

## Group Social Skills Training for Adolescents with Asperger Syndrome or High Functioning Autism

### Abstract

*Social interaction deficits are core features of Autism Spectrum Disorders (ASD). Previous studies have not clearly demonstrated generalization of trained social skills in children and youth with ASD. This study evaluated training and generalization effects of a group social skills training program with parent training for three adolescents with Asperger Syndrome (AS) or High-Functioning Autism (HFA) at a community behavioural support service. The adolescents met weekly for 12, 2-hour training sessions; parents attended separate, but concurrent tri-weekly 2-hour parent training sessions. Group social skills training and parent training were associated with increased generalized targeted social skills across behavioural and social validity measures that were maintained at a 3-month follow-up.*

Persons with Asperger Syndrome (AS) and High-Functioning Autism (HFA) function within the typical range of language and intelligence, but exhibit marked deficits and differences in core social behaviours that impede peer interactions and relationships (Rao, Beidel, & Murray, 2008; Weiss & Harris, 2001). These social deficits are particularly problematic during adolescence, when peer relationships and social network affiliations become so important. Social incompetence may lead to isolation, rejection, teasing, bullying, low self-esteem, anxiety disorders, depression, school dropout, and unemployment (Krasny, Williams, Provencal, & Ozonoff, 2003; Rao et al., 2008; Tantum, 2003; Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007; White, Keonig, & Scahill, 2007).

Meta-analyses of social skills training for children with ASD have reported variable acquisition, and low generalization and maintenance effect sizes (Bellini, Peters, Benner, & Hopf, 2007; Gresham, Sugai, & Horner, 2001). Individual or group social skills training typically use behavioural and social learning strategies such as prompting, modeling, role-playing, reinforcement and corrective feedback (White et al., 2007). Despite the wide recognition that social interaction deficits are among the core features of ASD, few studies have examined generalized social skills training outcomes specifically for individuals with AS/HFA (Rao et al., 2008). Several studies have reported favourable acquisition using group social skills training with persons who have AS/HFA (Barry, Klinger, Lee, Palardy, Gilmore, & Bodin, 2003; Howlin & Yeates, 1993; Tse et al., 2007). Compared to individual training, group training provides efficient, immediate and natural opportunities for participants to practice newly learned social skills with peers (Barry et al., 2003). Fun group activities may also facilitate peer

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interactions and new friendships (White et al., 2007). On the other hand, group training run in contrived settings (e.g., clinics) may not be as efficacious as in naturally occurring groups (Bellini et al., 2007; Gresham et al., 2001).

Research is needed that examines generalization and maintenance of group social skills training for adolescents with AS/HFA. Several techniques can be incorporated into group social skills training to enhance generalization and maintenance, especially when the training does not take place in the natural environment. First, target skills chosen for intervention should be matched to the child's needs (Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). Second, involving and training parents may promote skill generalization and maintenance, as well as family quality of life (Brookman-Fraze, 2004; Ingersoll & Dvortcsak, 2006; Sofronoff, Leslie, & Brown, 2004; Symon, 2005). Parents are taught behavioural principles and strategies to decrease child problem behaviour and increase appropriate social behaviours (Symon, 2005). Third, the training should explicitly program for generalization. Several generalization promotion strategies recommended by Stokes and Baer (1977) were used by Griffiths, Feldman and Tough (1997) to obtain social skills generalization in a group of adults with intellectual disabilities.

The purpose of this study was to evaluate the efficacy of a behavioural group social skills training program with parent training for adolescents diagnosed with AS or HFA. In addition to a standardized, validated measure of social competence and social validity outcome measures, we measured acquisition, generalization and maintenance of individualized target skills in behavioural probes. Several generalization strategies were added to an existing social skills curriculum (McAfee, 2002), including individualizing target skills (Gresham et al., 2001), parent training (Brookman-Fraze, 2004), sufficient exemplars, common stimuli, mediated generalization and reinforcing generalization (Griffiths et al., 1997; Stokes & Baer, 1977). We hypothesized that the social skills training would increase and maintain targeted social skills during training and on generalization probes, as well as on pre- to post training ratings on the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) and a quality of life measure.

## Method

Brock University Research Ethics Board provided ethics clearance for this study.

### Recruitment

Participants were recruited from the social skills group wait list at the sponsoring agency, which is a government-funded community support service for people with developmental disabilities and their caregivers. A homogeneous group was chosen based on similar age range and social skills deficits. A total of seven compatible participants were identified based on their status on the wait list with those that were closest to the top chosen for group participation and the final set of four participants was then chosen randomly from the pool. One family declined to participate in the evaluation, but the adolescent remained in the social skills group. The remaining eligible participants were put on a wait list for future groups.

### Participants

The three participating adolescents were independently diagnosed with either AS or HFA by professionals (e.g., psychologists, pediatricians). At least one parent or legal guardian per family participated in the parent training sessions. The participants' mean age was 16.6 years (range 15–19 years). Participant 1 was a 16 year old female with AS, in grade 10. Participant 2 was a 19 year old female with HFA, and had recently graduated high school. Participant 3 was a 15 year old male with AS, in grade 10. The eligibility criteria for group participation at the sponsoring agency was for adolescents aged 12–19 with a diagnosis of AS or HFA. Due to this eligibility criteria, male and female participants were accepted, and because of the random selection of participants for research, two female participants were chosen.

### Design

Single-case multiple baseline designs across target social skills were used to evaluate training effects on targeted social skills. Training and generalization probes were conducted through direct observation to evaluate acquisition and generalized behavioural change. In addition to the multiple baseline design, the

SSRS and a Quality of Life measure were given pre- and post training. Measures were repeated 3 months after training ended.

### Selection of Individual Target Social Skills

Prior to training, each participant and their parent completed the SSRS to determine target skills, and identified three to five social skills that were their highest priorities. The selected skills were probed through direct observation during the first group session (before training commenced) to corroborate the SSRS findings. The three skills that had the lowest baselines for each participant during the first group session were chosen for intervention. All three participants were trained on *introduces himself or herself to new people without being told and starts conversations rather than waiting for others to talk first* (Gresham & Elliot, 1990). Participant 1's third target was *problem-solving when faced with a conflict*, which was a combination of *I ask adults for help when other children try to hit me or push me around*, and *I ask friends for help with my problems* (Gresham & Elliot, 1990). Participant 2 and 3's third target was *joins group activities without being told* (Gresham & Elliot, 1990). Operational definitions of these target skills may be obtained from the first author. The partial overlap in training targets is not surprising because we purposely chose participants with similar issues.

### Measures

*Social Skills Rating System (SSRS)*. The SSRS is a standardized and norm-referenced measure with acceptable psychometric properties (Gresham & Elliott, 1990) and has been used previously with students who have ASD (White et al., 2007). The SSRS utilizes a three-point rating scale to rate the perceived frequency of social behaviours ranging from 0-2: 0 = "never occurs," 1 = "sometimes occurs" and 2 = "occurs very often." The SSRS also rates the importance of specific social behaviours on a scale of 0-2: 0 = "not important," 1 = "important" and 2 = "critical." Skills that are both low frequency and high importance typically are prioritized for intervention. While the SSRS includes ratings from the student, parent and teacher, due to time constraints, the teacher version was not used in this study.

*Training and generalization probes*. After SSRS targets were chosen, behaviour probes were conducted during the first group session before training to obtain a baseline of the target skills and confirm the SSRS priority rankings. If the participant demonstrated the target skill being probed for intervention, another target was chosen and probed. This process continued until three target social skills were chosen for each participant. The skills that were chosen for each participant during baseline were the three skills with the lowest probe scores (all were < 30%). If more than three skills for one participant were performed at a low baseline, skills selected were based on the homogeneity of the group's targets. Each participant received a total of two training probes (i.e., in the training setting with the facilitators) and two generalization probes (i.e., in another setting with parents or staff who were not facilitators) for the targets: introducing self without being told to, joins group activities without being told to, and problem solves when faced with a conflict. Each participant received a total of three training and two generalization probes for starting a conversation with peer(s).

Training and generalization behaviour probes continued to be conducted during the training phase, in order to assess skill acquisition and generalization. Training probes were based on scripts prepared by the group facilitators prior to each group session and were conducted during lesson activities (e.g., role plays) and natural social opportunities in the training room. For the target skills of introducing self to new people without being told to, initiating conversations with peers and joining group activities without being told to, each participant was presented with an opportunity to display the skill based on the operational definition (e.g., a new person enters the room and approaches the participant). For the problem solving target skill, the participant was presented with a situation (e.g., was given juice box without a straw) to solve through the use of 5 operationally defined steps. The steps were as follows: identify the problem, brainstorm ideas, choose best idea, try it, if unsuccessful choose another idea or ask for help. Due to the nature of the correct response (e.g., can I join \_\_\_\_\_ in response to peers engaging in an activity they want to join) the length of the probes were quite short, with the exception of problem solving which required more steps. The problem solving probe could range from 2-5 minutes in length. To determine

if responses were considered correct or incorrect, conditions were presented based on the operational definitions of each target skill.

For generalization probes, the participants' target skills were probed in several locations in the building other than the training room, with persons other than the facilitators (e.g., other therapists and parents). The participants were not aware of the probes, and the probes were conducted as naturally as possible. For instance, a generalization probe for *introducing oneself* consisted of having a novel person (e.g., a behaviour consultant whom the participants had never met) approach the participant and introduce themselves by saying "Hi, my name is \_\_\_\_." The participant would then be required to independently introduce themselves in the same manner by saying "Hi I'm \_\_\_\_, nice to meet you" (or an equivalent greeting statement).

In total, 173 training and 153 generalization probes were administered during baseline and training across the three participants. Table 1 presents the range and mean of training and generalization probes conducted for each participant; these numbers varied across sessions.

*Interobserver Agreement (IOA)*. IOA between the facilitator's score and a video coder was evaluated during 20% of behaviour probes (baseline, training and generalization) randomly selected from available sessional videotapes. The video coder was blind to the study purpose and method, and the probe condition (baseline, training, generalization), which were shown in no particular order. The video coder was a graduate student in education trained by the first author (who was also the primary group facilitator); training criterion was at least 80% agreement with the first author on sample probes (not included in this study). To score a behaviour

probe, the first author would run the session tape until the beginning of a probe trial, and then identify that the next segment constituted a probe to be scored for a particular skill. Both the first author and the coder independently scored whether the skill was correctly performed or not. Percentage of agreement was obtained by dividing the number of agreements by the total number of agreements plus disagreements multiplied by 100%. IOA ranged from 83% to 100% for all ratings calculated. IOA was 100% for *introducing oneself* and *problem-solving conflicts*, 84% for *initiating a conversation* and 83% for *joining group activities*. Percentage agreement was 89% and 87% for training and generalization probes, respectively.

*Quality of Life (QoL) questionnaire*. We administered a QoL questionnaire to the adolescents pre- and post-training and at a 3-month follow-up to assess the broader impact of the training on the lives of the participants. We used the domains of the Brown, Renwick and Raphael (1997) manual most relevant to the social skills training: *social belonging*—i.e., how one fits in with the community and people around them (e.g., relationships with family members and friends) and *leisure becoming*—i.e., activities that are done for fun and enjoyment. The QoL utilized a three-point rating scale to measure the participant's perception of his or her quality of life ranging from 1–3, for a total of 28 questions. Depending on the question being asked, a rating of 1 means *Few, Very Little, Very Unhappy, or Unimportant*, (e.g., "I have few friends;" "I spend very little of time with my friends"); a rating of 2 means *Some, Happy, Sometimes, or Important* (e.g., "I am happy with friends;" "I know some people at school"); a rating of 3 means *A lot, Very Happy, or Very Important* (e.g., "I find it very important to talk to people when I go out;" "I spend a lot of time engaging in my hobbies").

Table 1. Participant Range and Mean of Training and Generalization Probes.

	Participant 1	Participant 2	Participant 3
Training Probes	Range: 1–18 Mean: 5.67	Range: 1–11 Mean: 4.67	Range: 3–10 Mean: 4.58
Generalization Probes	Range: 1–7 Mean: 2.92	Range: 0–6 Mean: 2.5	Range: 0–4 Mean: 1.92



An additional 28 open-ended questions allowed the adolescent to elaborate upon the ratings (e.g., "What do you do with your friends?" "Do you do anything for fun on a team?").

*Consumer Satisfaction.* We administered consumer satisfaction questionnaires after training that were developed specifically for this study to evaluate the adolescents' and parents' views of the program's relevance, goals, acceptability and outcomes. Ratings were based on a five-point scale (e.g., 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Sample questions for the adolescents included: "I made new friends at the group." "I used what I learned in group at school." and "I am more confident in social situations than before group." Sample questions from the parents' consumer satisfaction form included: "This group gave me strategies to better help my adolescent." "I feel that my adolescent's social behaviour has improved because of my involvement in the group." and "I would be interested in attending another parent training group." Anecdotal feedback was also obtained from both parties through open ended questions.

## Procedure

*Pre-group assessment.* During the pre-group assessment, the research team met with each family separately to explain the study and obtain consents, then the SSRS and QoL measures were administered.

*Adolescent group social skills baseline and training sessions.* Two members of the research team facilitated the adolescent group training sessions; both were full-time behaviour consultants at the sponsoring agency and had a mean of 8 years of clinical experience in using applied behaviour analysis (ABA) for persons with special needs. The group social skills training was the same as offered by the agency to other clients. The main difference between this group and others was that a more intensive evaluation using behavioural probes was conducted with three of the four group members. The evening sessions were held weekly for 2 hours for 12 weeks.

The first session did not involve training; it consisted of a general introduction of participants and group facilitators and baseline probes. We explained and immediately implemented an incentive system. The incentive

system rewarded points for attending and listening to the facilitators and other group members, asking and answering questions, acting in roleplays, encouraging and supporting other group participants, bringing in completed take-home activities and using their individual target social skills during group sessions. The adolescents completed a reinforcer survey in which they ranked their preference for a variety of available tangibles. Each reinforcer had a predetermined point value and the adolescent could "cash-in" points at the end of each session to receive preferred items (e.g., candy, juice, cards, gift certificates, toys).

The social skills curriculum was adapted from "Navigating the Social World" (McAfee, 2002) and included topics such as: privacy circles, offering and asking for help, giving and receiving compliments, resolving conflicts, and basic rules for initiating conversations. Each group session consisted of teaching two to three lessons from the manual with the participants' individual SSRS targets embedded into the curriculum. The facilitators modeled the target skills and each participant then practiced the skill. As per the multiple baseline design across behaviours, targeted skills were introduced sequentially once evidence of acquisition of the previous skill was demonstrated (i.e., 80% on training probe trials over 2 consecutive weeks).

As in Griffiths et al. (1997), we added several generalization strategies, as recommended by Stokes and Baer (1977): (1) *sufficient (multiple) exemplars*—various scenarios were presented during training, several initially unfamiliar peers were present (as part of the group) and novel people (other consultants) were present during some training sessions; (2) *common stimuli*—the group setting offered an ongoing social environment and activities with peers; (3) *mediated generalization*—participants were taught verbally mediated problem-solving strategies such as how to: identify a problem, brainstorm ideas to help remediate the problem, and choose and apply an appropriate solution to the problem; (4) *reinforcement of generalized responding*—parents and facilitators provided social and tangible reinforcement when the adolescents exhibited target social skills and other prosocial behaviours in novel settings and/or with novel people (except during generalization probes). We assigned take-home exercises each week and points were awarded for their completion based

on binder checks completed by the facilitators at the beginning of each session. Each take-home activity was a worksheet based on what was taught that week, and included answering questions about and practising the skills.

*Parent Training.* A behaviour consultant with 10 years ABA experience facilitated the parent training, originally designed by the second author. The parent trainer was completing a Masters in Applied Disability Studies with a specialization in ABA. Group parent training consisted of 2-hour sessions, one before the first adolescent group meeting, and four sessions coinciding with (but separate from) every third adolescents' group meeting. The parents' curriculum involved an introduction to general principles and applications of ABA in ASD, followed by pragmatic strategies to enhance and generalize their children's target social skills. Instructional methods included PowerPoint and video presentations, role-plays and discussions. Once the adolescents' training began, the parent trainer reviewed videos of the adolescent group with the parents to demonstrate their adolescent's progress, and show the parents how to promote these skills at home, using

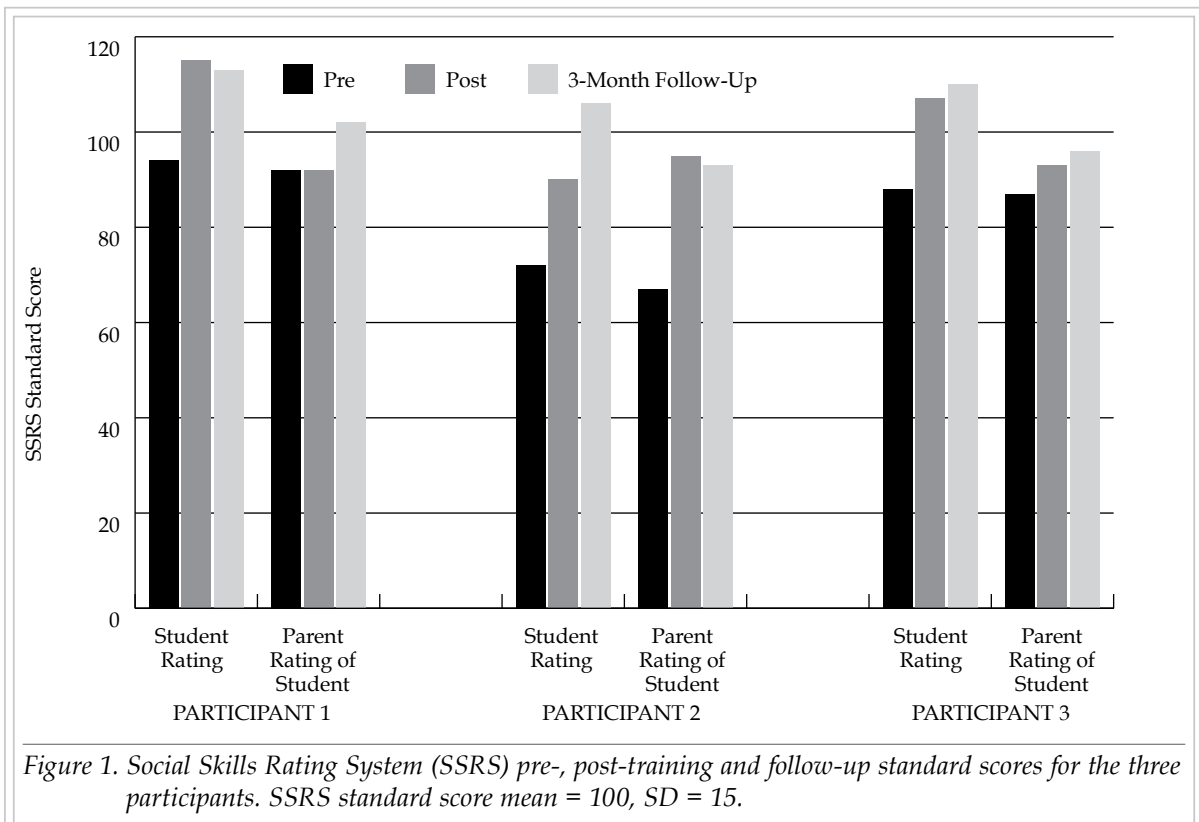
establishing operations, prompting, reinforcement and error correction.

*Post Group Assessment and 3-month Follow-up.* Within 2 weeks of group completion and 3 months later, the SSRS and QoL questionnaire were re-administered individually at the agency. The follow-up training and generalization probes were obtained as in baseline. The three participants returned to the agency building for the 3-month follow-up in which a party was held that included favourite activities and games in the training room and pizza in the kitchen. There were ample opportunities to probe maintenance of target skills in the training room and generalization settings. A novel person was present to probe for generalization of the target of introducing oneself.

## Results

### SSRS

Overall adolescents' self-report standard scores (mean = 100, SD = 15) increased from below average, 84.7 (SD = 11.37) to average,



104 ( $SD = 12.77$ ); the mean parent SSRS scores changed from below average, 82 ( $SD = 13.23$ ) to average, 93 ( $SD = 1.53$ ). Results of pre-post standard scores from both the student self-rating and parent rating of the student are presented

in Figure 1. With the exception of Participant 1's parent rating, each participant's SSRS self- and parent ratings increased from pre- to post training beyond the 68% confidence bands reported in the manual (Gresham & Elliot,

Table 2. SSRS Percentile Ranks

	Percentile Rank Student Rating		Percentile Rank Parent Rating	
	Pre	Post	Pre	Post
Participant 1	34	84	30	30
Participant 2	3	25	< 2	37
Participant 3	21	68	19	32

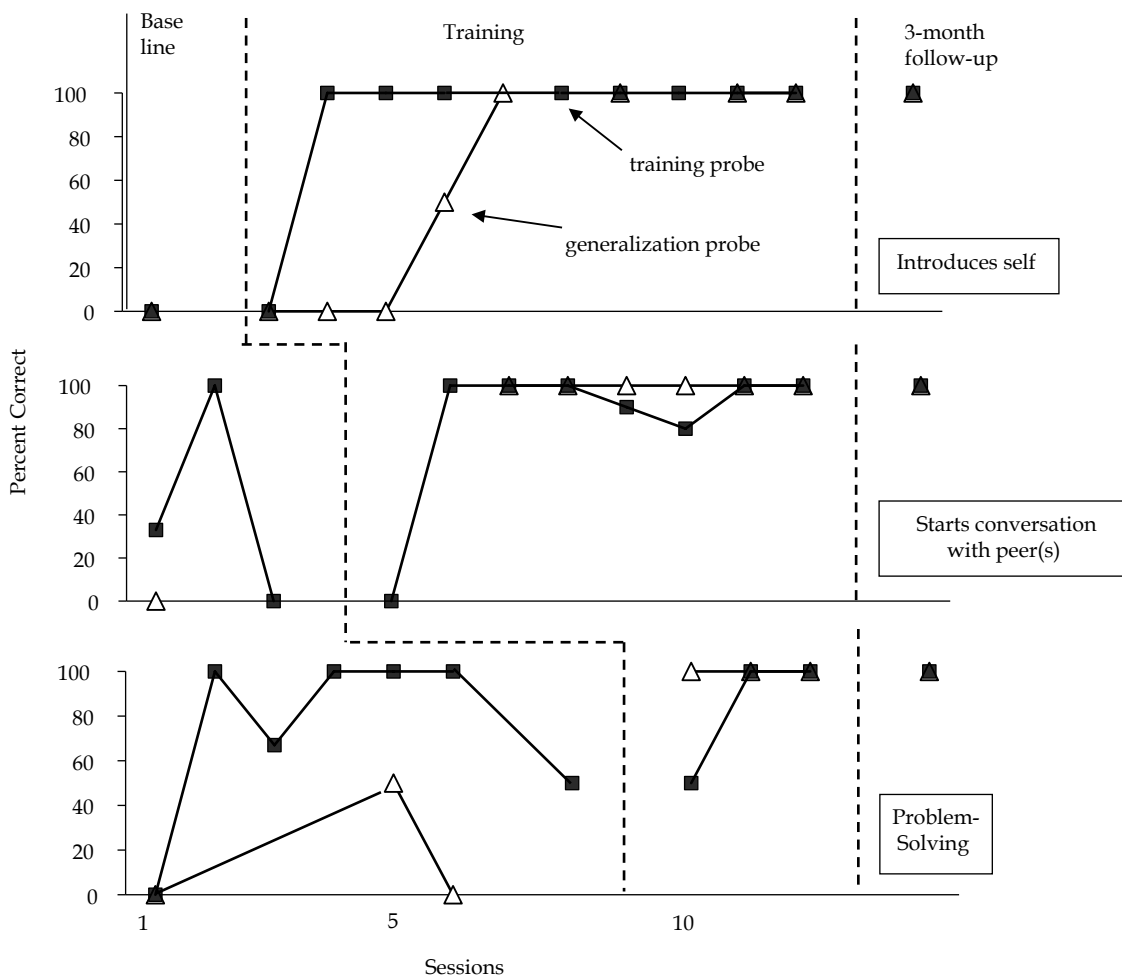


Figure 2. Percent correct on probe trials during baseline, training, generalization and follow-up for Participant 1.

1990). Gresham and Elliott (1990) recommend that a 68% confidence level be used to demonstrate that the change in scores was not due to measurement error. SSRS increases were maintained at the 3-month follow-up.

Table 2 presents the percentile ranks for all participants. According to Gresham and Elliott (1990), a percentile rank of 50 represents the median rating of students in the normative comparison group. For example, Participant 1 ranked in the 34<sup>th</sup> percentile pre-intervention (based on the student rating) and in the 84<sup>th</sup> post intervention, meaning that 84% of the students in the same sex and educational level in the standardization sample exhibit fewer social

skills that Participant 1 post training. All participants' percentile rank increased post intervention as rated by the student and parent with the exception of Participant 1.

### Multiple Baseline Design Across Target Social Skills

The multiple baseline results for the three participants are presented in Figures 2, 3, and 4. Training and generalization increases were observed for skill 1 (*introducing oneself*) across all participants. High baseline training probe points for Participant 1 on skill 2 (*initiating conversation with peers*) and skill 3 (*problem-solving conflicts*),

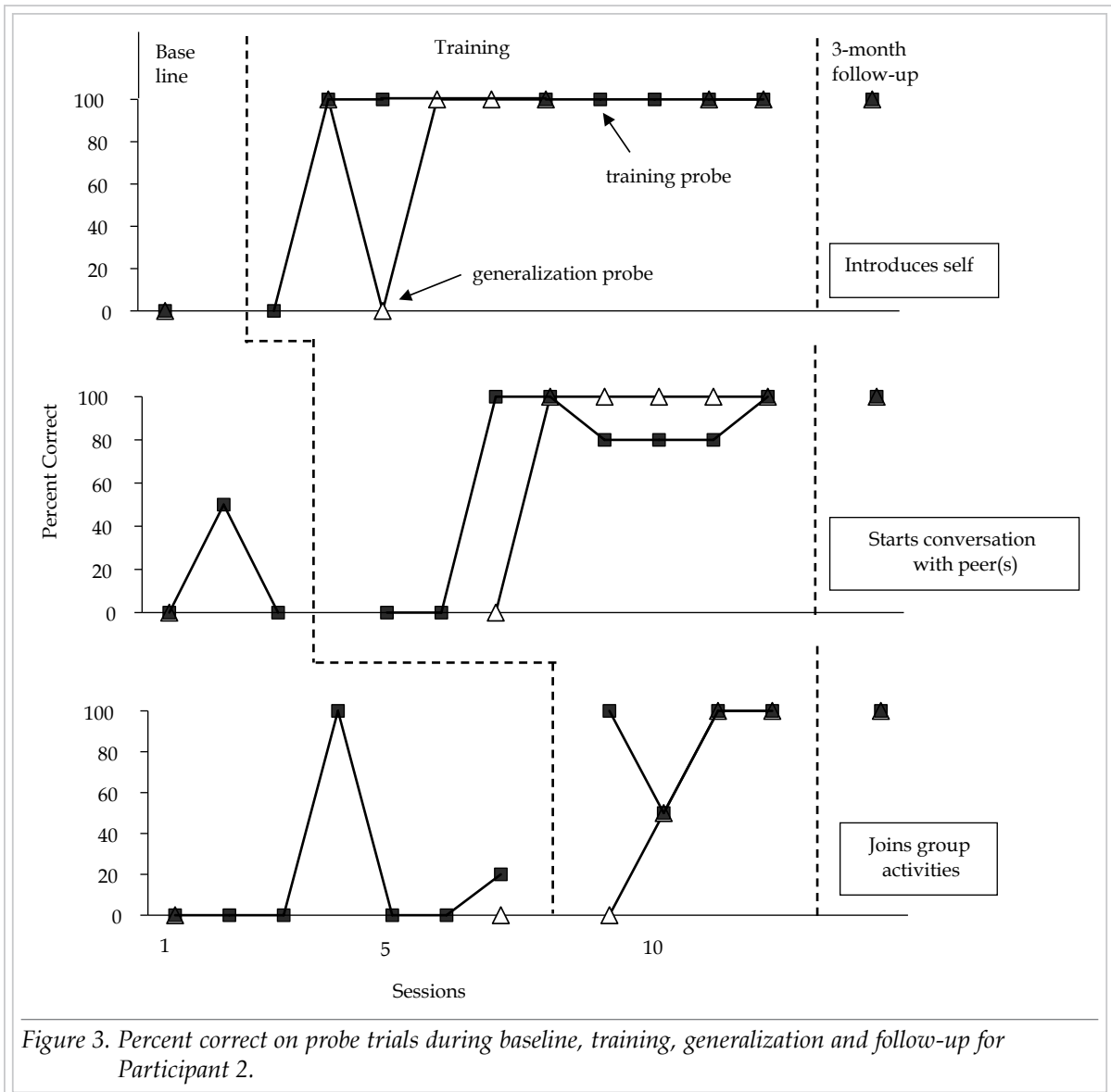


Figure 3. Percent correct on probe trials during baseline, training, generalization and follow-up for Participant 2.



and Participant 2 on skill 3 (*joining group activities*) obscured training effects. Generalization probe results are clearer for Participants 1 and 2 who showed generalization only after the target skill was trained. Participant 3 did not demonstrate consistent skill acquisition or generalization on skill 3 (*joining group activities*). Skills that were acquired during group were maintained at the 3 month follow-up.

### Quality of Life

The pre-training group mean was 2.09 ( $SD = 0.18$ ) and the post-training group mean was 2.24 ( $SD = 0.27$ ), indicating a small increase

in perceived quality of life for the participants one week following the end of training. The 3 month follow-up group mean was 2.42 ( $SD = 0.21$ ), indicating a slight improvement in the adolescents perceived quality of life from the end of group to three months following group. Participant 1 increased from a pre-training mean of 2.18 to 2.37 to 2.48 at the 3 month follow-up; Participant 2 increased from 2.22 to 2.41 to 2.59 at follow-up and Participant 3 increased from 1.88 to 1.93 to 2.19 at follow-up. Specific questions in which the ratings increased for all participants pertained to how much time they spend with friends, how happy they are with their friends, the amount of

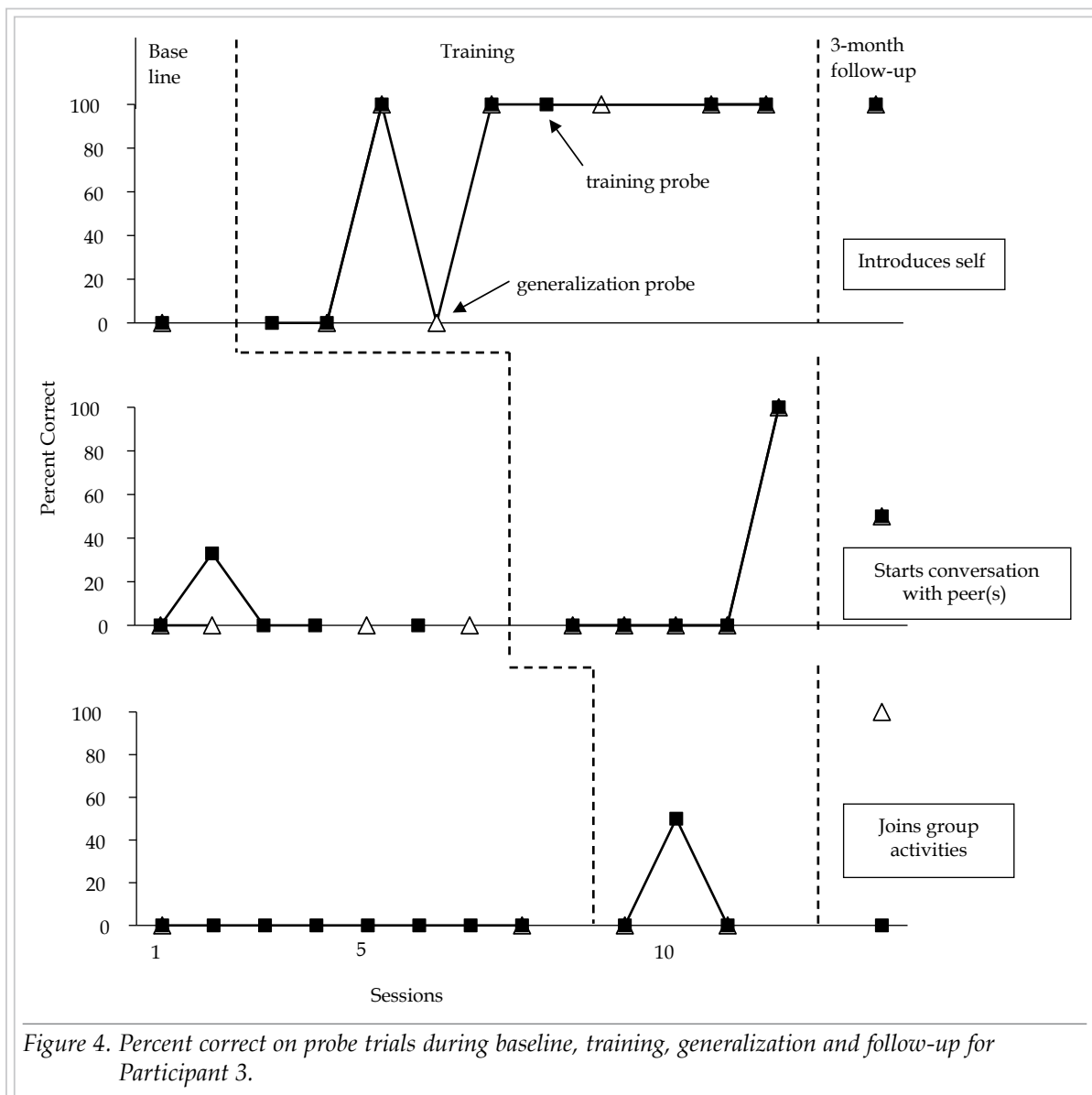


Figure 4. Percent correct on probe trials during baseline, training, generalization and follow-up for Participant 3.

people they talk to when they go out, the number of people they know at school, how much they like their peers and teachers, and how often they take part in special interest groups.

### Consumer Satisfaction

The participant satisfaction questionnaire results indicated that all participants enjoyed the social skills training group. The group mean for the adolescent satisfaction questionnaire was 3.83 ( $SD = 0.76$ ) out of a maximum score of 5. The questions that yielded the highest mean scores indicated that the participants thought the social skills group was fun, the facilitators were helpful and presented the lessons in a way they could understand. They said that as a result of participating they made new friends in the group, were more confident in social situations than before the group and used what they learned in the group at home. The group mean for the parent satisfaction questionnaire was 4.41 ( $SD = 0.43$ ) out of a maximum score of 5. Parent satisfaction scores were high for each question (mean rating range of 3.7 to 5).

## Discussion

This study showed that group social skills training with added generalization strategies produced generalization of target social skills in adolescents with AS/HFA. Increases in overall social competence (as measured by the SSRS) and quality of life also were observed. The SSRS results and anecdotal reports indicate that the participants and their parents (with the exception of Participant 1's parent) reported improved generalized social skills outside of the training sessions (e.g., at home and in the community). The quality of life measure showed a small improvement post training and in follow-up. The SSRS and quality of life increases may reflect the broad curriculum (based on McAfee, 2002) that covered a variety of social skills and situations, as well as the extra training the adolescents may have received from their parents and in completing their take-home assignments. Both the adolescents and the parents were highly satisfied with the program and valued the outcomes achieved. The adolescents wanted to come back to another group, if offered. The parents found

the training to be very informative and useful in helping their adolescent to practice social skills at home and in the community. The parents reported that they saw improvements in their adolescents' social skills as a result of the intervention and would recommend this training to other families with children diagnosed with AS/HFA.

Although some researchers have cautioned against group social skills training for children with ASD outside of natural settings because of difficulties in generalization (Bellini et al., 2007; Gresham et al., 2001), the multiple baseline evaluation, for the most part, showed generalization and maintenance of target social skills across untrained settings and people. It is likely that the addition of several generalization strategies including individualized selection of skills, parent training, take home practice assignments, sufficient exemplars, common stimuli, mediated generalization and reinforcing generalization helped promote generalization (Griffiths et al., 1997). It should be noted that variability occurred in baseline (e.g., going from zero to 100% and back down to zero) but the variable scores may be attributable to the small number of probes conducted during that session.

Access to social skills interventions that generalize and maintain should help the adolescent with ASD acquire a skill set needed to function effectively in society and subsequently reduce pressure on the service system in the long-term. A group format not only provides a social platform for naturally occurring peer interaction, but also it is inherently more efficient than individual training. The parent training component allowed the parents to further promote social skill acquisition, generalization and maintenance.

### Limitations and Recommendations for Future Research

We noted several limitations of this study. Because of training constraints we were not able to ensure that the previously trained skill had consistently increased before starting training on the next skill. Thus, the multiple baseline designs are weakened due to delay of training effects and lack of overlap

between baseline points and visible training effects in sequentially trained skills. Also, Participant 1 and 2's results were clouded due to high baseline training (but not generalization) probe points after the first baseline point (from which the target skills were selected). For Participant 2, this pattern may represent response generalization from introduces self to joins group activities (see Figure 3). However, for Participant 1, high baselines were not due to response generalization because high baseline points for skills 2 and 3 occurred before training in skill 1 (see Figure 2). Alternatively, the high baseline points suggest a performance rather than skill deficit (Bellini et al., 2007), and that a standardized test of social competence (like the SSRS) and several baseline behavioural probes in the same session may not be sufficient to distinguish between skill and performance deficits. In fact, all participants had one or two SSRS targets that once probed in the first session were not identified as skill or performance deficits (these data are not presented). Although time-consuming, it may be necessary to assess numerous possible intervention targets several times in varying contexts to determine true skill deficits. Further research should determine if the recent revision to the SSRS, the Social Skills Improvement System (SSIS; Gresham & Elliott, 2008) yields a more accurate assessment of social skills deficits in adolescents with AS/HFA. Skill-focused training like the one evaluated in this study may not be the best match for a performance-related deficit (Bellini et al., 2007). Nonetheless, each participant had low baseline generalization scores that improved after group training. Performance-based contextual issues may have resulted in the inconsistent performance of Participant 3 who said he did not feel comfortable initiating a conversation and joining a group activity with his group mates because he felt he had nothing in common with them. His belated improvement in initiating conversations during the training phase (see Figure 4) may have been related to him getting to know his peers better after 10 weekly meetings. It is hoped that training of social skills targets improved their overall social skills but it is also possible that they became more comfortable with each other over the 12-week period making the demonstration of social skills targets more probable.

Other limitations in this study include the lack of generalization probes in the adolescents' homes and schools (parents felt uncomfortable having probes in their homes and we did not have sufficient resources to conduct probes in schools) and no separate evaluation of parent training and take-home assignments. Future research should compare group social skills with and without parent training and homework to determine their value added, particularly with respect to generalization and maintenance of the adolescents' social skills and quality of life. Additionally, procedural fidelity of the intervention was not measured. It is recommended that future studies measure and report on procedural fidelity. In conclusion, the results of this study indicated that group social skills training program with added generalization enhancement strategies may be a viable intervention for teaching generalized social skills to adolescents with AS/HFA.

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