2022

Examining the Effects of an Online Group Social Skills Program on Emotion Regulation Skills for Adolescents and Young Adults with an Autism Spectrum Disorder

Breanna Perron
Minnesota State University, Mankato

Recommended Citation

Examining the Effects of an Online Group Social Skills Program on Emotion Regulation Skills for Adolescents and Young Adults with an Autism Spectrum Disorder.

Breanna Perron

A Thesis Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

in

Clinical Psychology

Minnesota State University, Mankato

Mankato, Minnesota

May 2022

5/5/2022

Examining the Effects of an Online Individual Social Skills Program on Emotional Regulation Skills for Adolescents and Young Adults with an Autism Spectrum Disorder.

Breanna Perron

This thesis has been examined and approved by the following members of the student's committee.

_____
Advisor

_____
Committee Member

_____
Committee Member

_____
Committee Member

Abstract

Difficulties with emotion regulation and social skills have been identified as core deficits for individuals with an autism spectrum disorder (Turcotte et al., 2016). These deficits have been shown to lead to a multitude of social consequences and difficulties across the lifespan when unaddressed (Shattuck et al., 2011). Therefore, it is vital to establish effective interventions to teach the skills necessary to combat those deficits. The present study uses a behavioral skills training model to teach emotion regulation online using video modeling. The results provide potential support for increasing emotion regulation through the teaching of social skills. There were also improvements in reducing problematic internalizing behavior.

Keywords: Autism Spectrum Disorder, Social Skills, Emotion Regulation, Behavioral Skills Training, Video Modeling, Online.

Examining the Effects of an Online Group Social Skills Program on Emotion Regulation

Skills for Adolescents and Young Adults with an Autism Spectrum Disorder

Currently, there is a lack of social skills training programs available for adolescents and adults with an autism spectrum disorder (ASD; Turcotte et al., 2016). ASD is a "complex developmental condition that involves persistent challenges in social interaction, speech and nonverbal communication, and restricted or repetitive behaviors" (American Psychiatric Association, 2022, para. 1). The effects of ASD and the severity of symptoms differ within each individual person. According to the Center for Disease Control and Prevention (CDC, 2016), about 1 in 44 children are diagnosed with ASD each year. The American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V; 2013) reports that an estimated 1% of the world population is diagnosed with ASD. While there is such a high prevalence rate of ASD, there appears to be a lack of resources and services for adolescents and young adults. Shattuck et al. (2011) revealed that 39.1% of youths with ASD surveyed were not receiving services after leaving high school. This again reinforces that children with ASD are prioritized but are neglected once they reach young adulthood.

The American Academy of Pediatrics and the National Research Council (Hyman et al., 2020) found that communication and behavior interventions such as Applied Behavior Analysis and Social Skills Training are the most effective interventions for children with ASD. The National Autism Center recommends early and intensive intervention for children with ASD (2015). However, there is a lack of emphasis on resources and services for those children as they transition into adolescence and adulthood (Turcotte et al., 2016). Turcotte and colleagues (2016) reported that social skills training is the highest unmet need for adolescents and adults with ASD. While early intervention for children with ASD is essential, those children will get older and will

still need intervention into their teens and adulthood. Researchers must continue to search for effective social and communicative interventions for adolescents as they grow older. It is equally imperative that researchers find more ways to make those interventions accessible to more people. The COVID-19 pandemic has had long-lasting effects on communities around the world. Providing alternative modalities to treatment may become necessary. Research indicates a high interest in telehealth services (Fischer et al., 2020) and high comparability to traditional interventions (de Nocker & Toolan, 2021). It is essential that future research evaluates the effectiveness of online interventions, social skills training, and the impact of group interventions for adolescents and young adults.

Social Skills and Emotion Regulation

Social skills training, like emotion regulation, and services that focus on communication are critically important. Social skills are particularly important for young adults because many individuals with ASD struggle to find employment in adulthood (Turcotte et al., 2016). As employment is a crucial feature of success in society, the skills necessary to obtain employment, such as emotion regulation, are vital for individuals with ASD to acquire. Thomson et al. (2015) conducted a study that included 10 participants ages 8 to 12-years-old with a diagnosis of ASD. They implemented a cognitive-behavior therapy (CBT) program, the *Secret Agent Society: Operation Regulation*. This program addressed emotion regulation (ER) skills in children with ASD. Each session was completed with the child, a parent, and a researcher. The sessions consisted of a progress check, different multimedia activities, modeling and role-playing, education on emotion regulation based on cognitive behavior therapy, mindfulness and relaxation activities, strategies to promote generalization of skills, and a token reinforcement system. The sessions began with basic emotional awareness, such as identifying emotions in

themselves and others. They progressed to implementing relaxation strategies and ended with teaching ER skills to cope with difficult emotions like anxiety or anger. Parents were encouraged to participate in the sessions when appropriate. Some of those situations included discussing difficult situations or emotions with the child or brainstorming different ways to utilize the skills at home. The participants' parent rated their child on several different scales testing for ER skills, anxiety, and behavior assessments for adaptive skills. The children were assessed using the Children's Emotion Management Scale (CEM). Results indicated that the parents reported improvements in emotional lability, internalizing symptoms, behavioral dysregulation, and adaptive behavior. The study found significantly more overall inhibition and less overall dysregulation across three different emotions (anger, anxiety, sadness) for the participants. The children provided more appropriate behaviors for each scenario for the characters in the Secret Agent Society scenarios. They also provided more appropriate coping strategies for the characters. The majority of the participants showed overall improvement. This study demonstrated some positive outcomes for the use of CBT and social stories to address emotion regulation difficulties within children.

The National Autism Center (2020) reported that Social Skills Training Packages are an established intervention for adolescents and young adults (individuals under the age of 22) with ASD. Laugeson et al. (2012) evaluated the effects of UCLA's PEERS program on social skills for adolescents from the ages of 12 to 17 years of age. The program ran once a week for 14 weeks, with 14 participants receiving treatment immediately and 14 participants receiving treatment after a 14-week wait period. At least one parent had to be at the parent sessions. They were responsible for helping the teen with homework assignments and providing social coaching when needed. Lessons included: conversational skills, electronic communication, developing

friendship networks, appropriate use of humor, peer entry strategies, peer exiting strategies, how to have successful gatherings, good sportsmanship, handling teasing, handling bullying, changing reputations, resolving arguments with friends, and handling rumors and gossip. The PEERS program started by reviewing the homework and answering any questions, then transitioned to the lesson of the week, which included modeling and rehearsal of different situations. Homework was then assigned for the following week. Parent and teen sessions occurred simultaneously but in separate rooms. After the session finished, the teens and parents reunited in the same room and the teens gave the parents a review of the session. Results indicated that after the PEERS program, participants in the treatment group significantly improved their knowledge of social skills, increased the frequency of hosted get-togethers, and improved overall social skills, as reported by the parents.

Laugeson et al. (2015) conducted a second study evaluating the effects of UCLA's PEERS program on social skills. This time it was with 22 young adults between the ages of 18 and 24 with a diagnosis of ASD. The program ran for 16 weeks. Results indicated that the treatment group significantly improved their overall social skills, frequency of social engagement, and social skills knowledge. They also showed that symptoms of ASD related to social responsiveness had significantly reduced following the PEERS program.

There has been much success in the area of social skills and emotion regulation. However, there is a further need to investigate different interventions for teaching social skills and emotion regulation. Behavioral Skills Training is a technique that has been shown to be an effective intervention.

Video Modeling and Behavioral Skills Training

Behavioral Skills Training (BST) is a behavioral technique often used by Applied Behavior Analysts. The training is broken into four parts and used to teach new skills like social skills. Those four parts include instruction, modeling, rehearsal, and feedback. The instruction portion involves giving the participant clear directions on what they should do. Then, the professional models the task. Modeling can be delivered in vivo or via prerecorded video recordings. Rehearsal allows the participants to practice the skill that was just modeled to them. This can be done through role-play or individual practice. Finally, the professional provides feedback to the individual based on their performance during rehearsal (Aguirre et al., 2014).

BST has been used to teach several different skills to individuals with an autism spectrum disorder. Kos (2019) used a BST model to teach children with ASD help-seeking behaviors when lost. The instruction step of the study instructed the participants on how to discriminate between police officers and other community members. The researchers then modeled how to identify when they were lost and how to seek help. Participants then rehearsed those situations and were provided feedback by the researchers. Results indicated that one participant needed gestural prompting to complete the task, but two of the three participants were able to seek help from police officers independently.

The use of video modeling has been used to teach social skills successfully. Plavnick et al. (2013) conducted a study with four adolescents between 13- and 16-years-old with ASD. The study utilized video-based instructions to teach social skills in a group setting to adolescents with ASD. The videos consisted of scenarios modeled by researchers and then shown to the participants. All participants reached mastery of the targeted social skill after the video modeling. The participants also maintained those skills after the video aspect was faded out.

Results suggested that video-based group instruction could be an effective way to teach complex social skills to adolescents with ASD.

Group and Online Interventions

Group instruction has been used to teach social skills to young children in the past. Group instruction allows for in vivo opportunities for social interaction and fosters discussion amongst peers that may not occur in a one-on-one interaction with a researcher. Kroeger and colleagues (2007) conducted a study with two different social skills groups comprised of 25 4- to 6-year-old children diagnosed with ASD. The first group was a direct teaching group, and the second was a play activities group. The direct teaching group used video modeling to teach play and social skills. The play activities group engaged in unstructured play during the sessions. Both groups meet for an hour three times a week for five weeks. The results showed that the participants in the direct teaching group increased in social skills more than those in the unstructured play groups. Barry et al. (2015) also conducted a group study teaching social skills to adolescents with ASD. Six males ages 12- to 17-years-old were included in the study. They conducted the study using a technique similar to a BST model. Each session started with a warm-up activity to get to know each other, followed by an instructional period to teach new skills. They then transitioned to a period of snack time to allow for unstructured practice of the new skills. After this, guided role-play and active practice of the new skills began. The sessions were wrapped up by a review of the skills and a discussion of the active practice. Homework was assigned to promote generalization in the home. The skills taught include getting to know others and starting conversations, turn-taking in conversation and activities, self-monitoring of appropriate and inappropriate comments, perspective-taking, nonverbal communication and intentions behind

comments, understanding emotion in self and others, and social problem-solving. Results indicated modest improvement in behavioral measures following the 8-week intervention.

In the last ten years, research has shown some support for computer-assisted social skills programs, primarily for children with ASD (Hopkins et al., 2011; & Rice et al., 2015). Although effective, these programs tend to be very long, and there is little to no data on the efficacy of these programs for adolescents and adults with ASD. With the rise of telehealth services due to the effects of the COVID-19 pandemic, finding effective ways to provide online interventions will be a critical area to research further. Fischer et al. (2020) surveyed 2555 US adults, and the results showed that 49% of participants expressed interest in the use of telehealth in the future. Research suggests that telehealth programs are highly acceptable to the general population and are comparable to traditional interventions (de Nocker & Toolan, 2021). A review of the available research indicated that quality services can be provided via telehealth and online services and could potentially be helpful to individuals with ASD and their families (Sutherland et al., 2018). Sutherland and colleagues (2018) also emphasized the lack of literature on online interventions and the need for more research in the future on the efficacy of online training and interventions.

Importance of the Current Research

Continued research on the effectiveness of various interventions for adolescents and young adults with ASD is important due to the current lack of services for that population. Children will continue to grow and will not stop needing services once they reach adulthood. The effectiveness of services and different modalities must be examined in the future.

The current study aims to evaluate the effects of a group online social skills program on emotion regulation skills for adolescents and young adults with an autism spectrum disorder. The

goal of this research is to add to the literature on the effectiveness of social skills programs on emotion regulation and pave the way for online interventions via software like Zoom©. Expanding the research in these areas has the potential to provide better interventions and treatment for adolescents and young adults in the future.

Research Questions

Previous research has indicated that group interventions can be effective (Kroeger, Schultz, & Newsom, 2007; Plavnick et al., 2013). Literature also suggests that online interventions are just as effective as traditional face-to-face interventions (de Nocker & Toolan, 2021; Fischer et al., 2021). Social skills training appears to be critical in the success of individuals with ASD (Turcotte et al., 2016), and there is currently a need for more research about the effectiveness of social skills training for adolescents and young adults with ASD (Thomson et al., 2015; National Autism Center, 2015; Laugeson et al., 2011; Ko et al., 2019). This research prompted the following questions: Will there be an increase in appropriate emotion regulation skills after implementing a group online social skills program with adolescents and young adults with ASD? This question extends previous research on social skills training, group interventions, and online interventions.

<div align="center">

Methods

</div>

Participants

The participants included two adolescents who were both 17-years-old with a diagnosis of autism spectrum disorder. The study was advertised through social media posts and emails to local and state ABA companies. Participants were also recruited through schools in the Mankato and surrounding areas. Participants were required to have a diagnosis of an autism spectrum disorder, demonstrate a deficit in social skills, have a 2nd grade or higher reading level, and

demonstrate a low rate of mild deviant behaviors. Five participants responded to outreach attempts. However, only two wished to continue and met inclusion criteria. Those two were therefore included in this study. The first participant identified as Asian and male. The second participant identified as Caucasian and female. For confidentiality purposes, both participants were given pseudonyms. The male participant is referred to as "John," and the female participant is referred to as "Jane." No compensation was provided to the participants.

Materials

Computers with Wi-Fi and Zoom© were used to conduct all sessions. The Vineland-3 was used to determine inclusion criteria for the study. The dependent measures for the study were the DERS and SSISRS.

Vineland-3: The Vineland-3 was used to assess the general social and communication skills of all possible participants. The Vineland-3 measures adaptive behaviors to assist in diagnosing and creating a treatment plan for various developmental and intellectual disabilities (Sparrow et al., 2021; Vineland Adaptive Behavior Scale, n.d). Scores on the Vineland-3 were used as an inclusion criterion for the study. Participants that did not score at least below the 25th percentile were not included in the study. The parent/guardian of the participant was asked the questions from the social and communication domains of the Vineland-3 by a research assistant via Zoom©. This was arranged after signed consent and assent were obtained from each participant and their parent or guardian. The Vineland-3 took approximately one hour to administer. The remaining two assessments were conducted during pretests and posttests for each participant. See Appendix A.

Difficulties in Emotion Regulation Scale (DERS): The DERS is a 36-item self-report form with statements about six different forms of emotion regulation skills (NovoPsych, 2021).

The DERS was reported to have high internal consistency, good test–retest reliability, and adequate construct and predictive validity (Gratz & Roemer, 2003). The DERS is divided into six subscales: unwillingness to accept emotional response (nonacceptance), difficulty in engaging with goal-directed behavior (goals), difficulty in regulating behavior (impulse), lack of emotional awareness (awareness), lack of access to strategizing (strategies), and lack of emotional clarity (clarity; Hallion et al., 2018). Participants rated statements on a 5-point scale, 0 (almost never) to 5 (almost always). Examples of statements used in the DERS included "I am attentive to my feelings" and "when I am upset, I can never get anything done." The DERS took approximately 15 to 20 minutes to administer. See Appendix B.

Social Skills Improvement System Rating Scale (SSISRS): The SSISRS assesses social skills, problem behavior, and academic competence for ages 3 to 18 years old (Gresham & Elliott, 2008). Participants were asked to score questions on a 4-point scale of never, seldom, often, and almost always. Examples of statements used in the SSISRS included: "I am nice to others when they are feeling sad" and "I try to make new friends." The SSISRS took approximately 10 to 15 minutes to administer. See Appendix C.

Procedure

The DERS and the SSISRS were administered to participants as pretests and posttests. Participants were placed into a dyad group social skills program with two participants. The primary independent variable is the online group social skills program.

Intake. Consent and assent were obtained from participants and their parent/guardian. Once completed, the Vineland-3 was administered to the participant's parent/guardian by the primary and student investigators with the assistance of student researchers through Zoom[©].

Online Group Social Skills Program. After the pretests were completed, participants began the group social skills program through Zoom©. This program consisted of four 60-minute group social skills sessions with a student investigator and two research assistants. The objectives of each session consisted of: Define a specific emotion, describe how that emotion influences behavior, discuss how that emotion influences others' views about us and our behavior, and demonstrate the ability to identify various emotions. Each session focused on the following (in order): Overview of emotions, happiness/excitement, sadness/anger, and flexibility/complexity of emotions. Each session began with a 5–10-minute introduction of the researchers and the participants and a discussion about the session topic for that week. This was followed by a model of appropriate behavior in response to the emotion and an inappropriate response. The group then rehearsed appropriate responses and discussed how they should respond to a given situation. Feedback was provided to the participants on their decisions. The end of the session consisted of answering any questions the participants had and discussing the emotions of the session. The researchers played prerecorded videos for the modeling portion of the session. These scenarios demonstrated both appropriate and inappropriate responses when experiencing different emotions. See Appendix D for the scripts of each lesson.

Results

Prior to the start of the study, the participants were assessed on the communication and social domains of the Vineland-3. John scored an 83 on the communication domain. This falls in the 12th percentile for his population. He scored well on vocabulary, understanding questions, use of grammar, following instructions, attending to entertaining material, and writing. However, some areas of difficulty for this participant included attending to informational material, expressing ideas and experiences, and reading. John scored a 75 on the social domain, putting

him in the 14th percentile among his peers. He scored high on questions regarding social rules and doing things with peers. For example, turn-taking, following the rules for games, making plans with peers in advance, and obtaining schedule information for events like movies or sports. However, he struggled with areas like conversational skills and interpersonal appropriateness. These questions involved moving from one topic to another with ease, staying on topic, using eye contact and proper bodily distance when speaking to someone, and talking without interrupting.

Jane scored an 84 on the communication domain. This falls in the 13th percentile among her peers. She scored well on vocabulary, understanding questions, use of grammar, following instructions, reading and writing skills, and attending to entertaining and informational materials. However, Jane struggled in the area of expressing ideas and experiences. Jane scored a 58 on the social domain, putting her in the 14th percentile among her peers. She scored high on questions regarding social rules and doing things with peers. For example, sharing, turn-taking, following rules for games, planning activities with peers, and going places with peers. However, Jane struggled with obeying time limits, conversational skills, interpersonal appropriateness, and recognizing emotions. For example, participating in conversations that do not interest her, speaking in turn with appropriate tone and volume, and recognizing other people's emotions.

Results for the Difficulties in Emotion Regulation Scale (DERS) indicated that John increased from a score of 3 to 13 from pretest to posttest. Higher scores indicate greater difficulties with emotion regulation. He increased in the areas of nonacceptance, goals, and impulse. Nonacceptance increased from 12 to 13, goals from 16 to 18, and impulse from 10 to 12. He decreased in the areas of awareness, strategies, and clarity. Awareness decreased from 25 to 10, strategies from 18 to 16, and clarity from 12 to 9. Results can be seen in Figure 1. Jane

increased from a score of 30 to 34 on the same measurement. She increased in the areas of goals, impulse, and awareness. Goals increased from 10 to 18, impulse from 2 to 6, and awareness from -16 to -15. She decreased in the areas of nonacceptance, strategies, and clarity. Nonacceptance decreased from 15 to 11, strategies from 19 to 15, and clarity from 0 to -1. Results can be seen in Figure 2.

Results for the Social Skills Improvement System Rating Scale (SSISRS) showed an overall increase for John from 79 at pretest to 95 at posttest. However, most subsections remained within the same range. All scores were based on a normative sample. The social skill behaviors all remained within the average range, with the exception of responsibility increasing from below average to average and engagement remaining in the below average range. The problem behavior scores all remained within the average range, with the exception of internalizing decreasing from above average to average. See Figures 3 and 4 for results. Jane showed an overall increase from 80 at pretest to 96 at posttest. Her scores varied more than John's. Her social skill behavior scores for cooperation, empathy, and self-control all remained in the average range from pretest to posttest. Engagement remained below average. Communication and assertion both saw an increase from below average to average. Jane's problem behavior scores varied as well. Her hyperactivity/inattention and internalizing scores remained above average from pre to post test. The externalizing scores remained average. We saw an increase in her bullying problem from average to just above the cutoff for above average (a difference of 1 point). Results can be seen in Figures 5 and 6.

Discussion

Both participants showed increases in the DERS from pretest to posttest, and for the SSISRS, both participants increased their social skills scores and decreased their internalizing

scores for problem behaviors. The DERS results indicate that the participants reported an increase in difficulties regulating emotions. The SSISRS results indicated a slight improvement in social skills and potentially an increase in comfortability discussing emotions. Despite the inconsistency with the hypothesis, these findings could be attributed to an increase in awareness of their emotions.

John's scores on the DERS increased in the areas of nonacceptance of emotional responses and impulse control difficulties. For the area of nonacceptance, John scored higher at posttest on statements including "When I'm upset, I feel guilty for feeling that way" and "When I'm upset, I become irritated at myself for feeling that way." For the area of impulse control, John scored higher on statements including "When I'm upset, I feel out of control" and "When I'm upset, I feel like I can remain in control of my behaviors." Prior to the intervention, he scored lower on those measures, indicating that he had his emotions under control and understood how he was feeling. However, after the implementation of the intervention, John scored higher on those measurements. Higher scores for impulse control could be attributed to him becoming more aware of his emotions and how he was impacted by them. The increased scores at posttest for nonacceptance could reflect an increase in awareness of how his emotions impact other people. By increasing that awareness, he could have become more guilty or upset with himself when his emotions negatively impact others. These findings align with Laugeson and colleagues (2015) conclusions that their role-play social skills demonstration increased participants' social skills knowledge.

Jane's scores on the DERS increased in the areas of difficulty in goal-directed behavior and impulse control difficulties. For difficulty in goal-directed behavior, Jane scored higher at posttest on statements including "When I'm upset, I have difficulty getting work done" and

"When I'm upset, I have difficulty concentrating." For the area of impulse control, Jane scored higher on statements including, "When I'm upset, I feel out of control" and "When I'm upset, I become out of control." Similar to John, the higher scores at posttest in the impulse control category for Jane could be attributed to an increase in awareness after the implementation of the intervention. These findings also fall in line with Laugeson and colleagues (2015) conclusions stated previously.

On the SSISRS, John showed an overall increase in social skills scores at posttest. His most significant areas of improvement included cooperation, assertion, and self-control. This indicates that John rated himself higher at posttest on aspects of social skills like working with others, making sure his voice is heard, and understanding when he needs to control his emotions and actions. The most significant increase at posttest was self-control, in which scores increased from 8 to 14 after the intervention. This indicates that the intervention may have increased self-control over his emotions. While the exact cause of this improvement cannot be concluded, this result could be attributed to the BST model and the lessons taught throughout the intervention. Those lessons could have helped him recognize the impact his behaviors have on others and try to control those behaviors. There were two categories that John scored lower on from pretest to posttest, but both stayed within the same range of scores. Empathy stayed in the average score range, and engagement stayed below average. Jane scored higher on the SSISRS at posttest in every area for social skills except for self-control. Self-control maintained the same score before and after the intervention. This increase in social skills indicates that Jane rated herself higher on communicating, cooperating with others, taking responsibility, and engaging with others at posttest, which is consistent with our initial hypothesis. The most significant increase in Jane's posttest score was assertion, increasing from 9 (below average) to 13 (above average). This could

be attributed to the participant becoming more aware when she feels unheard or ignored and speaking up for herself.

The second part of the SSISRS was the problem behavior component. Both participants showed stagnant or higher scores at posttest for everything but internalizing. The increase or maintenance of scores at posttest for externalizing, bullying, and hyperactivity/inattention could be attributed to the participants becoming more aware of how their emotions and behavior impact others and rating themselves higher posttest due to that awareness. Internalizing scored lower at posttest for both participants, which aligned with expected results. A decrease in internalizing behaviors indicates that the participants felt less withdrawn by the end of the study. This could be attributed to the BST model and becoming more comfortable discussing their emotions in the group setting with time. This aligned with the results found in Thomson, Roisa, and Weiss' (2015) study. They also found that their participants decreased in internalizing behaviors post-intervention.

Anecdotally, increases in participant engagement were observed through direct observation by reviewing all recorded sessions. Throughout the intervention, both participants had high levels of involvement and on-topic participation. This was measured by observing on-topic versus off-topic responses from the participants. Off-topic was defined as any comment or question that did not align with the current conversation on emotions. During session 1, there was only one off-topic response made by the participants with eight on-topic responses. Session 2 increased to 42 on-topic responses. There were nine off-topic responses, with a maximum of four off-topic responses within a 10-minute interval. Session 3 produced less conversation with only 18 on-topic remarks. There were two off-topic conversations during this session, with no more than one within a 10-minute interval. Finally, session 4 increased to 42 on-topic responses

and only one off-topic response. This improvement aligns with some of the results seen in the social skills portion of the SSISRS.

Limitations and Future Directions

Overall, there is some evidence to support minor improvements in emotion regulation due to the intervention, although these improvements were less than anticipated. One reason why results were less than expected is the fact that the study relied on self-report assessments. Self-report allows for bias and subjectivity. This makes it difficult to see if the participants are really increasing or decreasing or if they just had a bad or good day during the assessments. People are also more likely to rate themselves higher on items that make them seem more socially desirable. For example, an item that states 'I say "thank you" when someone helps me' is more likely to be scored higher because the person knows this makes them look better. On the other hand, people are more likely to score themselves lower on something that may be socially unacceptable. For example, rating themselves on behaviors of yelling or hitting someone are more likely to be lower. Future studies should use a secondary source such as a parent or guardian to report changes in social behaviors. Future studies should also assess different ways to measure the changes in emotion regulation skills in real social situations.

The DERS measurement may have contributed to the issues stated above. While the assessment does measure the skills it claims to measure, the design of the measurement may not be appropriate for the targeted population. There is not a lot of psychometric information for the young adult and adolescents with ASD population. Future studies could consider using the DERS as a part of the inclusion criteria. Future studies could also assess whether there is a parent/caregiver modification for the DERS to get information from a secondary source. This could assist with the issues seen concerning self-report.

Another limitation of the study is the number of participants. With only two participants in the group, it is difficult to make any conclusions about the impact of the intervention. The changes we did observe could have been due to chance. Increasing the number of participants would allow for higher statistical power. The scores from pretest and post-intervention could be analyzed for statistical significance. Ideally, 4 to 5 groups of 5 participants would be enough to provide the data needed to analyze if the intervention has the impact we believe it could. Future studies should increase the number of participants included in the study.

Originally, a follow-up measurement was to take place 1-month post intervention. A limitation for this study is that there was no follow-up data collected. The current study was also much shorter in duration than intended. Future studies should look to increase the length of the intervention and measure participant's skills in a follow-up assessment after the completion of the intervention.

Finally, the BST model utilized in this intervention does not have a standardized nature. While the steps involved are standard, much of the session is discussion-based. We did not implement a way for participants to rehearse in a naturalistic setting. This made it difficult to determine the ability of the participants to emit the behaviors. While this method may not be truly standardized, it may be helpful to collect treatment adherence and fidelity data on this measurement. Future studies should also allow for rehearsal in a natural setting in order to promote generalization.

Overall, the results found within this study are consistent with current literature. While there is limited support for this online social skills intervention, the improvements seen in internalization, social skills, and emotional awareness warrant further investigation into the use of social skills to teach emotion regulation for adolescents and young adults.

References

Aguirre, A., O'Neill, J., Rehfeldt, R. A., & Boyer, V. (2014). Behavioral interventions for complex communication and social skills in adults with autism spectrum disorders. In M. Tincani & A. Bondy (Eds.), *Autism spectrum disorders in adolescents and adults: Evidence-based and promising interventions* (pp. 93–117). The Guilford Press.

American Psychological Association. (2022). *Autism and autism spectrum disorders*. American Psychological Association. Retrieved April 25, 2022, from https://www.apa.org/topics/autism-spectrum-disorder

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013.

Barry, T. D., Goodlad, J. K., Tomeny, T. S., & Fair, E. C. (2015). Group social skills intervention for adolescents with Asperger syndrome or high-functioning autism spectrum disorder: Curriculum, process, and outcomes. In M. F. Shaughnessy (Ed.), *Asperger syndrome: Risk factors, cognitive-behavioral characteristics and management strategies; Asperger syndrome: Risk factors, cognitive-behavioral characteristics and management strategies* (pp. 181-196, Chapter viii, 220 Pages). Nova Biomedical Books, Hauppauge, NY.

Centers for Disease Control and Prevention. (2018). *Data & Statistics on Autism Spectrum Disorder*. Retrieved from https://www.cdc.gov/ncbddd/autism/data.html

de Nocker, Y. L., & Toolan, C. K. (2021). Using telehealth to provide interventions for children with ASD: A systematic review. *Review Journal of Autism and Developmental Disorders.*

Fischer, S. H., Ray, K. N., Mehrotra, A., Bloom, E. L., & Uscher-Pines, L. (2020). Prevalence and Characteristics of Telehealth Utilization in the United States. *JAMA Network Open, 3*(10):e2022302

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. Journal of psychopathology and behavioral assessment, 26(1), 41-54.

Gresham, F. & Elliot, S. N. (2008). Social Skills Improvement System Rating Scale. (n.d.) Retrieved January 20, 2021, from https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Behavior/Social-Skills-Improvement-System-SSIS-Rating-Scales/p/100000322.html#products.

Hallion, L. S., Steinman, S. A., Tolin, D. F., Diefenbach, G. J. (2018). Psychometric properties of the Difficulties in Emotion Regulation Scale (DERS) and its short forms in adults with emotional disorders. *Frontiers in Psychology 9,* 539.

Hopkins, I. M., Gower, M. W., Perez, T. A., Smith, D. S., Amthor, F. R., Wimsatt, F. C., & Biasini, F. J. (2011). Avatar assistant: Improving social skills in students with an ASD through a computer-based intervention *Journal of Autism and Developmental Disorders, 41*(11), 1543-1555.

Hyman, S. L., Levy, S. E., Myers, S. M., & Council on Children with Disabilities, Section on Developmental and Behavioral Pediatrics. (2020). Identification, evaluation, and management of children with an autism spectrum disorder. *Pediatrics*,*145*(1), 2019-3447.

Ko, J. A., Miller, A. R., & Vernon, T. W. (2019). Social conversation skill improvements associated with the Social Tools And Rules for Teens program for adolescents with autism spectrum disorder: Results of a randomized controlled trial. *Autism*, *23*(5), 1224–1235.

Kos, G. (2019). Using behavioral skills training to teach children with autism to seek help from law enforcement officers when lost. *Cornerstone: A collection of Scholarly and Creative Works for Minnesota State University, Mankato.*

Kroeger, K. A., Schultz, J. R., & Newsom, C. (2007). A comparison of two group-delivered social skills programs for young children with autism. *Journal of Autism and Developmental Disorders*, *37*(5), 808–817.

Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: the UCLA PEERS program. *Journal of Autism and Developmental Disorders*, *42*(6), 1025–1036.

Laugeson, E. A., Gantman, A. Kapp, S. K., Orenski, K., Ellingsen, R. (2015). A randomized controlled trial to improve social skills in young adults with autism spectrum disorder: The UCLA PEERS Program. *Journal of Autism and Developmental Disorders, 45*, 3978-3989.

National Autism Center. (2020). *Autism interventions*. National Autism Center at May Institute. Retrieved April 25, 2022, from https://nationalautismcenter.org/autism/autism-interventions/

NovoPsych. (2021, July 4). *Difficulties in emotion regulation scale (DERS)*. NovoPsych. Retrieved January 20, 2022, from https://novopsych.com.au/assessments/formulation/difficulties-in-emotion-regulation-scale/

Plavnick, J. B., Sam, A. M., Hume, K., & Odom, S. L. (2013). Effects of video-based group instruction for adolescents with an autism spectrum disorder. *Exceptional Children*, *80*, 67-83.

Rice, L. M., Wall, C. A., Fogel, A., & Shic, F. (2015). Computer-assisted face processing instruction improves emotion recognition, mentalizing, and social skills in students with ASD. *Journal of Autism and Developmental Disorders*, *45*(7), 2176 - 2186.

Shattuck, P. T., Wagner, M., Narendorf, S., Sterzing, P., & Hensley, M. (2011). Post–high school service use among young adults with an autism spectrum disorder. *Arch Pediatr Adolesc Med.*, *165*(2), 141–146.

Sparrow, S. S., Cicchetti, D. V., & Saulnier, C. A. (2021). Vineland Adaptive Behavior Scale. (n.d.) Retrieved January 20, 2021, from https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Behavior/Adaptive/Vineland-Adaptive-Behavior-Scales-%7C-Third-Edition/p/100001622.html

Sutherland, R., Trembath, D., Roberts, J. (2018) Telehealth and Autism: A systematic search and review of the literature. International Journal of Speech-Language Pathology. 20(3), 324-336.

Thomson, K., Riosa, P. B., Weiss. J. A. (2015). Brief report of preliminary outcomes of an emotion regulation intervention for children with autism spectrum disorder *Journal of Autism and Developmental Disorders, 45*(11), 4387-3495.

Turcotte, P., Mathew, M., Shea, L. L., Brusilovskiy, E., Nonnemacher, S. L. (2016). Service needs across the lifespan for individuals with autism. *Journal of Autism and Developmental Disorders, 46* (7), 2480-2489.

Figure 1

John's DERS Assessment
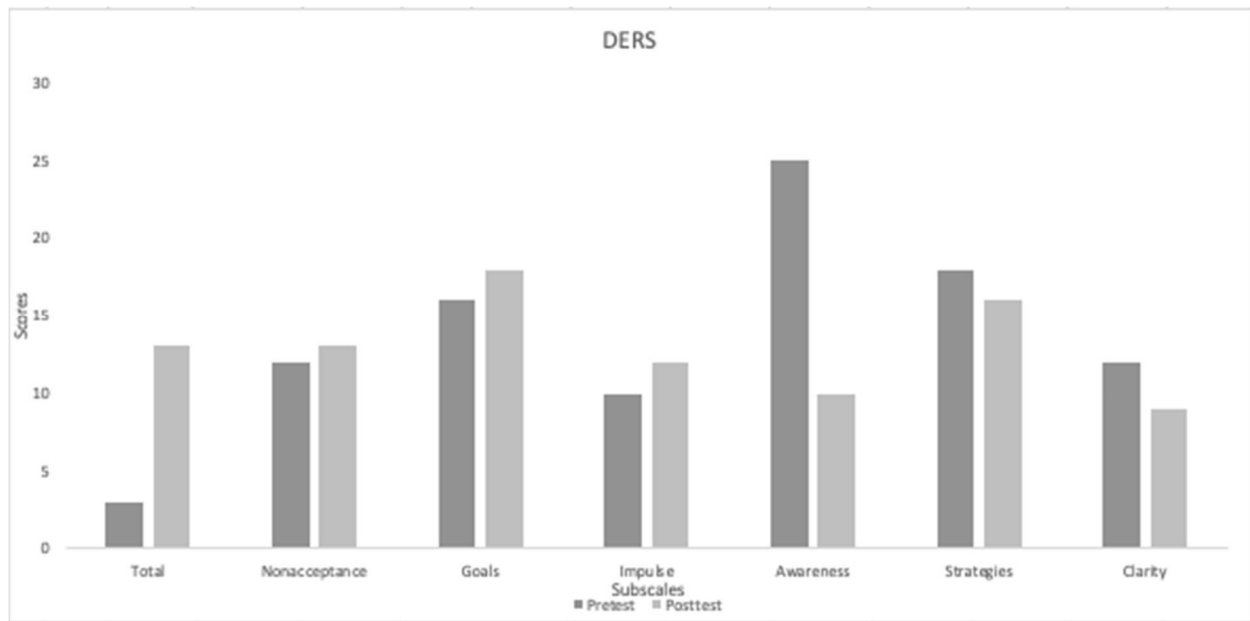
Note. Pretest and posttest comparison.

Figure 2

Jane's DERS Assessment
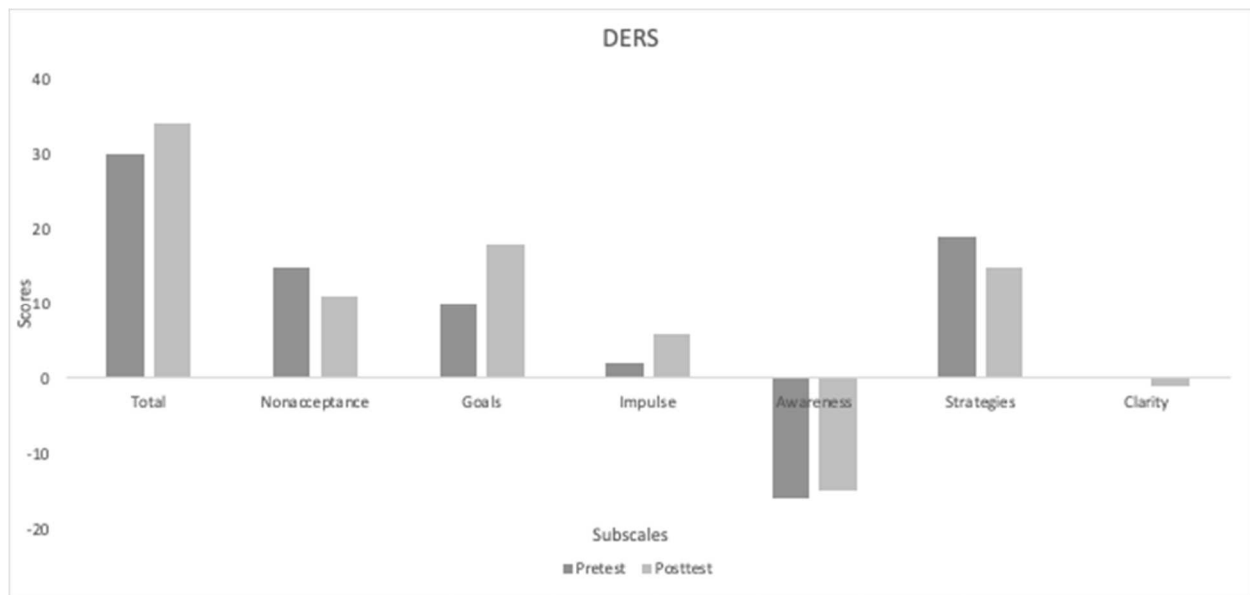
Note. Pretest and posttest comparison.

Figure 3

John's SSISRS Social Skills Assessment
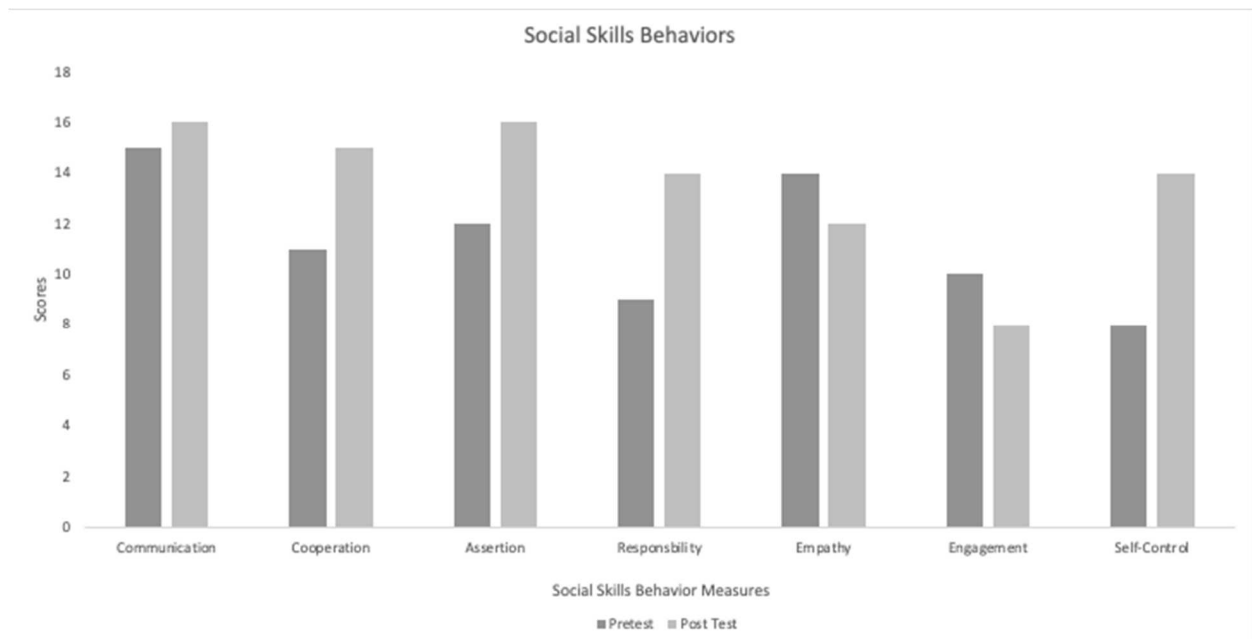
Note. Pretest and posttest comparison.

Figure 4

John's SSISRS Problem Behavior Assessment

Note. Pretest and posttest comparison.

Figure 5

Jane's SSISRS Social Skills Assessment

Note. Pretest and posttest comparison.
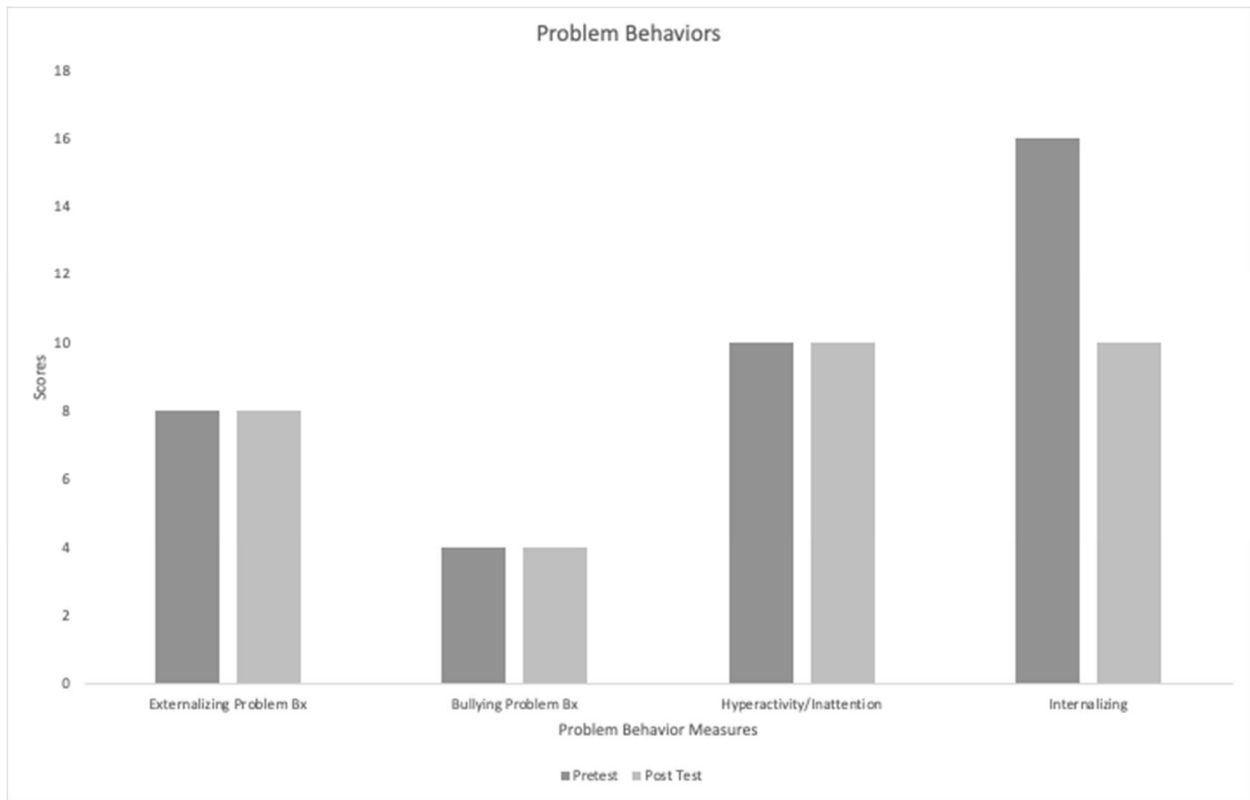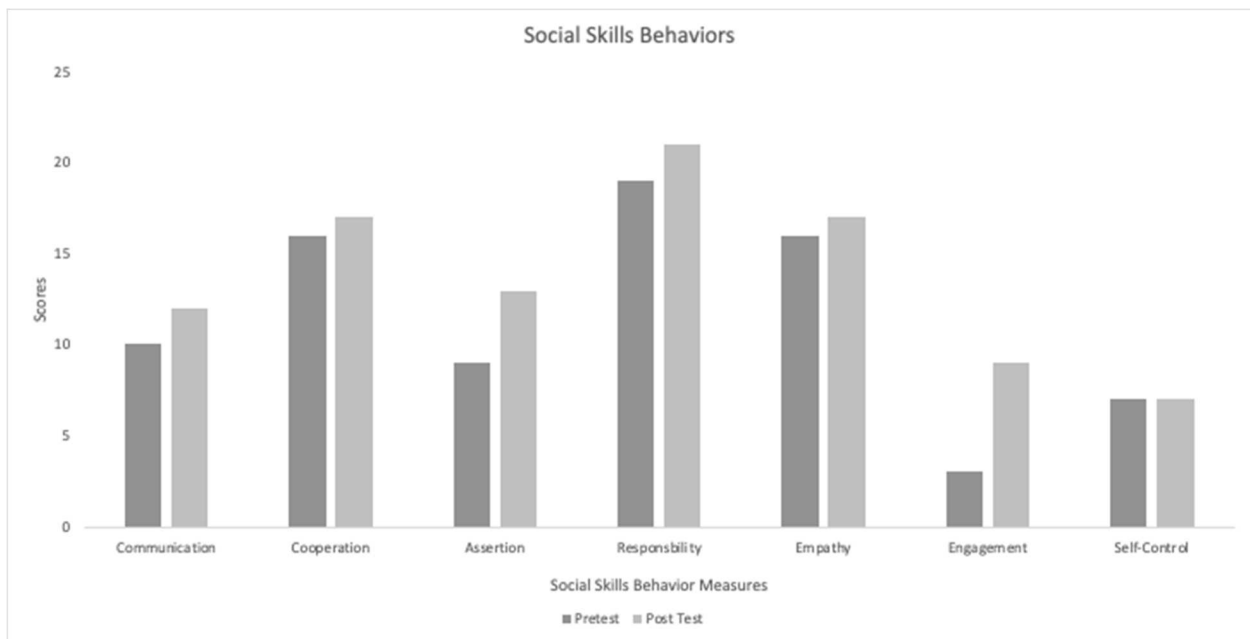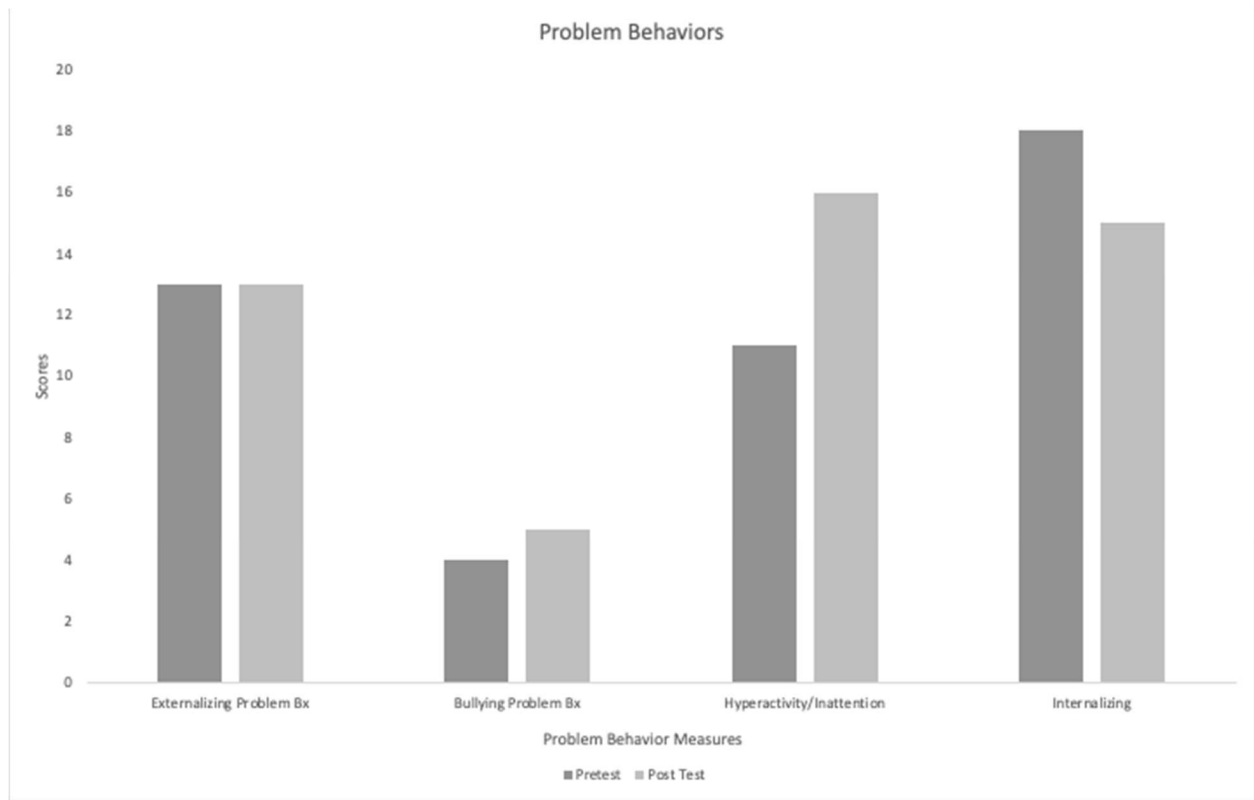
Figure 6

Jane's SSISRS Behavior Problem Assessment

Note. Pretest and posttest comparison.

Appendix A

Vineland-3 (Communication and Socialization)

COMMUNICATION

Response Options: 2 = Usually, 1 = Sometimes, 0 = Neve

INTERVIEW TOPIC A: VOCABULARY
Suggested Interview Question: **What objects and actions does [name] say the words for, like *"dog"* or *"eat"*?**

			Check if Est
1. Names at least three actions (for example, drink/drinking, eat/eating, play/playing). ❓ **What about labeling actions, like drinking, eating, or playing?**	2 1 0		☐
2. Says at least 50 words. ☑ Score 2 for Yes or 0 for No. ❓ **About how many total words does he/she say?**	2 0		☐

INTERVIEW TOPIC B: UNDERSTANDING QUESTIONS
Suggested Interview Question: **Tell me how [name] responds to *"wh"* questions, like *"what, where,* and *who?"***

3. Responds to questions that use *what* (for example, when asked "What is this?" replies "A ball"). ❓ **How about questions that use *what*?**	2 1 0	☐
4. Responds to questions that use *where* (for example, when asked "Where did Felipe go?" points where Felipe went). ❓ **How about questions that use *where*?**	2 1 0	☐
5. Responds to questions that use *who* (for example, when asked "Who is that?" replies "Auntie Kesha"). ❓ **How about questions that use *who*?**	2 1 0	☐

INTERVIEW TOPIC C: USE OF GRAMMAR
Suggested Interview Question: **What are some examples of the sentences that [name] says?**

6. Uses phrases with a noun and a verb (for example, "Mommy stay," "Give ball"). ❓ **What about using both a noun and a verb, such as "Mommy stay" or "Give ball"?**	2 1 0	☐
7. Uses simple adjectives to describe things (for example, *dirty, pretty, big, loud*). ❓ **What about using adjectives to describe things, such as "Pretty picture" or "Big doggie"?**	2 1 0	☐
8. Uses possessives in phrases or sentences; grammar need not be correct (for example, "This is mine," "Your book," "This is Carol's desk"). ❓ **What about using possessives, words like "mine," "Mommy's," or "your"?**	2 1 0	☐
9. Uses pronouns correctly; pronoun gender and grammar must be correct (for example, "I want," "Their ball," "Call her"). ❓ **What about using pronouns correctly?**	2 1 0	☐
10. Uses *behind, in front of,* and *between* correctly in phrases or sentences (for example, "Terrell is behind you," "I walked in front of her," "The ball went between the cars"). ❓ **How about using the words *behind, in front of,* and *between*?**	2 1 0	☐

INTERVIEW TOPIC D: FOLLOWING INSTRUCTIONS
Suggested Interview Question: **What are the most complicated kinds of instructions that [name] follows?**

11. Follows instructions with two related actions (for example, "Pick up those toys and put them away"; "Get your coat and put it on"). ❓ **What about instructions to do two things that go together, like "Get your coat and put it on"?**	2 1 0	☐
12. Follows instructions with two unrelated actions (for example, "Turn off the TV and get my keys"). ❓ **What about instructions to do two things that don't go together, like "Turn off the TV and get my keys"?**	2 1 0	☐
13. Follows instructions requiring three actions (for example, "Get dressed, eat breakfast, and brush your teeth"). ❓ **What about three-step instructions, like "Get dressed, eat breakfast, and brush your teeth"?**	2 1 0	☐
14. Follows instructions in "if–then" form (for example, "If you're thirsty, then get a drink"; "If you are cold, then get a sweatshirt"). ❓ **What about if–then instructions, like "If you're thirsty, then get a drink" or "If you are cold, then get a sweatshirt"?**	2 1 0	☐
15. When instructed to do something several hours later, remembers to do it (for example, "When you get home from school, let the dog out"). ❓ **How often does he/she remember to do something that you ask to be done much later that day, for example, letting the dog out after school?**	2 1 0	☐

COMMUNICATION

INTERVIEW TOPIC E: STATING PERSONAL INFORMATION
Suggested Interview Question: **What information does [name] state about himself/herself, like his/her name, address, and birthday?**

Check if Est

16. Says own first name or nickname.
   ① **What about his/her own name or nickname?** — 2 1 0 ☐

17. Says first and last name when asked; saying first name only doesn't count
   ① **What about when you ask for his/her full name?** — 2 1 0 ☐

18. Says complete home address correctly when asked (that is, street or rural route, apartment number, city, and state, with or without zip code).
   ① **What about his/her complete home address?** — 2 1 0 ☐

19. Says both the month and day of his/her birthday when asked.
   ① **How about the month and day of his/her birthday?** — 2 1 0 ☐

INTERVIEW TOPIC F: ATTENDING TO ENTERTAINING MATERIAL
Suggested Interview Question: **For how long does [name] pay attention to something he/she likes, such as a story, TV show, movie, or live performance?**

20. Pays attention to a story for at least 15 minutes.
   ☑ Score 2 if the individual did this when younger, but has now outgrown listening to stories.
   ① **For how long does he/she listen to a story?** — 2 1 0 ☐

21. Pays attention to a show for at least 30 minutes and understands what is happening.
   ① **For how long does he/she pay attention to a TV show, movie, or live performance, and how can you tell if he/she understands what is happening?** — 2 1 0 ☐

22. Pays attention to a show for at least 60 minutes and understands what is happening.
   ① **For how long does he/she pay attention to a TV show, movie, or live performance, and how can you tell if he/she understands what is happening?** — 2 1 0 ☐

INTERVIEW TOPIC G: ATTENDING TO INFORMATIONAL MATERIAL
Suggested Interview Question: **For how long does [name] pay attention in settings such as school, church, or a meeting?**

23. Pays attention to a 15-minute informational presentation and understands what is being said.
   ① **For how long does he/she pay attention to information being presented that's serious or educational, and how can you tell if he/she understands what is being said?** — 2 1 0 ☐

24. Pays attention to a 30-minute informational presentation and understands what is being said.
   ① **For how long does he/she pay attention to information being presented that's serious or educational, and how can you tell if he/she understands what is being said?** — 2 1 0 ☐

INTERVIEW TOPIC H: EXPRESSING IDEAS AND EXPERIENCES
Suggested Interview Question: **How does [name] talk about his/her own ideas and experiences?**

25. Tells the basic parts of a familiar story or book or movie plot (the characters, what happens, how it ends, etc.).
   ① **How much detail does he/she tell about a familiar story when asked?** — 2 1 0 ☐

26. Uses own knowledge or opinions to comment on things, situations, and emotions (for example, "I think he's mad at her because she said mean things about him").
   ① **What about using his/her own knowledge or opinions to comment on things, for example, why a friend is mad at someone?** — 2 1 0 ☐

27. Tells about everyday (i.e., routine) experiences in detail (for example, when asked what he/she did with a friend today, tells who was involved, where the activity took place, etc.).
   ① **How much detail does he/she give when he/she talks about everyday experiences, like what happened at a friend's house?** — 2 1 0 ☐

28. Clarifies by restating with different words when he/she is not fully understood at first.
   ① **If he/she is telling you something, and you aren't quite following, what does he/she do to help you understand what he/she is trying to say?** — 2 1 0 ☐

COMMUNICATION

INTERVIEW TOPIC I: LEFT AND RIGHT
Suggested Interview Question: **What kind of instructions involving left and right does [name] follow?**

			Check if Est
29. Identifies left and right on own body (for example, hands, feet, arms). ⊘ What about identifying left and right on his/her own body?	2 1 0	☐
30. Follows instructions involving left and right (for example, "Go to the left"; "Look to the right"). ⊘ How does he/she respond to directions that involve left and right?	2 1 0	☐

INTERVIEW TOPIC J: BEGINNING WRITING
Suggested Interview Question: **What kinds of things does [name] write on his/her own, without help?**

31. Copies own first name without mistakes. ☑ Score 2 if the individual did this when younger, but has now outgrown it. ⊘ How well does he/she copy his/her first name?	2 1 0	☐
32. Writes at least 10 simple words from memory (for example, *hat*, *ball*, *the*); may make small spelling errors. ☑ Score 2 for Yes or 0 for No. ⊘ What words does he/she write from memory, other than his/her name?	2 0	☐
33. Writes simple sentences of three or more words; may make small errors in spelling or grammar. ⊘ How long are the sentences that he/she writes?	2 1 0	☐
34. Writes emails, stories, letters, journal entries, etc. at least 10 sentences long; may use abbreviated words and make small errors in spelling or grammar. ☑ Score 2 for Yes or 0 for No. ⊘ How long are the emails, stories, letters, or other longer things that he/she writes?	2 0	☐

INTERVIEW TOPIC K: WORKING WITH WRITTEN INFORMATION
Suggested Interview Question: **What does [name] do to find information, like using a dictionary or other sources in a library or on the Internet?**

35. Finds or sorts things in alphabetical order (for example, finds a name in an alphabetized address book or list of phone numbers, finds a word in a dictionary, alphabetizes a list of words or movie titles). ⊘ How often is he/she able to find things that are in alphabetical order—for example, words in a dictionary—or put words or actual things like books or music in alphabetical order himself/herself?	2 1 0	☐
36. Accurately interprets visual instructions (for example, assembly instructions, directions shown on a map). ⊘ How well does he/she understand and follow visual instructions, such as assembly instructions, diagrams, or directions on a map?	2 1 0	☐
37. Uses a table of contents or index to find information within a book or electronic resource. ⊘ What about using a table of contents or index to find information within a book or electronic file?	2 1 0	☐
38. Uses the Internet or a library to find information for writing a paper or completing a job assignment. ⊘ How does he/she go about finding information that he/she needs to write a paper or complete a job assignment?	2 1 0	☐

INTERVIEW TOPIC L: READING LEVEL
Suggested Interview Question: **At about what grade level is [name] reading and comprehending?**

39. Reads and understands material of a second-grade level or higher. ☑ Score 2 for Yes or 0 for No. ⊘ At about what grade level is he/she reading and comprehending?	2 0	☐
40. Reads and understands material of a fourth-grade level or higher. ☑ Score 2 for Yes or 0 for No. ⊘ At about what grade level is he/she reading and comprehending?	2 0	☐
41. Reads and understands material of a sixth-grade level or higher. ☑ Score 2 for Yes or 0 for No. ⊘ At about what grade level is he/she reading and comprehending?	2 0	☐
42. Reads and understands material of a ninth-grade level or higher. ☑ Score 2 for Yes or 0 for No. ⊘ At about what grade level is he/she reading and comprehending?	2 0	☐

COMMUNICATION

INTERVIEW TOPIC M: ADVANCED WRITING

Suggested Interview Question: **What kinds of papers does [name] write for school, and what is the process that he/she uses to write them?**

	Check if Est

43. Writes short reports or summaries (for example, a summary of something read) at least three sentences long; must use own words rather than simply borrowing or copying from other sources.
   ☑ Score 2 if the individual did this when younger, but now no longer needs to write reports or summaries.
   ❓ **What about writing a short report or summary of three sentences or more?**
   `2  1  0  ☐`

44. Writes reports, papers, or essays at least one page long; must use own words rather than simply borrowing or copying from other sources.
   ☑ Score 2 if the individual did this when younger, but now no longer needs to write reports, papers, or essays.
   ❓ **How long are the reports, papers, or essays that he/she writes using his/her own words, not just copying something?**
   `2  1  0  ☐`

45. Edits or corrects own written work before handing it in (for example, checks punctuation, spelling, grammar, etc.); use of computer spell-checker is okay.
   ❓ **What does he/she do to check and correct his/her written work before handing it in?**
   `2  1  0  ☐`

Office Use Only	No. of Est	÷ 45 × 100 =	% Est	COM Raw Score

SOCIALIZATION

Response Options: 2 = Usually, 1 = Sometimes, 0 = Never

INTERVIEW TOPIC A: PLAYING WITH OTHERS

Suggested Interview Question: **How does [name] play or socialize with others?**

	Check if Est

1. Plays interactively with one or more children for at least 5 minutes with someone older supervising.
   ☑ Score 2 if the individual did this when younger, but has now outgrown it.
   ❓ **How long does he/she play interactively with one or more other children when someone older is supervising?**
   `2  1  0  ☐`

2. Plays interactively with one or more children for at least 30 minutes with someone older supervising.
   ☑ Score 2 if the individual did this when younger, but has now outgrown it.
   ❓ **How long does he/she play interactively with one or more other children when someone older is supervising?**
   `2  1  0  ☐`

3. Protects self by moving away from those who try to hurt others or destroy things (those who bite, hit, throw things, smash things, etc.).
   ❓ **What does he/she do when a child nearby is acting aggressive by trying to hurt other children or destroy things?**
   `2  1  0  ☐`

4. Seeks out others for play or companionship (for example, asks others to play or spend time together).
   ❓ **How often does he/she take the initiative to ask other children to play?**
   `2  1  0  ☐`

5. Joins in with a group when nonverbal cues indicate that he/she is welcome.
   ❓ **What does he/she do when a group lets him/her know without words that they want him/her to join in, like motioning "come join us" or pointing to an empty chair?**
   `2  1  0  ☐`

6. Refrains from entering a group when verbal cues indicate that he/she is not welcome.
   ❓ **What does he/she do when told that he/she is not welcome to join a group activity?**
   `2  1  0  ☐`

SOCIALIZATION

Response Options: **2** = *Usually*, **1** = *Sometimes*, **0** = *Never*

INTERVIEW TOPIC B: EXPRESSING AND RECOGNIZING EMOTIONS

Suggested Interview Question: **How do you know what feelings or emotions [name] is having, and whether he/she knows what emotions others are having?**

		Check if Est
7. Uses words to express own emotions (for example, "I'm happy," "I'm scared," "I don't like him"). ⑦ **What words does he/she use to show his/her emotions?**	2 1 0	☐
8. Recognizes emotions in others (for example, might say "You look sad" or "Rachel is happy"). ⑦ **How can you tell that he/she knows what other people are feeling?**	2 1 0	☐

INTERVIEW TOPIC C: FRIENDSHIPS

Suggested Interview Question: **Tell me about [name]'s friendships.**

9. Tries to make friends with others his/her age (that is, shows particular interest in interacting with certain other children). ⑦ **How does he/she try to make friends with others his/her age?**	2 1 0	☐
10. Maintains friendships over time (for example, has had the same good friend for over a year). ⑦ **How long have his/her best friendships lasted?**	2 1 0	☐

INTERVIEW TOPIC D: FOLLOWING SOCIAL RULES

Suggested Interview Question: **When playing with others, what does [name] do in terms of sharing things, taking turns, and following rules?**

11. Shares toys or possessions when told to do so. ⑦ **How often does he/she share when he/she is told to?**	2 1 0	☐
12. Asks permission before using things that belong to or are being used by another. ⑦ **How often does he/she ask permission before using something that belongs to someone else or that someone else is using?**	2 1 0	☐
13. Takes turns when asked while playing games or sports. ⑦ **How often does he/she take turns when he/she is asked to?**	2 1 0	☐
14. Follows rules in games or sports without being told to do so. ⑦ **How often does he/she follow rules in games or sports without being told to?**	2 1 0	☐

INTERVIEW TOPIC E: ASKING FOR AND ACCEPTING HELP

Suggested Interview Question: **What does [name] usually do in terms of asking for help when he/she needs it to figure out how to do something and accepting helpful ideas from others?**

15. Requests help when encountering a problem beyond own capability to solve (for example, a computer problem, fixing something). ⑦ **How often does he/she ask for help when he/she can't figure out how to do something?**	2 1 0	☐
16. Accepts helpful suggestions or solutions from others. ⑦ **How is he/she about accepting helpful suggestions from others?**	2 1 0	☐

INTERVIEW TOPIC F: EMOTIONAL CONTROL

Suggested Interview Question: **What kinds of things cause [name] to get upset, and how does he/she usually respond?**

17. Transitions easily from one activity to another. ⑦ **How often is he/she able to change from one activity to another, like playtime to bath time, without getting upset?**	2 1 0	☐
18. Uses words or gestures to express distress rather than screaming, hitting, throwing something, etc. ⑦ **What about using words or gestures when he/she is upset rather than screaming, hitting, throwing something, and so on?**	2 1 0	☐
19. Controls anger or hurt feelings when he/she does not get his/her way (for example, when not allowed to watch television or attend a party, when a suggestion is rejected by a friend or supervisor). ⑦ **How does he/she usually respond when he/she doesn't get his/her way, like not being allowed to do something that he/she wants to?**	2 1 0	☐

SOCIALIZATION

INTERVIEW TOPIC G: INTERPERSONAL APPROPRIATENESS

Suggested Interview Question: **What does [name] do that shows that he/she understands what people consider proper, like how close to stand to other people, how to adjust his/her voice for the situation, and so on?**

			Check if Est
20. Maintains an acceptable distance between self and others in social situations (for example, does not get too close to another person when talking). ⓘ What about not standing too close or too far away from other people in social situations?	2 1 0		☐
21. Maintains culturally appropriate eye contact during social interactions. ⓘ What about making proper eye contact when he/she interacts with people?	2 1 0		☐
22. Speaks using a loudness, speed, and level of excitement that is appropriate for the conversation. ⓘ What about adjusting his/her voice to the proper loudness, talking speed, and level of excitement for the conversation?	2 1 0		☐
23. Talks with others without interrupting or being rude. ⓘ What about talking with others without interrupting or being rude?	2 1 0		☐

INTERVIEW TOPIC H: ADAPTING BEHAVIOR TO THE SITUATION

Suggested Interview Question: **As we get older, we learn to change our behavior to fit the situation, like lowering our voice when others nearby are concentrating. In what ways does [name] adjust his/her behavior to fit the situation?**

24. Changes behavior intentionally depending on how well he/she knows another person (for example, acts more formally with someone new than with a friend or family member). ⓘ What about understanding that people are usually expected to act differently with someone they've just met than with a friend or family member?	2 1 0		☐
25. Copies appropriate behavior of others when in a new situation and unsure how to act. ⓘ What does he/she do when he/she is in a new situation where he/she is not sure how to act?	2 1 0		☐
26. Adjusts behavior to keep from disrupting others nearby (for example, is quiet near others who are working, listening to a show, etc.). ⓘ What about realizing when he/she needs to adjust his/her behavior so that he/she doesn't disturb others nearby, like someone who is working or listening to a show?	2 1 0		☐

INTERVIEW TOPIC I: CONVERSATIONAL SKILLS

Suggested Interview Question: **Who does [name] have conversations with, and what are his/her conversations like?**

27. Moves easily from one topic to another in conversation when needed; does not "get stuck" on one topic. ⓘ How flexible is he/she at moving from one topic to another in conversations?	2 1 0		☐
28. Stays on topic in conversations when needed; does not digress. ⓘ What about staying on topic in conversations, rather than getting off track?	2 1 0		☐
29. Provides additional explanation when needed in order for someone to follow what he/she is saying (for example, "In case you missed what I said…," "What we were talking about was…"). ⓘ What about recognizing when someone he/she is talking with needs some background information or something explained in order to follow what's being said?	2 1 0		☐

INTERVIEW TOPIC J: TAKING OTHERS' PERSPECTIVE

Suggested Interview Question: **What are some things that [name] does that show that he/she is thinking about the other person's point of view, like what *they* think, want, or are interested in?**

30. Recognizes that the likes and dislikes of others can differ from his/her own (for example, might say "Kelly likes pizza, but I don't"; "I liked that movie, but Gretchen hated it"). ⓘ How well does he/she realize that other people might not like and dislike the same things that he/she does, for example, movies or kinds of food?	2 1 0		☐
31. Starts conversations with others by talking about things that interest them (for example, "Tyrone tells me you like cars"). ⓘ How often does he/she start a conversation with someone by bringing up something that he/she knows that the other person is interested in?	2 1 0		☐
32. Participates in conversations on a topic not of interest to him/her. ⓘ What about talking with others about things that they're interested in, even though he/she really isn't?	2 1 0		☐
33. Will engage in activities suggested by friends, even if not preferred. ☑ If the respondent has not had the opportunity to observe this, estimate a score and check the Estimated box. ⓘ How often does he/she do something suggested by friends when he/she would rather do something else?	2 1 0		☐

SOCIALIZATION

Response Options: 2 = *Usually,*   **1** = *Sometimes,*   **0** = *Never*

INTERVIEW TOPIC K: OBEYING TIME LIMITS

Suggested Interview Question: **How is [name] about following time limits you give him/her and letting you know about his/her plans when he/she goes out?**

		Check if Est
34. Follows time limits imposed by parent or caregiver (for example, amount of time allowed to watch TV, play a game, use the Internet, or play outside). ☑ Score 2 if the individual did this when younger, but has now outgrown it. ⓘ When you tell him/her that he/she is only allowed to do something for a limited amount of time, how often does he/she obey that time limit without having to be reminded; for example, "You can watch TV until this show is over, then you have to turn it off"?	2 1 0	☐
35. Informs parent or caregiver about his/her plans when he/she goes out (for example, what time he/she is leaving and returning, where he/she is going). ☑ Score 2 if the individual did this when younger, but has now outgrown it. ⓘ What about telling you about his/her plans when he/she goes out, like where he/she is going and when he/she will be home?	2 1 0	☐

INTERVIEW TOPIC L: GULLIBILITY

Suggested Interview Question: **What does [name] understand about different ways that people might try to take advantage of him/her, and what does he/she do to keep from being taken advantage of?**

36. Understands that a friendly appearing person may actually intend harm. ⓘ What does he/she understand about how a friendly acting person may actually want to take advantage of him/her?	2 1 0	☐
37. Is aware of and uses caution when encountering risky social situations (for example, Internet solicitations, a stranger's offer of a ride or money, "binge" drinking parties, social media, personal ads). ☑ If the respondent has not had the opportunity to observe this, estimate a score and check the Estimated box. ⓘ How is he/she at being cautious when people he/she doesn't know well try to get him/her to do something risky, either in person or through the Internet?	2 1 0	☐
38. Recognizes that advertising messages may not be accurate. ⓘ What about understanding that the purpose of advertising is to influence our decisions, and that everything in ads isn't always totally true?	2 1 0	☐
39. Thinks through the consequences of his/her actions before acting (for example, refrains from acting impulsively, considers relevant information). ⓘ How often does he/she think through the consequences before doing something?	2 1 0	☐
40. Avoids being manipulated, dominated, or taken advantage of by others. ⓘ What does he/she do to keep others from controlling or taking advantage of him/her?	2 1 0	☐

INTERVIEW TOPIC M: DOING THINGS WITH PEERS

Suggested Interview Question: **How often does [name] get together with others his/her age, what do they do, and who plans it?**

41. Goes places with peers during the day or evening with someone supervising (for example, shopping, a movie, a sports event). ☑ Score 2 if the individual did this when younger, but has now outgrown the need to be supervised. ⓘ What places does he/she go with others his/her age with someone supervising, either during the day or at night?	2 1 0	☐
42. Goes places with peers during the day without someone supervising (for example, a shopping mall, park, community center). ⓘ What places does he/she go during the day with others his/her age without someone supervising?	2 1 0	☐
43. Plans ahead to do things with peers on his/her own. ⓘ What kinds of activities does he/she plan ahead with others his/her age?	2 1 0	☐
44. Obtains schedule information for movies, sports events, concerts, etc. (for example, looks at a newspaper or on the Internet, phones a movie theater). ⓘ What about looking up schedule information for movies, sports events, concerts, and so on?	2 1 0	☐
45. Plans fun activities with more than two things to be arranged (for example, birthday party, group outing). ⓘ What about activities that require a lot of things to be planned, like a birthday party or group outing?	2 1 0	☐

Office Use Only	No. of Est _____	÷ 45 × 100 = _____ % Est	SOC Raw Score _____

Appendix B

DERS

Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1	2	3	4	5
almost never	sometimes	about half the time	most of the time	almost always
(0-10%)	(11-35%)	(36-65%)	(66-90%)	(91-100%)

_____ 1) I am clear about my feelings.
_____ 2) I pay attention to how I feel.
_____ 3) I experience my emotions as overwhelming and out of control.
_____ 4) I have no idea how I am feeling.
_____ 5) I have difficulty making sense out of my feelings.
_____ 6) I am attentive to my feelings.
_____ 7) I know exactly how I am feeling.
_____ 8) I care about what I am feeling.
_____ 9) I am confused about how I feel.
_____ 10) When I'm upset, I acknowledge my emotions.
_____ 11) When I'm upset, I become angry with myself for feeling that way.
_____ 12) When I'm upset, I become embarrassed for feeling that way.
_____ 13) When I'm upset, I have difficulty getting work done.
_____ 14) When I'm upset, I become out of control.
_____ 15) When I'm upset, I believe that I will remain that way for a long time.
_____ 16) When I'm upset, I believe that I will end up feeling very depressed.
_____ 17) When I'm upset, I believe that my feelings are valid and important.
_____ 18) When I'm upset, I have difficulty focusing on other things.
_____ 19) When I'm upset, I feel out of control.
_____ 20) When I'm upset, I can still get things done.
_____ 21) When I'm upset, I feel ashamed at myself for feeling that way.
_____ 22) When I'm upset, I know that I can find a way to eventually feel better.
_____ 23) When I'm upset, I feel like I am weak.
_____ 24) When I'm upset, I feel like I can remain in control of my behaviors.
_____ 25) When I'm upset, I feel guilty for feeling that way.
_____ 26) When I'm upset, I have difficulty concentrating.
_____ 27) When I'm upset, I have difficulty controlling my behaviors.
_____ 28) When I'm upset, I believe there is nothing I can do to make myself feel better.
_____ 29) When I'm upset, I become irritated at myself for feeling that way.
_____ 30) When I'm upset, I start to feel very bad about myself.
_____ 31) When I'm upset, I believe that wallowing in it is all I can do.
_____ 32) When I'm upset, I lose control over my behavior.
_____ 33) When I'm upset, I have difficulty thinking about anything else.
_____ 34) When I'm upset I take time to figure out what I'm really feeling.
_____ 35) When I'm upset, it takes me a long time to feel better.
_____ 36) When I'm upset, my emotions feel overwhelming.

Reverse-scored items (place a subtraction sign in front of them) are numbered 1, 2, 6, 7, 8, 10, 17, 20, 22, 24 and 34.

Calculate total score by adding everything up. Higher scores suggest greater problems with emotion regulation.

SUBSCALE SCORING**: The measure yields a total score (SUM) as well as scores on six sub-scales:

1. Nonacceptance of emotional responses (NONACCEPT): 11, 12, 21, 23, 25, 29
2. Difficulty engaging in Goal-directed behavior (GOALS): 13, 18, 20R, 26, 33
3. Impulse control difficulties (IMPULSE): 3, 14, 19, 24R, 27, 32
4. Lack of emotional awareness (AWARENESS): 2R, 6R, 8R, 10R, 17R, 34R
5. Limited access to emotion regulation strategies (STRATEGIES): 15, 16, 22R, 28, 30, 31, 35, 36
6. Lack of emotional clarity (CLARITY): 1R, 4, 5, 7R, 9

Total score: sum of all subscales

**"R" indicates reverse scored item

REFERENCE:

Gratz, K. L. & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26,* 41-54.

Appendix C

SSISRS

Remember: How True: **N** - Not True **L** - Little True **A** - A Lot True **V** - Very True

How Important: | **n** - not important **i** - important **c** - critical | *Please mark*

Social S

| 1. I ask for information when I need it. | N L A V n i c | 11. I show others how I feel. | N L A V n i c | 21. I stay calm when I am tea |

| 2. I pay attention when others present their ideas. | N L A V n i c | 12. I do what the teacher asks me to do. | N L A V n i c | 22. I follow school rules. |

| 3. I try to forgive others when they say "sorry." | N L A V n i c | 13. I try to make others feel better. | N L A V n i c | 23. I ask others to do things with me. |

| 4. I'm careful when I use things that aren't mine. | N L A V n i c | 14. I do my part in a group. | N L A V n i c | 24. I am well-behaved. |

| 5. I stand up for others when they are not treated well. | N L A V n i c | 15. I let people know when there's a problem. | N L A V n i c | 25. I say nice things about m without bragging. |

| 6. I say "please" when I ask for things. | N L A V n i c | 16. I look at people when I talk to them. | N L A V n i c | 26. I stay calm when people out my mistakes. |

| 7. I feel bad when others are sad. | N L A V n i c | 17. I help my friends when they are having a problem. | N L A V n i c | 27. I try to think about how others feel. |

| 8. I get along with other children/adolescents. | N L A V n i c | 18. I make friends easily. | N L A V n i c | 28. I meet and greet new pe on my own. |

| 9. I ignore others who act up in class. | N L A V n i c | 19. I do my work without bothering others. | N L A V n i c | 29. I do the right thing with being told. |

| 10. I take turns when I talk with others. | N L A V n i c | 20. I am polite when I speak to others. | N L A V n i c | 30. I smile or wave at people I see them. |

Problem B

| 47. I'm afraid of a lot of things. | N L A V | 53. I get embarrassed easily. | N L A V | 59. I can't sleep well at nigh |

| 48. I make people do what I want them to do. | N L A V | 54. I hurt people when I am angry. | N L A V | 60. I do not let others join m group of friends. |

| 49. I often do things without thinking. | N L A V | 55. I have temper tantrums. | N L A V | 61. I find it hard to sit still. |

| 50. I often feel sick. | N L A V | 56. I think bad things will happen to me. | N L A V | 62. I feel lonely. |

| 51. I swear or use bad words. | N L A V | 57. I lie to others. | N L A V | 63. I cheat when playing ga |

| 52. I find it's hard to focus on what I am doing. | N L A V | 58. I often get distracted. | N L A V | 64. I make careless mistakes schoolwork. |

item.

| N L A V | 31. I try to find a good way to end a disagreement. | N L A V |
| n i c | | n i c |

| N L A V | 32. I pay attention when the teacher talks to the class. | N L A V |
| n i c | | n i c |

| N L A V | 33. I play games with others. | N L A V |
| n i c | | n i c |

| N L A V | 34. I do my homework on time. | N L A V |
| n i c | | n i c |

| N L A V | 35. I tell others when I'm not treated well. | N L A V |
| n i c | | n i c |

| N L A V | 36. I stay calm when dealing with problems. | N L A V |
| n i c | | n i c |

| N L A V | 37. I am nice to others when they are feeling bad. | N L A V |
| n i c | | n i c |

| N L A V | 38. I ask to join others when they are doing things I like. | N L A V |
| n i c | | n i c |

| N L A V | 39. I keep my promises. | N L A V |
| n i c | | n i c |

| N L A V | 40. I say "thank you" when someone helps me. | N L A V |
| n i c | | n i c |

| N L A V | 41. I stay calm when others bother me. | N L A V |
| n i c | | n i c |

| N L A V | 42. I work well with my classmates. | N L A V |
| n i c | | n i c |

| N L A V | 43. I try to make new friends. | N L A V |
| n i c | | n i c |

| N L A V | 44. I tell people when I have made a mistake. | N L A V |
| n i c | | n i c |

| N L A V | 45. I ask for help when I need it. | N L A V |
| n i c | | n i c |

| N L A V | 46. I stay calm when I disagree with others. | N L A V |
| n i c | | n i c |

ors

N L A V	65. I think no one cares about me.	N L A V
N L A V	66. I try to make others afraid of me.	N L A V
N L A V	67. I break things when I'm angry.	N L A V
N L A V	68. I often get tired.	N L A V
N L A V	69. I talk back to adults.	N L A V
N L A V	70. I waste a lot of time.	N L A V

N L A V	71. I feel nervous with my classmates.	N L A V
N L A V	72. I say things to hurt people's feelings.	N L A V
N L A V	73. I fight with others.	N L A V
N L A V	74. I feel sad.	N L A V
N L A V	75. I break the rules.	N L A V

School/Center
Grade/Class
Other Data
Last
Day
Year
Birth Date
Month
Middle
First
Sex: ❏ Female ❏ Male
Year
Day
Month
ame

Appendix D

Lesson Plan Scripts

Lesson 1:

Hi, my name is _____ and I am a student at MSU, Mankato. I will be working with you today as we walk through what this study is about and what we will be focusing on. If at any point you have any questions, feel free to let me know.

Introduce anyone else in the zoom meeting

Now we would like to learn more about you. Please share your name, age, where you are from, and something that makes you interesting (fun fact).

Just to give you an idea, we meet once a week for 4 weeks. Each time we meet, we will spend about an hour together. During each of the sessions we will focus on a different emotion or set of emotions. Today will be a general overview of emotions. Next week will be focused on happiness and excitement. Week 3 we will talk about sadness. And finally, week 4 will be focused on anger and jealousy.

Do you have any questions? Remember, you can stop me at any point and ask a question or let me know that you need a break.

So now, we are going to start talking about emotions. I am going to ask you a few questions to get you thinking about emotions. There are no right or wrong answers here. So please feel free to share whatever comes to mind.

What do you already know about emotions?

What are they?

What are some emotions that you usually feel?

How do emotions affect us?

How do our emotions affect other people?

Thank you for sharing what you know about emotions today. Do you have any questions about what we talked about?

Just as a reminder, we have three more sessions left. Next week we will talk about happiness and excitement. We will ask some more questions about those, but then we will also watch a couple short videos and talk about how to handle the emotions appropriately.

Well, that is it for our session today. Do you have any last questions before we end? I want to thank you for participating today. And we will see you next week!

Lesson 2:

Hi, my name is _____ and I am a student at MSU, Mankato. I will be working with you today as we walk through some emotions. If at any point you have any questions, feel free to let me know.

Today we will be talking about happiness and excitement. We are going to have some discussion about what these emotions are and how they affect us. We will watch a couple examples of what emotions might look like. And how our emotions can affect others. At the end, there will be time for questions if you have any.

What does it feel like to be happy?

What does it feel like to be excited?

How do you know when others are happy or excited?

What are appropriate ways to show happiness or excitement?

What are inappropriate ways to show happiness or excitement?

Now we are going to look at an example of someone being happy and excited.

In this example, Person A was excited about _____. But how did she treat the other person? What could Person A have done differently?

Let's take a look at an appropriate way to handle that same situation.

What did Person A do differently? And how do you think that made the other person feel?

Great. Now let's watch another video.

How do you think the other person felt in this example?

Now we are going to pretend you are Person A. What could you have done differently?

Are there any other examples that you can think of where a person could be happy and excited?

How would they act in that situation?

Thank you for sharing what you know about happiness and excitement today. Do you have any questions about what we talked about?

Just as a reminder, we have two more sessions left. Next week we will talk about sadness and anger. We will ask some more questions about those, but then we will also watch a couple short videos and talk about how to handle the emotions appropriately.
Well, that is it for our session today. Do you have any last questions before we end? I want to thank you for participating today. And we will see you next week!

Lesson 3:

Hi, my name is _____ and I am a student at MSU, Mankato. I will be working with you today as we walk through some emotions. If at any point you have any questions, feel free to let me know.

Today we will be talking about sadness and anger. We are going to have some discussion about what these emotions are and how they affect us. We will watch a couple examples of what sadness and anger might look like. And how our emotions can affect others. At the end, there will be time for questions if you have any.

So now, we are going to start talking about anger and sadness. I am going to ask you a few questions to get you thinking about these emotions. There are no right or wrong answers here.

Please feel free to share whatever comes to mind.

What does it feel like to be sad? Angry?

How do you know when others are sad? Angry?

What are appropriate ways to show sadness? Anger?

What are inappropriate ways to show

Sadness? Anger?

Now we are going to look at an example of someone being sad and angry. In this example, Person A was angry about the dog getting out. How did she treat the other person? What could Person A have done differently?

Let's take a look at an appropriate way to handle the same situation.

Person A: My pet bunny dies today. I'm really sad about it.

Person B: That is so sad. You must be really mad at the person who hit your bunny.

Person A: I am very sad about it. And you're right. I really am mad at that person. But it wasn't their fault. I just need some time to be sad.

What did Person A do differently? How do you think that made the other person feel?

Great! Now let's watch another video.
How do you think the other person (person on the couch) felt in this example?

Now we are going to pretend you are Person A (the person on the couch)... What could you have done differently?

Are there any other examples that you can think of where a person could be sad or angry? How would they act in that situation?

Thank you for sharing what you know about sadness and anger today. Do you have any questions about what we talked about?

Just as a reminder, we have one more session left. Next week we will talk about being flexible and compromising. We will ask some more questions about that, but then we will also watch a couple short videos and talk about how to handle these things appropriately.

That is it for our session today. Do you have any last questions before we end? I want to thank you for participating today, we will see you next week!

Lesson 4:

Hi, my name is _____ and I am a student at MSU, Mankato. I will be working with you today as we walk through some emotions. If at any point you have any questions, feel free to let me know.

Today we will be talking about flexibility. We are going to have some discussion about what these emotions are and how they affect us. We will watch some more video examples of what emotions might look like. And we will be talking through the examples and how we can be flexible. This will be similar to what we have been doing the last couple weeks. If you have any questions or comments at any time, feel free to let me know.

We are going to get started today by having a discussion about being flexible. Remember, there are no wrong answers here, so just say whatever comes to mind with these questions.

What does it look like to be flexible?

What are some ways you can be flexible?

What are appropriate ways to be flexible?

What are inappropriate ways to be flexible?

Now we are going to watch an example of someone needing to be flexible. In this example, the person on the right was not being considerate. How do you think it made the person on the left feel? What could the person on the right have done differently?

Great, now let's take a look at how they should have handled it. What was different this time?

Okay, now we are going to look at another example. In this example, two friends are trying to come up with a plan of what to do when they hang out. Pay attention and try to see what you would have done differently.

What did you notice?

What could you have done differently (as the person on the right)?

What are some examples that you can think of, where you needed to be flexible?

What did you do?

What could you have done differently?

Thank you for sharing what you know about being flexible today. Do you have any questions about what we talked about?

Just as a reminder, today was our last session all together. I will be meeting with you individually, one last time to ask the assessment questions I asked before we started.
That's it for our session today. Do you have any last questions before we end? I want to thank you for participating today! It has been really fun working with you and getting to know you.