

**Analysis of Social Skills Development in Adolescents with Autism Spectrum Disorder with the  
Facilitation of the Social Skills Questionnaire**

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This Clinical Research Project by Christina A. Viniarski, directed and approved by the candidate's Clinical Research Project Committee, was approved by the faculty of the American School of Professional Psychology at Argosy University, Orange County, in partial fulfillment of the requirements of the degree of Doctor of Psychology in Clinical Psychology.

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## Abstract

This study evaluated the progression of the reported social and communicative skills of adolescents with Autism Spectrum Disorder (ASD) over the course of a school year at New Vista School in Laguna Hills, California. Across two time periods (October and May) during the 2013-2014 school year, the changes in social and communicative skills were investigated through the facilitation of a newly developed questionnaire. There was a statistically significant difference between Time 1 and 2 on all social skills evaluated, which included an increase in adolescents' social engagement, social interaction, social behavior, problem solving, and self-advocacy. These findings significantly contribute to the knowledge base about an academic program for adolescents with ASD designed to promote the development of their social and communicative skills, and allow for their successful transition into adulthood.

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## **Introduction**

Autism Spectrum Disorder (ASD) is characterized by two behavioral domains, which are impairments in social communication and interaction, as well as unusually restricted, repetitive behaviors and interests (American Psychiatric Association [APA], 2013). Individuals with ASD generally have difficulties communicating with others, developing and maintaining social relationships, participating in new environments, as well as processing and integrating information from the environment (Bellini et al., 2007; Charman & Gotham, 2012). Coupled with developmental and social pressures, adolescents with ASD have extensive challenges with initiating interactions, participating in reciprocal conversations, considering the perspectives of others, inferring others' interests, and sharing enjoyment (Ellis et al., 2009; Bellini et al., 2007).

ASD encompasses the social-communicative and behavioral impairments found in three Pervasive Developmental Disorders: Autism Disorder, Asperger's Disorder, and Pervasive Developmental Disorder, Not Otherwise Specified (Laugeson et al., 2012; Tanguay, 2006). The severity of the social-communicative and behavioral impairments varies significantly between individuals on the autism spectrum. Accounting for the comprehensive symptomatic social, communicative, and behavioral impairments found on the autism spectrum, these variations have been subsumed in the diagnosis of ASD (APA, 2013).

Social skills are necessary in the fulfillment of numerous needs and demands in life. However, social-communicative impairments found in ASD may negatively impact certain areas of functioning, such as academic achievement, interpersonal relationships, as well as influence the development of anxiety, depression, substance abuse, and other psychological difficulties (Bellini, 2006; La Greca & Lopez, 1998; Tantam, 2000; Welsh, Park, Widaman, & O'Neil, 2001; as cited by Bellini et al, 2007). These cumulative detrimental effects often lead to a rejection of interpersonal relationships resulting in social isolation (Bellini et al., 2007). Because social skills

directly affect social, emotional, and cognitive development, the accurate detection and evaluation of the progression of social skills in individuals with ASD is crucial.

The prevalence of ASD is approximately one out of every 110 Americans, which means that there are about 2.8 million people with ASD in the United States (Rice, 2009; as cited by Johnson et al., 2011). Parent-reported data from 2007 indicates that 11 per 1,000 children aged 3-17 years were diagnosed with ASD (Kogan et al., 2007). According to the Autism and Developmental Disabilities Monitoring (ADDM) Network, the estimated prevalence of ASD within 14 ADDM sites was 11.3 per 1,000 eight year-old children in 2008 (Baio, 2012). In addition, it was found that one in 54 boys and one in 252 girls in the ADDM Network communities were diagnosed with ASD (Baio, 2012). Despite the high rates of ASD, the symptoms generally appear before three years of age, and as such, these symptoms can be targeted early if they are detected with appropriate assessment instruments (APA, 1994).

While ASD symptoms have been found to persist from childhood into adulthood, it has also been discovered that if detected early, such impairments can be reduced with treatment (Shroeder et al., 1996). However, there has been a lack of research on the manifestation of these challenges in adolescence and adulthood (Shroeder et al., 1996). Previous research has found that most children with autism have significantly impaired expressive language, and many never develop appropriate communication skills (Lord et al, 2004). These children may have difficulties with prosody, volume, and echolalia, as well as shifting the conversation from particular topics that others may not be interested in (Tager-Flusberg, 1999). Nonverbal communication, such as making eye-contact, as well as understanding gestures and emotions may also be challenging for children with ASD (Tager-Flusberg, 1999).

Although there has been a scarcity of research on the assessment of the progression and/or reduction of ASD symptoms from childhood to adolescence, some empirical studies have been completed. For example, Seltzer and colleagues (2003) conducted a retrospective study on 400 individuals who were diagnosed with ASD as children, in which they were divided into two groups: adolescents (10-21 years-old) and adults (22 years-old and older). According to the findings, although significant improvements were found in speech symptoms in adults, this was not the case for children and adolescents in pointing and using gestures (Seltzer et al., 2003).

Coupled with the lack of research to assist this population, as adolescents with ASD transition into adulthood, they are confronted with the reality of there being few supportive services (Wolfe, 2005). According to Hendricks and Wehman (2009), parents of adolescents with ASD reported that the lack of information, lack of availability, and barriers to treatment resulted in them not receiving appropriate services. While it is crucial for adolescents with ASD to receive these services, most do not have these opportunities due to these factors. Bearing in mind that the scarcity of services may prevent them from successfully transitioning into adulthood, it becomes critical for adolescents with ASD to learn independent living skills.

Within the psychological community, the importance of early detection and monitoring of ASD symptoms in children and adolescents is greatly valued because with this process, necessary treatment can be provided at the appropriate time to effectively reduce symptoms. In addition to symptom reduction, treatment allows for the development of crucial social and communicative skills. Considering this demand, the evaluation of symptoms and later implementation of effective treatment interventions is needed. Through comprehensive assessment, the progressive development of social and communicative skills of adolescents with ASD can be determined to aid this population in its transition to adulthood.



## **Statement of the Problem**

As adolescents with ASD transition into adulthood, they are confronted with multiple relational and social expectations for which they are often unprepared (Shattuck et al., 2011; Webb et al., 2004; Orsmond et al., 2004). Adolescents with ASD who have limited social and communicative skills generally have challenges in developing and maintaining relationships, which may negatively affect many areas of their lives, as well as lead to challenges in adulthood (Shattuck et al., 2011). By way of adolescence being the last developmental phase of childhood, effectively preparing adolescents with ASD for the demands that await them in adulthood is of utmost importance. Assessing the social and communicative skills development of these adolescents over time informs treatment planning to effectively armor them with necessary skills to allow for their smoother transition into adulthood.

Considering the emotional turmoil and interpersonal challenges that are experienced by adolescents with ASD, it is apparent that their increased social competency would allow them to remediate these challenges to some degree (Orsmond et al., 2004; Tse et al., 2007). With the utilization of social-communicative skills interventions in academic programs, adolescents with ASD can significantly benefit. While monitoring the progression of social-communicative skills in adolescents with ASD over time in academic programs is valuable, most research studies on these programs are time limited and are not designed to be comprehensive (Shattuck et al., 2011; Tse et al., 2007; Ellis et al., 2009). Most research studies have only determined whether symptoms subside, remain stable, or become more severe over time, as well as whether individuals continue to meet the diagnosis for ASD after the early childhood years (Seltzer et al., 2011). As such, there has been a paucity of research on the long-term effectiveness of academic programs for adolescents with ASD in their development of social and communicative skills.

Despite the lack of comprehensive long-term research studies on the development of social and communicative skills of adolescents, time-limited research studies have been conducted. According to Greshman and colleagues (2001), most research studies on social skills training programs have failed to produce sufficient maintenance and generalization effects. These results have been related to the limited time that services were provided and the challenge in evaluating services that were not matched to particular skill deficits (Greshman et al., 2001). With a more comprehensive analysis of specific developed skills through the facilitation of a questionnaire, it is anticipated that these common challenges will be moderated.

The purpose of this research project **was** to quantitatively evaluate the progression of social and communicative skills of adolescents with ASD who attend New Vista School (grades 6-12) for students on the autism spectrum. Throughout the course of a school year, the adolescents **received** social and communicative skills training to promote the development of their relational skills and their successful transition into adulthood. These adolescents' social and communicative skills **were** evaluated with the facilitation of a parent-report questionnaire across two time periods (October and May) during the 2013-2014 school year.

In consideration of the clinical implications for this research study, the purpose of these findings **was** to gain a comprehensive understanding of the progressive development of five domains of social and communicative skills, as well as to determine what domains require curricular or other adjustments to improve the effectiveness of the academic program in promoting the social and communicative skills of adolescents with ASD. With the anticipation of research findings that demonstrate the significant improvement of the adolescents' social and communicative skills, it **was assumed** that future research would replicate these results to confirm the adolescents' successful development of these skills.

## Literature Review

Adolescence is a transitional period, in which individuals mature in biological, psychological, and social areas of life. Adolescents experience many challenges during this developmental period, which are related to their physical and cognitive changes, exposure to peer pressure, increased interest in romantic partners, and their desire for independence (Ellis et al., 2009). While most individuals transition through adolescence without excessive obstacles, many experience challenges resulting in psychological unrest (Ellis et al., 2009).

These difficulties are especially prominent in adolescents with ASD due to the debilitating effects of their social and communicative impairments. Social and communicative skills are crucial in the development and maintenance of interpersonal relationships, in meeting academic demands, as well as in planning for adulthood (Gresham et al., 2011). Limited social and communicative skills may lead adolescents with ASD to experience significant challenges in their peer relationships, academics, as well as work contexts.

### *Supportive academic program for typically developing adolescents*

As relational challenges can negatively impact various aspects of life, multiple academic programs have previously been developed to allow for adolescents' smoother transition into adulthood. These supportive programs have encouraged the development of social skills, self-reliance, and cohesiveness with others. Research has shown progress in adolescents' psychological, interpersonal, and academic functioning with these services, which appear to facilitate their adjustment in adulthood.

Ellis and colleagues (2009) conducted a research study to evaluate the impact of the Peer Support program on participants, which was used to foster wholesome values, skills, and attitudes to aid typically developing adolescents in their transition to adulthood. The researchers

evaluated the impact of this program on adolescent students' psychological well-being and adjustment to the high school setting, as well as to determine students' personal perspectives of the program's effectiveness. This quantitative and qualitative longitudinal design employed 930 seventh grade students from three high schools, and the generalizable data was collected over a two year period (Ellis et al., 2009).

The Peer Support program trained senior year 2010-2011 high school students to work with small groups of seventh grade students to promote their well-being and adjustment to high school. Each of the groups had eight to ten seventh grade students and two tenth and eleventh grade leaders (Ellis et al., 2009). The program consisted of twelve sessions, which were 45 minutes per week. These leaders directed the seventh grade students through the program content and activities, which included goal setting, group decision making, problem solving, and the development of support networks. The program assessed four domains of transition, which included students' self-concept with the Self-Description Questionnaire II-Short (SDQII-S), life effectiveness with the Review of Personal Effectiveness scale, coping with the Coping Strategy Indicator (CSI-S), and attitudes toward bullying with the Bullying Attitude scales of the Adolescent Peer Relations Instrument (APRI-A) (Ellis et al., 2009).

In the first year, all seventh grade students were assigned to the within-school control group (Ellis et al., 2009). On three occasions during the school year, quantitative data was collected from the control group: before the program began, six months later, and toward the end of the year (Ellis et al., 2009). In the second year, new seventh grade students from the three schools participated in the peer support program and in the experimental group (Ellis et al., 2009). Quantitative data was collected from the experimental group on three occasions during the school: before the program began, six months later, and toward the end of the year (Ellis et

al., 2009). Results for the seventh grade students in the experimental group were compared with the control students from the previous year and the pre-test results from the experimental group immediately before the program was introduced (Ellis et al., 2009).

With the use of multilevel modeling procedures, it was determined that the supportive program significantly improved typically developing adolescents' self-concept, school citizenship, sense of self and possibility, connectedness, and resourcefulness (Ellis et al., 2009). In the qualitative section of the research, 408 seventh grade students, 75 peer support leaders and focus groups with 119 seventh grade students and 44 peer support leaders provided their personal perspectives of the program (Ellis et al., 2009). These participants largely found that the program positively impacted their lives, in that they claimed to develop significantly greater student connectedness, problem solving ability, sense of self and possibility, school citizenship, and adjustment to high school (Ellis et al., 2009).

Considering this information, this study **demonstrated** that interventions for adolescents can significantly improve their psychological well-being and adjustment during this transitional period. While this research study evaluated the effectiveness of a supportive academic program for typically developing adolescents in engendering their self-advocacy and prosocial capacities, other studies on adolescents with ASD have found similarly positive findings.

### ***Social skills interventions for children and adolescents with ASD***

Acknowledging the beneficial effects of treatment programs that assist children and adolescents in the development of skills necessary for their successful transition into adulthood, empirical studies have been expanded to incorporate other emphases in treatment programs. Multiple research studies have evaluated academic programs that focus on the development of social and communicative skills for adolescents with ASD. Despite being largely time-limited

and not comprehensive in nature, these research studies have provided valuable information about the effectiveness of various programs in facilitating the development of relational skills necessary for the demands of impending adulthood.

Given the value of treatment programs for adolescents with ASD, Laugeson and colleagues (2012) evaluated the efficacy and robustness of the UCLA PEERS Program, which is the Program for the Education and Enrichment of Relational Skills, a parent-assisted social skills group intervention for high-functioning adolescents with ASD. In this research study, twenty-eight middle school and high school adolescents with ASD between 12 and 17 years-old (23 males and 5 females) participated in the study with their parents (Laugeson et al., 2012). In the treatment group, seven participants had Autism Disorder and seven participants had Asperger's Disorder. Three participants had co-morbid Attention-Deficit/Hyperactivity Disorder (ADHD) and two participants had Major Depressive Disorder (MDD) (Laugeson et al., 2012).

Fourteen participants in the treatment group received the PEERS intervention immediately after baseline assessment and 14 participants in the Delayed Control Condition received the treatment after a 14-week wait period (Laugeson et al., 2012). Participants in the treatment group were assessed at baseline (T1, week 1), received the 14-week intervention immediately, were assessed the last night of the group (T2, week 14), and returned 14-weeks after the end of the intervention for a follow-up assessment (T3, week 28)(Laugeson et al., 2012). Participants in the delayed treatment control group were assessed at baseline (T1, week 1), waited for 14-weeks before receiving the intervention, were assessed the first night of the group (T2, week 14), and were assessed again the last night of the group (T3, week 28) (Laugeson et al., 2012). Participants in the delayed treatment control group did not participate in the follow-up assessment due to the study being 28 weeks (Laugeson et al., 2012).

The UCLA PEERS Program involved fourteen 90-minute sessions, which were delivered once per week over the course of 14-weeks (Laugeson et al., 2012). Each of the parents and adolescents with ASD attended separate concurrent sessions, which implemented psychoeducation and cognitive-behavioral treatment techniques throughout the training of social skills necessary for making and keeping friends. During the course of one year, approximately eight to ten adolescent participants attended three separate groups. The parents who attended the group were responsible for aiding the adolescent with weekly socialization homework assignments, providing social coaching when needed, and completing all pre- and post-test measures (Laugeson et al., 2012).

The PEERS treatment curriculum consisted of the didactic training of social skills development, appropriate use of humor, handling embarrassing feedback, changing a bad reputation, and handling rumors and gossip (Laugeson et al., 2012). In addition, parent-assistance and structural elements of the lesson format were incorporated in the curriculum. After the didactic lessons about social skills, participants engaged in role-playing exercises that the group leaders modeled (Laugeson et al., 2012). With reflective questions following the role-playing exercises, participants processed the newly learned social skills that had been taught. These skills were repeated and rehearsed by adolescents in session with structured socialization activities, in which they received performance feedback from the group leader and coaches (Laugeson et al., 2012). Parent-supervised homework assignments and the implementation of these skills in a natural setting with parent coaching allowed for the generalization of skills. Multiple instruments were completed to assess the development and progression of the ASD adolescents' social skills.

According to the baseline and follow-up assessment results, significant improvements in the adolescents' social skills were found. At the 14-week follow-up assessment, treatment gains in the developed social and communicative skills were maintained (Laugeston et al., 2012). Parents in the treatment group reported significantly greater improvement in the adolescents' overall social skills as compared to parents in the delayed treatment control group. Specifically, parents in the treatment group reported improvements in the adolescents' cooperation, assertion, and responsibility (Laugeston et al., 2012). In addition, parents in the treatment group reported a significant improvement in the adolescents' social responsiveness as compared to parents in the delayed treatment control group (Laugeston et al., 2012). With the development of these social skills, parents and adolescents in the treatment group also reported having more social gatherings as compared to those in the delayed treatment control group (Laugeston et al., 2012).

Considering these findings, the UCLA PEERS program **has been** evidenced to be highly efficacious in improving the social and communicative skills of adolescents with ASD. Despite adolescents with ASD showing significant improvement in these skills, being that the study was time-limited, a more long-term and comprehensive study would provide valuable information about the usefulness of the social skills training program incorporated in the academic setting. Although many research studies have been time-limited, many meta-analysis studies have been informative in the evaluation of interventions for this population.

In assessment of academic programs, Bellini and colleagues (2007) conducted a meta-analysis of 55 single-subject design studies to evaluate the effectiveness of school-based social skills interventions for children and adolescents with ASD. These researchers sought to determine the cumulative outcomes of the studies to identify the participant, setting, and procedures that result in the most effective intervention outcomes for children and adolescents



with ASD (Bellini et al., 2007). In addition, the interventions, maintenance, and generalization effects of the studies were compared.

Multiple studies were found through a search of journal articles using the Educational Resources Information Center (ERIC) and PsycINFO databases from 1980 to 2005 (Bellini et al., 2007). After the research studies were obtained, the abstract or method sections of each of the articles were reviewed to determine the inclusion eligibility based on nine criteria (Bellini et al., 2007). The 55 studies met the following requirements: the participants in the studies needed to have been identified as having ASD, the studies needed to have outcome measures related to the development of social skills, the efficacy of social skills interventions needed to be evaluated, the social skills interventions that were examined needed to be implemented in the academic setting, the studies **needed** to have used single-subject research designs, the studies needed to include dichotomous dependent variables with at least three prompts or questions for each intervention phase, graphical displays that showed individual data points instead of aggregated **data needed to be** included in the studies, the studies needed to be published in a peer-reviewed journal, and the studies **needed to** have been published in English (Bellini et al., 2007).

The coding system assessed each of the 55 studies, and the following categories were analyzed: participant characteristics, intervention descriptions, length and dosage of interventions, research designs, descriptions of the treated skills and dependent variables, intervention effectiveness, locations of interventions, confirmations of experimental controls through the introduction or withdrawal of independent variables across three points in time or across three data series, and confirmation about whether the studies assess interobserver reliability, intervention fidelity, and social validity (Bellini et al., 2007).

Three authors independently coded each study, and interrater reliability was ensured by having the primary author independently code all 55 studies (Bellini et al., 2007). Interrater agreement for the coding of the different features of the studies was 94% (Bellini et al., 2007). The percentage of non-overlapping data points (PND) were computed and used to determine the effectiveness of interventions for each of the studies. PND provided a measure of intervention effectiveness and an approach for systematically synthesizing single-subject research studies (Mastropieri & Scruggs, 1985-1986; as cited by Bellini et al., 2007). PND scores were calculated for each participant and across the dependent variables measured in each of the 55 studies (Bellini et al., 2007).

PND scores measured the intervention effects, maintenance effects, and generalization effects of the research studies. The Kruskal-Wallis procedure was used to evaluate the significant differences in PND across dependent variables (collateral skills vs. social interaction skills), intervention characteristics (type of intervention, intervention format, and location of intervention), and age groups (preschool, elementary, and secondary) (Bellini et al., 2007). In addition, Pearson product-moment correlations were conducted to assess relationship between length and duration of interventions and treatment outcomes (Bellini et al., 2007).

The 55 studies that were analyzed included 157 participants (Bellini et al., 2007). Forty-two of the studies used multiple baseline or probe designs, six studies used reversal designs, three studies used A-B designs, two studies used a changing conditions design, one study used an alternating treatment design, and one study used an alternating treatment reversal design (Bellini et al., 2007). According to the results, there was a questionable intervention effect for the studies in the meta-analysis ( $n = 52$ ; PND  $M = 70\%$ , range = 17-100%). Maintenance effects were found in 25 studies and generalization was reported and graphed in 15 studies.

Based on the results, it was found that interventions targeting collateral skills (e.g., play skills, joint attention, and language skills) resulted in low to moderate intervention, maintenance, and generalization effects (Bellini et al., 2007). Interventions targeting specific social behaviors (e.g., social initiations, social responses, and duration of interactions) also resulted in low to moderate interventions, maintenance, and generalization effects. Furthermore, the Kruskal-Wallis procedure showed no statistically significant differences between dependent variables (Bellini et al., 2007). Numerous school-based social skills interventions for children and adolescents with ASD have not been found to be effective due to possible study design errors, statistical errors, flawed social skills interventions implemented, or time constraints for studies.

According to the results of the meta-analysis, school-based social skills interventions were found to be minimally effective in the development and maintenance of social interaction skills for children with ASD (Bellini et al., 2007). However, moderate maintenance effects were found for interventions targeting collateral skills and social behaviors (Bellini et al., 2007). These findings indicate that depending on the program and the types of interventions implemented, social and communicative skills can be developed further or stagnate. Although the cumulative findings of these studies indicate that school-based interventions used for the development of social interaction skills may be less effective than those targeting collateral skills and social behaviors, these results may not be accurate due to methodological errors.

Considering the lack of standardization and discrepancy of the statistical designs in the studies that were evaluated in this meta-analysis, this may have resulted in inaccurate results. Furthermore, the Kruskal-Wallis procedure that was used to evaluate the differences in PND across dependent variables (collateral skills vs. social interaction skills), intervention characteristics (type of intervention, intervention format, and location of intervention), and age

groups (preschool, elementary, and secondary) resulted in questionable results, and this may have been due to methodological errors in implementing the procedure. As such, future research should utilize more accurate standardization procedures and statistical methods to assess the outcomes of training programs and explain what factors lead to the most beneficial social outcomes for children with ASD.

Due to the scarcity of research on the progression of social skills in adolescents with ASD throughout the course of social skills training programs, Tse and colleagues (2007) assessed the effectiveness of a social skills training group for adolescents with Asperger Syndrome (AS) and High-Functioning Autism (HFA) at the Montreal Children's Hospital. Parents completed three rating scales before and after their children participated in the 12-week program once per year for three years (Tse et al., 2007).

These questionnaires were the Social Responsiveness Scale (SRS), the Aberrant Behavior Checklist (ABC), and the Nisonger Child Behavior Rating Form (N-CBRF) (Tse et al., 2007). The SRS is a 65-item informant-based instrument to assess children's social competence, and social deficits are rated on a 4-point Likert scale (Tse et al., 2007). The ABC is a 58-item informant-based measure of problematic behaviors related to developmental disabilities, and are rated on a 4-point Likert scale (Tse et al., 2007). The N-CBRF is a 70-item informant-based instrument, which assess emotional and behavioral problems of children and adolescents with developmental disabilities (Tse et al., 2007). Adolescents in the two most recent groups completed a feedback questionnaire, in which they rated whether they liked the group and to what extent they believed that their social skills improved.

Adolescents (aged 13-18) with a diagnosis of an ASD by a child psychiatrist, adequate language skills for participation in activities, and a desire to attend participated in the research

study (Tse et al., 2007). The curriculum for the social skills training program consisted of psychoeducational and experiential methods of teaching social skills with the use of role play. Each of the groups within the program included 7-8 adolescents. The groups were directed by a social worker and psychologist experienced in the treatment of adolescents, and one group included a psychiatric resident that functioned as a third co-leader (Tse et al., 2007). Group sessions were two hours per week for each clinician over the span of fourteen weeks.

According to the results of the matched-pairs tests, which examined pre to post-group changes for total and subscale scores on the measures, significant improvement was found for the total scores on the SRS and the N-CBRF-PS (Tse et al., 2007). Within the three DSM subscales of the SRS, the greatest improvement was found for the DSM Social score, and the effect size was double that observed for the other DSM scores. However, age (14 and under vs. 15 and over), gender and medication status (usage vs. no usage of psychotropic medications) did not have statistically significant effects on treatment outcome (Tse et al., 2007).

Problem behaviors related to Asperger's Syndrome and High-Functioning Autism were found to significantly improve on all subscales of the ABC and the N-CBRF-PB except for the "Hyperactivity" subscale of the N-CBRF-PB (Tse et al., 2007). Effect sizes ranged from 0.34 to 0.72, in which the largest effects were on the "Irritability" and "Overly sensitive" subscales, as well as on the ABC total score. Age was found to have a significant effect on the "Irritability" subscale score, in which social skills improvement was found for participants age 14 and younger as compared to older participants (Tse et al., 2007).

According to the feedback surveys, ten adolescents reported liking the group, five of the ten reported liking it a lot, and one reported disliking the group. Fifteen parents reported that their child seemed happy to attend the group, ten parents reported little overall improvement in

their social skills, three parents reported that the social behaviors were the same, and three reported that their behaviors were much or very much better (Tse et al., 2007). Considering the overall improvement in social skills over time, as well as the participants' and parents' satisfaction with the program, more comprehensive research studies would be valuable in further assessing the progression of specific rather than general social skills with similar programs.

Another similar time-limited research study conducted by Webb and colleagues (2004) assessed the effectiveness of the SCORE Skills Strategy in improving five social skills in High-Functioning adolescents with ASD. Participants that were included in this research study had met current educational eligibility for an ASD program, were between 12 and 18 years old, had receptive and expressive language ability above the 70 standard score on the SCORE instrument measured within the previous three years, currently attended a general education classroom for at least one period a day, had an impairment in social skills, and there was parental agreement to have the child receive sessions twice per week for the ten-week project (Webb et al., 2004). Ten boys who were 12.3 to 17.2 years old (nine Caucasian and one Asian) were included for the research study (Webb et al., 2004).

The SCORE Skills program instructed the participants on the five skills, as well as provided them the opportunity to engage in coping strategies during the teaming situation (Webb et al., 2004). Each of the skills had three body language expectations: voice sound, facial expression, and eye contact. The five social skills that were taught were sharing idea, complimenting others, offering help or encouragement, recommending changes nicely, and exercising self-control (Webb et al., 2004). Participants engaged in five parallel role-plays for each of the five social skills. Participants' performance in the role-play situations were recorded, and space was provided on a checklist to record verbatim their role-play responses (Webb et al.,

2004). Participants played various table games and scramble-and-slide puzzles that could be completed in 30 minutes or less. The social skills were assessed with multiple questionnaires.

Baseline involved three sixty-minute sessions, which involved pre-intervention assessments and individual or group participation with table games. No prompts were given to participants during baseline other than to stay in their group, be polite to others, and participate in the activities (Webb et al., 2004). Afterward, interventions were used, in which the previous skills were reviewed and learning objectives were explained, the skills were named, the steps of the targeted skills were defined and explained, the skills were modeled, the skill steps were verbally rehearsed, the skills were put into practice through role-playing games with a peer partner, the skills were learned and the new skills to be learned were identified, and the SCORE Skills were applied to real-life situations (Webb et al., 2004).

According to the results of the assessments, there was not a statistically significant difference between pretreatment and post-treatment in the “sharing ideas” skill, but there were statistically significant differences between pre and post-intervention scores on the other four skills (Webb et al., 2004). Specifically, pre-intervention and post-intervention scores on the “compliments others” skill, “offer help or encouragement” skill, “recommend changes nicely,” and “exercise self-control” skill were statistically significant. Overall, participants and their parents reported that they were satisfied in their gained social skills. This research study indicated that this social skills training program significantly improved adolescents’ social skills.

According to the findings of the studies, through the utilization of appropriate treatment programs, significant improvements in social and communicative skills were found. However, the results may not be fully representative of the development of social and communicative skills of the adolescent ASD population due to the use of primarily time-limited designs and the

evaluation of few skills in these research studies. As a result of the gaps in research, the social and communicative skills that had been evaluated were largely not generalizable to multiple settings and had low maintenance effects. To overcome these limitations, the current study will focus on increasing the sample size and the length of the study. The current study was more comprehensive and generalizable as it assessed the progressive development of five social and communicative skills domains, which included social engagement, social interaction, social behavior, problem solving, and self-advocacy over the course of the academic year.

### ***Social participation and relationships of adolescents with ASD***

In consideration of the impact social-communicative impairments of adolescents with ASD have on their transition into adulthood, the assessment of their social activities informs appropriate treatment for this population. With the use of social skills in activities that involve relational participation, these abilities can significantly improve. However, in the absence of this active engagement, opportunities for the progression of social skills in this population are lost. In order to assess the connection between communicative skills development and participation in various activities, many research studies have been completed.

As social relationships relate to the development of communicative skills, Shattuck and colleagues (2011) evaluated the data from a nationally representative cohort study to estimate the social participation rates of these adolescents. In this research study, adolescents with ASD were compared with three groups of peers who likely have impairments in some, but not all areas of development affected by ASD (Shattuck et al., 2011). These three groups included adolescents with intellectual disabilities, speech impairments, or learning disabilities.

Data for this study was collected from parents and/or adolescents during five time periods with each of the phases separated by two years since 2001 until 2009 (Shattuck et al., 2011).



The study included 11,000 adolescents receiving special education services at baseline, and these participants were followed into young adulthood. These researchers assessed the data from the first time period, which was collected in 2001. This data was expected to generalize to all students receiving special education services who were in 7th through 12th grade or in ungraded programs with the ages of 13 to 16 years old on December 1, 2000 (Shattuck et al., 2011).

Thirteen measures of social activity and participation were divided into three categories: social participation with friends, general social participation, and disability-related social participation (Shattuck et al., 2011). Five 3-category measures of externalizing behaviors, a 4-category question about how well the parents' children could carry on a conversation, a scale of social communication with four 3-category measures, and a cognitive skills scale with four 4-category questions were answered by the children's parents (Shattuck et al., 2011).

According to the results, adolescents with ASD were significantly more likely never to see friends, never receive calls from friends, or never to be invited to activities as compared with adolescents from other groups (Shattuck et al., 2011). These adolescents had lower rates of participation than adolescents with learning disabilities and speech impairments for all measures of social participation except taking lessons outside of school and belonging to a performing group (Shattuck et al., 2011). In addition, adolescents with ASD were significantly more likely to participate in a group that included mainly adolescents with special needs than those from other groups (Shattuck et al., 2011).

Since this research study is generalizable to adolescents who are categorized in the special education autism category rather than in the broader ASD category, more research is needed on adolescents on the full autism spectrum (Shattuck et al., 2011). Another limitation was that the male and female ratio was six boys to five girls for the sample, which is slightly

higher than the four boys to five girls ratio found in recent epidemiological surveillance site estimates (Shattuck et al., 2011). As such, more representative samples **would need** to be examined in future research studies.

Due to the lack of research on how social impairments affect the lives of individuals with ASD, Orsmond and colleagues (2004) conducted a research study with the purpose to evaluate the peer relationships of adolescents and adults with autism. Through the utilization of a subsample of families, 235 adolescents (ages 10-21, n = 185) and adults (ages 22-47, n = 50) with ASD participated in an ongoing longitudinal study (Orsmond et al., 2004). Seventy-three percent of the sample were males reflecting the higher prevalence of autism in males compared with females. Families that were recruited had a son or daughter who was ten years or older, he or she had received a diagnosis on the autism spectrum from a medical, psychological, or educational professional, and he or she completed the Autism Diagnostic Interview-Revised (ADI-R). The data for this study was from the first wave of the data collection.

The mothers of the families provided information during home interviews or during the completion of self-administered questionnaires. The participants' age group (adolescent or adult) and gender were recorded (Orsmond et al., 2004). The mothers described their son or daughter's friendships and peer relationships when completing the ADI-R (Orsmond et al., 2004). The interviewer coded behavioral descriptions of their children provided by the mothers based on their level of abnormal symptoms. The mothers reported their son's or daughter's social and recreational activities on an adapted version of an instrument developed for the National Survey of Families and Households (Orsmond et al., 2004). The mothers rated the frequency of participation of their son or daughter in social and recreational activities on a scale of 0 (less than yearly or never) to 3 (at least once a week).

In addition, the mothers rated their son's or daughter's level of independence on a scale of 2 (does task independently), 1 (does task with help), or 0 (does not do task at all) for twenty items regarding the domains of personal care, housekeeping, meal preparation, as well as mobility and community interaction (Orsmond et al., 2004). The participants' behavior problems were evaluated with the Inventory for Client and Agency Planning (ICAP) (Orsmond et al., 2004). On this instrument, the mothers reported the presence or absence of eight behavior problems in three areas (internalizing, asocial, and externalizing behaviors).

Language skills deficits were assessed with a summary item from the ADI-R regarding the overall current level of language, in which a score of 0 meant daily use of phrases or full sentences to communicate, a score of 1 meant single words or two-word phrases, and a score of 2 meant greater impairment in language skills (Orsmond et al., 2004). Reciprocal social interaction deficits were assessed with the ADI-R with the sum of ratings for fourteen items measuring qualitative impairment in reciprocal social interactions (Orsmond et al., 2004). Environmental factors related to the mother's engagement in social and recreational activities, the number of services received by the son or daughter, and whether or not the son or daughter was included with non-disabled peers during school were assessed (Orsmond et al., 2004).

According to the results from descriptive analyses and multiple regression analyses, it was found that 8.1% of the sample reported having at least one friendship, 20.9% reported having at least one peer relationship that involved activities outside of a prearranged setting, and 24.3% reported having peer relationships only in prearranged settings (Orsmond et al., 2004). Nearly half (46.4%) of the sample was reported to have no peer relationships that met any of these criteria (Orsmond et al., 2004).

With regard to participants' social activities, it was found that the most common activity for 74.5% of participants was walking or getting exercise once per week (Orsmond et al., 2004). Nearly half (41.3%) participated in a hobby once per week (Orsmond et al., 2004). Considering ASD individuals' lack of social skills, it is not surprising that these participants sought activities that can be completed without close others or friends. In view of participants' leisure activities, it was determined that 38.5% participated in recreational activities and 30.6% attended religious services (Orsmond et al., 2004). These activities are scheduled in advance and are predictable. Much fewer participants partook in less predictable weekly informal socializing activities with relatives (22.6%), friends (20.9%), or with people from school or work (13.2%) (Orsmond et al., 2004). Furthermore, participants rarely attended social events at religious services or took overnight trips (Orsmond et al., 2004).

Adolescents and adults with fewer social impairments were found to be more likely to have peer relationships, while none of the environmental factors were predictive of the development of peer relationships (Orsmond et al., 2004). However, participants with challenges in developing friendships continued to have such difficulties in adulthood. Specifically, social skills impairments related to autism were related to challenges in the development of peer relationships, and the more severe the impairments in social skills, the less likely for the development in peer relationships (Orsmond et al., 2004).

Both participants' involvement in social and recreational activities, as well as individual traits were related to environmental factors. The rates of participation in social and recreational activities were associated with individuals' social impairments and the extent to which their mothers participated in similar activities (Orsmond et al., 2004). Participants' greater participation in social and recreational activities was predicted by more independence in

activities of daily living, more internalizing behavior problems, less impairment in reciprocal social interaction skills, more services received, more maternal participation in social and recreational activities, and inclusion while in school (Orsmond et al., 2004).

While this research study used a large sample of adolescents and adults with autism leading to a high confidence in the validity of the results, there were significant limitations. This research study provided inadequate information about various perspectives on the social impairments and social skills progression of adolescents and adults with ASD. More specifically, further research **has been** needed on the multidimensional perspectives regarding the development and progression of social skills in adolescents, as well as the particular social activities that they engage in.

### ***Longitudinal studies on children and adolescents with ASD***

Similar to there being limited information on the various viewpoints regarding the development and progression of social skills in adolescents with ASD, there has been a scarcity of research on the progression of cognitive and language skills of children with ASD into adolescence. Even more restricted has been research on the cognitive and language skills of adolescents in their transition into adulthood. Nevertheless, research that exists on the progression of skills in children with ASD serves as the foundation for the current research in evaluating the social and communicative skills development of adolescents with ASD.

In order to compensate for these limitations, Sigman and McGovern (2005), researchers conducted a longitudinal follow-up to investigate the progression of cognitive and social skills in a sample of 48 children (6 females and 42 males) with autism from preschool to adolescence/early adulthood (Sigman & McGovern, 2005). In addition, the researchers sought to determine if the variables that predicted language progression in the previous follow-up in the

middle school period continued to predict the progression in the succeeding follow-up (Sigman & McGovern, 2005). The recruitment of the sample began in 1978 before specialized programs for children with autism were developed, and as such, this study evaluates children who received mostly speech therapy rather than therapeutic interventions.

During the most recent follow-up, participants' cognitive skills were assessed through the use of standardized instruments (Sigman & McGovern, 2005). About half of the families were assessed at UCLA and the other half was assessed in their residence. Due to the possible unreliability of parental reports because of their need to recall their children's earlier intervention experiences over a significant gap in time, the intervention effects on the children were not assessed (Sigman & McGovern, 2005). At the time of recruitment, most of the children with autism were administered the Cattell Scales of Development. Five of the children whose skills were sufficient enough to be administered the Stanford-Binet, 3rd Edition, received this assessment (Sigman & McGovern, 2005). During the middle childhood and adolescent/young adult follow-up, the Stanford-Binet, 4th Edition was administered to all participants who received basal scores on the vocabulary subtest. During the middle childhood follow-up, the Bayley Scales of Infant Development (BSID) was administered to children who could not be tested using the Stanford-Binet (Sigman & McGovern, 2005). Lastly, during the adolescent/young adult follow-up, the Mullen Scales of Early Learning was administered to all children who could not be administered the Stanford-Binet (Sigman & McGovern, 2005).

Language during early childhood was assessed with the Reynell Scales of Language Ability (Sigman & McGovern, 2005). During the middle school and adolescent/young adult follow-up, the Reynell Scales continued to assess those with phrase speech, single word speech or no expressive language. In addition, the Clinical Evaluation of Language Fundamentals-

Revised (CELF-R) assessed more fluent language (Sigman & McGovern, 2005). Non-verbal communication was assessed with the Early Social Communication Scale (ESCS) in early childhood and a modified version was used in the mid-school and adolescent/young adult follow-ups. Play skills during early childhood were assessed in a structured area through the use of well-established play interventions (Sigman & McGovern, 2005).

Based on the results, the children's cognitive and language skills remained relatively stable or declined during this time period (Sigman & McGovern, 2005). Specifically, 21% or 8 children with autism showed a decline of 10 or more IQ points and only 5% or two children had more than 10 point increases in IQ (Sigman & McGovern, 2005). In addition, the mean change in language age was only half that from middle childhood to adolescence/adulthood as from preschool to the mid-school period (Sigman & McGovern, 2005). Overall, the improvement in mental and language age of non-retarded adolescents with autism was less than half the change in their chronological age. Improvements in language and intelligence was greater for high-functioning children as compared to low-functioning children (Sigman & McGovern, 2005).

None of the children moved from the mentally retarded to the non-mentally retarded range of function. Mentally retarded adolescents with autism had some improvement in mental age but it was significantly less than their change in chronological age (Sigman & McGovern, 2005). Considering the limited gains in cognitive and language skills throughout the school years in contrast to the preschool and early school years, it is likely that there is a sensitive period for children with autism, in which elementary cognitive and language skills are acquired (Sigman & McGovern, 2005). In addition, the types of skills expected to be developed in the adolescent period may be more challenging for those with autism to acquire.

With regard to the determination of whether the preschool children's characteristics that predicted language improvement by mid-school period continued to predict language improvement in the adolescent/young adult period, it was found that as in the previous period, the number of functional play acts and the percentage of responses to bids for joint attention in the preschool years continued to predict language improvement in adolescence and young adulthood (Sigman & McGovern, 2005). Based on these results, joint attention and play skills affect the language gains in children with autism.

As there was a lack of intervention programs for children during the time that the study was started, children's developmental experiences were constrained to preschool and elementary school attendance (Sigman & McGovern, 2005). Consequently, the limited gains in language and intelligence during the preschool and mid-school ages were probably due to experiencing less intensive interventions as compared to those that children currently experience (Sigman & McGovern, 2005). The lack of information about the interventions used limits the understanding of the results (Sigman & McGovern, 2005). More research **has been** needed on the specific interventions that have been used and the children's improvements in social and language abilities, as well as their intelligence.

Gilchrist and colleagues (2001) conducted a study to identify the relationship between early speech development and other areas of functioning in ASD, as well as to determine whether individuals without early speech delays had less severe or different communicative and social impairments in the High Functioning Autism (HFA) group and with different impairments in the Conduct Disorder (CD) group (Gilchrist et al., 2011). In addition, the researchers sought to understand whether the absence of delayed speech development in the AS group was related



to differences in the HFA group in communicative or social functioning, or in IQ profiles during later life (Gilchrist et al., 2011).

Male adolescents (11-19 years old) within the normal range of intelligence with ASD but without speech delays (Asperger Syndrome, AS) were compared with a group whose speech was delayed (high functioning autism, HFA) and with a socially impaired non-ASD group (Conduct Disorder, CD) (Gilchrist et al., 2001). These three groups were compared with each other based on their early development (parent report) and current functioning (parent report, direct observation, and IQ profile) (Gilchrist et al., 2001).

The parents of these adolescents were administered the Autism Diagnostic Interview (ADI), which inquired about their general background, family, medical, and education history, as well as their impairments in communication, reciprocal social interaction, and stereotyped behavior (Gilchrist et al., 2001). The original version of the ADI-R was used to evaluate autistic participants, while AS and CD participants were assessed with the revised version including the addition of several items from the original ADI (Gilchrist et al., 2001).

Each of the participants were evaluated with the Autism Diagnostic Observation Schedule (ADOS), which is an interactional interview with a play and conversation section with a duration of about 40 minutes (Gilchrist et al., 2001). This instrument assessed the quality and severity of social impairments in ASD, which are sensitive to their manifestations in individuals with various intellectual abilities. The WISC-R was administered to participants under 18 years old, and the WAIS-R was administered to those over 18 years old. In addition, participants' social and psychiatric functioning was assessed with the Social and Emotional Functioning Interview, psychiatric interview, Theory of Mind assessments, Facial Emotion Recognition Task, Embedded Figures Test, and Wisconsin Card Sort Test (Gilchrist et al., 2001).

According to the findings, it was determined that the CD group was significantly different from the AS and HFA groups (Gilchrist et al., 2001). Although with social impairments (family and school relationship problems, and difficulty sharing emotional and responding affectively to others), participants in the CD group did not have difficulties in reciprocal communication and social behavior (social interaction related to shared attention, or the use of verbal and nonverbal communication) that were found in the AS and HFA groups (Gilchrist et al., 2001). Social abnormality in the CD group was related to over-activity that was not related to the social abnormality of either the AS or HFA groups (Gilchrist et al., 2001).

While the AS group had no early speech delay, the HFA group had a speech delay (Gilchrist et al., 2001). The HFA group was found to have more severe early behavioral abnormalities than the AS group. Although the AS group was unlikely to have speech deficits, it had a greater chance of having other communicative, social, and restricted/stereotyped behavioral challenges similar to those of the HFA group (Gilchrist et al., 2001). In addition, the AS and HFA groups had similar Performance IQs, but the AS group had significantly higher Verbal and Full Scale IQs than the HFA group. Based on the findings, individuals with ASD show similar communicative and social abnormalities despite differences in speech and other developmental aspects (Gilchrist et al., 2001). Despite much information collected on ASD, more research is necessary to determine whether appropriate interventions affect outcome on the social and cognitive functioning of the ASD population during adolescence.

Seltzer and colleagues (2004) conducted a meta-analysis on the development of adolescents and adults with autism. Prospective, retrospective, and cross-sectional studies were evaluated to evaluate the manifestation and changes of autism symptoms in adolescence and adulthood (Seltzer et al., 2004). Researchers sought to understand the way in which the core

symptoms of autism manifested during adolescence and adulthood, the changes in cognitive abilities across the life course, the social role attainment by adults with autism, and the factors that are predictive of better outcomes in adulthood (Seltzer et al., 2004).

For example, Seltzer and colleagues (2003; as cited by Seltzer et al., 2004) conducted a retrospective study of 400 individuals who had been diagnosed with ASD when they were young children, and they were divided into two cohorts: adolescents (10-21 years old) and adults (22 years or older). With the use of the ADI-R, comparisons between their current symptoms and lifetime symptoms were made. It was found that 94.8% met ADI-R criteria for Autism Disorder and 5.2% met criteria for an ASD diagnosis (Asperger's Disorder or PDD-NOS) (Seltzer et al., 2003; as cited by Seltzer et al., 2004). Overall, it was found that the autism symptoms reduced with age, but that the improvement of the life course varied across the adolescent and adult groups according to their symptomatic behaviors (Seltzer et al., 2003; as cited by Seltzer et al., 2004). The adult group had the most significant improvement, while the adolescent group had significant improvement from the lifetime to current ratings of communication.

Rutter and colleagues (1967; as cited by Seltzer et al., 2004) assessed the language level of a sample of British adults with autism who were diagnosed with ASD at seven years-old on average. According to the results, the communication level of these individuals in adulthood improved somewhat, but their impairments remained significant (Rutter et al., 1967; as cited by Seltzer et al., 2004). Out of those individuals who had little or no language in childhood, more than 40% developed adaptive language in adulthood (Rutter et al., 1967; as cited by Seltzer et al., 2004). Nevertheless, even in adulthood, only 16% scored at or above the level expected for a typical 15 year-old, 35% had language skills between that of 6 and 15 year-olds, and 48% had language below that of a 6 year-old (Rutter et al., 1967; as cited by Seltzer et al., 2004). Similar

findings in other studies suggest that despite continued impairments in certain aspects of language and speech, effective social skills training led to some improvement in the social and communicative skills of adults with ASD.

Another research study was conducted on 187 Japanese adults with autism between the ages of 18 to 33 who were initially studied at 6 years-old (Kobayashi & Murata, 1998; as cited by Seltzer et al., 2004). While only 1.5% had “very good” speech in childhood, 16% had “very good speech” as adults (Kobayashi & Murata, 1998; as cited by Seltzer et al., 2004). “Good speech” increased from 18.1% at 6 years-old to 31.6% in adulthood. As found in other studies, most participants continued to experience significant impairments in speech. Furthermore, only 9% of children with autism were rated as having adaptive social adjustment in adolescence, while 30% were rated as having very poor adjustment during this developmental period (Rutter et al., 1967; as cited by Seltzer et al., 2004). These findings confirm the results of previous research studies, in that during childhood and adolescence, most individuals with ASD experience significant social difficulties. However, with appropriate treatment implemented throughout the course of a lifetime, their social and communicative challenges were ameliorated.

These reviewed research studies have contributed to a comprehensive understanding of the efficacy of treatment interventions used to promote the development of social and communicative skills of adolescents with ASD. Most research studies have found that with the use of social skills training and intensive interventions, social and communicative skills can be improved in adolescents with ASD, and these skills can last a lifetime if they are effectively fostered with supportive services. However, these studies have focused on the efficacy of treatments for children rather than for adolescents with ASD, and this has severely limited the advancement of therapeutic treatment geared toward assisting this population. Furthermore,

most of the research studies have been time-limited, and have not involved long-term follow-ups to assess the progressive development of social and communicative skills. Recognizing these limitations, it is apparent that empirically validated research **has been** needed to determine the efficacy of current treatment models for adolescents with ASD.

Despite many obstacles in the attainment of resources and lack of available supportive programs for the development of social, communicative, and life skills necessary for the transition into adulthood, several reputable programs exist, and are accessible to various age groups. The current research study emphasizes the evaluation of a specific academic program designed to assist adolescents with ASD in the development of these necessary skills. With the use of a curriculum designed to promote the development of social and communicative skills of adolescents with ASD at New Vista School, students who attend this academic program have the opportunity to increase their chances to succeed in social, academic, and occupational areas of their lives. The current longitudinal research study assesses the progressive development of social and communicative skills of adolescents with ASD over the course of the academic year. By way of filling in current gaps in the research, this study allows for more information to be gained about the academic program designed for the adolescent ASD population, and their progressive development on five social and communicative skill domains.

## **Method**

### *Participants*

Archival data was gathered in this research study from 80 parents/guardians of adolescent students with ASD between 12-21 years of age from 6th-12th grades at New Vista School in Laguna Hill, California. Due to attrition as a result of parents/guardians not fully completing the questionnaire or deciding not to complete the questionnaire a second time, the results of 57 rather

than 80 parents/guardians of adolescent students with ASD were assessed. The adolescent students that were evaluated included 37 males and 19 females of which 35 were Caucasian, two were Hispanic, seven were Asian, one was South Asian, one was Pacific Islander, and six were Multiethnic. Data regarding the adolescents' social and communicative skills was collected by the school staff from their parents/guardians through the facilitation of a questionnaire during twotime periods (October and May) over the course of one year at the New Vista School in Laguna Hills, California. As 57 parents/guardians of adolescent students with ASD were used to gather data, this sample was sufficiently representative of parents/guardians with ASD adolescents who have social and communicative impairments at the New Vista School. The inclusion criteria for this study were that the sample consisted of adolescents with ASD, who attended New Vista School in Laguna Hills, California, who were between the ages of 10 to 19 years-old, who were of diverse backgrounds, and who were in the sixth to twelfth grade.

### *Intervention*

The social skills program used at the New Vista School is actively implemented throughout the school during the entire day, each day, by staff members and other faculty who were cross trained in the teaching of social and communicative skills. Students attended social skills classes each day as this was included within the academic curriculum. Multiple methods were used to teach the social and communicative skills.

One of the strategies employed included the research-based UCLA PEERS program (University of California, Los Angeles Program for the Evaluation and Enrichment of Relational Skills), which had been found to be a successful parent-assisted social skills group intervention for high-functioning adolescents with ASD to promote social skills knowledge, social responsiveness, and overall social skills (Laugeson, et al., 2012).

Other methods **used included** support and materials that **were** provided from the coordinator of the social skills training program and an outside expert consultant who **integrated** various elements into the curriculum and **adjusted** them to match the adolescent students' needs, Social Behavior Mapping to problem solve real-life social difficulties, journaling by students to gain understanding and perspectives on new topics, as well as lessons based on verbal behavior and video feedback to promote the generalization of skills.

Each of the adolescent students **was** videotaped during the break, as well as during lunch time. The video data **was** presented during the social skills class with the students to examine the social skills that **were** emphasized in the curriculum. Students **engaged** in weekly communication via emails, homework, and/or a social skills blog, so that their families **were** aware of the activities and lessons taught each week. In addition, this communication **allowed** for the generalization of their social skills and **allowed** them to engage in family discussions.

The students **had** the opportunity apply their social skills during various **student led lunch club activities**, as well as during after school activities, which **were** facilitated by teachers and led by students. Students **had** the opportunity to create their own clubs based on their interests, and **had** the chance to participate in monthly school wide events hosted by either the school or the Parent Guild. Students **were** able to participate in community activities, which **were** provided to students both on and off campus.

In order to reinforce students' successful use of social skills and compliance with completing school goals and objectives throughout the day, the school **followed** a Positive Behavior Support Program, which **implemented** a point reward system. Students who **demonstrated** school-wide values and follow classroom expectations **were** rewarded in each class. With the system, students **had** the chance to earn privileges, prizes, and school-wide

recognition. Although a minor part of the program, it had been beneficial in tracking students with academic and behavioral challenges.

Students had the opportunity to be placed on different tracks suited to match their particular social and communicative ability levels. These tracks were used to enhance and maintain the social skills that they previously developed. A total of four social and communicative skills tracks were available to students, which included: Level 1 Track, Level 2 Track, Level 3 Track, and Level 4 Track. Level 1 and 2 Tracks were designed for students with significant social and communicative challenges, and the later tracks were intended for students with more developed social and communicative skills.

Level 1 Track focused on the development of basic conversational skills, the ability to determine the validity of scenarios, the development of cognitive abilities in sequentially ordering events, the enhancement of knowledge about social situations, and the ability to develop peer relationships. Level 2 Track implemented the PEERS program, and emphasized the development of relational skills, which involved training students to use skills that would allow them to build and maintain peer relationships, engage in reciprocal communication (by trading information between peers and finding common interests), and use social etiquette. Level 3 Track focused on training students to identify and use social thinking, while building upon the social and communicative skills learned in the previous tracks. Level 4 Track also focused on training students to identify and use social thinking, while developing social cognition, which involves an in-depth understanding of hidden social rules and considering the perspectives of others in multiple social situations.

Students initially attended daily social skills classes through the tenth grade, and after they mastered these classes, they attended transitions classes to prepare them for adulthood in the



eleventh and twelfth grades. The transitions classes **were** comprised of mostly eleventh and twelfth graders who completed the social skills classes. Students in the transitions classes **were** on internship two days per week for four to six hours, during which they **received** job training. During the rest of the class time, students **learned** life skills that **allowed** them to successfully transition to adulthood. Functional living skills, development of workplace relationships, independent living skills, and other topics that **were relevant were** learned in this class.

### *Instrument*

The newly developed Social Skills Questionnaire to evaluate the progression of ASD adolescent students' social and communicative skills was created by a child and adolescent clinical psychologist and psychology professor. This questionnaire **included** eleven questions on social engagement, twenty questions on social interaction, fourteen questions on social behavior, twelve questions on problem solving, and thirteen questions on self-advocacy. **A Likert Scale rating system was used for each of the questions (1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4=agree, and 5=strongly agree). Parents/guardians were provided room to include additional comments upon completion of the questionnaire if they found it necessary.** Neither split-half reliability nor test-retest validity was tested on the questionnaire. The questionnaire is included in Appendix A for review.

### *Procedure*

Parents/guardians were provided with the questionnaire in October and May over the course of one year during the 2013-2014 school year by the school. The principal provided information about the adolescent students' demographics and social skills tracks suited for their placements **to the researcher.**

The school director of the New Vista School allowed access to the collected data. The researcher gained permission from her Clinical Research Project chair to use the data. The researcher de-identified all of the data collected and all information remained confidential throughout the process of data analysis. Each of the data sets had an identification number, and only the researcher and the chair had access to the information. The researcher reviewed the data to determine and confirm that it met inclusion criteria.

## Results

With the utilization of the Simple Repeated Measures ANOVA, adolescents' social engagement, social interaction, social behavior, problem solving, and self-advocacy were compared between October (Time 1) and May (Time 2) during the 2013-2014 year. Descriptive statistics assessed the demographic variables. The alpha level of statistical significance was set at 0.05. The following null and alternative hypotheses were tested, and each of the null hypotheses were rejected while the alternative hypotheses were confirmed:

1) Ho: There is no significant difference between Time 1 and Time 2 on the ASD adolescents' social engagement.

Ha: There is a significant difference between Time 1 and Time 2 on the ASD adolescents' social engagement.

2) Ho: There is no significant difference between Time 1 and Time 2 on the ASD adolescents' social interaction.

Ha: There is a significant difference between Time 1 and Time 2 on the ASD adolescents' social interaction.

3) Ho: There is no significant difference between Time 1 and Time 2 on the ASD adolescents' social behavior.

Ha: There is a significant difference between Time 1 and Time 2 on ASD adolescents' social behavior.

4) Ho: There is no significant difference between Time 1 and Time 2 on ASD adolescents' problem solving.

Ha: There is a significant difference between Time 1 and Time 2 on ASD adolescents' problem solving.

5) Ho: There is no significant difference between Time 1 and Time 2 on ASD adolescents' self-advocacy.

Ha: There is a significant difference between Time 1 and Time 2 on ASD adolescents' self-advocacy.

Table 1

*Demographics Characteristics of Adolescents with ASD*

<i>Variables</i>	<i>n</i>	<i>%</i>
<i>Gender</i>		
Male	37	66.1
Female	19	33.9
<i>Ethnicity</i>		
Caucasian	35	62.5
Hispanic	2	3.6
Asian	7	12.5
South Asian	1	1.8
Pacific Islander	1	1.8
Multiethnic	6	10.7
<i>Age</i>		
10	1	1.8
11	1	1.8
12	5	8.9
13	6	10.7
14	10	17.9
15	9	16.1
16	9	16.1
17	12	21.4
18	2	3.6

19	1	1.8
<i>Education</i>		
6th Grade	5	8.9
7th Grade	9	16.1
8th Grade	10	17.9
9th Grade	7	12.5
10th Grade	12	21.4
11th Grade	9	16.1
12th Grade	3	5.4
12th Grade +	1	1.8
<i>Years Enrolled</i>		
0	15	26.8
1	15	26.8
2	9	16.1
3	3	5.4
4	4	7.1
5	8	14.3
6	2	3.6
<i>Track</i>		
Track 1: Basic Conversation	14	25
Track 2: Peer Relationships	17	30.4
Track 3: Conversation Advanced	23	41.1
Track 4: Social Cognition	1	1.8

Note:  $n = 56$

Table 2

*Mean Differences Between Groups*

Independent Variables	Time 1 Mean	Time 2 Mean	Difference
Social Engagement	41.16	42.93	1.77*
Social Interaction	61.25	65.75	4.5*
Social Behavior	44.43	47.57	3.14*

Problem Solving	38.95	41.70	2.75*
Self-Advocacy	42.89	45.59	2.7*

p < 0.05

### Demographics Characteristics of Adolescents with ASD

Table 1 represents the demographics characteristics of all adolescents with ASD who were evaluated through the facilitation of the questionnaire. According to the demographics of adolescents with ASD in the academic program, 37 males and 19 females were included in this research study, and the majority of the sample was Caucasian. There was a total of 35 Caucasians, two Hispanics, seven Asians, one South Asian, one Pacific Islander, and six multiethnic adolescents with ASD in this sample. Although this sample is representative of adolescents with ASD at New Vista School in Laguna Hills, California, this sample may not be representative of the overall ASD adolescent population.

There was a significant discrepancy in the ages of adolescents with ASD, in that a large proportion of them were 14 years-old and 17 years-old, and relatively few of them were 10 years-old, 11 years-old, 18 years-old, and 19 years-old. This sample consisted of one 10 year-old, one 11 year-old, five 12 year-olds, six 13 year-olds, ten 14 year-olds, nine 15 year-olds, nine 16 year-olds, twelve 17 year-olds, two 18 year-olds, and one 19 year-old. More of a representative sample with a wide age range would have been valuable.

With regard to the grades of the adolescents with ASD, there was a similar discrepancy in the grades of adolescents with ASD, in that a large proportion of them were in 8<sup>th</sup> and 10<sup>th</sup> grade, and relatively few were in 6<sup>th</sup> grade and 12<sup>th</sup> grade. The sample consisted of five 6<sup>th</sup> graders, nine 7<sup>th</sup> graders, ten 8<sup>th</sup> graders, seven 9<sup>th</sup> graders, twelve 10<sup>th</sup> graders, nine 11<sup>th</sup> graders,

three 12<sup>th</sup> graders, and one second-year 12<sup>th</sup> grader. In order to have a more representative sample, more of an even distribution of adolescents with ASD between grade levels is needed.

In contrast to the other demographics, the number of years adolescents with ASD attended this school was largely similar, in that the majority began to attend the school and attended the school for one year. The sample consisted of fifteen students in their first year who began to attend the school, fifteen students who attended the school for one year, nine students who attended the school for two years, three students who attended the school for three years, four students who attended the school for four years, eight students who attended the school for five years, and two students who attended the school for six years.

There was a discrepancy in the track levels that adolescents with ASD were placed in, and this was largely due to the small sample size and fewer students in the advanced Track 4 Level as compared to the other track levels. The sample consisted of fourteen Track 1 students, seventeen Track 2 students, twenty-three Track 3 students, and one Track 4 student. In order to reduce the likelihood of this limitation from occurring in future studies, a larger sample size may be needed to compensate for potential attrition.

#### Descriptive Statistics for Adolescents with ASD

According to the statistics, nearly all of the data remained intact with only four adolescents with ASD not having information about their ethnicities and one adolescent with ASD not having information about their track level. Data included complete information for the age, gender, grade, and years in program. There was no missing information about the social and communicative skills developed throughout the course of the academic year. In order to prevent missing demographic information in the future, it may be beneficial to include a portion on the questionnaire where adolescents' demographic characteristics could be recorded.

## Mean Differences Between Groups

**Table 2** represents mean differences between Time 1 and 2 on social engagement, social interaction, social behavior, problem solving, and self-advocacy. According to the results, social engagement increased from a mean of 41.16 to a mean of 41.93 with a difference of 1.77. Social interaction increased from a mean of 61.25 to 65.75 with a difference of 4.5. Social behavior increased from a mean of 44.43 to 47.57 with a difference of 3.14. Problem solving increased from a mean of 38.95 to a mean of 41.70 with a difference of 2.75. Self-advocacy increased from a mean of 42.89 to a mean of 45.59 with a difference of 2.7.

The largest increases in the development of social and communicative skills were for social interaction and social behavior, while the smallest increases were for social engagement, self-advocacy, and problem solving. As the practice and learning of social interaction and behavior skills are highly emphasized through repeated practice in the classroom, lunchroom, and out of school activities at New Vista School, this appears to have contributed to an improvement in these skills. While social engagement, self-advocacy, and problem solving are learned through several interventions implemented in the program, it appears that more of a focus is placed on social interaction and behavior, and this may account for the results.

The overall ANOVA found that there was a statistically significant difference between Time 1 and Time 2 on the ASD adolescents' social engagement,  $F(54) = 0.005$ ,  $P = 0.004$ . Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The mean social engagement skills for Time 1 ( $M=41.16$ ,  $SD=5.71$ ) was lower as compared to the mean social engagement skills for Time 2 ( $M=42.93$ ,  $SD=6.66$ )

The overall ANOVA found that there was a statistically significant difference between Time 1 and Time 2 on the ASD adolescents' social interaction,  $F(54) = 1.064$ ,  $P =$

0.001. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The mean social interaction skills for Time 1 ( $M=61.25$ ,  $SD=12.97$ ) was lower as compared to the mean social interaction skills for Time 2 ( $M=65.75$ ,  $SD=14.15$ ).

The overall ANOVA found that there was a statistically significant difference between Time 1 and Time 2 on the ASD adolescents' social behavior,  $F(54) = 0.961$ ,  $P = 0.003$ . Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The mean social behavior skills for Time 1 ( $M=44.43$ ,  $SD=12.05$ ) was lower as compared to the mean social behavior skills for Time 2 ( $M=47.57$ ,  $SD=12$ ).

The overall ANOVA found that there was a statistically significant difference between Time 1 and Time 2 on the ASD adolescents' problem solving,  $F(54) = 0.003$ ,  $P = 0.001$ . Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The mean problem solving skills for Time 1 ( $M=38.95$ ,  $SD=9.23$ ) was lower as compared to the mean problem solving skills for Time 2 ( $M=41.70$ ,  $SD=8.46$ ).

The overall ANOVA found that there was a statistically significant difference between Time 1 and Time 2 on the ASD adolescents' self-advocacy,  $F(54) = 1.677$ ,  $P = 0.003$ . Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The mean self-advocacy skills for Time 1 ( $M=42.89$ ,  $SD=11.42$ ) was lower as compared to the mean self-advocacy skills for Time 2 ( $M=45.59$ ,  $SD=10.24$ ).

As previously stated, there was a significant discrepancy in the track levels that adolescents with ASD were placed in, and this was largely due to the small sample size and fewer students in the advanced Track 4 Level as compared to the other track levels. The sample consisted of fourteen Track 1 students, seventeen Track 2 students, twenty-three Track 3



students, and one Track 4 student. In order to reduce the likelihood of this limitation from occurring in future studies, a larger sample size may be needed.

Statistical analyses were conducted to evaluate the statistical significance between the social skills that the adolescents attained and the four tracks that they were assigned to throughout the school year. The overall ANOVA found that there was a statistically significant difference between the adolescents' assigned tracks and the social skills attained,  $F(3,51) = 8.307$ ,  $P = 0.000$ . Despite the statistical significance of the difference in social skills development of adolescents with ASD in these tracks, this finding does not appear to be representative due to the discrepancy in the number of adolescents in each track.

As previously stated, there was a significant discrepancy in the grades of adolescents with ASD, in that a large proportion of them were in 8th and 10th grade, and relatively few were in 6th grade and 12th grade. The sample consisted of five 6th graders, nine 7th graders, ten 8th graders, seven 9th graders, twelve 10th graders, nine 11th graders, and three 12th graders. In order to have a more representative sample, more of an even distribution of adolescents with ASD between grade levels is needed in future studies.

Statistical analyses were conducted to evaluate the statistical significance between the social skills that the adolescents' attained and their grade levels throughout the school year. The grades included: sixth grade, seventh grade, eighth grade, ninth grade, tenth grade, eleventh grade, and twelfth grade. The overall ANOVA found that there was not a statistically significant difference between the adolescents' grade levels and the social skills that they attained throughout the school year,  $F(7,48) = 1.334$ ,  $P = 0.225$ .

### **Discussion**

Multiple aspects of this research study are valuable, and its findings may contribute to an enhanced understanding of an academic program developed for adolescents with ASD. This

study is unique as it evaluates the progressive development of social and communicative skills of adolescents with ASD at New Vista School in Laguna Hills, California. Most particularly, this academic program distinguishes itself from other programs in its approach to fostering the development of social and communicative skills of adolescents with ASD, and preparing them for their transition into adulthood. Furthermore, this program manages to creatively integrate the learning of social skills and transitions skills through a milieu approach within the academic curriculum. Such an all-inclusive approach allows adolescents with ASD to generalize their learned social and transitions skills to many different settings.

Adolescents with ASD at New Vista School attend daily social skills classes with an enhanced academic curriculum and teaching strategies that incorporate the UCLA PEERS curriculum, consultation with an outside expert consultant, Social Behavior Mapping to problem solve real-life social challenges, journaling to practice considering different perspectives and promote the understanding of new topics introduced, and Self-Video Feedback to allow for the generalization of social skills to a wide range of life situations. Learned social skills are generalized to family discussions with the weekly family communication update, which is a homework assignment and/or pictures of activities participated in that week. Coupled with social skills classes, the New Vista Transition program is composed of a series of classes and community based instruction activities that assist students in developing appropriate goals, work habits, and personal competencies. Furthermore, students choose to participate in student led lunch clubs that are facilitated by the faculty to practice their social skills. The social skills and transitions classes, in addition to the extracurricular activities emphasize the generalization of a range of skills, and are designed to assist in the transition to adulthood.

The clinical implications of this study include broadening the scope of understanding about the unique social skills program implemented at New Vista School, and examining the development of the five social and communicative skills domains of adolescents with ASD throughout the course of the 2013-2014 year. These social skills included social engagement, social interaction, social behavior, problem solving, and self-advocacy. Furthermore, the relationship between the progression of their skills and their grade levels, track levels, and years in the program were evaluated. It was hypothesized by the researcher that the adolescents with ASD would have an improvement in all five social skills throughout the course of the academic year. With regard to the second part of the study, the researcher also hypothesized that there would be a positive correlation between the development of the adolescents' five social skills and their grade levels, track levels, and years in the program.

According to the results of the study, the hypotheses confirmed that there was a statistically significant improvement in the adolescents' social and communicative skills in social engagement, social interaction, social behavior, problem solving, and self-advocacy throughout the course of the academic year. However, possibly due to the small sample size, there was no statistically significant positive correlation found between the progression of the adolescents' five social skills and their grade levels, track levels, and years in the program. Coupled with the small sample size, the significant discrepancy between the number of adolescents in each grade level and track level may have contributed to the statistical results. This limitation should be accounted for in future research studies through the use of larger and more representative samples for statistical analysis.

Based on the social skills questionnaire, the social engagement scale is composed of items that reflect one's social participation in interactions with others (e.g., "My child expresses

interest in others,” “My child makes effort to engage adults,” “My child makes effort to engage peers,” “My child shows recognition for people he/she has met previously”). As evidenced by research, adolescents with ASD generally were found to make fewer social initiations as compared to typically developing peers with other developmental disabilities (Attwood, Frith, & Hermelin, 1998; as cited by Orsmond, 2004). Despite these findings, longitudinal research indicates that adolescents with ASD demonstrate an increased interest in social relationships with the progressive development of their social skills (Mesibov & Handlan, 1997). These outcomes were confirmed with the current research as it was determined that with the implementation of appropriate social skills training throughout the academic year, the social engagement of adolescents with ASD was significantly increased.

The social interaction scale is composed of items that reflect one’s social acts performed toward others and the reciprocal responses that are provided in return (e.g., “My child engages others in conversation,” “My child responds appropriately to nonverbal expressions of emotion by others,” “My child responds to nonverbal cues that signal the need to transition either in conversation or activity,” “When speaking my child’s facial expression matches the tone of the conversation”). As evidenced by Hauck and colleagues (1995), individuals with ASD who have less developed language abilities are less likely to have social interactions with peers, and this may prevent them from developing friendships, thus exacerbating their social difficulties. However, previous research has found that with increased participation in social activities, adolescents with ASD have an improvement in their social interaction skills (Orsmond et al., 2004). Coupled with the emphasis on regular participation in social activities, New Vista School is unique in its approach to fostering social and communicative skills as the academic methods for practicing these skills are integrated throughout the academic curriculum and the

extracurricular activities allow for the generalization of these skills to multiple social contexts. Furthermore, considering the intensity and frequency of the interventions offered to adolescents with ASD to learn, develop, and maintain their social and communicative skills at New Vista School, these beneficial aspects of the program appear to have allowed for the significant progression of their skills throughout the academic year.

Similar to the previous scale with several differences, the social behavior scale is composed of items that reflect one's behavior toward members within the same social context (e.g. "During lunch my child socializes with peers/friends," "After school my child is involved in New Vista extracurricular activities," "My child makes plans to get together with peers independently," "When with a group of peers my child is an active participant in activities"). Characterized by difficulties with communication, impairments in social interactions, and restricted and repetitive patterns of behavior, adolescents with ASD have many challenges engaging in social behavior (American Psychiatric Association, 2000). Previous research has found that with appropriate social skills training, adolescents with ASD have an increase in the frequency of their social behavior, and that intensive interventions have resulted in long-term and sustainable benefits (Laugeson et al., 2011). Similar findings in the current research study confirm that rigorous social skills training promotes social behavior. It appears that the video feedback from the interactions and social behavior in the lunch room, the academic materials that were provided in the classroom, the individual attention that was received due to the small class size, and the flexibility of the curriculum were valuable in the development the social behavior skills of adolescents with ASD in the academic setting.

The problem solving scale is composed of items that reflect one's ability to find solutions to difficult issues ("My child recognizes and helps others in need," "My child is able to express

his/her wants and needs clearly with adults,” “When confronted with a problem, my child is able to accept feedback and use new strategies,” “My child is able to discern when someone is teasing as opposed to bullying them”). According to the results of a research study conducted by Loveland and colleagues (2000), the problem solving skills of participants with high-functioning autism were found to be less developed as compared to typical participants. Despite this finding, researchers have determined that participants’ exposure to situations where problem solving skills were needed was found to contribute to an improved ability to problem solve (Channon et al., 2001). As adolescents with ASD attended multiple support programs that fostered the development of social and critical thinking skills, as well as were provided with numerous opportunities to use Social Behavior Mapping in their classes to problem solve real-life social challenges, these experiences likely allowed for the improvement of their problem solving skills.

The self-advocacy scale is composed of items that reflect the ability to represent oneself, one’s perceptions, or interests (e.g. “My child is able to express needs and wants appropriately,” “My child is able to tell the difference between a stranger, an acquaintance, and a good friend,” “If lost, my child knows what to do in the event of an emergency,” “My child will express when others make him/her uncomfortable.” In support of the findings of the current study, Griffin and colleagues (2014) conducted a similar study on the progression of certain skills necessary for the transition of adolescents with ASD into adulthood. According to the results, it was found that while adolescents with ASD were least likely to participate in transition planning meetings, participants’ attendance was positively correlated with an increase in their social and self-advocacy skills (Griffin et al., 2014). These findings are reflective of this study’s results, which suggest that adolescents with ASD who regularly received social skills training with an emphasis of self-expression, open communication, setting boundaries, and decision making demonstrated

an increase in their self-advocacy skills. This aspect of the academic curriculum was valuable in promoting the adolescents' ability to openly voice concerns and represent themselves in an independent manner in order to achieve their needs and objectives. In summation, it appears that the multiple evidence-based interventions, which were integrated by teachers and staff throughout the academic curriculum were valuable in promoting the social and communicative skills development of adolescents with ASD at New Vista School.

### **Clinical Implications and Treatment Recommendations**

This research study's findings indicate that adolescents with ASD had progressively developed on all five social and communicative skill domains throughout the course of the academic year. The academic program utilized multiple lesson plans and practice strategies that were intensive, utilized across the academic curriculum, and included a multitude of social activities that allowed for the generalization of the evaluated skills. According to the results, the adolescents' social engagement, social interaction, social behavior, problem solving, and self-advocacy skills significantly improved throughout the course of the academic year. Both social and communicative skills trainings and the transitions program appear to have contributed to the development of their social and communicative skills.

Interventions that may have contributed to the progress of the adolescents with ASD included: (1) the research based support and materials that were provided to serve the needs of students, (2) Social Behavior Mapping to problem solve real-life social difficulties, (3) journaling by students to gain understanding and perspectives on new topics, (4) lessons based on verbal behavior and video feedback to promote the generalization of skills, (5) staff and other faculty that were cross trained in the promotion of social skills development, (6) multiple social opportunities on and off campus, (7) high parental involvement, (8) interventions implemented

throughout the school day as opposed to being singularly focused in a class or within an isolated intervention program, and (9) **small school size allowing for individualized social skills training.**

Considering that adolescents with ASD improved their ability to socially engage with peers and authority figures, it appears that the opportunities offered in the academic program to interact with others (in the cafeteria and in social activities outside of school) combined with feedback they received in the classroom on their social interactions highly contributed to the development of this skill. Many research studies have demonstrated that social skills groups and environments that promote frequent social interactions allow for the progressive development of social skills (Burgess & Turkstra, 2006; Laugeson et al., 2012; Webb et al., 2004). Most particularly, social skills training through the utilization of structured interactions with peer support and feedback within group settings contributed to the learning of effective strategies for social engagement with others (White, Keonig, & Scahill, 2007).

While many of these research studies similarly found that social skills practice and feedback were valuable in promoting social engagement skills, the trainings implemented in this program are unique in their promotion of skill mastery through the individualized social skills tracks and transitions program. Specifically, the social skills tracks allow for the learning of particular social skills that build upon previously acquired skills, and the transitions program allows for the development of crucial work related skills necessary for adulthood, each of which are practiced rigorously and on a regular basis. As confirmed by research studies emphasizing the effectiveness of practicing these skills in naturalistic formats, this program was also found to be highly effective, yet different from other programs as the trainings and skill building strategies have been uniquely integrated throughout the curriculum promoting the generalization of these social and communicative skills to multiple social contexts.



As each of the track levels emphasized the development of conversational skills, building and maintaining peer relationships, and engaging in reciprocal communication, these tracks seem to have led to the development of adolescents' social engagement skills. With regard to the transitions program, the development of workplace relationships was emphasized, and this also seems to have led to the development of this particular skill. Such a combination of intensive social skills training in the development of reciprocal communication and maintenance of interpersonal relationships in multiple settings allowed for the significant enhancement and generalization of adolescents' social engagement skills.

Coupled with these opportunities, journaling may also have been valuable in guiding adolescents with ASD to understand and consider the perspectives of others. Perspective taking likely allowed adolescents with ASD to improve mutual understanding, which is necessary for the development of social engagement skills. Furthermore, staff and cross trained faculty, as well as high parental involvement may have allowed adolescents with ASD to receive necessary support and guidance to promote their social engagement skills.

As adolescents with ASD improved their ability to socially interact with others, this indicates that trainings that promoted their use of shared communication allowed for the development of this social skill. Factors that promoted reciprocal communication appear to have been a combination of the support and materials they received during class, the journaling of their social experiences, and the lessons they received based on their verbal behavior and video feedback. Both the combination of the social skills tracks and transitions program with the integration of the UCLA PEERS program appear to have allowed for the development of social interaction skills as it promoted the enhancement of social skills knowledge, social responsiveness, and overall social skills (Laugeson et al., 2012). These interventions are similar,

in that they all involve the teaching, modeling, and feedback of social skills, which have been proven to promote the development of social interaction skills (Bauminger, 2002; Gaylord-Ross et al., 1984; Haing & Breen, 1992). Through continued practice and scaffolding, the adolescents' social interaction skills significantly progressed.

With regard to the improvement in the social behavior of adolescents with ASD, the trainings that fostered the engagement in appropriate behaviors within the social context appear to have allowed for the development of this social skill. Interventions that may have been valuable in promoting social behavior appear to have been the support and materials that were provided in class and the social activities outside of class, which were used to practice social behavior skills. Research studies have confirmed that treatment interventions that involve teaching social skills by breaking them down into their component behaviors and practicing them until they become automatic have produced lasting results (Burgess & Turkstra, 2006).

According to the results of multiple research studies, interventions that taught adolescents with ASD a range of social behaviors (e.g. appropriate eye gaze, staying on topic, and offering assistance to others) through the use of problem-solving scenarios, applied behavioral analysis, and covert reinforcement contributed to the progressive development of their social behavior skills (Scattone et al., 2002; Koegel & Frea, 1993). The academic curriculum at the New Vista School promoted this form of teaching in the classroom and in social settings, and this allowed for progressive development of the adolescents' social behavior skills.

Adolescents with ASD improved their problem solving skills by practicing and learning different strategies to effectively solve problems throughout the course of the academic year. Social Behavior Mapping, which focuses on determining appropriate ways to problem solve real-life social difficulties, appears to have significantly contributed to the development of their

problem solving skills. According to several research studies, interventions that focused on furthering the theory of mind, emotion recognition/understanding, and executive functioning resulted in statistically significant improvements in the treatment groups with regard to facial expression recognition and problem solving (Solomon et al., 2004; Ozonoff, 1995). Many aspects of the social skill program allowed for the development of the social and cognitive abilities necessary for effective problem solving.

Combined with the beneficial effects of the PEERS program and Social Behavior Mapping, the social skills tracks appear may have facilitated the development of problem solving skills in adolescents with ASD. While Track Level 1 emphasizes learning strategies to determine the validity of scenarios, developing cognitive abilities in sequentially ordering events, and enhancing the knowledge about social situations, Track Level 3 focuses on learning to identify and use social thinking, and Track Level 4 involves developing social cognition, which involves an in-depth understanding of hidden social rules and considering the perspectives of others. As the interventions of this study focused on having adolescents with ASD develop an increased awareness and understanding of social, emotional and situational details through the enhancement of their social cognition, these learned ways of approaching interpersonal and environmental demands may have led to the development of their problem solving skills.

Furthermore, researchers have found that interventions that prevented children and adolescents from becoming overly selective in assessing information and focusing on unnecessary details allowed them to develop effective problem solving skills (Hughes, 2001). In a research study conducted by Channon and colleagues (2001), it was found that children with ASD that learned strategies to focus on pertinent facts relevant to particular problematic situations, while being exposed to information about appropriate social interactions and

behaviors were able to effectively consider socially appropriate solutions to different challenges. Considering that Social Behavior Mapping of various social difficulties emphasizes a focus on specific challenges and their resolution, this strategy appears to have allowed for the improved problem solving skills of adolescents with ASD in this academic program.

Throughout the course of the academic year, adolescents with ASD improved their ability to use self-advocacy skills, which involved appropriately representing their self-interests and values. Considering these findings, interventions that involved learning to express and promote oneself appear to have contributed to the development of these skills. Multiple interventions appear to have been beneficial in the enhancement of adolescents' self-advocacy skills. These include Social Behavior Mapping to learn ways to problem solve real-life social difficulties, as well as verbal behavior and video feedback to practice skills that were learned in the classroom. By way of learning to focus on self-interests while resolving dilemmas, and practicing ways to communicate values and ideas to others, self-advocacy skills were promoted.

According to Algozzine and colleagues (2001), most research studies have been conducted to evaluate interventions designed to teach self-advocacy skills for adolescents with learning disabilities. However, there has been a scarcity of research studies conducted to evaluate interventions designed to enhance self-advocacy skills for adolescents with other disabilities (Algozzine et al., 2001). With regard to a research study conducted on adolescents with learning disabilities, it was found that the teaching and modeling of self-advocacy skills in the classroom promoted the enhancement of these skills (Pocock et al., 2002). Furthermore, according to a cumulative analysis of multiple studies, it was found that interventions that promoted the understanding of individual rights, development of effective communication skills, and development of leadership skills led to the enhancement of self-advocacy skills in

adolescents with learning disabilities (Test et al., 2005). Both social behavior mapping, as well as verbal behavior and video feedback interventions may have been valuable in the learning of each of these important concepts. With this in mind, it appears that these interventions allowed for the development of self-advocacy skills.

As previously mentioned, the interventions implemented in this academic program appear to have been valuable in the enhancement of each of the five social and communicative skills that the adolescents with ASD developed. While there were many beneficial aspects of these interventions, one of the most significant factors that distinguish them from interventions that are implemented in other academic programs is that they are integrated throughout the academic curriculum. This educational format allows adolescents with ASD in the academic program to become immersed on a daily basis throughout the entire day in the social skills lessons and experiences. As evidenced by the results of this study, it appears that the combination of the social skills lesson plans and frequent opportunities for social skills practice throughout the academic curriculum were valuable.

Along with the integrative emphasis of this academic program, many other factors may have promoted the development of social and communicative skills of adolescents with ASD. Most particularly, this program is unique due to its use of small class sizes, in which each class hosts eight students. Furthermore, in each class, there is a ratio of one staff member to three students. Such an academic format allows students to benefit from individualized learning within a supportive environment and prevents them from not meeting their academic goals due to possibly being overlooked. Coupled with this beneficial aspect of small class sizes, this format allows for the opportunity to assess students thoroughly in order to place them in tracks that meet their particular developmental needs. Both the emphasis on individualization and the milieu

approach within a group format were emphasized in order to simultaneously meet individual developmental needs and promote team-focused skills of adolescents with ASD. Such an academic format appears to have promoted a balanced use of social and communicative skills, and may have allowed for their enhancement and generalization to multiple settings. With this comprehensive analysis, it appears that multiple factors: intensive and regularly implemented interventions, supportive staff members and parents, and organizational factors within the academic curriculum appear to have contributed to the development of adolescents' social and communicative skills throughout the academic year.

### **Directions for Future Research**

Several limitations for this research study exist, which include the following: (1) non-representative sample of ASD adolescents in academic settings outside of the New Vista School due to their high socioeconomic status and lack of ethnic diversity, (2) confounding variable related to the **comorbidity of psychological and medical diagnoses of ASD adolescents**, (3) small number of adolescents with ASD due to attrition and small size of the school, (4) different opportunities between adolescents with ASD to practice learned social skills, (5) lack of information about the social contexts where the social skills were generalized on the questionnaire, (6) untested instrument, and **(7) potentially biased and not fully accurate responses from parents on the questionnaire about the progressive development of the social and communicative skills acquired by the adolescents with ASD.**

The current study raises multiple issues that may be of consideration for future research studies designed for the evaluation of treatment interventions for adolescents with ASD. Considering that adolescents with ASD who attend New Vista School are of middle to upper class, this study may not be generalizable to the lower socioeconomic status population.

Furthermore, the sample size consisted of primarily Caucasian participants with a lack of ethnically diverse participants. Most striking was that while six multiethnic participants took part in the study, no African American participants were involved in this research study.

Although this study provided valuable information about this academic program and the progressive development of social and communicative skills of adolescents with ASD, future research could expand on this study to determine the program's generalizability to adolescents with ASD of different socioeconomic and ethnic backgrounds. With the use of a more representative sample, this research would lead to an increased and more accurate knowledge base about the academic program and the progressive development of social and communicative skills in adolescents with ASD.

Furthermore, due to a potential confounding variable, there may be a divergence in the progressive development of social and communicative skills in adolescents with ASD for those with and without comorbid **psychological and medical** diagnoses. Several adolescents in this research study were diagnosed with comorbid **psychological and medical** diagnoses in addition to a diagnosis of ASD, which suggests that these adolescents had more obstacles to overcome as compared to those with only a diagnosis of ASD. This discrepancy in diagnoses between adolescents was not accounted for in the current research study, which could have resulted in inaccurate results regarding the efficacy of particular social skills interventions. Future research may be valuable in accounting for the comorbid diagnoses of adolescents with ASD to eliminate this confound, **determine whether or not these diagnoses affect their development of social skills,** and produce more representative findings regarding the efficacy of these interventions.

While this research study was initially developed to analyze the progressive development of social and communicative skills of 70 adolescents with ASD, due to the attrition of

participants who were initially willing to complete the social skills questionnaire and the small size of the school, 56 adolescents with ASD rather than the initial number could be evaluated. Despite the attrition, this was a large enough number to be considered a representative sample of adolescents with ASD in the school. In order to account for possible attrition and have a larger sample size in future research studies, it may be beneficial to request participation from a sample pool of 80 possible participants. Another strategy for increasing the sample size and preventing attrition would be to send social skills questionnaires by email or by mail as this would limit the amount of obstacles that could prevent the attainment of the questionnaires.

Another potential confound may be that some adolescents have more opportunities than others to engage in social activities outside of school, which may contribute to differences in the development of social and communicative skills between the students. While there are expectations by the academic program for parents to provide adolescents with opportunities to engage in social activities, such as social skills clubs, special interest activities, and athletic activities, other adolescents may not be instructed with as much intensity to become involved in these activities. Furthermore, economic and environmental factors that may prevent some adolescents from practicing their social skills in social activities outside of school may not be obstacles for other adolescents of different backgrounds. Despite this being an inevitable confound in most academic settings, this discrepancy in opportunities to build on social and communicative skills should be taken into consideration in future research studies.

Based on a meta-analytic review of social skills trainings by Gresham and colleagues (2001), it was found that most of these trainings were “contrived, restricted, and decontextualized,” which led to inadequate maintenance and generalization effects. While this may be the case for many other academic programs geared toward the development of social and



communicative skills of adolescents with ASD, this is not a factor in this particular comprehensive academic program. A central strength of New Vista School that distinguishes it from other academic programs is that learned social and communicative skills are regularly practiced in the cafeteria and classroom, in addition to outside of the academic setting in multiple social contexts with the attentive guidance of dedicated teachers, staff members, and parents. With such intensive and inclusive social skills training, it was correctly assumed that the social and communicative skills were able to be effectively generalized to academic, residential, and extracurricular settings.

According to the results of this research study, there was significant increase in the social and communicative skills of adolescents with ASD, and these skills were able to be generalized to many social contexts outside of the academic setting. While the participants' evaluation of the progressive development of the social and communicative skills of adolescents with ASD were based on their observations of their skills in multiple contexts, it was difficult to determine the particular social contexts in which the skills were used. The reason for this challenge was that the social skills questionnaire did not include the option to specify the particular social contexts where these skills were regularly used and/or practiced. In order to obtain more information about the generalization of the social and communicative skills, it would be beneficial for future revisions of the questionnaire to provide this option for participants.

As each of the interventions were appropriately matched to the social ability levels of adolescents with ASD, this may explain the significant progress that was made in the development of their social and communicative skills. Depending on their ability levels, adolescents with ASD were placed into specific tracks, in which they were provided with the opportunity to learn, practice, and maintain various social and communicative skills. In addition

to these tracks, juniors and seniors had the chance to learn life skills that prepare them for adulthood. Combined with these intensive tracks and the transitions program, adolescents with ASD received individualized attention as the staff to student ratio is very high. Such social and communicative skills training appears to have been extremely valuable in the development of multiple skills that are necessary in their transition to adulthood.

While there was not a statistically significant difference between ages, grade levels, and track levels, it was found that during the course of the academic year, progressive development of social and communicative skills was evident. Considering that adolescents with ASD collectively improved their social and communicative skills across these three domains, this suggests that the interventions as opposed to maturation effects contributed to the development of these skills. These findings are highly informative as they indicate that with social skills development is possible irrespective of ability levels and developmental factors.

As the New Vista social skills questionnaire that was used to obtain the data about the progressive development of the social engagement, social interaction, social behavior, problem solving, and self-advocacy skills of adolescents with ASD was an untested instrument, this may have contributed to inaccurate results. Recognizing this limitation, it would be beneficial to determine the validity and reliability of this instrument in future studies. Another factor affecting accuracy was that the parents of the adolescents with ASD may have been biased in their responses about the progress that was made in the development of their social and communicative skills. Both their investment in the program and perceptions could have skewed their responses on the questionnaire, which should be taken into account. Further corroborating information would be needed to determine whether or not the results were accurate.

Despite the limitations of this study, the results may have implications for future research in increasing the understanding this academic program and the progressive development of social and communicative skills in adolescents with ASD. Acknowledging the small sample size and demographic limitations of the study, future research focusing on social and communicative skills development in adolescents with ASD from a larger sample size with more diverse backgrounds would be valuable. Furthermore, research on the efficacy of treatment interventions and their relation to the treatment of adolescents with ASD of different ethnicities would provide information about the culturally sensitive practice of these approaches.

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Appendix A

New Vista School  
Parent Survey

Social Skills Program

Student: \_\_\_\_\_ Date of Birth \_\_\_\_\_

Parent: \_\_\_\_\_

Date: \_\_\_\_\_

**Executive Functioning: BRIEF Behavior Rating Inventory of Executive Function**

Use the following scale for your responses.

N=Never

S=Sometimes

O=Often

- |   |   |   |   |
|---|---|---|---|
| 1. Overreacts to small problems.  | N | S | O |
| 2. When given three things to do, remembers only the first or last.   | N | S | O |
| 3. Is not a self-starter.   | N | S | O |
| 4. Leaves playroom a mess   | N | S | O |
| 5. Resists or has trouble accepting a different way to solve a problem with schoolwork, friends, chores, etc. | N | S | O |
| 6. Becomes upset with new situations.   | N | S | O |
| 7. Has explosive, angry outbursts.  | N | S | O |
| 8. Tries the same approach to a problem over and over even when it does not work.                             | N | S | O |
| 9. Has a short attention span.  | N | S | O |
| 10. Needs to be told to begin a task even when willing.   | N | S | O |
| 11. Does not bring homework, assignments sheets, materials, etc.  | N | S | O |
| 12. Acts upset by a change in plans   | N | S | O |
| 13. Is disturbed by change of teacher or class.   | N | S | O |
| 14. Does not check work for mistakes.   | N | S | O |
| 15. Has good ideas but cannot get them on paper.  | N | S | O |
| 16. Has trouble coming up with ideas for what to do in play or free time.                                     | N | S | O |
| 17. Has trouble concentrating on chores, schoolwork, etc.   | N | S | O |
| 18. Does not connect doing tonight's homework with grades.  | N | S | O |
| 19. Is easily distracted by noises, activity, sights, etc.  | N | S | O |
| 20. Becomes tearful easily.   | N | S | O |
| 21. Makes careless errors.  | N | S | O |
| 22. Forgets to hand in homework, even when completed.   | N | S | O |
| 23. Resists change of routine, foods, places, etc.  | N | S | O |
| 24. Has trouble with chores or tasks that have more than one step.  | N | S | O |
| 25. Has outbursts for little reason.  | N | S | O |
| 26. Moods change frequently.  | N | S | O |
| 27. Needs help from an adult to stay on task.   | N | S | O |
| 28. Gets caught up in details and misses the big picture.   | N | S | O |
| 29. Keeps room messy  | N | S | O |
| 30. Has trouble getting used to new situations (classes,  | N | S | O |

groups, friends).			
31. Has poor handwriting.	N	S	O
32. Forgets what he/she was doing.	N	S	O
33. When sent to get something, forgets what he/she is supposed to get.	N	S	O
34. Is unaware of how his/her behavior affects or bothers others.	N	S	O
35. Has good ideas but does not get job done (lacks follow through).	N	S	O
36. Becomes overwhelmed by large assignments.	N	S	O
37. Has trouble finishing tasks (chores, homework).	N	S	O
38. Acts wilder or sillier than others in groups (birthday parties, recess).	N	S	O
39. Thinks too much about the same topic.	N	S	O
40. Underestimates time needed to finish tasks.	N	S	O
41. Interrupts others.	N	S	O
42. Does not notice when his/her behavior causes negative reactions.	N	S	O
43. Gets out of seat at the wrong times.	N	S	O
44. Gets out of control more than friends.	N	S	O
45. Reacts more strongly to situations than other children.	N	S	O
46. Starts assignments or chores at the last minute.	N	S	O
47. Has trouble getting started on homework or chores.	N	S	O
48. Has trouble organizing activities with friends.	N	S	O
49. Blurts things out.	N	S	O
50. Mood is easily influenced by the situation.	N	S	O
51. Does not plan ahead for school assignments.	N	S	O
52. Has poor understanding of own strengths and weaknesses.	N	S	O
53. Written work is poorly organized.	N	S	O
54. Acts too wild or "out of control."	N	S	O
55. Has trouble putting the brakes on his/her actions.	N	S	O
56. Gets in trouble if not supervised by an adult.	N	S	O
57. Has trouble remembering things, even for a few minutes.	N	S	O
58. Has trouble carrying out the actions needed to reach goals (saving money for special item, studying to get a good grade).	N	S	O
59. Becomes too silly.	N	S	O
60. Work is sloppy.	N	S	O
61. Does not take initiative.	N	S	O
62. Angry or tearful outbursts are intense but end suddenly.	N	S	O
63. Does not realize that certain actions bother others.	N	S	O
64. Small events trigger big reactions.	N	S	O
65. Talks at the wrong time.	N	S	O
66. Complains there is nothing to do.	N	S	O
67. Cannot find things in room or school desk.	N	S	O
68. Leaves a trail of belongings wherever he/she goes.	N	S	O
69. Leaves messes that others have to clean up.	N	S	O
70. Becomes upset too easily.	N	S	O

71. Lies around the house a lot (“couch potato”).	N	S	O
72. Has a messy closet.	N	S	O
73. Has trouble waiting for turn.	N	S	O
74. Loses lunch box, lunch money, permission slips, homework, etc.	N	S	O
75. Cannot find clothes, glasses, shoes, toys, books, pencils, etc.	N	S	O
76. Tests poorly even when knows correct answers.	N	S	O
77. Does not finish long-term projects.	N	S	O
78. Has to be closely supervised.	N	S	O
79. Does not think before doing.	N	S	O
80. Has trouble moving from one activity to another.	N	S	O
81. Is fidgety.	N	S	O
82. Is impulsive.	N	S	O
83. Cannot stay on the same topic when talking.	N	S	O
84. Gets stuck on one topic or activity.	N	S	O
85. Says the same things over and over.	N	S	O
86. Has trouble getting through morning routine in getting ready for school.	N	S	O

### **Social Skills Survey**

Use the following scale for your responses.

1= strongly disagree

2= disagree

3= neither agree nor disagree

4=agree

5=strongly agree

#### **Engagement:**

1. My child expresses interest in others.

1                      2                      3                      4                      5

2. My child maintains eye contact when engaged with others.

1                      2                      3                      4                      5

3. My child brings to my attention things that are of interest to him/her.

1                      2                      3                      4                      5

4. If brought to his/her attention, my child will attend to something that others find of interest.

1                      2                      3                      4                      5

5. My child makes effort to engage adults.

1                      2                      3                      4                      5

6. My child makes effort to engage peers.

1                      2                      3                      4                      5

7. My child will use gestures to aid in communication.  
1                    2                    3                    4                    5

8. My child expresses an interest in having friends.  
1                    2                    3                    4                    5

9. My child gets along well with others.  
1                    2                    3                    4                    5

10. My child shows recognition for people he/she has met previously.  
1                    2                    3                    4                    5

11. My child responds preferentially toward people he/she is familiar with.  
1                    2                    3                    4                    5

Comments: \_\_\_\_\_  
\_\_\_\_\_

Interaction:

1. My child engages others in conversation.  
1                    2                    3                    4                    5

2. My child says hello and goodbye regularly to adults.  
1                    2                    3                    4                    5

3. My child says hello and goodbye to peers.  
1                    2                    3                    4                    5

4. My child appropriately manages personal space.  
1                    2                    3                    4                    5

5. My child responds appropriately to nonverbal expressions of emotion by others.  
1                    2                    3                    4                    5

6. My child is able to read and respond to the expression of sadness in others.  
1                    2                    3                    4                    5

7. My child is able to read and respond to the expression of anger in others.  
1                    2                    3                    4                    5

8. My child is able to read and respond to the expression of boredom in others.

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 |
| 9. My child is able to read and respond to the expression of happiness in others.  | 1 | 2 | 3 | 4 | 5 |
| 10. My child is able to read and respond to the expression of anxiety in others.   | 1 | 2 | 3 | 4 | 5 |
| 11. My child responds to nonverbal cues that signal the need to transition either in conversation or activity.   | 1 | 2 | 3 | 4 | 5 |
| 12. When others are in conversation, my child is able to enter the conversation appropriately.   | 1 | 2 | 3 | 4 | 5 |
| 13. When in conversation, my child is able to stay on topic and contribute to the conversation.  | 1 | 2 | 3 | 4 | 5 |
| 14. When in conversation my child refrains from interrupting others.   | 1 | 2 | 3 | 4 | 5 |
| 15. When speaking my child's facial expression matches the tone of the conversation.   | 1 | 2 | 3 | 4 | 5 |
| 16. When asked a question, my child responds appropriately.  | 1 | 2 | 3 | 4 | 5 |
| 17. My child makes eye contact when responding to questions.   | 1 | 2 | 3 | 4 | 5 |
| 18. My child is able to use appropriately non verbal cues to indicate they are listening and participating in a conversation even though he/she is not speaking. | 1 | 2 | 3 | 4 | 5 |
| 19. My child sustains eye contact when speaking to others.   | 1 | 2 | 3 | 4 | 5 |
| 20. When in conversation, my child is able to make comments that build upon the conversation at hand.  | 1 | 2 | 3 | 4 | 5 |

Social Behavior:

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. During lunch my child socializes with peers/friends. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

2. After school my child is involved in New Vista extracurricular activities.  
1                      2                      3                      4                      5
3. My child is involved in other group related extracurricular activities (non-New Vista).  
1                      2                      3                      4                      5
4. Outside of school my child gets together with friends.  
1                      2                      3                      4                      5
5. My child calls, texts, and/or emails friends.  
1                      2                      3                      4                      5
6. My child makes plans to get together with peers independently.  
1                      2                      3                      4                      5
7. My child plays online (i.e. x-box 360) with friends.  
1                      2                      3                      4                      5
8. My child is able to entertain him/herself independently.  
1                      2                      3                      4                      5
9. When with peers my child is a leader.  
1                      2                      3                      4                      5
10. When with a group of peers my child is an active participant in activities.  
1                      2                      3                      4                      5
11. When with at least one peer my child is able to stay engaged without adult direction for an hour or more.  
1                      2                      3                      4                      5
12. My child has friends that he/she feels closer to than others.  
1                      2                      3                      4                      5
13. My child is concerned with being well liked by peers.  
1                      2                      3                      4                      5
14. My child has a best friend.  
1                      2                      3                      4                      5

Comments: \_\_\_\_\_

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Areas of problem solving:

1. My child recognizes and helps others in need.  
1                      2                      3                      4                      5
2. My child is able to express his/her wants and needs clearly with adults?  
1                      2                      3                      4                      5
3. My child uses coping strategies/problem solving strategies when in conflict?  
1                      2                      3                      4                      5
4. When confronted with a problem, my child is able to accept feedback and use new strategies  
1                      2                      3                      4                      5
5. My child is able to tell jokes.  
1                      2                      3                      4                      5
6. My child is able to tell when someone is joking and responds accordingly.  
1                      2                      3                      4                      5
7. My child is able to discern when someone is teasing as opposed to bullying them.  
1                      2                      3                      4                      5
8. My child demonstrates good sportsmanship.  
1                      2                      3                      4                      5
9. My child uses language/jargon that is typical of adolescents their age.  
1            2                      3                      4                      5
10. My child understands sarcasm.  
1                      2                      3                      4                      5
11. My child uses sarcasm.  
1                      2                      3                      4                      5
12. My child is witty at times.  
1                      2                      3                      4                      5

Comments: \_\_\_\_\_

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Self Advocacy:

1. My child is able to express needs and wants appropriately.  
1                      2                      3                      4                      5
2. My child is able to stay home alone without adult supervision for an hour or more.  
1                      2                      3                      4                      5
3. I allow my child to stay home alone for an hour or less.  
1                      2                      3                      4                      5
4. I allow my child to stay home alone for an hour or more.  
1                      2                      3                      4                      5
5. My child is able to tell the difference between a stranger, an acquaintance, and a good friend.  
1                      2                      3                      4                      5
6. My child respects the personal space of others.  
1                      2                      3                      4                      5
7. If lost, my child knows what to do in order to seek assistance.  
1                      2                      3                      4                      5
8. My child knows what to do in the event of an emergency.  
1                      2                      3                      4                      5
9. When working, if my child does not know what to do he/she asks for assistance.  
1                      2                      3                      4                      5
10. Does your child follow directions and keep their hands to themselves?  
1                      2                      3                      4                      5
11. My child will express when others make him/her uncomfortable.  
1                      2                      3                      4                      5
12. My child knows what to do when he/she is made to feel uncomfortable.  
1                      2                      3                      4                      5
13. My child knows who to reach out to when in need of assistance.  
1                      2                      3                      4                      5

Comments: \_\_\_\_\_  
\_\_\_\_\_

Please identify challenging behaviors that may interfere at home, in the community, or in relationships?

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Thank you! Please complete and turn in to New Vista