to evolve over years and, in 1995, was taken over by the current clinical director. The program's philosophy is based on the idea that non-competitive and cooperative play in a group context can encourage the overall development of children by providing them with an environment in which they can be physically active, build self-confidence, improve self-esteem, and learn appropriate social skills.

The specific goals of the SST groups focus primarily on developing and improving social skills (e.g., learning skills to identify and respond appropriately to social cues, perspective taking, initiate and maintain peer interactions, etc.), as well as improving self-confidence, assertiveness, responsibility, frustration tolerance, emotion regulation, and ultimately fostering a positive sense of self and self-esteem.

The cooperative play requires that the group members work together to reach a common goal. The specific game or activity is the "tool" that facilitates positive peer interactions and experiences.

Counselors carefully select activities that they feel the group can master while working on their social-emotional challenges. During all games or activities, the group members play against the counselors. As the group evolves and members develop trust and confidence, the activities become more challenging, requiring a greater degree of flexibility, negotiation, and problem solving skills. During games, the group members are frequently encouraged to push themselves beyond their self-imposed limitations.

Games are selected, based on the developmental level of the children and the degree of group cohesion. For instance, a new group with less cohesion would play a game that requires minimal group interdependence. For example, one such game is similar to a game of "tag." First, small cones are spread out around a basketball court. The group members must be touching a wall on either side of the court to be "safe" and avoid being tagged by a counselor. The goal is for the group members to work together to collect all of the cones and avoid getting tagged by a counselor. Players that do get tagged by a counselor must freeze and cannot move until a teammate tags them "free." The group members that are tagged are encouraged to call upon a teammate, using his or her name, to help them. After all of the cones have been collected, the game is over. This game does not require a high degree of group trust or problem solving skills; rather, it encourages teamwork, listening, following directions, and using body/impulse control.

Another example of a somewhat simple game is a turn-taking game. For instance, the group members are asked to climb up onto a platform raised several feet above the

ground. Each takes a turn to kick down a tall mat by swinging off the platform, using a rope. Group members are also encouraged to cheer for the person taking his or her turn. Turn taking games teach negotiation skills (e.g., deciding the order in which group members will take their turns), patience, and the concept of supporting teammates.

Games that are more challenging for group members are the problem-solving games. These games require a great deal of negotiation, compromise, and cognitive flexibility. For example, one activity requires group members to start the game on top of a large mat and they are provided with a few items (e.g., a hockey stick, a cardboard barrel, a rubber circle, etc.). Next, all of the children must work together to get to another identified area in the gym that is several feet away. The rules require that the children get from point A to point B without touching the floor by using the tools provided by the counselor. Through a problem-solving activity such as this, children learn cognitive flexibility and effective communication and negotiation.

Generally, the groups are composed of three to seven children and have two group counselors. The groups occur once a week and are 60 to 75 minutes long. The group commitment is for a minimum of 10 weeks, but most children participate for at least one academic school year. Each group session has three components. The first component is the “check-in,” which lasts 10 to 15 minutes and occurs in a small office space. Check-in provides the opportunity for children to engage in reciprocal greetings and conversation. At this point, a brief activity is played, emphasizing social skills such as active listening, maintaining a conversation, patience, and group decision-making. During the second component of group which lasts approximately 40 minutes, the children transition into a large gym space and engage in physical cooperative games. The gym has large dividers

to separate the room into three areas if needed. Specifically, one side of the gym is a full sized basketball court and the other side is divided into two sections; one has several mats and large cardboard barrels and another side has several mats ranging in sizes, and an elevated platform with a large rope to swing from. The group then transitions back into the office space for the final portion of the session. During this time, the children are provided with a small snack and engage in a discussion about their experiences during the gym time.

Communication with the parents is also incorporated into the program. Over the course of an academic school year, parents receive three “progress” reports and two conferences with the counselors. The reports are used to communicate areas in which the child has improved and areas that are in need of continued support. The reports include a written summary and examples of specific social behaviors and goals and are scored on a Likert scale. Finally, the two conferences serve as an opportunity for parents to discuss the report in greater detail, including their child’s progress.

Procedure.

The investigator obtained permission from the Philadelphia College of Osteopathic Medicine (PCOM) Institutional Review Board (IRB) to conduct the investigation. The investigator was granted permission to access and evaluate existing program evaluation data from the clinical director of an outpatient SST site. The clinical director and staff had collected program evaluation data from the beginning of the academic school year in September 2013 through December 2013. The investigator was provided with this data after receiving approval from the IRB. The clinic director instructed all voluntary participants in the program evaluation to de-identify their names

and the names of their children. To de-identify the data collected, participants were asked to create a code based on specific criteria and write that code on the top of all measures, including the demographic questionnaire. That data were entered and evaluated using Microsoft Excel program software. The original data were collected in the following manner.

Initially, in order to collect program evaluation data, the clinical director wrote a letter and sent an email informing the youths' caregivers that the clinic was interested in collecting data on the children in 3rd grade through high school to investigate progress and changes related to self-esteem and social skills. There was no IRB associated with the data collection and there was no formal consent or assent provided. The caregivers were informed that participation was voluntary and that there would be no repercussions for not participating.

Eight licensed master's level lead group counselors distributed packets to the children in their social skills groups over a week, ensuring that every child from 3rd grade through high school received a packet. The children were asked to bring the packets home and review the information with their parents. The packets included: a letter explaining the purpose of the data collection, specific instructions for creating an identification code in place of names to ensure confidentiality, a demographic sheet, the Self-Perception Profile (SPP) self-report for youth 3rd through 9th grades, and the Matson Evaluation for Social Skills in Youth (MESSY) parent-report. These packets were distributed to the children at the end of a group session during the beginning of September 2013 and at the end of December 2013 to provide pre- and post-intervention data. The caregivers and children were instructed to return the packets, whether they

participated or not, and to place them in a secure box that was located in the waiting room of the site. Once the packets were collected, approximately two weeks after initial distribution, they were stored in a locked file cabinet in the billing office.

Chapter 3

Results

Prior to testing the hypotheses, the investigator conducted a group comparison between the participants who completed both pre- and post-intervention measures (e.g., completers; $N= 16$) and those that completed only pre-intervention measures (e.g., non-completers; $N= 12$). Conducting the comparisons for completers and non-completers on the measures of global self-worth and social skills allowed the investigator to determine whether or not there were significant differences between the groups. A Wilcoxon matched pairs signed rank test was conducted to determine whether or not there was a difference in the means of global self-worth at pre- intervention for completers, and global self-worth at pre- intervention for non-completers. Results of that analysis indicated that there was an insignificant difference in the means of pre-intervention completers and non-completers regarding global self-worth, $W = 63, p = 0.1291$. Similarly, a Wilcoxon matched pairs signed rank test was conducted to determine whether or not there was a difference in the means of social skills at pre- intervention for completers and non-completers. Similar to global self-worth, the analysis indicated that there was an insignificant difference in the means of pre- intervention social skills for completers and non-completers, $W = 85.5, p = 0.6424$. These findings provide evidence that the completers' post-intervention results for global self-worth and social skills is representative of the missing post-intervention data from non-completers and is potentially generalizable to the individuals that did not partake in the program evaluation.

Furthermore, the hypothesized relationship between the two dependent variables of global self-worth and social skills was examined. Specifically, a Pearson product-

moment correlation coefficient was computed to assess the relationship between pre-intervention social skills and pre-intervention global self-worth. Results indicated that there was a modest, but insignificant, negative correlation between the two variables, $r = -0.41$, $n = 16$, 95% CI [-.752, .108]. In addition, a Pearson product-moment correlation coefficient was also computed to assess the relationship between post-intervention social skills and post-intervention global self-worth. Contrary to the investigators hypothesis, there was a small but insignificant negative correlation between the two variables, $r = -.29$, $n = 16$, 95% CI [-.686, .241].

Hypothesis One

The initial hypothesis, that participants would demonstrate increased social skills and global self-worth from pre- to post-intervention, was originally to be analyzed using a repeated measures multivariate analysis of variance (MANOVA). Due to the low response rate ($N = 16$) and insufficient power, a dependent T-test was used to analyze each dependent variable separately, as opposed to multiple dependent variables in one analysis. The small sample size required a more conservative test of significance in order to reduce the chances of a type 1 error. The use of the dependent T-test allowed the investigator to compare the means of the participants across pre- and post-interventions on global self worth and social skills to detect whether or not there were any statistically significant differences between these means.

Regarding the results of the dependent T-test, there was not a significant difference in the scores for global self-worth at pre-intervention ($M = 3.02$, $SD = .63$) and global self-worth at post-intervention ($M = 2.95$, $SD = .87$) conditions; $t(15) = .46$, $p = .64$. The results indicated that participants demonstrated an insignificant decrease in

global self-worth (pre $M = 3.02$; $SD = .63$) and (post $M = 2.95$; $SD = .87$); ($M_{Pre} - M_{Post} = .07$), 95% CIs [1.68, 4.37], and [1.10, 4.81], respectively. Further, Cohen's effect size value ($d = .046$) suggested very low significance. However, it is important to note that the average mean at pre-intervention for global self-worth was in the nonclinical range. Basically, participants had moderate to high levels of global self-worth prior to intervention ($M = 3.02$), where 4 is the highest level of global-self-worth.

Similarly, there was not a significant difference in the scores for social skills at pre-intervention ($M = 155.68$, $SD = 28.21$) and social skills at post-intervention ($M = 151.93$, $SD = 24.06$); conditions; $t(15) = .98$, $p = .33$. The MESSY measure was used as an index of measurement of change because the publisher did not provide a scoring reference for identifying average and clinical ranges of scores. Therefore, it remains unclear whether or not the participants' scores on social skills fell within a clinical range. However, results for social skills indicated that participants had lower scores on the MESSY (lower scores = better social skills) at post-intervention (Pre $M = 155.68$, $SD = 28.1$) and (Post $M = 151.94$, $SD = 24.06$); ($M_{Pre} - M_{Post} = 3.75$), 95% CIs [140.66, 170.71, and [139.12, 164.76]. According to Cohen, effect size value ($d = .27$) suggested a small effect. Overall, the changes both in global self-worth and in social skills were not statistically significant, therefore the findings failed to reject the null hypothesis.

Hypothesis Two

As with the first hypothesis, the investigator changed the analysis that was originally proposed because of the small sample size and insufficient power. Rather than a multiple regression, a simple linear regression was conducted to determine if global self-worth could be predicted from changes in social skills, using a Gaussian generalized

linear model (GLM) framework. The null hypothesis tested whether the regression coefficient (i.e., the slope) was equal to 0. There were no missing data and data were checked for potential violations of assumptions prior to analysis using the GLM framework. The results of the GLM suggest that an insignificant proportion of the total variation in global self-worth was predicted by social skills. Change scores were calculated by subtracting pre-intervention scores from post-intervention scores. The regression analysis indicated that changes in social skills (MESSY scores) explained 1.2% of the variation in the observed changes in global self-worth (Harter) outcomes ($R^2 = 0.012$, $F_{1,14} = 0.167$; $p=0.69$). Specifically, for every one unit increase in social skills change, the global self-worth score change decreased on average by 0.005 ($p=0.69$), but this decrease was not statistically significant.

Chapter 4

Discussion

This study aimed to examine the impact that a group social skills training (SST) program, using Developmentally Appropriate Games (DAG), had on social skills and self-esteem in children with significant social skills deficits. The study also examined the relationship between social skills and self-esteem and hypothesized that positive changes in social skills would predict positive changes in self-esteem. Results indicated that participants did not demonstrate statistically significant differences in social skills or self-esteem from pre to post-intervention. There was a non-significant effect for self-esteem and a small effect for social skills. Further, the hypothesis that changes in social skills would predict changes in self-esteem was not supported. Contrary to expectations, social skills and global self-worth were not significantly correlated pre-intervention or post-intervention. Also, comparison of the means for completers and non-completers at pre-intervention indicated that the results for completers at post-intervention on global self-worth and social skills are likely representative of the missing post-intervention data from the non-completers.

Despite the fact that some improvements were found for social skills, findings for changes both in self-esteem and in social skills were statistically insignificant. The study's insignificant findings can be attributed to many factors. Primarily, the high number of non-responders and survey mortality resulted in a limited sample size, which undoubtedly contributed to the studies' insignificant findings and also represents a significant limitation. The program evaluations were initially provided to each of the 214 3rd through 9th grade children and families attending the program. Although it was

anticipated that a percentage of program evaluations would not be completed, the investigator did not anticipate a response rate of less than 10%. More specifically, data from only sixteen participants were completed for both pre- and post- intervention and an additional twelve participants completed only the pre-intervention measures. Therefore, consideration must be given to the notion that the SST program might be effective at changing social skills and self esteem; however, given the limited sample size, an effect could not be detected.

Apart from the low response rate, survey mortality, and resulting small sample size contributing to the insignificant findings, it must also be considered that the SST intervention employed in this study simply did not foster significant increases in children's social skills or self-esteem across the four-month assessment period. The SST intervention under investigation did incorporate important components proven to be helpful at improving social skills. Specifically, the majority of the SST sessions in the current study occurred in a large gym in order to provide the context of a place where children play. Hoag and Burlingame (1997) as well as Reddy et al. (2001) noted that teaching children in the context in which they work and play has been shown to promote generalization of skills. Further, the SST program primarily utilized physically active play, which researchers have found to be an important factor in child development that serves as an instrument for communication and socialization (Bay-Hinitz et al., 1994; Garaigordobil, Maganto, & Etxeberria, 1996; Isenberg & Quisenberry, 1998). Furthermore, a primary component of the SST was the use of cooperative games, which has been found to improve the socialization and prosocial behaviors of children (Ames, 1981; Bay-Hinitz et al., 1994; Garaigordobil et al., 1996; Orlick, 1981). Finally, the

program's frequency of sessions, once a week over four months, with a duration of sixty minutes was consistent with SST studies that have evidenced significant outcomes and moderate effect sizes (Miller et al., 2014).

Despite the presence of components proven to be effective at improving social skills, several factors were also missing from the SST program that might be necessary to exert change in domains such as self-esteem and social skills. Specifically, the program did not incorporate the following components: assignment of generalization activities for home and school, requiring practice of skills with a variety of people and in a variety of settings (Krasny et al., 2003), the presence of a formal treatment protocol, group curriculum, or manual to promote treatment fidelity and ensure interventions are being delivered consistently and properly (Miller et. al., 2014; Rogers & Vismara, 2008; Wilkinson, 2007), involvement of typical peers (Miller et al., 2014), or often incorporating parents or guardians to provide transference of skills and consultation (Sofronff & Farbotco, 2002). Research on SST has found that incorporating parents increases the chance that social skills will generalize across settings (Sheridan et al., 1996). Similarly, program designs that have incorporated typical peers in the SST groups have demonstrated more generalizability of social skills and feelings of social acceptance, compared with programs without typical peers (Bauminger, 2002; Rao et al., 2008).

Finally, an additional possibility to consider regarding the insignificant findings is that the hypothesized relationship between self-esteem and social skills does not exist. For instance, SSTs may not improve self-esteem; instead, they may improve perceived social support and peer acceptance. SSTs provide a safe place for children with social skills deficits to foster friendships and provide a peer group they enjoy. It is possible that

although self-esteem may not change over the course of a SST program, other positive aspects may improve, such as the ability to establish within group peer relationships and increased social support. Future studies should consider including measures related to peer acceptance and social support.

In addition to exploring the potential reasons for the insignificant findings, it is also important to understand the ways in which the current study was similar to and different from previous SST research that also explored changes in self-esteem. Overall, the SST literature, in regard to examining self-esteem, differs from the current study in two notable ways. First, the existing SST research, evidencing improvements in self-esteem has been conducted in the school setting on non-clinical populations (Barrett et al, 1999; Bijstra & Jackson, 1998). It is possible that social skills and self-esteem are more amenable to positive changes in non-clinical populations because there is less severity in symptom presentation, compared with those in clinical populations. Furthermore, having the ability to conduct SST programs in the school setting has many benefits, such as better access to participants, greater ability to investigate a larger sample, and the ability to follow-up with participants regarding responding to assessment measures.

Furthermore, SST studies that have examined changes in self-esteem in outpatient settings, as oppose to school settings, are outdated and have evidenced minimal to no changes in self-esteem due to methodological flaws and inconsistent ineffective interventions (Haney & Durlack, 1998; Schneider, 1992). Consequently, this study was undertaken because it provided the opportunity to investigate a unique SST program that incorporated a DAG framework and also aimed to improve self-esteem in an outpatient setting. Given this studies differences from previous SST research, it was hoped that

significant improvements would be found in social skills and self-esteem. However, the findings did not support the hypothesis and were similar to previous SST research examining self-esteem. Despite the insignificant findings, and given the small sample size, it continues to remain unclear whether or not the SST under investigation could be effective.

Although not statistically significant, effect size analysis did evidence a small effect for social skills, but no effect for global self-worth. One important, unexpected finding was that the average score for global self-worth at pre-intervention was in the moderate to high range and remained in that range at post-intervention. Therefore, according to parent report, participants already had moderate to high global self-worth before the intervention, leaving little room for improvement. This finding also calls into question the notion that children with social skills deficits also have low self-esteem. Historically, SST research examining self-esteem demonstrates a trend in which social skills seem to improve and self-esteem remains constant. For example, Amerikaner and Summerlin (1982) and Bierman and Furman (1984) found statistically significant improvements in social competency; however, they found no changes in self-esteem. Some SST research argues that statistically significant improvements in self-esteem can occur only when the primary goal of an SST program is to improve self-esteem, compared with SST's that target improving multiple social behaviors and assume doing so will lead to improvements in self-esteem (Haney & Durlak, 1998). Therefore, it is possible that slight improvements in social skills were found because the SST under investigation focused primarily on improving several specific social behaviors rather than the primary goal of improving self-esteem.

Another important notion to consider is that self-esteem, unlike social skills, may not be as amenable to change as predicted by the investigator. According to Harter (1993), shifts in competence in important domains, as well as changes in approval or disapproval from significant others, should result in corresponding changes in self-esteem. Therefore, theoretically, SST interventions that evidence improvements in social skills should improve social competence – an identified domain of importance –, social acceptance, as well as self-esteem. However, other longitudinal research on the stability of self-esteem highlights the fact that although self-esteem can change, these changes occur over years and at specific developmental stages (Huang, 2010). More specifically, one study in the meta-analysis conducted by Huang (2010) found that mean levels of self-esteem were high in childhood, then decreased in adolescence, and increased throughout adulthood (Huang, 2010). In addition, another study reported that self-esteem decreased from early preadolescence to middle adolescence, improved in middle adolescence, and later exhibited increases in self-esteem through early adulthood (Huang, 2010).

The research presented by Huang (2010) provides evidence that changes in self-esteem are unlikely to occur or be detected in the context of a SST intervention held once a week for four months. Rather, changes in self-esteem appear to occur over long periods of time and at specific developmental stages. On the other hand, in a systematic review of SSTs for adolescents with ASD, Miller, Vernon, Wu, and Russo (2014) reported, that of the forty-four studies reviewed, significant outcomes and moderate effect sizes regarding improvements in social competence were found for interventions, with a frequency of occurrence once a week for 10 – 16 weeks at a duration of 40 minutes to 2 hours. Therefore, the literature provides evidence that although self-esteem and social skills are

capable of change, there is a significant difference in the amount of time it takes to detect changes in these constructs. Thus, the aforementioned research helps to explain the findings from the current study, which demonstrated slight changes in social skills and minimal decreases in self-esteem. Further, Huang (2010) and Miller et al. (2014) also provide evidence that disputes the notion posed by the investigator, suggesting that changes in social skills can predict changes in self-esteem.

Another important finding discussed by Huang (2010), which could have contributed to the insignificant findings relates to the specific measures commonly used in self-esteem research. Huang (2010) reported that the three commonly used measures of self-esteem across the 49 studies analyzed were the Rosenberg Self-Esteem Scale (Rosenberg, 1965), the Coopersmith Self-Esteem Inventory (Coopersmith, 1967), and the Global Self-Worth subscale of Harter's Self- Perception Profile for Children Scale (1982, 1985). Despite the fact that these scales are intended to measure the same construct, Huang (2010) pointed out that these measures differed with respect to detecting change in self-esteem. For instance, the Coopersmith Self-Esteem Inventory produced the largest mean effect size, but Harter's Global Self-Worth subscale produced the smallest effect sizes. As a result of the variation in these measures ability to detect change in self-esteem, it is possible that if a different measure was used in the current study, such as the Coopersmith Self-Esteem Inventory, more positive changes in self-esteem might have been detected.

Limitations.

The initial goal of this study was to investigate archival data that were collected through a program evaluation and to explore the potential benefits of a unique SST

program that used DAG to help improve self-esteem and social skills. However, the small sample size impacted the results to such a significant degree that the study was unable to accomplish much of what it initially intended. In addition, the sample was homogenous consisting primarily of Caucasian middle to upper socioeconomic status families. Therefore, a number of design and implementation limitations must be acknowledged. Unfortunately, the reality of conducting research in “treatment as usual” community outpatient settings is that many of the decisions will be made based on available finances. In addition, program evaluation research rarely has the ability to include a control group. A control group would have allowed for discrimination of the SST outcomes from outcomes that could have been caused by other factors such as natural history.

Program evaluation research often utilizes survey research or questionnaire format as a strategy to collect data because this approach is perceived as cost-effective and feasible (Kelly, Clark, Vivienne, & Sitzia, 2003). However, the use of survey research presents the risk of receiving a high rate of non-responders or response bias, which introduces error (Miller & Smith, 1983). Therefore, one significant limitation was the sole use of the survey research strategy, which resulted in a high rate of non-responders.

Researchers caution that reporting data in survey research with a low response rate introduces error and likely does not reflect the opinions of the entire sample or population (Kelly et al., 2003; Miller & Smith, 1983). In the current study, with such a low number of participants, it is impossible to know truly, the reasons why these individuals responded (e.g., completers), even when comparing them with the individuals that responded only at pre-intervention (e.g., non-completers). Miller and Smith (1983)

noted that in evaluation research that uses questionnaires or surveys, it is difficult to surmise the reasons why some individuals respond and others do not. It could be that only those that believed their children benefited from the program responded or those that responded were dissatisfied with the program. Although certain characteristics differentiating responders from non-responders remains unclear in the current study, it is important for future evaluation research to be aware of strategies to avoid the nonresponse problem (Miller & Smith, 1983) and factors that can improve or hinder engagement in such research.

An additional limitation in regard to implementation was the limited use of outcome measures. Originally, the program evaluation intended to provide both parent and self-report measures of self-esteem and social skills. However, the director of the clinic determined that the presence of more than two measures would be too time consuming for the children and guardians. Research on SSTs that provided both self and parent report measures evidenced a significant, positive correlation between child and parent reports on measures of social skills (Miller et al., 2014). In addition, it was necessary to measure the children's perceived self-worth as opposed to their guardians' perceptions of this domain. Therefore, based on research and the aim of the study, the decision was made to include one social skills parent report measure and one self-esteem self-report measure.

Although given careful consideration, the measures used presented some challenges and limitations to the study. Originally, the MESSY measure was chosen as the instrument to measure social skills because it was brief and had high reliability. Unfortunately, normative data for the MESSY are not available, which made it difficult

to interpret participant's scores on social skills. Consequently, the absence of the normative data prevented the investigator from examining whether or not there were clinically significant deficits in the participants' social skills and to what degree these existed. Therefore, the interpretation for the results on the MESSY at pre- and post-intervention only evidence only a small, positive increase in social skills, but the level or degree of impairment at pre- or post-intervention was not possible to determine.

Furthermore, regarding the measurement of global self-worth, one notable challenge that emerged was related to ensuring that the measures were appropriate for the wide range of ages included in the SST program (6 years old to 16-years old). The global self-worth measures created by Harter have three different versions with corresponding grade ranges (e.g., Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPC): Self-Report for preschool through 2nd grade (Harter & Pike, 1984) and the SSPC (Harter, 2012) for 3rd through 8th grade and SSPA (Harter, 2012) for 9th grade plus. Prior to collecting pre- intervention data, the decision was made to exclude children that were in the preschool through 2nd grade category because the self-esteem measure for that grade range differed drastically from the SSPC (Harter, 2012) and SSPA (Harter, 2012) and did not include the global self-worth subscale. This decision excluded 25 potential participants, which contributed to the limited small size and limited power.

Finally, another notable limitation relates to the setting. Conducting research in a "treatment as usual" clinic setting poses many challenges. For instance, the SST program investigated present concerns regarding treatment integrity, which prevented the investigator from monitoring treatment. Characteristic of outpatient "treatment as usual" settings, there were multiple therapists and no manual or training modules. The setting of

the SST program in the study is valid in regard to how SST programs work in “the real world.” Consequently, the study was unable to be well controlled, which is also a significant limitation.

Future Directions.

Despite the inherent limitations, the current study has shed light on improvements that future SST research can render. For instance, the lack of a control group prevented examination of the effectiveness of the SST program. Future studies using control groups should focus on exploring the effectiveness of using DAGs to improve social skills and self-esteem because this framework has demonstrated effectiveness for treating children with ADHD (Reddy et al., 2002) and for children who have experienced sexual abuse (Misurell et al., 2011). Furthermore, future studies should include follow-up assessments, which are lacking in the SST effectiveness literature. The degree of treatment gains over time remains unknown when longitudinal follow-up assessments are absent (Gresham et al., 2004). In addition to providing follow-up assessments, studies should also consider measuring other dependent variables, such as peer acceptance, in addition to social skills and self-esteem. Peer acceptance is often an ignored construct in the SST effectiveness literature, and impairment in this area is frequently experienced by these clinical populations (Barry et al., 2003; Cantwell, 1996; Mikami & Normand, 2015; Rao et al., 2008). Therefore, it is important to understand the relationship between peer acceptance, self-esteem, and social skills, including whether or not improvement in one yields improvement in another.

Recently, Mikami and Normand (2015) also echoed the importance of considering peer acceptance and pointed out that treatment research for children with

ADHD provides evidence that even when treatment yields improvements in social behavior, these children continue to experience significant peer rejection. The researchers argue that current treatments overlook the social contextual factors and assume that change in behavior for the child with ADHD will ultimately lead to peers' acceptance. Mikami and Normand (2015) note that although improving and teaching positive prosocial behaviors are a necessary component of treatment, it is not enough. The researchers emphasize the need to consider and understand the salient role that the rejecting peer plays, rather than focusing solely on the peer being rejected, including the negative behaviors. The authors purpose that future directions in treatment research should shift the focus onto typically developing peers and teach acceptance of differences and decrease stigma around children with ADHD. The authors conclude that current treatments should continue to teach and improve prosocial behavior in treatment, but that approaches to include the peer group should also be incorporated (Mikami & Normand, 2015).

Future research on SST programs would benefit from all of these recommendations that have been discussed, but the findings from the research will not be beneficial if the number of participants is low. The low number of responders in the study calls attention to a larger, more pervasive issue: the significant challenges of conducting program evaluation research in community outpatient settings. One of the most common and frequently used methods of collecting data is through survey research (e.g., self-report questionnaires) (Heppner et al., 2008). Many studies in the SST literature utilize self-, parent-, and teacher- reports, which can result in a low number of responders (Heppner et al., 2008). Miller and Smith (1983) discuss specific strategies for preventing

the high rate of non-responders such as planning a follow-up procedure to promote response, providing postcards prior to the evaluation and as reminders, or planning on providing the packet of questionnaires a second time, to allow another opportunity for engagement. Miller and Smith (1983) discussed the fact that these techniques have yielded high return rates, ranging from 70% to 90%. Additional strategies include providing stamped envelopes with the return addresses, including a personal signature on all the letters, mailing or providing the questionnaire at the least busy time for the respondents, offering to provide a summary of results, using rewards, using colored paper, specifying a deadline, making clear the benefits of the results, and ensuring questionnaires are short (Miller & Smith, 1983).

The aforementioned strategies to improve response rates when conducting survey research have proved helpful, but before considering these specific strategies, researchers must first understand the most effective ways to initially engage all individuals that will be involved in the research project or program evaluation, exclusive of the actual participants. Future research on developing and implementing SST in schools and in the community could use a participatory action research (PAR) framework (Minkler, 2000). PAR emphasizes the active involvement of the individuals in the community who are affected by the issue under study, in every phase of the process (Minkler, 2000). The nature of PAR increases the participants' investments in the research by actively involving members of the community in the research (see Baum, MacDougall, & Smith, 2006 for a detailed discussion on PAR). This framework would inevitably ensure a larger number of participants, but more importantly would give back to the community where the research was being conducted.

Children that have significant social skill deficits suffer in many ways, both interpersonally and emotionally. Caregivers and siblings are also affected by the behavior these individuals often demonstrate. The importance of improving the social skills of these children is apparent, but the emotional impact that results from peer rejection and isolation that confront these youth is often ignored. SST programs remain an important part of treatment for these individuals and although some positive effects of SST programs have been found, more work needs to be done.

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