

Evaluating the Effects of Remote Behavioral Skills Training and In Situ Training on Response to Bullying

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BGS, The University of Kansas, 2019

Submitted to the graduate degree program in the Department of Applied Behavioral Science and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Master of Arts.

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Date Defended: 28 July 2021

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Date Approved: 28 July 2021

Abstract

Those who experience bullying endure significant repercussions (e.g., Nansel et al., 2004; Sterzing et al., 2012). Thus, it is important to teach individuals who experience bullying how to respond. Many researchers have investigated bullying (e.g., Griffin et al., 2019; Lawson et al., 2013; Olweus, 1994); however, there is minimal research on bullying within behavior analysis (e.g., Rex et al., 2018, Ross & Horner, 2009; Stannis et al., 2019). Additionally, no research has been conducted on teaching victims to identify and respond to bullying and non-bullying behavior. The purposes of the present study were to extend previous research by teaching individuals to discriminate between respectful and disrespectful behaviors and to evaluate the effects of behavioral skills training and in situ training in teaching responses to respectful and disrespectful behavior using remote technology. Results of Study 1 suggest tact training was effective for two participants for whom it was evaluated. Results of Study 2 suggest remote behavioral skills training was effective in teaching responses to disrespectful and respectful behavior for one participant; however, one participant required remote IST.

Keywords: bullying intervention, behavioral skills training, in situ training, remote training

Acknowledgments

First and foremost, I would like to express my deep gratitude to Dr. Jessica Juanico for not only your commitment as my thesis chair, but as my professor throughout my master's program. I am so thankful to have had such a dedicated and compassionate person to advise me. Thanks to you, I can confidently say I am prepared to step into the world as a professional in behavior analysis because of the immense and vital role you have played in shaping who I am and how I learn.

I would also like to thank my thesis committee members, Dr. Robin Kuhn, and Dr. Dorothea Lerman for your patience, expertise, and guidance throughout this project. A huge thank you to my lab mates and research assistants for your constant feedback and assistance in my project. To my mom, dad, sisters, brother, and friends, thank you for continuously helping me throughout this process, whether it was practicing sessions, being actors for the videos, editing my papers or presentations, trying to understand and learn about behavior analysis, or most importantly, putting up with my crankiness. There are no words to describe my appreciation for all of you, but I do know I definitely could not have written this lengthy paper without you all.

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Evaluating the Effects of Remote Behavioral Skills Training and In Situ Training on Response to Bullying

Bullying in school-age children is a national and societal concern (Zablotsky, 2013) that has negative impacts (e.g., Nansel et al., 2004; Sterzing et al., 2012) and can take on various forms, including physical aggression (e.g., hitting, kicking, shoving, hair pulling), verbal aggression (e.g., name calling, teasing, threatening), social exclusion (e.g., being ignored or excluded), and cyberbullying (e.g., Chen & Schwartz, 2012; National Centre Against Bullying; Sherer & Nickerson, 2010; STOMP Out Bullying, 2021; Wright & Wachs, 2020). According to the Centers for Disease Control (2020), bullying is a form of violence that threatens a victim's well-being by increasing risk for depression, anxiety, sleep difficulties, lower academic achievement, dropping out of school, suicidal ideations, social and emotional distress, self-harm, and death. Victims of bullying indicate bullying influences how they feel about themselves, their relationships with friends and family, their schoolwork, and their physical health (Centers for Disease Control, 2020; National Center for Educational Statistics, 2019).

Bullying occurs across different environments and populations. Twenty percent of individuals between the ages of 12 and 18 nationwide have experienced bullying; however, bullying may be most prevalent in schools as 1 out of every 5 students have reported being bullied (National Center for Educational Statistics, 2019). Twenty-eight percent of bullying reports occurred in middle schools, 16% in high schools, 12% in combined schools (i.e., grades K-12), and 9% in primary schools (Centers for Disease Control, 2020). In a nationwide report on bullying, school crime, and student safety, 14% of the nation's public schools reported student bullying occurring at least once a week in 2018 (Wang et al., 2020).

To address bullying, a vast amount of bullying literature has focused on children. Researchers have focused on the impacts of bullying on victims (e.g., Griffin et al., 2019; Zeedyk et al., 2014), the difference in social skills and personality traits between bullies and victims of bullying (e.g., Eisenberg et al., 2015; Reiter et al., 2007), identifying risk factors for perpetration (e.g., Lawson et al., 2013; Yang et al., 2015), interventions for teachers' roles in bullying (e.g., De Luca & Menesini, 2019; Saarento et al., 2014; van der Zanden et al., 2015; van Verseveld et al., 2019; Veenstra et al., 2014), prevention strategies for promoting healthy family environments (e.g., Butler & Platt, 2008; Healy & Sanders, 2014), bystander and peer training (Frey et al., 2009; Sharp et al., 1994), and school-wide bully intervention (e.g., Frey et al., 2005; Leadbeater et al., 2003; Olweus, 1994; Ross & Horner, 2009; Stevens et al., 2000; Tsiantis et al., 2013). These studies have assisted in the development of prevention and intervention strategies.

Although bullying has been extensively researched, there are several limitations of bullying research that may preclude behavior analysts from its study. First, the common definition of bullying makes it challenging to conceptualize (Griffin & Gross, 2004) and contains several subjective characteristics. The three defining core elements of bullying are (a) unwanted aggressive behavior with an intent to harm, (b) an observed or perceived power imbalance, and (c) repetition of bullying behaviors (Centers for Disease Control, 2020; Due et al., 2005; Garrity et al., 1997; Smith & Ananiadou, 2003; PACER's National Bullying Prevention Center; Assistant Secretary for Public Affairs, 2020). Constructs such as intent to harm and perceived power imbalance make studying bullying behavior and developing behavior-based interventions challenging as it is difficult to objectively and reliably measure intent to harm or power differentials. Thus, it may be important to identify a behavioral definition of bullying that is objective, allowing for more behavioral research and interventions. Second, majority of the

studies use indirect measures such as parent and self-reports to document results of intervention (e.g., Christensen et al., 2012; Frey et al., 2005; Griffin et al., 2019; McGrath et al., 2010; Stevens et al., 2000), which may be due to the difficulty in observing bullying incidents as bullying may be more likely to occur in school when adults are not present. Unfortunately, due to the subjectivity of self-report measures, results from these antibullying programs may indicate a perception of less bullying rather than an actual decrease in bullying (Merrell et al., 2008; Stannis et al., 2019). Further, there is an inconsiderable amount of bullying literature that has investigated whether intervention programs are effective in helping victims respond to bullying. Results from Merrell et al.'s (2008) meta-analysis of bully-prevention studies found that none of the antibullying programs showed a reduction in bullying. In addition, the studies relied on measuring how well the participants understood the program and how they thought they would respond to bullying rather than directly measuring the victim's response to the bullying incident. The authors concluded that although there were some positive effects, most studies did not yield significant outcomes, while some even obtained negative outcomes. Third, most of the bullying literature focuses on school-wide bullying prevention, yielding a need for individualized intervention. Bullying is frequent, widespread, and has detrimental impacts on all those involved, thus warranting a behavior analytic approach to effective intervention.

Recently, a few studies have been conducted looking at responses to bullying using a behavioral framework and objective measurement (Rex et al., 2018; Ross & Horner, 2009; Stannis et al., 2019). Ross and Horner (2009) implemented bully prevention in positive behavior support (BP-PBS) using a school-wide behavioral framework by teaching a response to bullying. To allow for an objective measurement of bullying, the authors suggested eliminating the word "bullying" and replacing it with respectful and disrespectful behavior. They taught students how

to respond to people when they are not being respectful. BP-PBS was designed to (a) teach the concept of “being respectful,” (b) teach students a three-step response (stop, walk, talk), (c) precorrect the three-step response prior to entering activities likely to include disrespectful behavior, (d) teach an appropriate reply when the three-step response is used, and (e) train staff on a universal strategy for responding when students report incidents of disrespectful behavior. All the elementary-aged children (i.e., victims, bystanders, and two nominated students from each school that displayed high levels of aggression) from three different schools were taught to be respectful utilizing a three-step response (i.e., stop, walk, talk). Although a functional analysis of bullying has yet to be reported, bullying is hypothesized to be maintained by social attention (Stannis et al., 2019). Therefore, the three-step response Ross and Horner used was aimed at minimizing social reinforcement when an individual encounters disrespectful behavior. Results supported BP-PBS as an effective approach for bullying, demonstrating a decrease in incidents of disrespectful behavior and an increase in respectful responses (i.e., stop, walk, talk).

Stannis et al. (2019) implemented a similar response to bullying (RtB) with four adult men who resided at a group home. All men ranged in age from 34-64 years old, were diagnosed with intellectual disabilities, and were victims of bullying. The RtB included (a) withholding from retaliation (i.e., do not cry, whine, laugh, or engage in verbal or physical aggression), (b) making a short statement of disapproval such as “I don’t like that,” (c) walking away from the area, and (d) telling a staff member or adult about the incident. The researchers used behavior skills training (BST) and in situ training (IST) to teach participants the RtB. BST consisted of instructions, modeling, role play, and feedback. Following BST, a confederate conducted an in situ assessment (ISA) in the group home to assess generalization. ISA involved the confederate approaching the participant on two different occasions and engaging in a bullying statement

(e.g., threats of personal harm, obscenities). Participants were required to demonstrate the RtB with 100% accuracy during the ISA. If participants did not demonstrate 100% accuracy, a BST booster (i.e., review of RtB skills) was conducted. If participants did not demonstrate 100% accuracy following the BST booster, IST was conducted. IST was similar to BST; however, the trainer immediately intervened during the ISA by explaining that the participant did not use the RtB, modeling the correct response, and instructing the participant to engage in the correct response. Finally, if IST was not effective, an incentive phase was conducted in which a reinforcer was provided contingent on three trials completed at 100% accuracy. In summary, all required a BST booster, one required IST, and another required IST plus an incentive. Stannis et al. found that BST and IST may be effective methods to teach the RtB. Although staff and participants reported high acceptability and effectiveness of the intervention on the social validity survey, BST may be time and resource intensive. Thus, video modeling may allow for more efficient training.

One way that victims' responses to bullying have been taught is by using assertive responding (e.g., Bornstein et al., 1980; Nezu et al., 1991) and video modeling. For example, Rex et al. (2018) employed a video modeling intervention that trained six children with autism spectrum disorder (ASD) how to assertively respond to bullying. During baseline, one skills acquisition assessment session (SAAS) consisting of three separate videotaped scenarios, followed by four questions, and one to two in situ probes were conducted. SAAS consisted of videotaped scenarios of individuals acting out physical aggression, verbal aggression, or social exclusion. Each scenario was followed by a set of questions asking what the child would do in each scenario and if they would tell their mother about the event. In situ probes involved adults acting out a bullying scenario and assessing if the child would engage in an assertive response.

Upon conclusion of baseline, the intervention was administered comprising of video modeling, SAAS, and post-intervention in situ probes. First, children were to watch videos of bullying scenarios in which actors responded with an assertive response. After each video, the child was asked what they would do in that situation. Once the child was presented with three videos, they were then asked if they would tell their mother about the event. Second, when criteria for video modeling were met, SAAS video modeling scenarios were shown followed by four questions. Third, post-intervention in situ probes were introduced. Results showed that all six participants established assertive responses to bullying scenarios, and four participants demonstrated the assertive response during the in-situ probes. Thus, video modeling may be an effective intervention in teaching an RtB.

Although these three studies (Rex et al., 2018; Ross & Horner, 2009; Stannis et al., 2019) have demonstrated a variety of effective training methods in teaching responses to bullying, there are a couple gaps within the current research. First, only responses to bullying have been taught. No research has been conducted on teaching individuals to identify and respond to both respectful and disrespectful behavior. Second, no research has taught an RtB using remote interventions. Therefore, the purpose of this study was to replicate and extend previous research on teaching an RtB. Given the repercussions of developing interventions based off bullying language, we did not use the term “bullying” when teaching how to respond to bullying behavior. Rather, we used “respectful” and “disrespectful” behavior similar to Ross and Horner (2009). First, we taught individuals to discriminate between respectful and disrespectful behavior using pre-recorded videos. Second, similar to Stannis et al. (2019), we evaluated the effects of BST and IST in teaching responses to respectful and disrespectful behavior using remote technology.

Study 1

The purpose of Study 1 was to teach participants how to identify disrespectful and respectful behavior using short video clips.

Participants

Three individuals, ages 5 to 17 years old, with and without intellectual and developmental disabilities that were previously bullied were recruited to participate in this study. Participants were able to (a) follow at least two-step instructions; (b) emit two-to three-word phrases through vocal-verbal behavior; (c) answer any “yes,” “no,” and “wh-” questions; and (d) sit and attend to computer stimuli for at least 30 min as identified through a caregiver questionnaire (see Appendix A). Participants who did not meet the inclusion criteria or those who engaged in severe problem behavior (e.g., aggression, self-injurious behavior, property destruction) were excluded from the study.

Three participants were identified based on the inclusion and exclusion criteria. Alexia was a 9-year-old male with no reported diagnoses who had been bullied almost weekly for years. Alexia was reported to engage in appropriate responses when encountered with disrespectful behavior. Regan was a 12-year-old female with no reported diagnoses who had been bullied multiple times. Regan was reported to sometimes engage in appropriate responses when encountered with disrespectful behaviors. Ariel was a 16-year-old male diagnosed with ASD with no history of being previously bullied. Although Ariel reported he had not been previously bullied, caregivers reported they were concerned he had been previously bullied. Thus, Ariel was included in the current study.

Setting and Materials

Sessions were conducted one to three times a day, two to four days per week; however, Alexia did not meet every week. Participants and the experimenter met remotely, and all sessions were conducted using an online video conferencing software, Zoom. All participants had access to a computer with an embedded webcam, microphone, and internet access. Each session was recorded and saved to a Health Insurance Portability and Accountability (HIPAA)-compliant network. Prior to a participant's sessions, a session with their caregivers took place in which the researcher gave the caregiver a parent-guardian informed consent to sign and caregiver questionnaire. Additionally, the researcher conducted an interview with the caregiver. Caregivers were informed about the study (e.g., what types of videos would be shown) and what was required for the sessions (i.e., caregivers needed to be close by during sessions). Following each session, the participant had post-session access to high-preferred online activities determined through a preference assessment (see below).

The experimenter used PowerPoint containing 12, 10- to 15-s video clips each session displaying two to four individuals engaging in disrespectful and respectful behavior during baseline and tact training. Twelve novel videos were used during generalization. The videos were quasi-randomly distributed across sessions. Six disrespectful behaviors and six respectful behaviors were shown each session. Behaviors varied across videos (see Appendix B for example scripts). Disrespectful behaviors consisted of verbal aggression, physical aggression, and social exclusion. Respectful behaviors consisted of polite expressions, being helpful, and social inclusion. Thus, each session, the participant was presented with two exemplars for each type of behavior (e.g., two verbal aggression, two polite expressions). Verbal aggression included statements such as "Why do you always wear weird clothes?" and "You suck at this game," physical aggression included behaviors such as kicking, hitting, and shoving; and social

exclusion included behaviors such as excluding someone and whispering embarrassing comments about someone. Polite expressions included statements such as “Thank you for holding the door” and “Will you please hand me that;” being helpful included behaviors such as retrieving a lost item to its owner and helping someone pick up their books they dropped; and social inclusion included behaviors such as inviting a person sitting alone to sit with you at lunch and including someone in a conversation. All videos were validated by five graduate research assistants prior to the study. Each research assistant independently watched every video used in the study and scored it as “respectful” or “disrespectful” behavior with a rationale.

Response Measurement and Interobserver Agreement

Trained data collectors collected data using paper and pencil on a trial-by-trial basis. During each trial, the data collector recorded a correct, incorrect, or prompted response for identifying the correct behavior (i.e., respectful or disrespectful behavior) and rationale. A *correct response* was defined as the participant engaging in an independent and correct response within 5 s of the initial instruction. For example, if the participant responded “Respectful because they said something nice” after a video of respectful behavior in the form of a polite expression, the data collector recorded a correct response for identifying the correct behavior and a correct response for the rationale. An *incorrect response* was defined as the participant engaging in any response other than the correct response or no response within 5 s of the initial instruction. For example, if the participant responded “Respectful” or “I don’t know” after a video of disrespectful behavior in the form of physical aggression, the data collector recorded an incorrect response for identifying the correct behavior and an incorrect response for the rationale. A *prompted response* was defined as the participant engaging in the correct response following a prompt delay or error correction. For example, if the experimenter said “Disrespectful because

what they said was mean” after a video of disrespectful behavior in the form of verbal aggression, and the participant used the same or similar response following the experimenter’s prompt, the data collector recorded a prompted response. Percentage correct was calculated by dividing the number of correct responses by the total number of correct, prompted, and incorrect responses and multiplying by 100.

A second independent observer recorded data for 50% of sessions for Alexia, 47% of sessions for Regan, and 47% of sessions for Ariel. Interobserver agreement was calculated separately for identifying the behavior and a rationale. An agreement for identifying the behavior or rationale was scored as trials in which both data collectors scored the same response. Interobserver agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. For Alexia, mean agreement was 100% for identifying behavior and 97% (range, 92%-100%) for rationale. For Regan, mean agreement was 99% (range, 92%-100%) for identifying behavior and 100% for rationale. For Ariel, mean agreement was 100% for both identifying behavior and rationale.

Procedure

Preference Assessment

To identify preferred items to be delivered following sessions, two preference assessments were conducted. First, the Reinforcer Assessment for Individuals with Severe Disability (RAISD; Fisher et al., 1996) was conducted with caregivers to obtain information regarding online activities that their child may prefer (see Appendix C). Due to the online format of the current study, questions 1, 2, 8, 9, and 10 were modified to identify activities that could be presented remotely (e.g., videos, games, music, music videos, pictures). For example, question 1

was modified to “Some individuals really enjoy watching TV shows, YouTube videos, music videos, etc. What are things you think _____ most likes to watch on the computer?”

Second, a multiple stimulus without replacement (MSWO; DeLeon & Iwata, 1997) was conducted with five items identified on the RAISD. The activities used in the MSWO were paired with a picture that reflected the given activity. For example, if the activity was watching ‘Drivers License’ (Rodrigo & Nigro, 2021) music video, a picture of Olivia Rodrigo was used as the stimulus. Prior to the start of the MSWO, the experimenter gave the participant 20-s access to each stimulus. Following exposure, the experimenter stated, “Pick your favorite.” Following selection, the experimenter delivered the online stimulus for 20 s. Once 20 s had elapsed, the stimulus chosen was removed. The nonselected stimuli were rearranged, and the experimenter instructed the participant to choose a different activity. This repeated until all activities were selected. If the participant did not select an activity within 5 s of the experimenter instructing the participant to “pick one,” the experimenter rearranged the array and instructed the participant to pick an activity. If the participant did not select an activity within 5 s following re-presentation, the MSWO ended. The activities selected first and second were used as high-preferred items for the last 5 min following each session.

General Procedures

All sessions included 12 videos that were counterbalanced across each session. Six videos consisted of disrespectful behavior and six videos consisted of respectful behavior. At the beginning of each session, the experimenter informed the participant they would watch a 10- to 15-s video clip and at the end of the video, they would tell the experimenter if they thought the target individual was being respectful or disrespectful to the other individual in the video and why. Following instructions, the experimenter stated, “Watch this video to the end and tell me if

the person in the [white shirt] is being respectful or disrespectful to the person in the [brown shirt] and why you think so” and showed the participant the video. Once the participant finished watching the video, the experimenter waited 5 s for the participant to engage in a response. After the participant responded, the experimenter then moved on to the next video until all videos were presented. At the end of each session, the experimenter presented the two preferred activities chosen in the MSWO and asked the participant which one they would like to watch at the end of the session. The chosen activity was presented for 5 min at the end of each session.

Baseline. During baseline, no praise was delivered following correct or incorrect responses; however, the experimenter provided praise intermittently for following instructions and attending to the videos. Participants who scored greater than 90% during three consecutive baseline sessions moved to generalization, and those who scored less than 90% continued to tact training.

Tact Training. During tact training, the experimenter delivered descriptive praise for correct responses and used error correction for incorrect responses. A progressive prompt delay (i.e., 0-s, 3-s, and no prompt) was used (Miguel & Kobari-Wright, 2013). At the 0-s prompt delay, the experimenter immediately delivered a vocal prompt of the correct responses following completion of the video. If the participant engaged in a correct response at the 0-s prompt delay, descriptive praise was delivered (e.g., “You’re right! The individual was being disrespectful because he hit him.”). If the participant engaged in an incorrect response, the experimenter implemented error correction by re-presenting the video and delivering a vocal prompt at a 0-s time delay. If the participant engaged in a prompted response, neutral praise was delivered (e.g., “That person is being disrespectful because she ignored her.”). If the participant engaged in an incorrect response following error correction, the experimenter moved on to the next video. The

criterion for increasing the prompt delay was two consecutive sessions in which the participant engaged in at least 90% correct and prompted responses at each delay level. If at any prompt level the participant engaged in correct responding during 90% or more of trials on the first session in that prompt level, then the experimenter skipped to the last prompt level (no prompt). Mastery criteria were 90% correct responses across two consecutive sessions at the last prompt level (i.e., no prompt).

Generalization. Generalization was conducted during baseline and following mastery of tact training and was similar to baseline but consisted of 12 novel videos (i.e., six videos of disrespectful and six videos of respectful behavior) depicting different behaviors. For Participant 2, the experimenter delivered descriptive praise during the generalization probe post-training.

Experimental Design

A noncurrent multiple baseline design (Watson & Workman, 1981) across participants was used to examine the functional relationship between tact training and identification of respectful and disrespectful behavior. That is, the introduction of tact training was staggered across participants. All participants began in baseline. Once a consistent pattern of responding was observed for the first participant, we implemented tact training while the other participants remained in baseline. This continued until all participants completed tact training and generalization sessions. That is, tact training was implemented with subsequent participants when a change in responding was demonstrated with the previous participant. Generalization was conducted for each participant during baseline and when they meet mastery criteria.

Results

Figure 1 depicts the results for Study 1. Sessions are scaled to the x-axis, and percentage correct is scaled to the y-axis. Closed circles denote identifying behavior, closed squares denote

rationale, open circles denote generalization probes for identifying behavior, and open squares denote generalization probes for rationale. Alexia's data are depicted in the top panel, Regan's in the middle panel, and Ariel's in the bottom panel.

During baseline, Alexia initially engaged in moderate to high levels of percentage correct followed by an increase to high levels for both identifying behavior and rationale. He met mastery criteria during baseline and maintained high levels of percentage correct during the generalization probe for both responses. During baseline, Regan initially engaged in moderate to high levels of percentage correct across both behaviors. Identifying behaviors remained at high levels during baseline; however, percentage correct for the rationale decreased to low levels. During the generalization probe, Regan engaged in moderate to high levels of percentage correct for both behaviors. Following the 0-s prompt delay during tact training, percentage correct for both behaviors increased to high levels. She met mastery criteria and maintained high levels of percentage correct during the generalization probe for both responses. Ariel initially engaged in moderate levels of percentage correct during baseline followed by an increase to higher levels for identifying behavior during both baseline and the generalization probe. He engaged in zero percent correct for rationale throughout baseline and the generalization probe. During tact training, percentage correct increased to high levels of responding for both identifying behavior and rationale following the 0-s prompt delay. He met mastery criteria and engaged in moderate to high levels of percentage correct during the generalization probe.

Discussion

The purpose of Study 1 was to teach participants how to identify respectful and disrespectful behavior and to give a rationale for both behaviors using short video clips. Overall, our data suggest that tact training was effective for two participants for which it was

implemented (Regan and Ariel), while tact training was not necessary for one participant (Alexia). All three participants could identify the difference between respectful and disrespectful behavior prior to training at moderate to high levels, and two of the participants were unable to identify the rationale (Regan and Ariel). During tact training, one participant (Regan) required training at the 0- and 3-s prompt delay, while one participant (Ariel) required training at the 0-s prompt delay prior to meeting mastery criteria at the last prompt level. Generalization occurred for both behaviors for one participant (Regan) and for one behavior (identifying behavior) for a second participant (Ariel).

Tact training may have been effective for two participants (Regan and Ariel) for several reasons. First, it is likely tact training was effective due to the manner in which prompts were delivered (Reichow & Wolery, 2011). That is, by using a progressive prompt delay, control from the experimenter's response prompt (e.g., "Respectful because she said thank you") was likely transferred to the experimenter's instruction (e.g., "Watch this video to the end and tell me if the girl in the [white shirt] is being respectful or disrespectful to the girl in the [brown shirt], and why you think so.") and video as the prompt delay faded. Therefore, the response came under the control of the instruction and video rather than the prompt (Dell'Aringa et al., 2021). Second, the error correction procedure may have strengthened stimulus control such that the correct responses were more likely to occur under the instructional stimulus (Rodgers & Iwata, 1991). We also delivered neutral praise following prompted responses during both error correction and 0-s prompt delay sessions which potentially could have enhanced control of the experimenter's instruction. This may explain why both participants engaged in all prompted responses and no incorrect responses during the 0-s prompt delay. Third, it is also probable that error correction functioned as a punisher decreasing the likelihood of incorrect responses (Worsdell et al., 2005).

Thus, negative reinforcement may have resulted in additional effort to engage in the correct response to avoid error correction. Finally, for both participants, it is also possible that the repeated exposure to the same 12 videos during baseline and tact training increased correct responding.

Interestingly, all three participants identified and discriminated between bullying and non-bullying behavior at relatively high levels without training. These results could imply that teaching identification of behavior might not be necessary for some individuals. For the two participants who required additional training for identifying a rationale, their incorrect identification of a rationale during baseline sessions may have been a consequence of not understanding expectations or instructions not being clear. For example, Ariel did not engage in any response for identifying a rationale, as his response only included identifying the behavior until tact training, which then included both components of the required response. His abrupt acquisition during tact training further supports instructions may have been unclear.

Additionally, although Regan's responding decreased to low levels during baseline for identifying rationale, she initially scored at moderate to high levels for identifying the rationale during the first three baseline sessions. Although identifying rationale decreased during baseline, Regan's initial high levels may suggest that she possessed the skill prior to training but there was no motivation in place to engage in the correct response.

Generalization occurred for one participant (Regan) and for one behavior for a second participant (Ariel). It is possible responding generalized due to stimulus generalization such that the behaviors in the videos acquired stimulus control over the participants' responses during intervention, thus generalizing responses to novel but similar stimuli during generalization probes (Catania, 2013). Additionally, multiple exemplar training may have facilitated

generalization as we trained across 12 different videos depicting different individuals and behaviors during tact training (Carr, 2003); however, it may also be that an additional stimulus other than stimuli for which we programmed may have evoked responding such as the presence of the experimenter, actors in videos, or Zoom (Dinsmoor, 1995).

Although both participants generalized skills, Ariel generalized only one skill, identifying behavior. For example, in a video displaying two actors having a conversation and one actor engaging in a respectful behavior, one actor asked, “What do you want to play?” to which the other actor responded, “I want to play soccer.” The first actor then responded, “I like that idea. That sounds fun.” Ariel’s response was, “Respectful because she’s talking about sports to the other girl.” Ariel’s rationale should have been comprised of certain aspects of the behavior such as the actor giving the other actor an option to choose what she wanted to play or agreeing and liking her idea rather than conversation about sports. It is possible Ariel needed additional training or exemplars of respectful behaviors to enhance generalization. Ariel immediately scored 100% for both behaviors during the 3-s prompt delay, which resulted in his next session at no prompt delay. Ariel met mastery criteria after two sessions at no prompt delay, completing the intervention. Ariel may have benefited from additional training sessions at the 3-s prompt delay. Researchers could incorporate another prompt level during tact training or change the progression of prompts to allow additional training sessions prior to mastery. Additionally, although 12 videos depicting different individuals and behaviors were evaluated during tact training, it may have been beneficial to train across more videos of each behavior such that participants were exposed to more topographies of each behavior. Finally, it is worth noting Ariel engaged in incorrect responses for disrespectful behavior consisting of social exclusion. There is a lower likelihood of Ariel having a history of being socially excluded, as males are less

likely to report being the subject of social exclusion (PACER's National Bullying Prevention Center; Stop Bullying, 2020).

It should be noted that praise was delivered for all trials during the generalization probe post training for Regan. Praise delivered contingent on correct responding during generalization could be problematic in that responding may have occurred due to programmed consequences rather than in the presence of the stimulus (i.e., behavior in the videos). Finally, despite one participant not requiring tact training, and two participants demonstrating generalization, it is unclear whether the skills taught would generalize to in-vivo conditions. Therefore, it will be valuable for researchers to evaluate generalization in the environment in which disrespectful and respectful behavior occurs (e.g., school environment) as this is where responses taught during Study 2 should occur and maintain.

There were several limitations from Study 1. First, some of the behaviors used in the videos could be interpreted as humor or sarcasm. For example, in a video exhibiting an actor engaging in a disrespectful behavior by calling another actor a nerd, Alexia engaged in an incorrect identification of behavior in his response, "Respectful because he called her a nerd," rather than "Disrespectful." Although this video was validated by five separate research assistants and coded as disrespectful, it is possible that some participants viewed these behaviors as humorous rather than disrespectful, which might have affected participant responding. Second, due to the nature of the study being conducted remotely, we were unable to control for all contingencies within the home setting during all sessions such as family members interrupting, dogs barking, videos glitching, or participants eating. For example, following a video during baseline, Regan's dog barked, resulting in Regan not responding to the instruction. Alexia's caregiver interrupted a session by telling him to pay attention and answer the

researcher's questions. Further, there was one session in which videos did not play sound on the participant's computer, resulting in a session terminating. Meeting guidelines or expectations may be imperative to review with caregivers prior to the start of training to reduce the likelihood of extraneous variables affecting participant responding. Third, some videos were recorded outside containing background noises such as a lawn mower, which could have resulted in participants having a difficult time hearing the bullying behaviors or distraction from the behaviors. Researchers should attempt to decrease background noise of videos to ensure they are high quality but reflect what occurs in the natural environment.

Based on our findings, there is a considerable number of directions for researchers to investigate. First, researchers should continue to teach and assess discrimination prior to conducting a bully prevention procedure. It may be important for individuals to discriminate between respectful and disrespectful behaviors such that the response to disrespectful behavior occurs in the correct context. Second, given COVID-19, we were not able to assess responding in-person, thus conducting generalization procedures in-vivo would be beneficial to evaluate whether these behaviors generalized to the setting in which they should occur. Third, researchers should consider using diverse bullying behaviors such as cyberbullying or more nuanced behaviors such as sarcasm and joking when training discrimination amongst behaviors. Expanding on behaviors trained that victims of bullying are likely to experience may aid in discriminating which response to engage in the correct context and be more reflective of behaviors they are likely to encounter. Given the number of individuals on social media, it may also be important to teach discrimination of disrespectful behavior online. Additionally, people respond differently to sarcasm and joking. Thus, these behaviors may be more difficult to train or label as disrespectful.

Study 2

The purposes of Study 2 were to evaluate remote BST and IST on teaching responses to disrespectful and respectful behavior and to evaluate generalization.

Participants, Settings, and Materials

Participants, settings, and materials were similar to Study 1. We used six of the 12 videos from Study 1 generalization for Study 2 generalization probes, 12 videos from Study 1 baseline and tact training for remote BST, six new videos for probes (i.e., baseline, post remote BST, and remote IST), and two new videos for video modeling.

Target Behavior and Response Measurement

Participants were trained on two separate response topographies. That is, they were trained how to respond to disrespectful and respectful behavior. The response to disrespectful behavior consisted of four safety skills similar to Stannis et al. (2019): (a) withholding from retaliation (i.e., participant will not cry, whine, laugh, steal, or engage in verbal or physical aggression), (b) making a short statement of disapproval (i.e., “Please stop,” “I don’t like that”), (c) walking away from the area, and (d) telling an adult about the incident. All skills needed to occur within 5 s of the previous step. Data collectors recorded a response to disrespectful behavior on a 5-point scale: 0 = *participant retaliated against the individual verbally or physically, regardless of the other three behaviors (i.e., made a short statement of disapproval, walked away from the area, or told a caregiver about the interaction)*, 1 = *participant did not retaliate against the individual but did not engage in the other three steps*, 2 = *participant did not retaliate against the individual and engaged in one of the following steps: stated a short statement of disapproval, walked away from the area, or told a caregiver about the interaction*, 3 = *participant did not retaliate against the individual, and engaged in two of the following steps:*

stated a short statement of disapproval, walked away from the area, or told a caregiver about the interaction, 4 = participant did not retaliate against the individual, stated a short statement of disapproval, walked away from the area, and told a caregiver about the interaction.

The response to respectful behaviors consisted of: (a) not engaging in the response to disrespectful behavior, (b) staying within proximity of the individual, and (c) making a statement of approval (i.e., “Thank you for giving my books back,” “You’re welcome”) or responding to the initiation (i.e., “Yes I will be your partner,” “I’ll help you find your pencil”) within 5 s of the video ending. Data collectors recorded a response to respectful behavior on a 4-point scale: 0 = *participant engaged in the response to disrespectful behavior*, 1 = *participant did not engage in the response to disrespectful behavior but did not engage in the response to respectful behavior*, 2 = *participant did not engage in the response to disrespectful behavior and engaged in one of the following steps: stayed within proximity of the individual, stated a short statement of approval or responded to the initiation within 5 s of the video ending*, 3 = *participant did not engage in the response to disrespectful behavior and stayed within proximity of the individual and stated a short statement of approval or responded to the initiation within 5 s of the video ending.*

Interobserver Agreement

A second independent observer recorded data for 31% of probes for Alexia, 33% of probes for Regan, and 35% of probes for Ariel. An agreement was scored as probes in which both data collectors scored the same behavior as correct or incorrect for each probe.

Interobserver agreement was calculated by dividing the number of agreements on the target behaviors by the number of agreements plus disagreements and multiplying by 100. For all three

participants, mean agreement was 100% for response to both response to disrespectful and respectful behavior.

Procedure

General Procedures

During each probe, a single video of an individual engaging in disrespectful or respectful behavior was presented. Six videos were presented in a pseudorandom fashion such that videos were rotated and were not played in the same order. Three videos depicted disrespectful behaviors (i.e., one video of verbal aggression, one of physical aggression, and one of social exclusion) and three depicted respectful behavior (i.e., one video of polite expressions, one of being helpful, and one of social inclusion). Prior to the first probe, the experimenter told the participant that she will play videos to which the participant should respond. At the end of each session, the experimenter presented the two preferred activities chosen in the MSWO and asked the participant which one they would like to watch at the end of the session. The chosen activity was presented for 5 min at the end of each session. Throughout all sessions, the experimenter delivered statements related to attending such as “I like how you are working so hard.”

Baseline. Participants were instructed to watch the video and respond based on the individual’s behavior. Following completion of the video, the participant was given 5 s to initiate a response to the video. No programmed consequences were delivered following the participant’s response.

Remote BST. At least two, 30-min remote BST sessions were conducted with each participant to teach each participant how to respond to disrespectful and respectful behavior. Remote BST sessions ended once at least two remote BST sessions had been conducted and the

individual correctly responded twice for both disrespectful and respectful behavior across four consecutive trials in the absence of feedback.

Video Instruction. Video instructions included the experimenter describing (a) disrespectful behavior (i.e., definition, examples of disrespectful behavior), (b) why it is important to respond correctly to disrespectful behaviors, (c) how to respond to disrespectful behavior, (d) respectful behavior (i.e., definition, examples of respectful behavior), (e) why it is important to respond correctly to respectful behaviors, and (f) how to respond to respectful behavior. Instructions were given on how to respond to disrespectful behavior by engaging in four steps: (a) withholding from retaliation (i.e., participant will not cry, whine, laugh, steal, or engage in verbal or physical aggression), (b) making a short statement of disapproval (i.e., “Please stop,” “I don’t like that”), (c) walking away from the area, and (d) telling an adult about the incident. Participants were instructed to respond to respectful behavior by engaging in three steps: (a) do not engage in the response to disrespectful behavior, (b) staying within proximity of the individual, and (c) making a statement of approval (i.e., “Thank you for giving my books back,” “You’re welcome”) or responding to the initiation (i.e., “Yes I will be your partner,” “I’ll help you find your pencil”).

Video Modeling. Following instructions, the experimenter paused the video and told the participant to watch the videos of the experimenter modeling the response to disrespectful behavior and the response to respectful behavior.

Rehearsal and Feedback. Following video modeling, the experimenter told the participant to watch the video and to respond to the individual using the response to disrespectful or respectful behavior. Similar to baseline, the experimenter played a video of disrespectful or respectful behaviors. Following completion of the video, the experimenter waited 5 s for the

participant to initiate a response. The experimenter provided descriptive praise for correct responses and corrective feedback for incorrect responses. Each participant must have displayed all four steps of the response to disrespectful behavior and all three steps of the response to respectful behavior two consecutive times before moving onto post remote BST. Videos used were the same as those used in Study 1 baseline and tact training.

Post Remote BST. Once each participant displayed the response to disrespectful and respectful behaviors correctly during the remote BST sessions, post remote BST was conducted in the same way as described in baseline to assess responding post-training. Videos used in post remote BST were the same as the videos used in baseline. Once the participant demonstrated the response to disrespectful behavior twice and response to respectful behavior twice and across four consecutive sessions in post remote BST, the intervention was complete.

Remote IST. Remote IST was used if the participant did not demonstrate all of the steps at 100% in the response to disrespectful and respectful behavior twice and across four consecutive sessions during post remote BST. The intervention was similar to post remote BST; however, contingent on an incorrect response, the experimenter immediately delivered feedback. That is, contingent on an error, the experimenter immediately stopped the participant and notified them of the error. Then the experimenter modeled the correct response and instructed the participant to rehearse the correct response for that video. Praise was delivered contingent on correct responding and corrective feedback was delivered contingent on incorrect responding. The participants were required to rehearse the correct response twice. Once the participant engaged in at least five probes at 100%, the intervention was complete.

Remote Generalization. Generalization was conducted during baseline and following mastery. Sessions were conducted similar to baseline but consisted of six videos that were used in Study 1 generalization.

Experimental Design

A noncurrent multiple baseline design (Watson & Workman, 1981) across participants was used to examine the functional relationship between remote BST and remote IST and the use of the response to disrespectful and respectful behavior by bully victims. That is, the introduction of remote BST was staggered across participants. All participants began in baseline. Once a consistent pattern of responding was observed for the first participant, we implemented remote BST while the other participants remained in baseline. This continued until all participants completed remote BST, post remote BST, remote IST (if needed), and generalization probes. That is, remote BST was implemented with subsequent participants when a change in responding was demonstrated with previous participant. Generalization occurred during baseline and following mastery for each participant.

Results

Figure 2 depicts the results for Study 2. Probes are scaled to the x-axis, steps correct for response to disrespectful behavior are scaled to the left y-axis, and steps correct for response to respectful behavior are scaled to the right y-axis. Closed circles denote response to disrespectful behavior, and closed squares denote response to respectful behavior. Open circles denote generalization probes for response to disrespectful behavior, and open squares denote generalization probes for response to respectful behavior. Alexia's data are depicted in the top panel, Regan's in the middle panel, and Ariel's in the bottom panel.

During baseline and the generalization probes, Alexia engaged in moderate levels of response to respectful behavior and low levels of response to disrespectful behavior. Following remote BST, Alexia engaged in high levels of response to respectful behaviors; however, he continued to engage in a similar level of responses for his response to disrespectful behavior. When remote IST was implemented, Alexia continued to engage in high levels of response to respectful behavior and correctly engaged in the response to disrespectful behavior on two of the three probes. During generalization, Alexia correctly engaged in both responses at high levels. During baseline and the generalization probes, Regan engaged in high levels of response to respectful behavior and moderate levels of responding for response to disrespectful behavior. Following remote BST, steps correct remained at high levels for response to respectful behavior and immediately increased to mastery criteria for response to disrespectful behavior within three sessions. Additionally, Regan engaged in similar level of steps correct during the generalization probes. During baseline and the generalization probes, Ariel engaged in low to moderate levels of response to disrespectful behavior and moderate to high levels of response to respectful behavior. Following remote BST, Ariel engaged in higher levels of responding for both responses; however, he engaged in zero steps correct for one of the probes in the response to respectful behavior. Ariel engaged in high and consistent levels for both responses during remote IST. During generalization probes, Ariel's responding to both responses was more variable.

Discussion

The purpose of Study 2 was to evaluate remote BST and IST in teaching a response to both disrespectful and respectful behavior using short video clips. The results suggest remote BST was effective in training the response to disrespectful behavior for Regan and the response to respectful behavior for Alexia. Similar to other safety skills research (e.g., Himle et al., 2004;

Miltenberger et al., 2005), not all participants demonstrated the skills following remote BST alone. Alexia required remote IST to learn the response to disrespectful behavior, and Ariel required remote IST to learn the response to both behaviors. Two participants generalized the response to disrespectful and respectful behavior to six new video clips depicting disrespectful and respectful behavior; however, Ariel's responding for both behaviors was more variable. Thus, he did not maintain responding during generalization probes.

It is possible that remote BST was effective due to potential reinforcing and punishing effects that remote BST had on responding (Skinner, 1953). Remote BST may have acted as a reinforcer or punisher increasing correct responding and decreasing incorrect responding. It is also likely that remote BST was effective due to instructions, modeling, rehearsal, and feedback as these components have proven to be an effective intervention across numerous skills (e.g., Dogan et al., 2017; Miltenberger et al., 2013; Nigro-Bruzzi & Sturmey, 2010). Remote BST may have altered behavior through instructions on why and how to perform, accurate skill performance through video modeling, repetition of practicing the skills, and corrective or positive feedback allowing for successful transfer of skill mastery. Video modeling may have also resulted in quicker acquisition as video modeling is effective in teaching countless skills and has demonstrated to be a quick method of intervention, enhancing generalization (Rex et al., 2008). Additionally, the remote BST we used in the current study was competency based rather than time based such that each participant was required to meet mastery criteria in order to complete training. According to Reid (2017), utilizing a predetermined mastery criterion ensures the participants can demonstrate the skill at high levels before applying the skill to the natural environment, thus increasing the likelihood for generalization.

Although remote BST was effective, BST can be time consuming and possibly aversive. Alexia required three remote BST sessions to engage in the correct steps for response to disrespectful behavior. A common mistake throughout all remote BST sessions was that Alexia's statement of approval or disapproval was, "If I were the girl, I would say that was not nice," opposed to engaging in the response to disrespectful behavior. It is possible that the expectations were not clear or the simulated nature of probes made responding to the situation less likely. It is also important to note that prior to remote BST, Alexia was meeting several times a week for sessions; however, following the second remote BST session, there was a time lapse of over 3 weeks before he met for the third remote BST session. Thus, it is possible that the repeated trials and corrective feedback during rehearsal acted as a punisher, resulting in burnout or avoidance of sessions.

Remote IST was required for acquiring the response to disrespectful behavior for Alexia and required for both responses for Ariel. Several researchers have demonstrated BST alone is not always effective. IST is often used as a supplemental training for individuals who do not demonstrate the skill following BST and to enhance generalization of the skill (e.g., Himle et al., 2004; Miltenberger et al., 2005). In the current study, remote IST may have been more effective in that the participant was required to rehearse the correct step twice before moving to the next video. Thus, rehearsal and feedback in the moment may have functioned as a punisher, decreasing incorrect responding (Skinner, 1953). Therefore, the participant may have engaged in correct responding to avoid rehearsal and feedback. Another possible explanation for the effectiveness of remote IST is that during the probes, participants received praise contingent on correct responding which could have increased correct responding. It may be interesting to determine whether IST is a more time efficient training procedure than BST.

Similar to Study 1, generalization may have been due to stimulus generalization (Catania, 2012) or multiple exemplar training (Carr, 2003), as we trained across six different videos depicting different individuals and behaviors during remote BST. However, it may also be that an additional stimulus other than stimuli for which we programmed evoked responding (Dinsmoor, 1995). Although the participants demonstrated these skills in the presence of novel behaviors and videos, it is unclear whether these skills would also occur in-vivo, which is where they need to occur. Therefore, it will be valuable for researchers to evaluate generalization in the environments in which bullying behavior occurs as this is where the responses taught should occur and maintain. Researchers could also consider developing remote generalization procedures to allow for measurement of behavior under more ecologically valid environments. Given Ariel's variability in responding during the generalization probes, it may have been beneficial to train across more videos of each behavior such that he was exposed to more topographies of each behavior. Additional training across exemplars may have enhanced generalization.

There are several limitations of Study 2. First, due to the nature of the study, remote interventions present a few issues that may have affected participant responding. For example, the simulated nature of the role play was difficult for some individuals and may have affected acquisition. It is possible that in-vivo training facilitates more effective and efficient training given the real-life, face-to-face nature of probes. A second limitation includes the experimenter delivering an instruction (e.g., "Show me how you would respond to the boy in the [white shirt], pretend you are the girl in [brown jacket]") prior to each video. This instruction could have functioned as the discriminative stimulus rather than the video displaying bullying or non-bullying behavior. However, it was necessary that participants discriminate between respectful

and disrespectful behavior in the videos, reducing the likelihood that the instruction controlled responding. Given the possibility of the instruction influencing behavior, it is crucial that bullying and non-bullying behavior acquire stimulus control over the participant's behavior rather than the instruction during training. Third, two participants had difficulty across a few trials in remembering which actor in the video they should pretend to be. It may be more effective to have a visual indicator displayed on the computer screen such as an arrow pointing to which actor they should observe. Fourth, the bullying behaviors used were not individualized. Bullying is a complex behavior, presenting in many topographies. The behaviors used in the present study may not have been representative of the bullying behaviors the participants typically encounter. Therefore, it is not known whether responses taught will generalize to bullying behaviors typically encountered in the natural environment. Finally, maintenance sessions were not conducted, so it is unclear how long this skill would maintain in the absence of feedback.

Based on the findings from Study 2, there are several suggestions for future research. First, researchers should evaluate in-vivo generalization and maintenance measures to determine whether remote training is an effective teaching modality. Second, researchers should consider individualizing the behaviors within the study. It is possible that conducting a descriptive assessment to determine the types of bullying or specific statements the individual encounters would result in more effective intervention and generalization of the skill. Third, most bullying research assumes bullying is maintained by social positive reinforcement in the form of attention. Thus, a descriptive assessment or functional analysis should be conducted prior to a bullying intervention to establish a function maintaining the bullying to allow for more individualized

interventions. Finally, future research should consider evaluating the criterion necessary for acquisition and demonstration of skills following remote BST.

The present study aimed to teach (a) discrimination between respectful and disrespectful behavior, (b) identification of a rationale, and (c) a response to disrespectful and respectful behavior using remote technology. In summary, the results from Study 1 suggest participants discriminated between respectful and disrespectful behavior; however, tact training was necessary in teaching discrimination for identifying a rationale. Considering the small number of participants, it may be important for researchers to continue assessing discrimination between respectful and disrespectful behavior prior to teaching a response to bullying to ensure participants are engaging in the correct response based off the behavior. Study 2 results suggest remote BST was effective for teaching responses to respectful and disrespectful behavior with the addition of remote IST for two participants. The effectiveness of this procedure may increase the likelihood of participants engaging in an appropriate response that minimizes attention and decreases bullying behavior. Finally, although there are countless studies on bullying, there is value and a need for increasing the use of behavior analytic procedures in bully prevention. We hope that despite the barriers preventing researchers from study bullying from a behavioral framework, researchers continue to evaluate additional interventions.

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Figure 1

Study 1 results for Alexia, Regan, and Ariel.

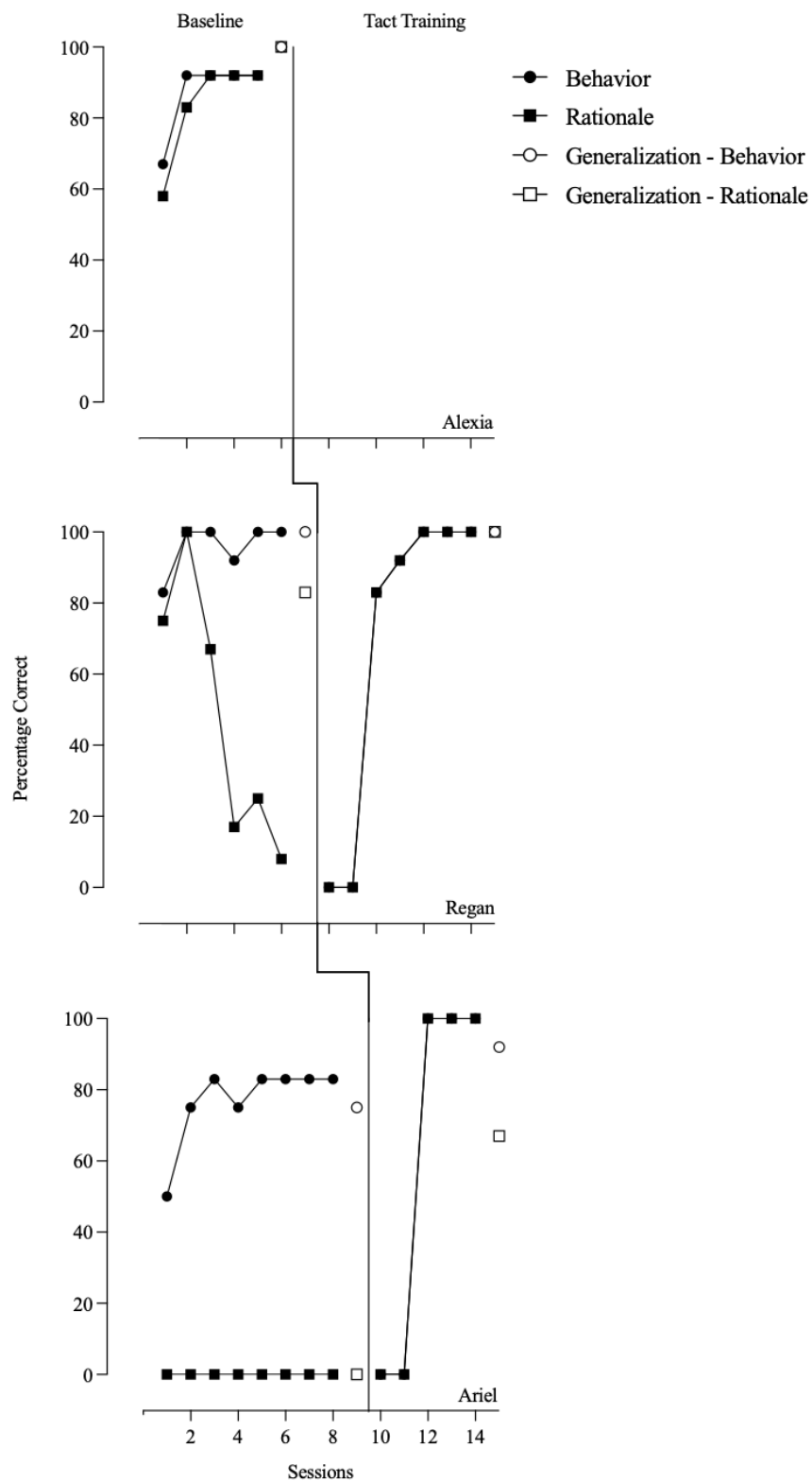
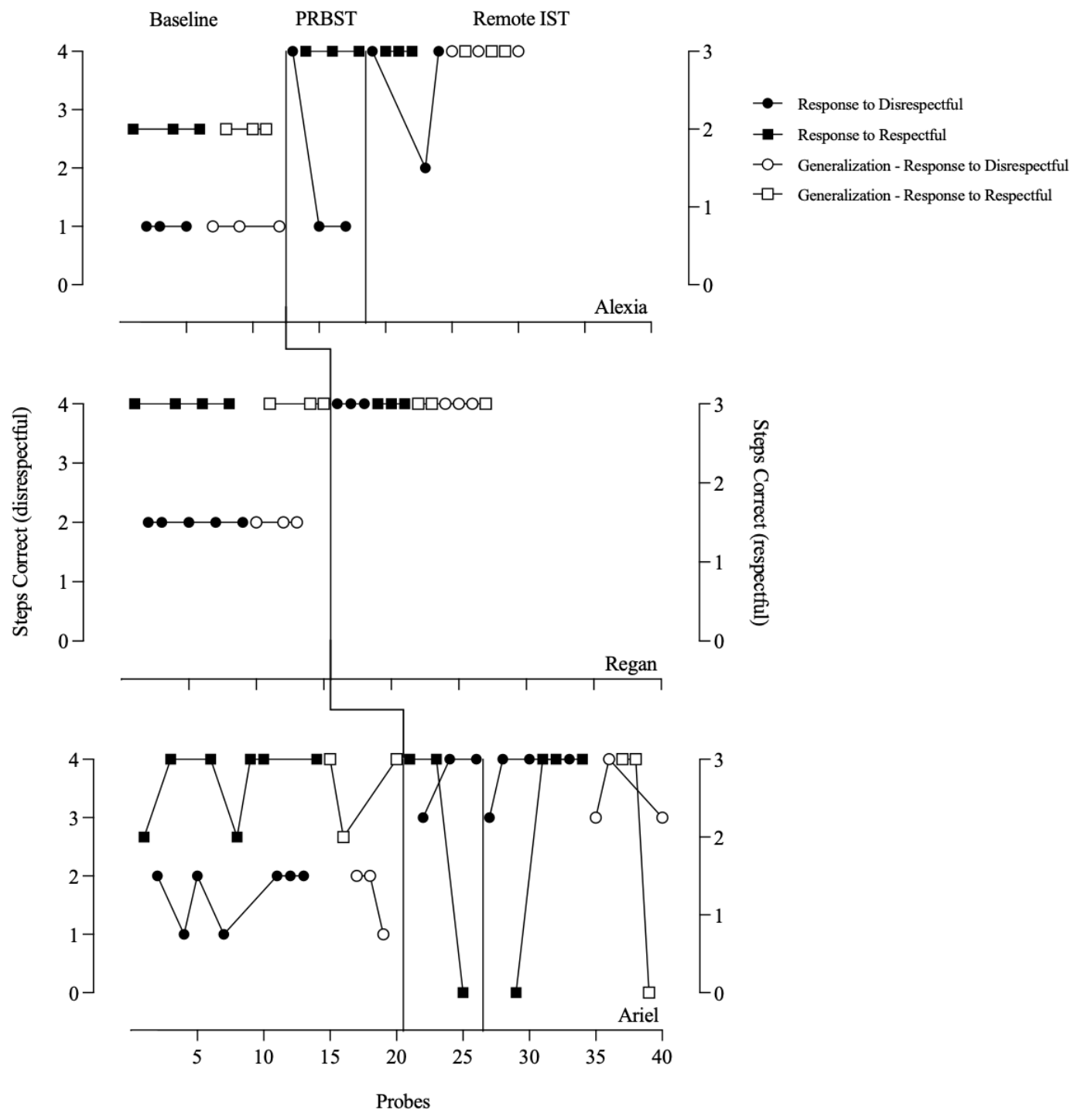


Figure 2

Study 2 results for Alexia, Regan, and Ariel.



Appendix A: Caregiver Questionnaire

Name of Person Completing Survey: _____

Relationship to Individual Participating in Study: _____

Participant Name: _____

Participant Age: _____

Participant Gender: _____

Participant Diagnosis: _____

1. Does your child engage in problem behavior such as aggression, self-injurious behavior, elopement, property destruction, or noncompliance? Yes No
 - a. If Yes, how often does your child engage in problem behavior?
 - b. If Yes, when does your child typically engage in problem behavior?
2. Is your child able to complete multiple-step instructions (e.g., clap your hands, touch your nose and say your name)? YES NO
3. Can your child speak in two- to three-word sentences using language, PECS, or an AAC device? YES NO
4. Can your child answer yes or no questions (e.g., "Do you like nachos?")? YES NO
5. Can your child answer WH- questions (e.g., What is your favorite color)? YES NO
6. Has your child been previously bullied? YES NO
7. How many times has your child been bullied previously? _____
8. Can your child identify disrespectful (e.g., name calling) and respectful (e.g., helping someone) behavior if shown a video? YES NO
9. Does your child engage in appropriate responses when encountered with disrespectful behavior? YES NO

10. Does your child use the computer every day? YES NO

If yes, how many times per day? _____

If no, how many times per week? _____

11. On average, how long does your child use the computer in one

sitting? _____

12. What is the longest amount of time your child has used the computer in one

sitting? _____

13. Can you your child use a computer for at least 30 min in one sitting? YES NO

Appendix B: Example Scripts

Disrespectful Behavior

Verbal Aggression: Two girls racing on basketball court. One girl trips and falls to ground while saying, “Ow”. The bully walks by the girl on the ground and says, “Don’t be such a baby.”

Respectful Behavior:

Polite Expressions: A boy walks by a girl and bumps into her on accident. He looks at her and says, “Excuse me, I’m sorry I didn’t mean to bump into you.”

Appendix C: Modified RAISD (Fisher et al., 1996)

1. Some individuals really enjoy watching TV shows, YouTube videos, music videos, movies, etc. What are the things [child's name] likes to watch on the computer?
2. Some individuals really enjoy listening to music, interviews, animal sounds, sing-a-longs, etc. What are the things [child's name] likes to listen to?
3. Some individuals really enjoy attention from other people such as saying, "Good job," clapping, "woohoo," etc. What are forms of verbal attention [child's name] most enjoys?
4. Some individuals really enjoy certain online games or activities like angry birds, tic-tac-toe, cartoon network games, etc. What online games [child's name] likes to play on the computer?
5. What are some other online items or activities that [child's name] really enjoys?