Brief Report: Feasibility of Delivering the Secret Agent Society Group Social Skills Program via Telehealth During COVID-19: A Pilot Exploration

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Abstract
During the Coronavirus Pandemic, many have worried about the adverse impact on the social functioning of children with autism spectrum disorder. Telehealth delivered group social skills programs offer one way to address this concern. This brief report describes modifications made to the telehealth delivery of the Secret Agent Society group social skills program to five children on the Autism Spectrum aged eight to nine years and their caregivers. It also presents parent-, child- and clinician- feedback on the pros and cons of the telehealth program format, and describes how the intervention helped children to transition to more in-person contact at a time when social distancing restrictions were lifted. Recommendations for telehealth delivery of future social skills group interventions are also discussed.

Keywords Telehealth · Social skills · Child · Autism · COVID-19

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Social communication challenges are a key feature of autism spectrum disorder (ASD). For youth with average to above-average cognitive ability, group social skills training programs are commonly used to address these challenges. With the many changes imposed by the COVID-19 pandemic (e.g., mask wearing, at-home schooling, social distancing, restricted access to therapy), many worried that the emotion regulation and social skills of children with ASD would regress (Baweja et al., 2021). Fortunately, telehealth provided a potential means to address this problem.

To date, research examining telehealth adaptations to group social skills interventions for youth has been limited. Gale et al., (2021) described feedback from 22 enrollees (diagnoses unknown) and their parents on telehealth delivered LUNCH social skills groups during the pandemic. These groups used operant conditioning, behavior management, psychoeducation and in-vivo skills practice to improve children’s social competence, in addition to targeting challenges with executive functioning, daily living skills, academic readiness and environmental awareness (e.g. pedestrian safety). LUNCH was originally developed for school delivery and is dynamically driven (non-manualized), consisting of eight months of weekly 60 min child group sessions during the academic year and monthly parent group meetings and webinars. Telehealth program delivery adaptations included reducing the group size, shifting from in-person snacks and meals to eating virtually, adding online games to encourage social interaction between participants and banning attendees from recording on-screen images. Many children and parents reported positive program outcomes, including improved self-regulation and frustration tolerance. However, families also commented on the lack of in-person contact reducing child enjoyment and potentially having a negative impact on behavior change.

Estabillo et al., (2021) compared the outcomes for five male teens with ASD who participated in a telehealth PEERS social skills group to those of 137 teens who
previously engaged in the program in-person. Both program formats were equivalent in improving teens’ knowledge of social skills and caregiver-reported increases in the number of hosted- and total peer get-togethers. However, the types of adaptations made to these get-togethers due to the pandemic were not reported.

MacEvilly & Brosnan (2020) published a paper on their telehealth delivery adaptations to the Secret Agent Society (SAS) group social skills program during COVID-19 in Ireland. SAS is a manualized cognitive-behavioral therapy program that aims to improve children’s emotion regulation and social skills through a spy-themed video game, weekly child and parent group meetings, weekly teacher tip sheets and between-session missions to practice learnt skills. When delivered in person, the group program has been shown to improve the emotion-regulation and social skills of children with ASD in numerous published papers (e.g., Beaumont et al., 2015; Beaumont & Sofronoff, 2008). Relative to the LUNCH program, SAS adopts a more structured delivery protocol, includes standardized interactive program activities and materials for children, parents and school staff, is shorter in duration and targets a more specific skill set (emotion regulation and social interaction skills).

Telehealth SAS program delivery adaptations described by MacEvilly & Brosnan (2020) included providing children with a “Social Story” (Gray, 2015) to explain the change from face-to-face to online program delivery, scheduling a practice teletherapy session to familiarize parents with the online session technology, delivering the program as a larger number of briefer sessions to improve children’s focus, teaching parents to implement behavior management strategies to optimize children’s engagement in-session (e.g., using a visual schedule of session tasks, providing end-of-session rewards) and encouraging parents to role-play learnt skills with children to promote skill generalization. Program delivery and data collection were ongoing at the time of publication, and the diagnoses of program participants were not specified in the paper.

The current pilot project is the first to specifically describe the telehealth delivery of a social skills program (SAS) to a group of eight-to-twelve year-old children with ASD and their caregivers. It extends on MacEvilly and Brosnan’s (2020) publication by describing additional telehealth program delivery adaptations, and presenting child-, parent- and clinician feedback on the advantages and disadvantages of telehealth delivery. This paper also describes how the telehealth SAS intervention helped children to adapt at a time when COVID-19 social distancing restrictions were lifted when vaccines first became available.

Method

Participants

Five children with ASD (as confirmed by the ADOS and either ADI-R or semi-structured clinical interview with a caregiver) participated in the online group program, together with at least one of their caregivers. One of the children also had a comorbid diagnosis of Attention Deficit Hyperactivity Disorder (ADHD). The group consisted of two girls and three boys. One family identified as Biracial/Hispanic, three as White/Not Hispanic and one as Asian/Not Hispanic. IQ data was available for four of the five participants, who had a mean Verbal IQ of 108.25 (range 69–150) and a mean Non-verbal IQ score of 109.5 (range 83–112), as assessed with either the Wechsler Intelligence Scale for Children (WISC-V) or the Differential Abilities Scale (DAS-II), Early Years or School Age. Children had a mean age of 9 years, 1 month (range = 8;7–9;11) at the start of the program. Two clinicians facilitated videoconference child ‘club meetings’ (one clinical psychologist, one speech/language pathologist) and two facilitated separate parent groups meetings (one clinical psychologist, one clinical psychology postdoctoral fellow). The program was delivered at a hospital-affiliated outpatient autism center in Westchester, New York.

Intervention, Adaptations and Challenges

Intervention

The Secret Agent Society (SAS) manualized group social skills program (Beaumont, 2016) was delivered from October 2020 to March 2021. In a clinic setting, the program is typically delivered as nine weekly 90-minute child club meetings, weekly 45–60 min parent group meetings and weekly Teacher Tip Sheets. Skills taught include recognizing emotions in oneself and others from facial expression, voice tone and body posture clues, emotion regulation strategies (relaxation ‘gadgets’), a formula for solving social problems, step-by-step guidelines for talking and playing with others, differentiating friendly joking from mean teasing and preventing and coping with bullying (see www.sst-institute.net for further details). In-person group sessions involve the initial setting of club rules (e.g. friendly face, voice, words and actions) and playing program-specific physical games and activities (e.g. the SAS Challenger role-play based board game). A 1:3 facilitator to child ratio is recommended for the intervention, with a maximum group size of six children to optimize engagement and to ensure sufficient individualized attention. Facilitators give children end-of-session rewards for trying hard in session (e.g.
collectors) and children are assigned ‘missions’ for the week, which involve practicing their social-emotional skills at home and at school, and answering questions in a Secret Agent Journal.

**Telehealth Adaptations**

At the time that the group program began, none of the papers referenced in the Introduction were published. Therefore, program adaptations were planned and implemented based on clinical judgement and program-specific telehealth recommendations and materials provided to trained facilitators by the program’s publisher. These adaptations are summarized in Fig. 1.

Parents were emailed Zoom links for sessions and sent a list of materials needed the day before each session. They were also emailed immediately after sessions advising whether they should give their child a small reward (e.g., playing a fun family game) for in-session effort. SAS was delivered as 18×45-minute online group sessions for children and parents (separate sessions for each). Child and parent group sessions were scheduled concurrently every one- to two- weeks. This program format (as opposed to nine x 90-minute child sessions) was used to optimize children’s attention in sessions. Two children had caregiver support during sessions to stay focused. Additional club rules were set to improve children’s focus and engagement in virtual sessions, including staying seated at a desk unless advised otherwise and keeping their device camera on and background filters constant. Zoom chatting between children was also disabled.

Online interactive simulations of all physical program games and activities were made available by the publishers. Adaptations to between session skills-practice missions were made to account for children’s limited face-to-face contact with peers during the pandemic. For example, they were encouraged to practice their “Conversation Code” steps (i.e., the steps for starting, continuing and ending conversations) during video calls, video-game webchats or outdoor hang-outs with peers, and given supplementary program tips for successful video chatting and online messaging (e.g., trying to match their message length and response time to others).

**Challenges**

Due to technical difficulties experienced by children and parents early in the pandemic (e.g., finding and accessing Zoom session links, adjusting device audio functions), a technology assistant was appointed to provide support during sessions as needed. Faced with the struggle of juggling work, parenting, and home-schooling during phases of COVID-19, parents frequently joined online parent group sessions from locations where background noise, safety and privacy issues were a concern (e.g., while driving in their car or working at their office). To cope with these issues, they often muted themselves, turned their device camera off or, at times, logged off sessions prematurely. Parents noted that their children’s teachers and other school support staff showed minimal engagement in the program in terms of reviewing weekly tip sheets and prompting and reinforcing children’s social-emotional skill use with peers during remote- or socially distanced in-person schooling.

**Measures**

Within three months of the program ending, parents and children were asked to complete a program feedback form and email it back to the clinicians delivering the parent and child sessions. Time was allocated during the last weekly child and parent session of the program for children and caregivers to complete the feedback forms with clinician support. This was a mandatory session activity for children, however, parents were given the option to complete the measures after session. All parents chose to log off the parent session and to complete the forms at a later time.

On the feedback forms, children and parents were asked the following questions: “What did you like about the Secret Agent Society Program? How did the program help you/your child and/or family? What tough things have you/your child and family had to deal with in the last three-months due to COVID-19 social distancing rules being relaxed/changing? How has the Secret Agent Society Program helped you/your child and family to cope with these changes (if at all)? What did you like about the group program being delivered online? What challenges did you face with the program being delivered online? How would you make the online delivery of the program better? Any other comments...”.

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**Fig. 1** Telehealth Program Delivery Adaptations to the Secret Agent Society Group Program
Results

Missing Data

All five children who participated in and completed the group program returned their feedback forms. Parents of three children completed and returned their forms.

Child feedback

Four children noted that the program helped them to deal with situations such as bullying, and improved their emotion regulation skills (e.g., “If I ever get bullied again I’ll know what to do”, “Trying to ignore bullies. I learned ways to calm down”). The fifth child remarked that he felt more confident to speak up in the group and at school – “raising [my] hand more”. These situations were noted as particularly relevant at a time when social distancing restrictions were lifted due to COVID-19 vaccines being released in the US. With regards to the online program delivery format, two children commented on enjoying virtually socializing with others through the program at a time when they had limited social contact with peers. Two group members noted that the online program delivery format was easier because it eliminated travel time. Another liked being able to show favorite objects to others via the virtual format.

In terms of challenges associated with the online format, two children noted technical glitches being a concern, and two reported that they would have preferred to attend the program in person as there is “less interaction online.” Children’s suggestions for improving the program focused on allowing more time for informal games and activities, rather than teaching and practicing manualized program content. One child requested “playing more board games” while another suggested “watch[ing] movies and talk[ing] to each other.” A third child recommended increasing the length of the program “because it’s really fun”.

Parent feedback

Two parents commented that the telehealth delivery format for the group made attending sessions more accessible and convenient. “It is easier [to attend group] when we work… being on Zoom minimiz[es] the stress” one parent stated. Two parents reported appreciating the availability during the pandemic of a program that incorporated both child and parent components, when most other social skills groups were shut down. In terms of benefits for their children, including adjusting to COVID-19 social distancing restrictions being lifted, two parents noted improvements in their children’s emotion regulation skills, knowledge of coping skills, emotional intelligence, and problem-solving skills. “[My child] is more confident in social situations... many strategies have helped and she made new friends” one mother reported. “[The group] has helped [him] with awareness of his feelings and behavior,” another parent stated. One parent stated that while the transition from virtual to in-person school was challenging, SAS helped their children to make new friends. Two parents also described understanding their children better and developing a common language with them about social-emotional concepts (e.g., “Most of all, the vocabulary [has] come in handy”).

The most frequently cited concern by parents was difficulty finding opportunities for their children to socialize with peers to practice learnt skills, given pandemic restrictions. In this regard, two families noted that an in-person group would have been preferable (e.g., “When done in person...kids can actually practice socializing with each other”). Two parents also suggested the group of five children be subdivided into smaller break-out rooms to provide more opportunities for peer interaction and active participation. Two families noted that it was difficult for their children to remain engaged virtually. Furthermore, one parent commented on the lack of informal socialization opportunities amongst themselves, suggesting that group facilitators create more time without presentation slides so “people can see each other.”

Clinician Feedback

Clinicians were asked to collectively provide open-ended feedback on their experience of delivering the SAS group program via telehealth. Child group facilitators reported that children enjoyed the novelty of the online SAS video game and were engaged with the interactive virtual activities. However, they noted that relative to in-person sessions, it was more difficult to manage behavioral disruptions and inattention during telehealth sessions. Parent group facilitators stated that an advantage of telehealth delivery was the Zoom chat function, which allowed parents to privately ask questions without the fear of embarrassment or judgement from other group members. Parent group facilitators also noted that screen-sharing program content through Zoom was easier than locating, setting up and using a projector to display content in face-to-face sessions. A downside of virtual parent sessions that group facilitators described was the challenge of parents multitasking and being distracted during session. Nonetheless, child- and parent- group facilitators felt that the telehealth format made group therapy more accessible to families.
Discussion

Telehealth interventions have provided a lifeline for many families during the pandemic. Systematic reviews and individual study publications on telehealth group programs for adults with medical and psychiatric conditions such as cancer, chronic obstructive pulmonary disease, opioid use disorder, anxiety disorders and depression (e.g. Gentry et al., 2019), including during the pandemic (e.g. Nauphal et al., 2021), suggest that telehealth group programs can be as acceptable, feasible and effective as those delivered in person. However, to date, there have been no papers published on ASD-specific telehealth programs for youth and caregivers, leading to more questions than answers about the feasibility, acceptability and effectiveness of such interventions. This brief report represents one small step in exploring the feasibility of delivering group social skills training to children with ASD and their caregivers via telehealth in a community outpatient clinic. Given the small sample size and missing parent data, the generalizability of the current findings are questionable, and require significant further empirical investigation. The conservative parent questionnaire response rate (60%) in the group studied likely speaks to the stress and time-pressure that parent group members faced during COVID-19. Clinicians emphasized the importance of parents completing and returning the brief feedback form both in the final weekly parent session and during phone call and email follow-up with families. Nonetheless, parents from two out of five families did not return the form.

The findings from the pilot group partially replicate and extend on those presented by MacEvilly & Brosnan (2020). Specifically, both clinical teams developed procedures to support families experiencing technical difficulties with telehealth and offered the SAS intervention in a briefer session format to optimize children’s attention. In both cases, parents were also tasked with offering end-of-session rewards to children for trying their best in virtual club meetings. In this project, clinician feedback suggested that end-of-session rewards may need to be supplemented with more comprehensive behavioral support plans for some children, such as having in-person caregiver supervision during virtual sessions and implementing clearly specified consequences for lack of child effort. To address challenges with parent session engagement, it is recommended that facilitators set clear ground rules for parents (as well as children) at the outset, including the need for parents’ device cameras to be on and the importance of joining sessions from a safe, distraction-free location (where possible).

Increased program accessibility and convenience were strengths of telehealth delivery noted by clinicians, children and parents in the current pilot group. Similar to the findings reported by Gale et al. (2021), parents and children qualitatively described improvements in children’s emotion-regulation and social skills, although no real conclusions about program effectiveness can be drawn from this study due to the lack of quantitative program outcome data. Consistent with Estabillo et al.’s (2021) study comparing program outcomes for in-person versus telehealth delivered PEERS groups, future research is needed to evaluate whether telehealth-delivered SAS groups are as effective as those delivered in person. Funding is being sought for a randomized controlled trial to evaluate this question, including child-, parent- and teacher-report measures to examine changes in children’s emotion regulation skills and social skills in response to in-person versus telehealth group SAS.

Future research is also needed to examine the impact of factors such as comorbid intellectual disability, co-occurring psychiatric conditions (e.g. Oppositional Defiant Disorder) and parental mental health on telehealth program engagement and effectiveness for children with ASD and their caregivers. Past research (e.g. Chaco et al., 2015; Gopalan et al., 2010; Jones, 2014) has shown these factors pose unique considerations and threats to in-person therapeutic engagement, and similar effects may be found for telehealth service engagement (although were not apparent in this project).

A downside of the telehealth delivery format noted by children and parents was the limited opportunity for informal interactions. At a time when social isolation was heightened by the pandemic, children and parents seemed highly motivated to use the group to connect with each other, in addition to learning specific skills. Thus, it is recommended that structured telehealth group interventions for children with ASD offer opportunities for informal socialization during, between, or after group sessions -especially in circumstances where opportunities for in-person peer socialization are limited. These might include fun online games for children, which also serve as incidental teaching and skill generalization opportunities. Setting up break-out rooms for children to play games in pairs or trios at scheduled session times may enhance their enjoyment and engagement in the group, and help them to forge true friendships with each other. Virtual events such as movie nights, show-and-tell, or trivia challenges may also provide opportunities for children and their parents from geographically disparate locations to connect, and for children to share their knowledge about special interests in socially appropriate ways. The effectiveness of strategies such as these in fostering friendships and enhancing therapeutic outcomes from telehealth group social skills programs requires further empirical investigation.

In summary, the current findings suggest that telehealth delivered group social skills programs are an area worthy of further clinical and research attention beyond COVID-19. Pending further empirical investigation and appropriate
funding through health insurance, education or disability support channels, online social skills groups may help to bridge the critical gap in evidence-based service access for families of children with ASD.

Declarations

Conflict of Interest Dr. Renae Beaumont is the founder of the Secret Agent Society Program and receives royalties on the sale of all program materials and training courses. The authors have no additional conflicts of interest to declare.

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