RESEARCH ARTICLE

Direct and Indirect Psychosocial Outcomes for Children with Autism Spectrum Disorder and their Parents Following a Parent-involved Social Skills Group Intervention

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Abstract

Objective: This study examined the direct and indirect outcomes of a social skills group intervention for children with high functioning autism spectrum disorders and their parents. **Method**: Thirty-five children and their parents participated in the program evaluation. Children and parents completed measures of child social skills and problem behaviors. Children reported on their self-concept, and parents reported on their psychological acceptance and empowerment. **Results:** Results indicate significant increases in overall child social skills according to parent and child report, in child general self-worth, and in parent service empowerment and psychological acceptance. **Conclusion**: While past program evaluations of social skills groups highlight changes in social competence, taking a broader perspective on the types of positive outcomes suggests potential benefits for both child and parent.

Key Words: *social skills, autism spectrum disorders, group intervention, parent intervention*

Résumé

Objectif: Cette étude examinait les résultats directs et indirects d'une intervention de groupe en aptitudes sociales pour des enfants au fonctionnement élevé souffrant de troubles du spectre de l'autisme et leurs parents. **Méthode:** Trente-cinq enfants et leurs parents ont participé à l'évaluation du programme. Parents et enfants ont répondu à des mesures des aptitudes sociales de l'enfant et des comportements problématiques. Les enfants ont rendu compte de leur concept de soi, ainsi que de leur acceptation psychologique et de leur habilitation. **Résultats:** Les résultats indiquent des augmentations significatives des aptitudes sociales des enfants en général, selon les rapports des parents et des enfants, de l'estime de soi des enfants en général, et de l'autonomisation des services et de l'acceptation psychologique des parents. **Conclusion:** Alors que les évaluations de programme passées des groupes d'aptitudes sociales présentent les changements des aptitudes sociales, l'adoption d'une perspective plus large des types de résultats favorables suggère des avantages potentiels pour les enfants et les parents.

Mots clés: *aptitudes sociales, troubles du spectre de l'autisme, intervention de groupe, intervention des parents*

Impaired sociocommunicative functioning is a hallmark feature of autism spectrum disorders (ASD), and across the lifespan, individuals with ASD typically struggle with successful social interactions and peer relationships. Youth may struggle with many components required for successful relationship building (Gutstein & Whitney, 2002). Lacking these building blocks of social competence, youth with ASD are at risk for a host of negative outcomes, including increased peer rejection and victimization (Cappadocia, Weiss, & Pepler, 2012), school underachievement (Howlin & Goode, 1998), and problem behaviours (Macintosh & Dissanayake, 2006).

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Social skills training groups (SSTGs) are often employed to increase social skills in children with Asperger syndrome (AS) or "high functioning" ASD. The literature on the effectiveness of SSTGs for children with ASD suggests mixed results at best (Cappadocia & Weiss, 2011). Because social skills program evaluations vary tremendously with regard to sample size, intensity of intervention (e.g., length of each session and duration of intervention), the setting where the intervention occurs, the measures used to operationalize social competence, and the method in which the information is collected, comparisons in effectiveness across programs are difficult (Rao, Beidel, & Murray, 2008).

A growing number of SSTGs include a parent component, with a primary goal to enhance the learning and generalization of children's social skills (Cappadocia & Weiss, 2011). Such interventions include the traditional child intervention, but also aim to support the parent through informal parent support (Marriage, Gordon, & Brand, 1995), teaching parents the skills learned by the children (Beaumont & Sofronoff, 2008), having parents practice what was learned through assigned homework (Barry et al., 2003), or a combination (Frankel et al., 2010). Many parent-involved SSTGs report improvements in some aspect of child social skills, whether it is by direct observation of child behavior (Barry et al. 2003; Beamont & Sofronoff, 2008) or by parent report (Beamont & Sofronoff, 2008; Frankel et al., 2010; Solomon, Goodlin-Jones, & Anders, 2004).

Of interest, parent-involved SSTGs may have several indirect benefits for children that are worthy of exploration. From a program evaluation perspective, indirect outcomes involve changes that are not explicitly targeted by the intervention, but which may occur as a result of changes in the variables that are directly targeted (McConachie, Randle, Hammal, & Le Couter, 2005) or of general psychotherapeutic experiences common to all positive therapeutic environments (e.g., therapeutic alliance; Lambert & Barley, 2001). Direct outcomes of an SSTG would involve examining social skills. Although not of direct focus, parent-involved SSTGs have reported indirect improvements in child internalizing and externalizing symptoms (Lopata, Thomeer, Volker, Nida, & Lee, 2008), self-esteem (Marriage et al., 1995), and emotional self-regulation (Beaumont & Sofronoff, 2008).

There are a number of reasons to suggest that there may be indirect parent outcomes in parent-involved SSTGs. By encouraging parent involvement in the child's social skills training, and seeking to address parental needs that may arise from raising a child with ASD, SSTGs may function as a psychosocial intervention for parents. Providing parents with a venue to speak with other parents who share similar difficulties, process their feelings within an accepting environment, and learn new skills, can help to address their negative emotions (Boyd, 2002). Allowing parents to meet with other parents who also experience chronic difficulties may help parents feel more able to tolerate and accept their frustrations and life situation, increasing their ability to practice healthy psychological acceptance (Blackledge & Hayes, 2006). Further, learning from other parents and facilitators about the types of resources available to families and about how to teach their child social skills can lead to increased empowerment (Simon, Murphy, & Smith, 2005).

Only one SSTG study to date has examined parent outcomes, by measuring parent symptoms of depression and parenting confidence in parents of 18 children with ASD (Solomon et al., 2004). Parents were provided with psychoeducation related to the intervention, focusing on the weekly lesson plan from the child groups and on their child's weekly parent-completed problem behavior logs. The SSTG consisted of twenty weekly 1.5-hour sessions, and while parents reported changes in children's social skills, they did not show significant changes from pre- to post-intervention in depression or confidence. Clearly, further research into parent outcomes is needed. Empirically identifying alternative outcomes helps to broaden the focus on what is thought of as 'change' and to reflect the real-world experience in a community setting. Finally, a broader perspective on both child and parent can emphasize the importance of a developmental-contextual approach to intervention, rather than simply focusing on the child.

Hypotheses

The current study builds on this limited research base by examining direct and indirect outcomes of participating in a parent-involved SSTG, through parent- and child-report. We hypothesized that:

1. Children and parents would report increases in child social skills (direct outcome).
2. Children and parents would report a reduction in child symptoms of internalizing and externalizing maladaptive behavior, and children would report improvements in self-concept (child indirect outcomes).
3. Parents would report increases in psychological acceptance of their difficult emotions and empowerment (parent indirect outcomes).

Intervention

The SSTG examined in the present study is a fee for service community program that includes both a child and parent group component that run simultaneously. The program adheres to an unpublished manual (Sloman, Stoddart, & Schiller, unpublished). The group is designed to target youth between eight and 14 years of age, with a diagnosis of AS. Youth are split into two age groups: 8 – 11 and 12 – 14 and the size of child group is limited to six to nine children to ensure a high staff to youth ratio, ranging from 1:1 to 1:3 depending on group needs. At least one caregiver is required to attend a concurrent parent group. The SSTG

program consists of ten weekly 1.25-hour sessions. Consistent with other models (e.g., Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007), the overall program includes time for children to get acquainted with each other, learn and practice friendship skills, conversation, social problem solving, and dealing with emotions. One to two facilitators lead the concurrent parent groups. The sessions combine psychoeducation on specific topics that are determined by the parents (e.g., parenting strategies, school problems, medication, and development of social skills), a review of the skills being taught to their youth, and time for unstructured parent discussion. For a more detailed description of the program and its theoretical framework, see Sloman and Leef (2005).

Methods

Participants

Of the 50 families that participated in the 10-week program in 2009 and in 2010, 43 agreed to participate in the study. Three families dropped out of the program after the first two weeks of group, and one child received individualized programming separate from the group as a result of his high level of support need. Reasons for dropout included a scheduling conflict and child anxiety about coming to the group. Four additional families were removed from the analysis due to incomplete demographic and diagnostic information. All children included in the analyses had a prior diagnosis of AS or a high functioning ASD from a psychiatrist or clinical psychologist in the community, and were screened by a child psychiatrist with expertise in ASD to verify the diagnosis. The same psychiatrist did all of the screenings.

The final sample consisted of 35 children (28 males, seven females). The children ranged in age from six[1] to 14 years (M = 10.56, SD = 2.09). Parents ranged in age from 35 to 61 years (M = 46.46, SD = 5.77), with 83% of respondents being the child's mother. As shown in Table 1, the majority of parents were married (83%), and had a household income of $100,000 CAD or more (59%).

Table 1. Parent characteristics (n = 35)

Characteristic	n (%)
Guardian gender	
Female	29 (83)
Male	6 (17)
Relationship to child	
Biological parent	29 (83)
Adoptive parent	5 (14)
Grandparent	1 (3)
Marital status	
Married	29 (83)
Separated	4 (11)
Single	2 (6)
Level of Education	
Attended college	1 (3)
Graduated college	7 (20)
Attended university	3 (8.5)
Graduated university	10 (28.5)
Post-graduate degree	14 (40)
Household income	
Over $100,000	20 (59)
Under $100,000	14 (41)
Ethnicity (not mutually exclusive)	
European-Canadian	32 (91)
Asian-Canadian	3 (9)
African/West-Indian-Canadian	2 (6)
South/Latin American-Canadian	2 (6)
Middle Eastern-Canadian	1 (3)
South-Asian-Canadian	1 (3)

Measures

Social Skills and Maladaptive Behaviors. The Social Skills Improvement System Rating Scales (SSIS; Gresham & Elliott, 2008) were administered to measure the child's social skills and maladaptive behaviors, through child and parent report. Children choose a response on a 4-point scale of how true each statement refers to them, ranging from "Not true" to "Very true." Parents respond on a 4-point scale indicating how often their child displays a behavior or skill, ranging from "Never" to "Almost always." The SSIS measures overall and specific social skills and maladaptive behaviors. For the purposes of our hypotheses regarding indirect outcomes, we examined the Internalizing and Externalizing scores. The SSIS has high internal consistency and good test-retest reliability across all forms (Gresham & Elliott, 2008), and has been used in other social skill intervention studies with children with ASD (e.g., Barry et al., 2003).

Child Self-Concept. The Self-Perceptions Profile for Children (SPPC; Harter, 1985) is a 36-item measure of a child's judgment of competence and adequacy in five specific domains and in the global perception of self-worth. Children respond by choosing between two responses that fit them best, and then whether that response is "Sort of true for me" or "Really true for me." Responses are then scored on a scale of 1 to 4, with 1 indicating lower perceived competence, and 4 indicating higher perceived competence.

[1]The current program accepted one six year old and one seven year old as they believed these children were capable of completing the intervention.

Table 2. Child and parent mean score changes on SSIS social skills subscales from pre- to post-intervention

		Time 1		Time 2			
Variable	*N*	M	SD	M	SD	*t* (df)	d_{RM}
Child-report							
Overall social skills	30	90.54	19.01	95.00	18.28	-2.11 (27)*	-.40
Communication	30	11.63	3.76	12.23	3.55	-1.46 (1, 29)	-.27
Cooperation	30	13.13	5.36	13.70	5.09	-.88(1, 29)	-.16
Assertion	30	11.97	5.30	12.43	4.49	-.65 (1, 29)	-.12
Responsibility	30	12.33	5.05	13.27	5.27	-1.46 (1, 29)	-.27
Empathy	30	10.83	4.54	11.77	4.35	-1.30 (1, 29)	-.24
Engagement	30	12.10	5.29	12.90	5.07	-.97 (1, 29)	-.18
Self-control	30	8.93	4.38	11.23	5.09	-3.42 (1, 29)**	-.62
Parent-report							
Overall social skills	19	73.79	9.19	78.00	11.22	-2.46 (18)*	-.56
Communication	19	11.00	1.94	11.05	2.42	-.11 (1, 18)	-.03
Cooperation	19	9.58	2.74	10.00	3.20	-1.32 (1, 18)	-.30
Assertion	19	12.79	3.33	13.26	2.88	-.84 (1, 18)	-.19
Responsibility	19	9.47	2.63	10.21	3.23	-1.86 (1, 18)	.43
Empathy	19	7.84	2.87	8.68	3.18	-2.77 (1, 18)*	-.51
Engagement	19	8.37	2.65	9.84	2.22	-.36 (1, 18)*	-.64
Self-control	19	6.21	4.22	7.26	3.90	-1.63 (1, 18)	-.37

* $p < .05$, ** $p < .01$, *** $p < .001$

Subscales for the SPPC used in the present study included Social Acceptance (six items) and Global Self-worth (six items). The SPPC has acceptable test-retest reliability and internal consistency (Harter, 1985). In the current study, internal consistency for the Global Self-worth and Social Acceptance scales were adequate (alpha coefficient = .67 and .63, respectively).

Parent Empowerment. The Family Empowerment Scale (FES; Koren, DeChillo, & Friesen, 1992) is a parent-report scale that assesses feelings of empowerment among parents of children with disabilities across three subscales: Family; Service System; and, Community/Political. The current study included the Family and Service System subscales. The Family subscale has 12 items that measure a parent's feelings of personal control and self-efficacy in relation to their child. The Service System subscale has 12 items that measures parent's feelings towards actively working with the service system to get services that are needed by their child. Each domain of empowerment is measured on a 5-point Likert scale ranging from very untrue (1) to very true (5). This measure has high internal reliability and test-retest reliability (Yatchmenoff, Koren, Friesen, Gordon, & Kinney, 1998), and exhibited adequate internal consistency in the current study for the Family (alpha coefficient = .78) and the Service System subscales (alpha coefficient = .81).

*Parenting Psychological Acceptance***.** The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is an eight-item parent-report scale that is used to measure psychological acceptance among parents. This measure was previously used in a study looking at acceptance in fathers of youth with intellectual disability (MacDonald, Hastings, & Fitzsimons, 2009). Items refer specifically to the degree to which parents are able to accept the feelings and challenges of raising a child with ASD. Responses are rated on an 8-point Likert scale, ranging from *never true* (1) to *always true* (7). The scale yielded high internal consistency in the current study (alpha coefficient = .91).

Procedure

All families enrolled in the SSTG were approached by the primary research assistant and were invited to provide informed consent to participate in the study. Children were interviewed 1:1 with a research assistant to ensure comprehension of the material, and parents independently provided responses on questionnaires. The study was approved by the hospital Research Ethics Board where the intervention was held.

Table 3. Child and parent mean score changes on problem behavior, self-perceptions, and parent variables

		Time 1		Time 2			
Variable	n	M	SD	M	SD	*t* (df)	d_{RM}
Child-report							
Overall problem behavior	29	106.66	14.04	104.59	14.01	1.44 (28)	.27
Internalizing	30	10.07	5.28	10.17	6.36	-.16 (29)	-.03
Externalizing	30	10.57	6.43	8.30	5.91	2.10 (29)*	.38
Self-perceptions profile							
Social acceptance	30	2.51	.62	2.63	.84	-.93 (29)	-.17
Global self-worth	30	2.82	.62	3.20	.53	-2.37 (29)*	-.43
Parent-report							
Overall problem behavior	19	125.00	14.99	123.68	14.99	.88 (18)	.20
Internalizing	19	11.16	3.65	10.68	3.92	.63 (18)	.15
Externalizing	19	13.89	6.21	13.47	5.51	.70 (18)	.16
Psychological acceptance	25	18.88	7.82	22.56	7.12	-2.50 (24)*	-.50
Family empowerment	26	48.19	5.74	49.50	5.41	-1.30 (25)	-.26
Service system empowerment	26	47.35	5.97	52.92	9.01	-3.05 (25)**	-.60

* $p < .05$, ** $p < .01$, *** $p < .001$

Results

Analyses

The current study employed a pre-test/post-test design, where child and parent functioning were measured pre-program within two weeks of program start and two weeks of program end. Those with post-intervention data did not differ from those without in terms of child or parent age, household income, ASD diagnosis, parent education, ethnicity, or on mean pre-intervention scores.

Direct Outcomes: Social Skills (Hypothesis 1)

The overall social skills score and its subscales were examined for changes over time, displayed in Table 2. Paired sample *t*-tests indicated significant increases with a large effect on overall social skills according to parents, $p = .02$, and to children, $p = .04$. Significant increases were also found on the parent-reported subscales of empathy, $p = .04$, and engagement, $p = .01$, and on the child-reported subscale of self-control, $p = .002$.

Indirect Outcomes: Child Maladaptive Behavior and Self-Concept (Hypothesis 2)

As shown in Table 3, no significant changes were reported on overall child problem behaviors according to parents and children. There were also no significant changes over time noted by parents on the internalizing or externalizing subscales. Children did report significant reductions in externalizing behaviors, $p = .045$. Children reported a significant increase in their scores on the global self-worth subscale of the SPPC, $p = .03$, but not on the Social Acceptance subscale.

Indirect Outcomes: Parent Mental Health Problems and Well-Being (Hypothesis 3)

*Parent acceptance and empowerment***.** Parents reported significant increases in psychological acceptance, $p = .02$, and feelings of empowerment toward the service system, $p = .005$ (see Table 3). They did not report significant improvements in empowerment at the family level. Change in parent acceptance and empowerment was not correlated with change in child social skills.

Discussion

Social skills interventions attempt to target the social difficulties experienced by children with ASD, as direct outcomes, and the current study examined whether in addition to direct outcomes, a social skills intervention could result in indirect changes in child and parent variables. With regard to direct effects, parents and children reported significant increases in overall social skills (although of only small to medium effect). Other SSTGs that have sufficient sample size also report changes in parent-reported social skills (Beaumont & Sofronoff, 2008; Solomon et al., 2004).

While children can learn specific skills to help their social competence, the pervasive qualitative impairments in sociocommunicative functioning required for a diagnosis of ASD likely means that children would need a more intensive intervention than can be provided in a ten session (1.5-hour) intervention. Gresham, Sugai, and Horner (2001) recommend that children with disabilities should receive more intense and frequent social skills interventions than the levels currently delivered, and note that an average of 30 hours of instruction spread over 10 to 12 weeks, is insufficient. Some SSTGs for children with ASD provide youth with programming over longer periods of time and with more frequent sessions, and have reported large effects (Bauminger, 2007; Solomon et al., 2004). A recent review of social skills interventions did not find a relationship between length and outcomes, although this may been due to many interventions providing inadequate information about treatment length and duration (Bellini, Peters, Benner, & Hopf, 2007).

We sought to assess whether indirect outcomes may have occurred for children. In contrast to Lopata and colleagues (2008), we failed to find any changes in parent-reports of child problem behaviors, and only limited reductions in child-reported levels. Again, the discrepant results may be related to very different doses of intervention. The current SSTG provided children with a total of 15 hours of intervention, while Lopata and colleagues provided 180 hours of intervention. We did, however, find significant improvements in child global self-worth. For children with ASD, who feel loneliness and have a desire for relatedness to others, the formation of such friendships that can come from an SSTG may be beneficial for self-concept (Bauminger, Shulman, & Agam, 2004).

We aimed to capture whether parents derived any benefits themselves in addition to perceiving improvements in their child. Significant gains were reported on parent empowerment in dealing with the service system, and in their feelings of psychological acceptance. Parents who are empowered can have positive attitudes and sense of self, feel knowledgeable regarding their child and services, and capable of formulating action plans and executing strategies (Koren et al., 1992). Social skills groups that involve a parent component and allow for parent-directed discussion topics and information sharing may assist parents to increase their knowledge of available services for their children with ASD within their local community, and concurrently bolster their confidence in effecting positive changes with services for their children.

There are a number of limitations that need to be addressed in future research. Without controlled trials, we cannot isolate the aspect of the intervention that caused the change. As with other community service program evaluations, random assignment and control conditions were not possible. Parent-reported changes may be influenced by parent expectancies of success and the knowledge that their child was a part of the intervention, and we lacked any blind assessment of the child. We were also subjected to high rates of parent incompletions, as parents did not have to complete the forms in order to participate in the group. While there were no known differences between responding and non-responding parents in terms of demographic information, the lack of complete data does limit the generalizability of findings.

The present study provides additional evidence that parent-involved SSTGs are related to parent- and child-reported improvements in social skills. It is among the first to test how children may also change in other ways, including general self-concept. It is the first study to find that parents experience their own improvements in empowerment and psychological acceptance. It is important that future studies examine the transactional process of parents and children, as well as examine differing therapeutic doses and their effects on outcome. Future research should continue to attain child-report and examine parent outcomes, as well as ask qualitative questions related to the formation of friendships between children, which in the end is one of the truly important SSTG outcomes.

Acknowledgments/Conflicts of Interest

The authors have no financial relationships to disclose.

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