TEACHING CONVERSATION SKILLS USING BST AND VIDEO MODELING VIA

TELEHEALTH

By

Margaret Groves-Bradley

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Committee Membership

Dr. Christopher Walmsely, Committee Chair

Mary Clare Bonow, Committee Member

Dr. Amber Gaffney, Program Graduate Coordinator

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Abstract

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Margaret Groves-Bradley

The COVID-19 pandemic and the current state of education children have limited access
to an environment where they can practice conversational skills with people outside of
their immediate family. Traditionally, children with autism spectrum disorder (ASD)
have a difficult time independently learning these skills, even in an environment that is
ripe with social interaction(Grosberg & Charlop, 2017). The current study sought to use
behavioral skills training, modeling, and prompting to teach the skills of responding to
questions, asking questions, and changing the topic to one learner with ASD over
telehealth. The study was conducted over three phases. The first phase consisted of
collecting baseline data on the target behaviors. The second was a one-on-one
intervention, where the researcher used video modelling to teach the participant one or
more of the target conversational skills, they then practiced having conversation and the
researcher provided the learner with feedback. These lessons continued, intervening on
one behavior at a time until a stable rate of responding was observed. The final phase
consisted of a maintenance and generalization assessment. Maintenance sessions
occurred two weeks following the intervention and four generalization probes occurred in
the home with different people during the final week of the intervention. The results
indicate that these conversation skills can be learned through the one-on-one telehealth
intervention, can maintain over time, and generalize to real world setting.

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Teaching Conversation Skills Using BST and Video Modeling Via Telehealth

Conversation connects people. It allows them to open up to one another and express their thoughts, feelings, hopes, and dreams. For those that master the skill of conversation it can help them explore new social, educational, and professional avenues. Conversation can be defined as, an exchange between two or more people, where the listener provides verbal stimuli that has some control over the speaker's response (Skinner, 1957). Conversational skills encompass a variety of vocal and non-vocal skills as well as the ability to pick up on non-vocal cues (Mann & Karsten, 2020). These include, but are not limited to, maintaining eye contact, asking questions, responding to questions, changing the topic, actively listening, expressing appropriate emotions, allowing others a turn to speak, and not interrupting (Hood et al., 2017; Conallen & Reed, 2017). Most people learn conversational skills by observing the social interactions in their natural environment; the conversations between their parents, teachers, and peers; and imitating what they see in their own conversations (Akemoglu et al., 2020). The process itself comes naturally and requires very little conscious effort. However, for others learning and mastering these skills requires more work and determination.

Research shows that it is common for children with autism spectrum disorder (ASD) to have difficulty independently acquiring the skills necessary to maintain a conversation. They tend to not ask questions or respond to comments as readily as their peers (Grosberg & Charlop, 2017). When engaging in a conversation, individuals with ASD are less likely to follow a statement with a reciprocal comment and will instead

often remain silent (Hood et al., 2017). While learners with ASD are struggling to acquire the skills necessary to engage in a back-and-forth exchange, they are also missing opportunities build relationships through finding common ground with their peers. Learners with ASD tend to share fewer personal anecdotes and have trouble responding to questions and comments when compared to their typically developing peers (Colleen & Reed, 2017). To help learners with ASD develop their conversation skills in the most efficient manner, there has been a great deal of research done in applied behavior analysis, as well as other fields, regarding strategies and interventions for teaching them.

Traditionally research on the acquisition of conversational skills has shown the most success when done in a natural environment where conversations are taking place. Implementing treatment as part of the learner's routine in places such as school and after school programs has proven to be extremely effective when teaching social skills (Mrchako & Kaczmarek, 2017). Naturalistic teaching strategies have been used to increase a learner's engagement and motivation to communicate while simultaneously providing an ample environment for an adult to devise opportunities to practice communication skills (Akemoglu et al., 2020). Even in instances where technology-based interventions have produced positive results, research shows that their efficacy increases when combines with teaching in a natural setting. Vanselow and Hanley (2014) used computerized behavioral skills to teach safety skills to children with autism spectrum disorder but found that the training worked best when combined with in situation training. Time and time again, the research has highlighted that the best place for a person to acquire a social skill is in the environment that they intend to use that skill.

In the past couple years, the accessibility of these natural environments has been severely impacted for all learners due the COVID-19 virus causing a worldwide pandemic. Social distancing and quarantine protocols have made group gatherings and unnecessary socializing a thing of the past and these unprecedented circumstances have created challenges in the fields of applied behavior analysis and education. In applied behavior analysis, a large part of the job is comprised of supporting and teaching people within their natural environment, in their homes and communities. The pandemic mandated quarantine procedures that have been executed worldwide, because have limited therapeutic access to homes and everyone's access to community environments. This has made traditional ABA treatment delivery difficult and, in some cases, impossible. As a result, many agencies have implemented services via Telehealth or suspended them altogether (Leblanc et al., 2020). In addition, most schools across the United States have spent a great deal of the last year utilizing online education. This means that most children have not been able to observe conversational skills outside the context of their own families and the small amount of social interaction they have been experiencing through a screen. This lack of natural social interaction has a potentially detrimental impact on the acquisition of conversational skills across all young learners, but especially for those that were already struggling to gain these skills. To add to the challenges, because the COVID-19 pandemic has only been looming over the world for just over two years, there is limited existing research on the efficacy of implementing ABA procedures and teaching these skills via telehealth.

The few studies that have focused on comparing the effectiveness of telehealth versus the in-person delivery of services have displayed promising results. Pollard et al. (2020) found that when focusing on the acquisition of various social skills and receiving an amount of telehealth treatment equal to the amount of in-person treatment they were receiving prior to the pandemic, participants had similar and even increased levels of responding. When using a least to most-prompting strategy and total task training, research has indicated that a telehealth delivery service model can successfully provide a means of teaching life skills, such as cooking and money management, to adults with intellectual disabilities (Pellegrino & DeGennaro Reed, 2020). There has also been success in teaching the conversational skills of recognizing boredom in a conversation partner and changing the topic using the "cool versus not cool" procedure virtually. In this study, the participants were taught what behaviors were "cool," those that indicated attention from a conversation partner, and what behaviors were "uncool," or those that indicated boredom. Following telehealth intervention, they were able to successfully label the behaviors correctly across three consecutive probe sessions (Cihon et al., 2021). Although these results suggest that there is potential in using telehealth as a mode of ABA service delivery when teaching social skills to learners with ASD, there is currently not enough of it to draw conclusions. The lack of existing research regarding telehealth as the mode of service delivery, and the inability to use naturalistic teaching in the past couple years, despite its effectiveness, means that there needs to be more investigation regarding the efficacy of evidence-based practices in improving the conversational skills of learners with ASD in a virtual contrived environment. A variety of treatment strategies

have been employed throughout the research to teach social skills and other life skills to

children with autism. These strategies have the potential to be just as effective when

applied directly to the acquisition of conversational skills via telehealth. The most

common strategies for teaching social and conversational skills to learners with ASD

include:

Behavioral Skills Training (BST)

BST is a versatile treatment procedure that is commonly used to teach a variety of

skills to learners with ASD, as well as parents, and support professionals. It involves

providing the learner with instruction, modeling the skill, rehearsing the skill, and then

giving the learner feedback on their use of the skill (Parson's et al., 2012). BST has been

successful when teaching skills in a multitude of different ways. It has been used to teach

adults with various developmental disabilities to engage in a back-and-forth interaction

by responding to a fixed sequence of greeting and conversational skills (Nuernberger et

al., 2013). Hood et.al, (2017) used BST to teach greetings and conversational skills to

learners with ASD. They implemented a procedure that targeted a multitude of skills

necessary to maintain a conversation including answering questions, shifting the

conversation, and interrupting. The procedure involved a trainer teaching the skill and

providing feedback both verbally and through a textual prompt, as well as a novel

conversation partner to practice the skill. They found that all three participants met the

mastery criterion on the target skills and demonstrated the ability to generalize the skills

by sustaining a conversation with a novel adult after intervention was no longer being

implemented. This teaching procedure has not only been used to teach straightforward aspects of conversation, but nuanced aspects as well. Learners with ASD have been taught to respond to their partners interest based on the listeners behavior, eliminating the need for contrived reinforcers, using BST (Peters & Thompson, 2015). Mann and Karsten (2020) used a self-questioning strategy related to BST to teach college students with autism to recognize cues of disinterest in their conversation partners and adjust the conversation to compensate. They found that while the participants learned to tact a disinterested response, they had trouble with making the conversational adjustment associated with detecting those cues and more research is needed in this area. BST has even been used to instruct parents via telehealth on how to implement ABA procedures to improve their children's self-care skills (Boutin et al., 2020). The efficacy of BST extends far beyond the context of simple conversational skills. It has proven adaptive across many skills and individuals. Its flexibility and ease of implementation makes BST an ideal intervention for improving conversational skills in learners with ASD. Practically, it is also one that can feasibly be used to support the learner in the acquisition of these skills via telehealth.

Video Modeling

Video modeling is a common strategy used to help learners improve many academic, social, and life skills that consists of the learner observing a skill modeled through video and replicating that skill (Cooper et al., 2019). It is a popular teaching strategy because it is easy for a professional to implement, cost effective, and is

something that the learner can learn to use independently (Wang & Koyama, 2014).

Video modeling has been used in several different situations to help with the acquisition

of a variety of skills necessary to engage in a well-rounded social experience. Marcus and

Wilder (2009) used video modeling and self-video modeling to teach social skills such as

responding to and asking questions to learners with ASD. Following a video model

intervention, participants in both the self-video modeling condition and the peer video

modeling condition engaged in correct responding in 85% of opportunities. Kourassanis

et al. (2015) evaluated the use of peer video modeling when teaching social games that

require gross motor chaining and social interaction in a small group, including "duck

duck goose" and "the hokey pokey." After implementation of the video modeling

intervention, both participants met the mastery criterion and were independently

engaging in correct responses to the in-game cues in at least 90% of opportunities. Rudy

et al. (2014) utilized video modeling to teach both aspects of joint attention, responding

to and initiating bids by focusing on the target skills of making vocal statements, shifting

eye gaze, and pointing. Two out the three participants showed an increase in independent

bids for joint attention. In addition, research has demonstrated that video modeling has

been successful in improving learners with ASD abilities to recognize facial expressions,

intonation, and gestures and help them increase the number of verbal statements they

make in a conversation (Charlop et al., 2010). Video modeling has even been used to

improve more abstract skills such as reciprocal, cooperative, and pretend play skills in

elementary aged children (McDonald et al., 2009). It has also proven effective when

increasing social perception; the ability to pick up on non-vocal social cues; in high

school students. These skills showed successful maintenance and generalized to environments outside of the intervention setting, such as the lunchroom and quad area. (Stunch et al, 2018). Overall, video modelling is an especially useful intervention under the circumstances imposed by the COVID-19 pandemic. It is accessible and easy to implement on a telehealth platform and is a realistic way of teaching these skills when a naturalistic setting is not an option.

Prompting

Prompting has been used alongside these other methods, to help teach social and conversational skills to learners with ASD. Prompting can be done with various levels of intrusion, depending on the needs of the learner and the versatile way it can be delivered makes it extremely useful. It can be delivered vocally, physically, and even electronically. A least-most- prompting strategy is the most common because it involves using less intrusive prompts first and then moving into more intrusive prompts if necessary. This prompting strategy has been successful in helping adults acquire life skills such as preparing food (Pellegrino & DeGennaro Reed, 2020). Grosberg and Charlop (2017) used a text message prompt to cue teenage learners with a reminder that it was their turn to respond to a question. They found that the text method was a natural way to cue a teenager and when faded over time the message prompts were no longer needed and the learners maintained their increased levels of conversational engagement. A prompt is a natural way to remind a learner of when it is time to complete a skill that

can be easily faded once the learner begins to independently engage in that skill. A verbal or visual prompt can effortlessly be delivered during a virtual telehealth session.

The purpose of the current study was to use behavioral skill training, video modeling, and prompting to teach some of the basic skills needed to maintain a conversation to children with ASD via telehealth and determine if those skills generalize to a "real world" environment.

Method

Participants

The participant in the study consisted of one client from a local Applied Behavior Analysis (ABA) agency. The participant was identified with the assistance of the regional manager. They were a 12-year-old male with the diagnoses of autism spectrum disorder. They possessed the prerequisite skills needed to qualify for participation in the study, including imitation and attending skills, and had prior experience with telehealth in an educational setting.

Recruitment

Recruitment of participants occurred by sending out a brief informational statement about the purpose of the study to few ABA therapists at the agency who had clients with a potential interest in participation. The people received this were chosen by the regional manager at the ABA agency. Due to the study being conducted through telehealth, client interest in participation was limited and one candidate was suited for the current research based on their behavioral goals, supervisor recommendation, willingness to do telehealth sessions, and availability. The parents' of the participant were provided with more detailed information about the study, the minimal risk involved, their right to stop participation, and that the data will be confidential. They were provided with the contact information of the researcher and the parents of the participant gave informed consent. In addition, the researcher verbally asked the participant if they would participate in the study, and they agreed.

Measures

Several skills are required to start and hold a conversation. This study focused on increasing the participants' use of three skills needed to successfully maintain a conversation. The three dependent variables of interest included (a) responding to questions, (b) asking relevant questions and (c) changing the topic. The criteria for mastery for all the skills was set at 85% correct responding for all the measures.

Responding to questions

This variable was measured by taking frequency data on the number of questions the participant independently responded to with a relevant comment divided by the total number of opportunities to respond to a question, including failure to respond and responding with information irrelevant to the question. An example of this skill was if the participant is asked what they are doing after school and they answer, "I'm going to eat pizza with my family." The answer directly related to the question being asked. It would not have counted as a correct response if the participant had answered "My favorite food is pizza," or did not respond to the question.

Asking relevant questions

This variable was measured by taking frequency data on the number of questions that the participant independently asked related to the topic of discussion divided by the total number of opportunities to ask a question. An example of a correct response was asking "What are you doing on Saturday?" when the topic of discussion was weekend

plans. An incorrect response would have been asking "Do you like rain?" or not asking a reciprocal question when it was their turn.

Changing the topic

This variable was measured by taking frequency data on the number of times the participant independently identified a mutual topic of interest in the conversation and used it to continue the conversation. This was the divided by the total number opportunity the participant is given to use the skill, including times that an opportunity went missed and instances of switching to a topic unrelated to the current topic. An example of successfully changing the topic was if the conversation is about cartoons and the researcher said, "I like watching cartoons because I like the art," and the participant responded with "That is why I like comics more than books." The conversation naturally and successfully shifted from watching TV to books and this would have been marked as a correct response. If the participant had responded with something unrelated to the topic such as "Let's play hide and seek" or did not respond to the statement, those would count as an incorrect response. If the participant responded by asking an on-topic question, it would have been marked as a correct response under the *asking relevant questions* variable.

Inter-observer Agreement

To assess for inter observer agreement (IOA) the researcher had a BCBA from the agency where the client received services take data on the skills of interest during 20% of the sessions. The lowest score on each variable was divided by the highest score on each

variable for each session and multiplied by 100. For all the variables IOA was above

80%, with responding to questions being at 96% and asking questions at 93%. Changing

the topic was slightly lower at 83% due to a misunderstanding between a prompted and

independent response, the first time the participant used the skill. Overall IOA across all

the measures was 91%.

Materials

This study required the use of a couple of technological components including the

Zoom video call software application and existing video models of target skills. Video

models were obtained by the ABA agency from which participant was recruited. There

were about 15 different videos used to teach these skills. Some of them focused more

heavily on one of the aspects of conversation, and some encompassed responding to

questions, asking questions, and changing the topic. They all consisted of children in a

school or social setting practicing back and forth conversation. After the initial

conversation, the videos repeated the same conversation, pausing to breakdown and

highlight the different aspects of conversation. Then the video would play the same

conversation a final time. The study used short verbal comprehension quizzes throughout

the video model. The comprehension quizzes were used as teaching tools during the

intervention to help solidify the lessons on conversation skills and ensure that the

participant understood the content.

Design

This study utilized single case design. More specifically a multiple baseline across behaviors design, to evaluate the effects of telehealth-delivered social skills training across the behavioral measures. The tools used in the intervention acted as independent variables and the measures the dependent variables.

Procedure

The first phase of the study consisted of conducting baseline assessment on the skills required to maintain a conversation. Phase two was an intervention to improve the variables of interest using the BST video-modeling procedure, and phase three was to assess maintenance and generalization of the skills that were taught during phase two. During baseline intervention and maintenance, trials took place three times a week and the sessions lasted for an average of 20 minutes. The generalization probes took place for intermittent amounts of time in the last couple weeks of the intervention.

Baseline

This phase began with the collection of baseline data on the target behaviors associated with all the skills needed to maintain conversation. During initial sessions, pairing with the participant was a priority so the session consisted of "show and tell" and chatting about interests while the primary investigator collected baseline data on the target skills relevant to the intervention. Once the intervention began, the sessions continued to include time to talk about the preferred interests of the participant. This

occurred after the brief lesson on the conversation skills. During that time, the researcher collected data on the skills.

Intervention

The intervention utilized video modeling, prompting, and behavior skills training to teach the measures of interest. A stable rate of responding during baseline marked the beginning of the intervention with lessons on the conversational skills of interest, beginning with 1) responding to questions, then expanding the intervention to target 2) asking relevant questions, and finally 3) changing the topic. The format of an intervention session was as follows: the participant watched a video modeling the target skill related to conversation maintenance, during which they were asked questions related to the skills. Afterward they spent a few minutes responding to a verbal quiz regarding the skills, to ensure that the participant understood the content of the video model before practicing the skill. The next step consisted of the primary investigator and the participant practicing the conversational skill through having a back-and-forth conversation utilizing the BST teaching technique. While working on the skill responding to questions, the researcher initiated the conversation. Once the variable asking questions was introduced, the participant was prompted to start the conversation following the video instruction. The variable changing the topic came up within a conversation and did not require initiation. The primary investigator used verbal prompting throughout the rehearsal process to cue the participant when there was no response to a question after 10 sec or when it was their turn to ask a question or make a comment and 10 sec passed. They then

provided feedback on the participant's use of the skill and practiced it again using the same method. After the lesson about the skill and a couple rounds of practice, the session ended with reinforcing activities such as the participant sharing favorite toys or music. The researcher collected data on the variables of interest during the BST practice conversations, as well as during the end of session activities.

This process was repeated, starting with consecutive sessions teaching "responding to questions," and adding on teaching including the other two variables as stability in the data warranted.

Maintenance

The intent was once the participant reached a mastery criterion of 85% across all measures, there would be a maintenance assessment. Maintenance took place two weeks following the end of the teaching the sessions. During which, the conditions returned to the format of baseline sessions, which consisted of no lesson, but preferred conversation topics meant to facilitate the opportunity for conversation. Maintenance was assessed for two sessions to see if the rates of responding maintained at the levels they were at the end of the teaching sessions. During this time the researcher collected data on the target behaviors to see if the levels of responding maintained without a lesson designed to teach the participant the importance of the skill and how to use it.

Generalization Probes

The goal of this phase was to assess whether the target conversational skills

generalized to settings outside of the telehealth sessions with the researcher. The probes

took place congruent with the last week of the intervention sessions and extended to a

couple of different conditions. The primary investigator observed the participant in the

real-life social settings they had access to with different people, as well as in one

telehealth setting with another person. The in-person generalization probes took place in

the participants home, one with their family, one with their BCBA, and one with a friend.

The telehealth generalization probe included the participant's brother. During these

sessions data were collected on the target conversational skills taught in the intervention

phase (i.e., responding to questions, asking relevant questions, and changing the topic).

Results

During baseline all three target behaviors showed a stable percentage of correct

responses. There were high levels of the target variable responding to questions during

baseline, with an average 56% being correct response. The target behaviors of asking

questions and changing the topic were at 0% during baseline. Upon intervention,

responding to questions showed an immediate change in level from 55% to 75%. During

the intervention sessions, this target behavior reached the 85% mastery criterion within

three sessions and the percentage of correct responses stayed stable and well above

baseline for the entirety of this phase. For the target behavior of asking relevant

questions, the data show a less immediate level change, with it occurring after 2 teaching

sessions. In addition, there was more variability in the responses, so it took longer for a

stable level of responding to emerge. Throughout the intervention sessions the mastery

criterion was never met for this behavior, although there was an overall improvement in

levels of responding from the baseline phase, with an average of 28% responding during

the teaching phase. Intervention on the third target behavior, changing the topic, began

once a stable rate of asking questions was evidenced in the data. For this behavior,

baseline levels of responding were observed until a change in level was noted during the

fifth teaching session that incorporated changing the topic. A slight increase in the level

of this target behavior was observed during the nine sessions that included this topic with

an average response rate of 15%. During maintenance the target behaviors of responding

to questions, asking relevant questions, and changing the topic showed a slight drop in

correct responses. However, responding stayed well above baseline for the behaviors,

answering, and asking questions. Although response levels dropped to baseline for the

behavior changing the topic during the first maintenance probe, the second showed

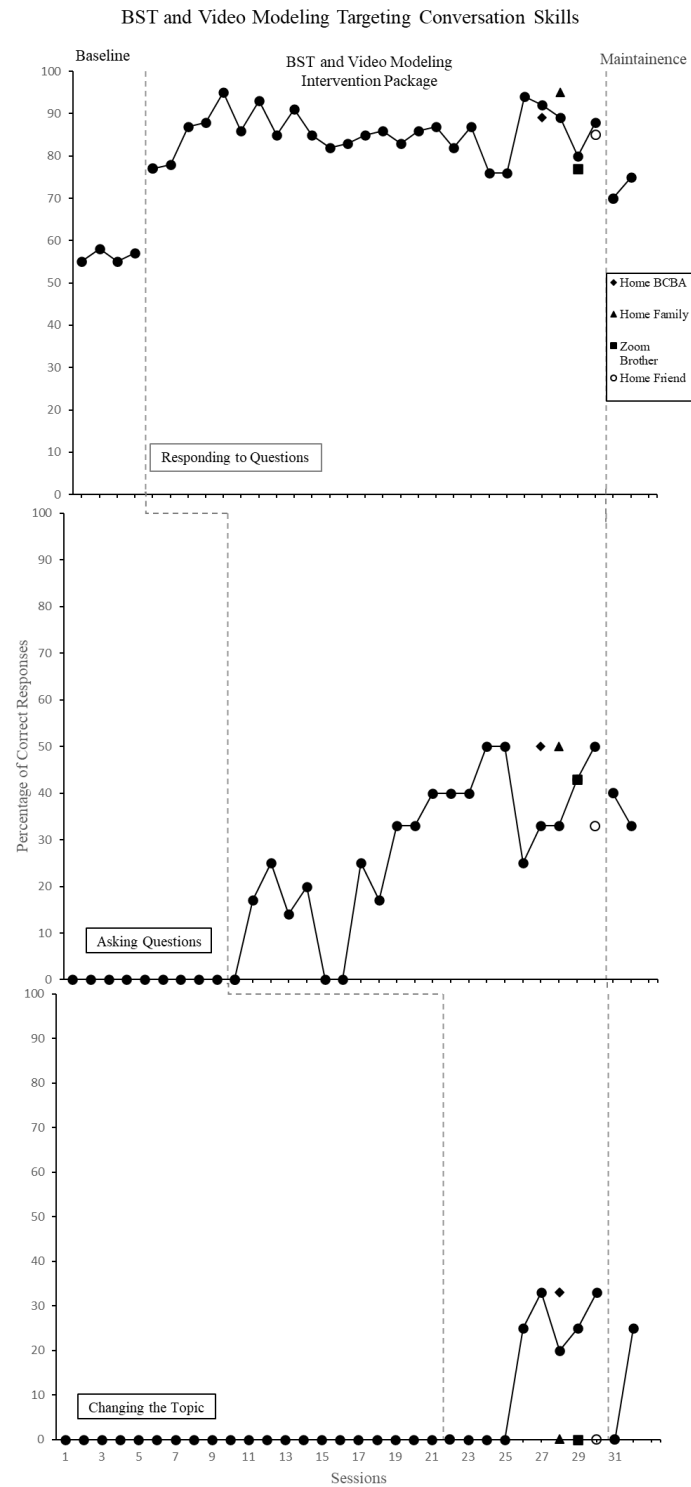similar levels of responding as the during the intervention.

BST and Video Modeling Targeting Conversation Skills

Figure 1 BST and Video Modeling Intervention

There was a similar pattern observed with the generalization probes. The behaviors of responding to questions and asking questions showed similar levels to those observed during intervention sessions across all the generalization probes. However, for the target behavior changing the topic, the only condition where the behavior showed generalization, was in the probe with the participant's BCBA. During the other conditions, the target behavior returned to baseline levels of responding.

Discussion

Overall, the results showed improvement across the target behaviors following intervention. However, the inconsistencies in the results mean that while the observed impact can likely be attributed to the intervention, conclusions should be drawn tentatively. There were improvements across all three target behaviors in comparison to baseline, and quick level changes occurred in two of the three measures upon the introduction of the intervention, indicating the intervention impacted the observed levels of the target behaviors. Once the behaviors began to show improvement, there was very little variability in responding to questions and although the measure asking questions showed more variability, levels stayed above baseline for most teaching sessions. The results that were observed for changing the topic were not as consistent. It took five teaching session to see a change in level and the percentage of correct responses stayed much closer to baseline throughout the intervention. However, while the results observed for changing the topic did not meet the expected levels and were not as consistent as desired during intervention, the increase in level observed across target behaviors extended beyond intervention sessions. The skills responding to questions and asking questions maintained at similar levels following two weeks without teaching. The target behaviors responding to questions and asking questions also showed generalization in the presence of the participant's BCBA, their family, and a friend in their home environment. In addition, they generalized to a zoom hangout with their older brother. Again, the target behavior changing the topic did not show the same consistency in the results in the maintenance phase and only showed generalization with the participant's BCBA. While

the overall results indicate a relationship between the intervention and the observed

behavior change, evidence would have been stronger if the observed changed extended to

all three measures. Either way, there was an observed improvement across the behaviors

that positively impacted the participants life outside of the intervention.

There were limitations that impacted the results of the study. One limitation

involved the mode of zoom itself. As expected, the limited opportunity for natural

conversation topics made the teaching sessions contrived and the topic of conversation

limited. In addition, zoom is a difficult mode to provide reinforcement. After a few

weeks, the participant began to request for an end to the session during the time for

preferred activities, suggesting that they were getting bored with the format. Another

issue that arose was in the criterion set for mastering the target behaviors. The decision to

set the mastery criterion at 85% and the drastic difference in the expected levels of the

behavior and the criterion on two of the target behaviors made it difficult to gauge when

to move to the next behavior. However, upon further examination, that high of a mastery

criterion is not socially valid and moving through the behaviors based on stability made

more sense for the study. Setting an arbitrary mastery criterion for these behaviors did not

consider the needs of the individual participant. The target behavior that was already

showing baseline rates well above zero, responding to questions, reached mastery

criterion. While the behaviors that started at a level of zero, asking questions and

changing the topic, did not meet the mastery criterion, they showed just as much

improvement as the first measure. Eliminating the mastery criterion and allowing the

behavioral progress to guide procedural decisions accounted for the individual place of

the participant in relation to the behaviors of interest. Expecting someone to engage in

conversational skills at such a high level is not reflective of real-world conversational

etiquette. Finally, even though school returned to in-person, many other after school

activities were still limited for children in this area, so the participant did not have access

to a real-world environment outside of his home. Ideally, more generalization probes

would have occurred in the presence of peers. While the probes showed that the skills

generalized at similar levels as the intervention with different people in the home setting,

observing the target behaviors in another setting, in the presence of peers, would have

been a meaningful assessment.

Although improvement in the observed conversation skills occurred across the

target behaviors, there are changes to the study that would help focus future lines of

research. Overall, conducting this study utilizing a multiple baseline across participants

design could potentially clarify any ambiguity regarding the role of the intervention and

allow for more concrete claims to be made. If similar results were observed across

multiple participants, it would add support to the conclusion that the intervention and the

results were related. After data collection, it was clear that changing the topic was not the

most useful behavior to include as the third measure. The opportunity to change the topic

came up more infrequently than the opportunity to use the other skills, and another clear

behavior of interest was observed. During the teaching sessions, the researcher noticed

changes in the behavior of "making connected comments" within the same

conversational place as asking questions. For example, the researcher would ask, "What

are your plans for the weekend?" and the participant would respond "Watching Pixar

movies." Then the researcher would reply "That sounds like fun, maybe I should watch some Pixar this weekend!" In this case the participant would say "You should watch Cars, it's the best!" They could have asked the researcher what movie they were planning on watching, but instead engaged in the behavior of making a connected comment. Both were appropriate within the context of the conversation. If the study were to be repeated, the researcher would eliminate the measure of changing the topic and instead measure improvements on making connected comments. Making comments is clearly a useful conversational skill that makes more sense to implement over zoom, an environment where there was little natural opportunity for a change in conversation topic. In addition, the expansion of teaching techniques outside of just video modeling to include a more organized turn taking activity would help to facilitate the use of the skills asking questions and making comments. Finally, in the future, including different people in the telehealth intervention sessions would provide more opportunity for conversations. In addition, it would help the participant to see how different people other than the researcher utilize the skills they had been learning.

The behavioral changes that the participant achieved were socially meaningful and carried over into their home environment. With tweaks to the design and the teaching procedures, the telehealth format represents a potentially useful avenue for teaching basic conversational skills utilizing video modeling and BST.

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