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## Using a Peer-Mediated Bullying Safety Skills Intervention for Children with Disabilities

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Using a Peer-Mediated Bullying Safety Skills Intervention for Children with Disabilities

by

Jennifer Leigh Trapani

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science  
with a concentration in Applied Behavior Analysis  
Department of Child & Family Studies  
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## **DEDICATION**

To have made it through the trials and tribulations this last year has brought is truly a blessing in itself. Through a pandemic and the imperativeness of graduating on time due to BACB task edition changes, this program was nothing short of stressful. I dedicate this manuscript to my family, friends, classmates, and fellow lab-mates and mentors. They are the reason I was able to face these challenges fearlessly. I cannot thank my thesis site enough for being the umpteenth school I contacted to complete my research at and being the only “yes” I received. It was because of these people that I am now here able to see the light at the end of the graduate school tunnel. I look forward to continuing a life of clinical practice and research, made possible from the program of Applied Behavior Analysis at USF.

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## **ABSTRACT**

As bullying continues to be a growing problem in schools, research is needed to further evaluate the effectiveness of current bullying prevention and intervention programs for children with disabilities. The peer-mediated intervention (PMI) is an evidence-based practice that has been successful in teaching social skills to children with disabilities. PMI literature can be extended by exploring and evaluating its effectiveness in teaching bullying safety skills to children with disabilities. The current study examined the use of PMI to teach children with disabilities bullying safety skills with four students (2 peers and 2 learners) in grades kindergarten and third grade. Typically developing peers were trained to teach children with disabilities, using behavioral skills training, on how to use bullying safety skills. The impact of the PM bullying safety skills intervention on target children's use of bullying safety skills was evaluated using a nonconcurrent multiple-baseline across participants design. The results indicated that the learners successfully acquired the bullying safety skills when trained by a peer. The limited maintenance data shows that the learners likely did not maintain the skill over time. Results from the social validity questionnaires showed the intervention was highly acceptable to the learners, peers, and their teachers.

## INTRODUCTION

Bullying prevalence among children and youth is a substantial social and public health problem for the United States (Nansel et al., 2001). In a national survey for students grades 6-10, 41% of students reported being bullied at school (Nansel et al., 2001). In a survey from one school district, over 49% of children grades 4-12 reported being bullied by other students at school at least once (Bradshaw et al., 2007). The Center for Disease Control (CDC, 2014) defines bullying as unwanted, aggressive behavior among school aged children that involves an observed power imbalance and is repeated over time. Physical, psychological, social, or educational harm can be a result of bullying (CDC, 2014). Bullying is typically categorized into two areas: direct and indirect. Direct bullying occurs in the presence of a targeted youth such as physical altercations, verbal threats, and damage to property (Facts About Bullying, 2019). Indirect bullying occurs in the absence of the targeted child (e.g., slander, reputational harm, ostracism). The targeted child is likely victimized for being different from their peers. These differences are often in the areas of race, gender, age, grade level, education classification, language, religion, sexual orientation, and disability status (CDC, 2014).

Children with disabilities are bullied or likely to be bullied more than their typically developing peers. Approximately 37% to 69% of children with disabilities are victimized compared to 20% to 30% of typically developing children (Rose et al., 2011). Characteristics of children with disabilities such as delays in social and communication skills and atypical behaviors are likely what makes them a greater risk of victimization (Rose et al., 2011). It is these characteristics that make children with disabilities more likely to be victims than



perpetrators in bullying (Rose & Gage, 2017). Deficits in social skills can affect students' ability to identify and appropriately respond to bullying. Being able to identify and respond to bullying plays a major role in solving the bullying problem in the United States. Stopbullying.gov, the official federal government website for bullying created by the U.S. Department of Health and Human Services, reports that children who know what bullying is can better identify it. It is difficult to determine the percentage of children with disabilities who are bullied as they may not perceive and subsequently report they are being bullied. If children are able to identify bullying, then it is possible they would be more likely to report instances and also help those being bullied. Identifying and stopping bullying is crucial to the safety of children. Children who are bullied can experience negative outcomes such as depression, anxiety, decreased academic achievement, substance abuse, health complaints, and suicide (Fisher et al., 2017). Research suggests that bullying is frequently reinforced by peer attention (Salmivalli, 2002; Soutter & McKenzie, 2000). Therefore, it is imperative that children be more incorporated into bullying programs to better identify bullying and teach a way to respond to bullying that ensures safety and minimizes the likelihood of the response serving as reinforcement for bullying (Stannis et al., 2019). Some bullying interventions teach steps to respond to bullying, which attempt to limit reinforcement for the perpetrator, ultimately decreasing bullying instances (Ross & Horner, 2009; Rudd et al., 2016).

Studies on bully interventions in schools have addressed the bullying where it most often is observed. Ross and Horner (2009) developed the Bully Prevention in Positive Behavior Support (BP-PBS) program which focuses on clear steps that were taught as a school-wide rule to help decrease bullying: Stop, Walk, and Talk. These steps involved telling the bully to stop, walk away from the bully, and tell an adult about the bullying instance. Ross and Horner utilized

in situ assessments to measure the intervention's effect on frequency of bullying instances during lunch. An in situ assessment is an assessment of skills in the natural environment without the person's knowledge that assessment is taking place (Miltenberger, 2016). Ross and Horner observed a decrease in bullying instances and an increase in appropriate responses to bullying. Other bullying studies such as Rex et al. (2018) have utilized video assessments to evaluate the intervention's effectiveness to teach steps to respond to bullying. The researchers played a video of a bullying scenario and required the participants to respond to the scenario. Rudd et al. (2016) also examined BP-PBS in a school with a larger and more diverse population. In addition to examining the program's effectiveness, Rudd et al. (2016) examined its generalization effects to a non-targeted setting. Across all participants, there was an immediate decrease in bullying behavior after implementation of BP-PBS and an increase in appropriate responses. Generalization and maintenance were observed with both students who bullied and students who were victimized. Research on bullying interventions has been conducted in other settings outside of school and on a smaller scale than BP-PBS such as directly teaching individuals bullying safety skills (Stannis et al., 2019).

Stannis and colleagues (2019) evaluated behavioral skills training (BST) and in situ training (IST) to teach response to bullying (RtB) to adults with intellectual disabilities in a group home for adults diagnosed with a disability. Similar to the BP-PBS three-step response, the steps in this study consisted of refraining from retaliating, stating disapproval, walking away, and telling a staff member. This is one of the few studies in bullying literature not conducted in a school. Results showed that all four participants showed improvements from the RtB intervention by the end of training. However, two of the four needed IST, and one still needed an incentive to acquire the skill. Although the study did not measure bullying behaviors, the

researchers hypothesized that if bullying consistently went unreinforced, bullying should decrease.

One possible approach to teaching bullying safety skills to children with disabilities is peer-mediated intervention (PMI). The literature on PMI for children with disabilities has documented PMI as an evidence-based intervention for addressing social-communication needs of children with disabilities (Zagona & Mastergeorge, 2018). In a recent review, Zagona and Mastergeorge (2018) suggested that the use of PMI continued to be an effective way of teaching social skills to children with disabilities by training typically developing peers how to interact with children with ASD, helping their peers with disabilities acquire new social skills. The review also concluded that training typically developing peers would create the opportunity for learners with disabilities to engage socially with their peers across a variety of activities and contexts, which is particularly important in inclusive classroom settings.

In another systematic review of PMI for children with disabilities, Chang and Locke (2016) also examined the effectiveness of PMI to increase social skills in children with ASD. Results indicated that the participants in all the studies reported improved in social skills post-intervention. Chang and Locke found that most of the PMI studies incorporated active learning strategies (e.g., a didactic component, modeling, rehearsal practices) into the peer training and that the only study that did not have the active learning strategies showed little improvement in social initiations from children with ASD. This further supports the need for active learning approaches such as BST and IST when using PMI to teach social skills and other important skills to children with disabilities.

Jostad and colleagues (2008) examined the use of a PMI involving typically developing 6- to 7-year-old peer tutors to teach typically developing 4- to 5-year-old children firearm safety

skills. The results indicated that all six learners acquired the safety skills through BST and IST conducted by a peer. The study demonstrated that PMI could be used to teach children with ASD safety skills, increasing the likelihood of teaching many other children over time with efficiency. A similar study was conducted evaluating the use of typically developing peers as tutors to teach other typically developing children abduction prevention skills (Tarasenko et al., 2010). Tarasenko et al. trained two 7- or 8-year-old peers to implement BST and IST sessions with three 6- to 7-year-old children. Results showed that the learners acquired the target safety skills and generalized the skills to novel settings (e.g. hallway, front entrance, stairwell of school). In another study on PMI for children with ASD, Blew et al. (1985) targeted functional community skills (e.g., checking out a library book, buying a snack, crossing a street, buying an item from a convenience store). The researchers successfully trained two typically developing 7- or 8-year-old peers, which resulted in acquisition of the targeted functional skills among two 5- or 8-year-old children with ASD.

The current literature on PMI clearly indicates that PMI can be beneficial for children with disabilities. As discussed above, a few studies have shown that PMI can be successful in teaching firearm and abduction prevention safety skills and functional community skills (Blew et al., 1985; Jostad et al., 2008; Tarasenko et al., 2010). Yet, no studies on PMI have examined the use of peers to teach bullying safety skills to children with disabilities, which highlights the need for exploring the use of peers in bullying interventions for this population. The use of peers in bullying safety skills interventions could simulate a more natural environment, and it is likely that children with disabilities can acquire and generalize the bullying safety skills more effectively. The presence of peers could also help the interventionists assess whether children with disabilities would respond the same when they are surrounded by peers who may encourage

them to respond differently such as retaliation (Stannis et al., 2019). Not only will the use of PMI to teach bullying safety skills be a direct approach to teaching the skills to children with disabilities, but it could also promote positive peer interactions between the peer and learner, ultimately increasing their quality of life through relationships formed with others (Brain & Miranda, 2019). Therefore, the purpose of the current study was to extend PMI literature by evaluating its use for teaching children with disabilities bullying safety skills. Specifically, the study targeted children with disabilities in school settings and addressed the following questions:

1. To what extent will using a PM bullying safety skills intervention be effective in teaching children with disabilities (learners) bullying safety skills?
2. To what extent can the learners maintain the bullying safety skills after intervention ended?
3. To what degree will the PM bullying safety skills intervention be acceptable to the typical peers, learners with disabilities, and their classroom teachers?

## METHOD

### **Participants and Setting**

This study took place at a small private school with 190 students, 26 of whom had a diagnosed disability, which was located in a suburban area of a city in Mississippi. The school had 11 grades total with 11 classrooms. Although the school did not identify a bullying issue, the school principal and dean of students agreed the study would benefit their students. The participants for this study were four students in grades kindergarten and third grade. Two of the students participated as the peers, and two students participated as the learners. The peer-mediated bullying safety skills intervention was implemented during the students' non-academic time. The students were brought into a resource room across the hall from their classrooms away from non-participating students where training was conducted. Assessments took place in the same resource room as the trainings and typically took place in the late mornings and early afternoons.

### ***Peers***

The peers were two typically developing students who received training from the researcher on how to teach bullying safety skills to children with diagnosed disabilities. The inclusion criteria for typical peers who were trained to implement the bullying safety skills intervention included: (a) an age range of 6 to 12 years old, (b) 80% minimum attendance record, (c) no behavior problems in school, (d) no disability status, (e) age-appropriate social, verbal language, and play skills, (f) ability to attend to tasks for at least 10 min, and (g) willing to participate (Odom & Strain, 1986; Sasso et al., 1998). The students' classroom teachers reported

if the peers fit these criteria by completing a brief screening checklist about the criteria (see Appendix A). The peers who had difficulty following teacher directions or did not have positive social history with children with disabilities were excluded from the study. Anthony was an 8-year-old White boy in a mainstream third grade classroom with 16 students. According to his classroom teacher, Anthony was liked and respected by his classmates, excelled in academic performance, and was the student who assisted the teacher in any task she gave him. Carol was a 6-year-old White girl in a mainstream kindergarten classroom with 19 students. Carol's teacher also reported Carol having high academic performance, being well-liked by her peers, and continuously helped her teacher and classmates with projects.

### ***Learners***

The learners were the primary participants for this study. The inclusion criteria for learners included: (a) an age range of 6 to 12 years old, (b) a diagnosed disability, (c) ability to communicate verbally using at least 4-word sentences, (d) an understanding of bullying, and (g) ability to follow 2- to 3-step directions. The following students were excluded from the study as learners: (a) inability to describe experience with being bullied, (b) difficulty working with peers, and (c) engages in severe problem behavior. Jimmy was an 8-year-old White boy in Anthony's class in which 3 out of 16 students had diagnosed disabilities. He was diagnosed with Language Processing Disorder (LPD) and Attention-deficit/hyperactivity disorder (ADHD). Pearl was a 6-year-old White girl in Carol's class in which 2 out 19 students had diagnosed disabilities. Pearl was also diagnosed with LPD and ADHD. Initially, the presence of a disability in each learner was confirmed through their teacher report when answering a participant screening checklist (See Appendix A). Both children were in separate groups from higher performing peers when completing certain academic tasks such as reading and math.

However, they participated in other full-class lectures and were socially involved with their classmates.

### ***Teachers***

The students' classroom teachers participated by completing a social validity questionnaire after all sessions ended. Jimmy and Anthony's classroom teacher was a 59-year-old White woman whose highest level of education was a Bachelor's degree in Education and had a teaching experience of 33 years. Pearl and Carol's classroom teacher was a 50-year-old White woman whose highest level of education was a Bachelor's degree in Education and had a teaching experience of 26 years.

### **Recruitment Procedures**

The researcher contacted the local school's administrator with information on the study to identify potential participants. After the administrator agreed to support recruitment for this study, the administrator contacted the teachers of potential participants and sent recruitment fliers to the families of these students. The contact information of the primary researcher was on the flier for questions and concerns. The teachers of the students whose parents showed interest in the study confirmed that the students met the inclusion criteria by completing a brief screening checklist (see Appendix A). The screening checklist included questions on the student's ability to follow instructions, attendance records, and whether they exhibited age-appropriate social skills. The children who participated in the study provided verbal assent in addition to the informed consent of their parents or legal guardians.

### **Measurement**

The primary dependent variable for this study was the demonstration of bullying safety skills by the learners (students with a disability) during assessments. Peer treatment fidelity was



assessed to examine the degree to which the PM bullying safety skills training intervention was implemented as intended. Social validity data were collected from peers, learners, and teachers to assess the level of acceptability of the intervention.

### ***Bullying Safety Skills***

The bullying safety skills were defined as response to bullying (RtB) which included four discrete steps for addressing bullying (Stannis et al., 2019; see Appendix B). The steps were measured on a 5-point scale (0-4) and included: (a) refraining from inappropriately responding to the bully physically and verbally (e.g., saying a bully statement in response, kicking, hitting or shoving the bully), (b) verbally stating disapproval of the bullying, such as “I don’t like that,” (c) walking away from the perpetrator, and (d) telling an adult about the bullying instance. A learner was given a score of 0 if the learner retaliates (i.e., inappropriately responds to the bully physically or verbally). Each step completed correctly increased the learner’s score by 1 with a score of 4 indicating that the learner completed all four steps correctly. When a learner notified an adult about the bullying instance, the adult was instructed to respond by saying, “Thank you for letting me know.” Bullying scenarios were selected and created from what the learners perceived as bullying, or what they have experienced from being bullied.

### ***Treatment Fidelity***

Trained observers completed an 11-item treatment fidelity checklist (See Appendix C) indicating the extent to which the researcher correctly trained peers how to implement BST to teach the RtB steps during each observation. The researcher also completed a 13-item treatment fidelity checklist (See Appendix D) indicating the extent to which the peers correctly implemented BST to teach the RtB steps to the learners during each observation. This checklist consisted of steps that needed to be completed when training a learner. Each checklist item was

scored using a yes/no format and addressed both intervention adherence and quality. The adherence component assessed whether the peer implemented each training step that involved using each of the BST components, and the quality component assessed the accuracy and completeness of implementation (i.e., “Did the peer explain all four steps of the response?,” “Did the peer provide corrective feedback for incorrect responses by explaining the incorrect response?”). The percentage of treatment fidelity was measured, which was determined by dividing the points earned by the total points possible across adherence and quality and then multiplying by 100.

### ***Social Validity***

After completing all sessions, peers and learners were asked to complete separate questionnaires consisting of questions regarding the likability of the peer-mediated bullying intervention procedures, whether the learners would continue using the bullying safety skills, and whether the peers would be willing to teach others the bullying safety skills. The questionnaires also consisted of questions regarding how well the peers and learners can identify bullying and whether they learned more about what to do and how to help others from the study. Both questionnaires consisted of 5 to 6 items, which were adapted from the Treatment Acceptability Rating Form-Revised (TARF-R; Reimers et al., 1992). The questions were rated on a 5-point Likert type scale, ranging from 1 (strongly disagree) to 5 (strongly agree) (See Appendix E and Appendix F).

The readability of the peer and learner questionnaires was evaluated using the Text Readability Consensus Calculator that uses seven popular readability formulas to calculate the average grade level, reading age, and text difficulty of the items. The readability consensus calculated the average grade level as 3, reading level as very easy to read, and reader’s age as 8

to 9 years old. A social validity questionnaire was also given to teachers to assess their acceptability of the intervention based on their perception of any changes in the learners' bullying safety skills. The teacher questionnaire included 4 questions, also rated on a 5-point Likert type scale evaluating teachers' perceived changes in learners' use of bullying safety skills (See Appendix G).

### **Data Collection and Interobserver Agreement**

Direct observation data on the bullying safety skills defined as RtB were collected during nonacademic time. Role-play and video assessments occurred during baseline and post-training to assess the RtB steps among the participating children with disabilities. Role-play assessments are assessments in which an individual's response to a live acted-out scenario is measured so targeted skills can be assessed (Kopp & Miltenberger, 2008). Video assessments are assessments in which an individual's response to a video-played scenario is measured so targeted skills can be assessed (Kopp & Miltenberger, 2008). Six 3- to 5-s videos for the assessments were created by the researcher to show a bullying scenario the learner must respond to. The bullying scenarios in the videos were acted out on a playground by 7- and 12-year-old children outside of the study who agreed to be in the videos. The children were provided a script of different bullying statements to say on the video that the learners must respond to during video assessments. Role-play and video assessments took place in the resource room located across the hall from the learners' classrooms and took place in the late mornings and early afternoons. The researcher's training on how to implement peer-conducted BST and the peers' implementation of the bullying safety skills training procedures using BST was measured for fidelity. All data were collected by the researcher and by two trained research assistants who were enrolled in Applied Behavior Analysis graduate level courses. All data collectors were trained on the 5-point scale to score the

learners' use of bullying safety skills (RtB) and the treatment fidelity data collection procedures. Data collector training included scoring video clips created by the researcher showing the training of bullying safety skills or a practice data collection session, which was not included in calculation of interobserver agreement. Training circumstances were as similar to the targeted data collection context as possible. A score of 90% or better on the training session was required prior to serving as a data collector during research sessions.

To assess interobserver agreement (IOA), a second observer independently scored videos of the learners' RtB assessments on 45% of observations. The IOA sessions were conducted in 33% of baseline, 43% of post-training, and 100% of maintenance for Jimmy (45% overall). The IOA sessions were conducted in 40% of baseline, 40% of post-training, and 100% of maintenance for Pearl (45% overall). Observers recorded the occurrence or nonoccurrence of the four steps of RtB and the primary researcher calculated IOA by dividing the total number of agreements by four (the total number of steps) and multiplying by 100. For both Jimmy and Pearl, IOA was 100% in all IOA sessions across baseline, post-training, and maintenance. All assessments were video recorded using a phone video recorder. If a participant experienced adverse effects at any point during assessments or training, they were removed from the study (Rex et al., 2018). Adverse effects included: (a) verbally stating discomfort because of the study, (b) crying, or (c) severe problem behavior. However, no participant experience adverse effects at any point in the study.

### **Experimental Design and Procedures**

The outcomes of teaching PM bullying safety skills intervention were assessed through a nonconcurrent multiple-baseline across participants design. Conditions included baseline, post-training, and follow-up. An additional booster session was planned to be conducted if a learner

did not receive a score of 4 for three consecutive assessments after training. If a learner failed to receive a 4 after the booster session, provision of an in vivo training was planned. However, no booster session or in vivo training was needed for either learner.

### ***Baseline***

During baseline, the learner was in the training area, and the researcher informed and instructed the learner, “I’m going to pretend to be a bully, show me what you’d do.” The researcher then roleplayed being a bully and delivered a bullying statement such as “Hey dummy” or “You’re such a weirdo.” Only neutral comments such as “okay” and “thank you” were provided after the learner responded to the scenario. Observers scored the learners’ responses to the bullying scenario on the 5-point scale with each point corresponding to a step of the bullying safety skills completed. Baseline assessments were conducted across 3 consecutive days varying the bullying scenarios each time.

### ***Bullying Safety Skills Training***

The bullying safety training intervention involved: (a) training typical peers to teach children with disabilities, using BST procedures, how to use the targeted bullying safety skills, and (b) training learners (children with a disability) using peer-conducted BST on the use of the bullying safety skills. Both learners received training on the bullying safety skills 1 day after their last baseline assessment was conducted.

**Peer Training on Bullying Safety Skills Training Implementation.** After baseline data were collected, the researcher trained each peer how to teach their peer learner the specific bullying safety skills, RtB. The training was provided during a non-academic time for the peers (i.e., late morning break time). The training took no more than 20 min and was completed in the resource room across the hall from the peers’ classrooms. The researcher used BST procedures

to train the peers, which included explaining to the peer how to give instructions on the RtB steps to the learner, how to model the appropriate response, how to provide the learner an opportunity to rehearse, and how to give praise and corrective feedback to the learner after rehearsal. The researcher then modeled the training to the peer. The peer was then asked to rehearse the implementation of the bullying safety skills training that involved using the BST procedures. After rehearsal, the researcher provided the peer with feedback on what was done correctly and what was done incorrectly. The peer needed to demonstrate all steps of training independently in three consecutive role-plays before they taught the learners. Training sessions were videotaped and observed by research assistants to assess the fidelity of training. The researcher's fidelity percentage when teaching BST implementation to the peers ranged from 91% to 100% averaging to 95.5% fidelity overall.

**Peer Implementation of Bullying Safety Skills Training.** Once the peer met mastery criterion of the skill, the PM bullying safety skills training with the learners began. The training was conducted during the learners' morning break time in the resource room across the hall from their classrooms without non-participating students, and the training took no more than 20 min. The peer trainers taught learners individually using the BST procedures involving instruction, modeling, rehearsal, and feedback described above. The focus of training was on how to use the four RtB steps during situations when being bullied by others in school. The bullying instances used to teach the learners how to respond appropriately were bullying statements similar to those used in Rex et al., 2018. Peers had to explain the four steps of RtB to the learner, model the steps for the learner, state a bully statement to the learner so the learner can rehearse the steps, and provide feedback to the learner. Peers acted as the bully during all training sessions. Training sessions were videotaped to assess the fidelity of the peers' implementation. Anthony

implemented 77% of the steps independently when training Jimmy. Carol implemented 62% of the steps independently when training Pearl. However, with researcher-delivered prompts, both peers implemented BST with 100% fidelity indicating that training to the learners was still delivered effectively. One day after being trained, a role-play or video assessment was conducted for each learner. Each learner was trained in 1 day and their first post-training assessment was conducted 1 day after training. Overall, training and post-training assessments were conducted over 4 consecutive assessment days.

### ***Follow-Up***

To determine whether the learners maintained the bullying safety skills after termination of the sessions, a 6-week follow-up probe assessment was conducted across participants. The follow-up assessment for each learner was conducted using role-play assessments during their morning break time similar to assessments conducted in baseline and post-training.

## **RESULTS**

### **Bullying Safety Skills**

Both learners acquired the skill after being trained by their typically developing peers as presented in Figure 1. In baseline, Jimmy demonstrated retaliating to the bullying scenario, failed to state disapproval of the bullying statement, and failed to walk away and tell an adult about the bullying statement. In baseline, Pearl demonstrated not retaliating and telling a teacher; however, she failed to state disapproval of the statement and walked away from the bully. After the peers trained the learners, both learners were able to demonstrate all four steps of the bullying safety skills. To show the data were consistent, several other assessments were conducted. Pearl managed to keep a score of 4 for each assessment conducted in the post-training phase. However, Jimmy demonstrated retaliation on his second assessment after training. Had he consecutively scored less than 4 over three assessments, a booster session would have been held for his peer to retrain him. Jimmy was able to score 4 on all of the following assessments in his post-training phase. Follow-up assessments were conducted 6 weeks after the last post-training assessment. Neither learner maintained the skill at 6 weeks. Jimmy demonstrated the steps of not retaliating and walking away from the bully but failed to state his disapproval and tell a teacher. Pearl demonstrated the steps of not retaliating and telling a teacher, however she did not state her disapproval of the bullying statement or walk away from the bully.

### **Social Validity**

Each learner, peer, and teacher of the learner or peer completed social validity questionnaires all scored on a 5-point Likert type scale, a higher score indicating higher



satisfaction. The average acceptability of the intervention was a 4.3 out of 5 (range 3.6 to 5) for the learners, 4.5 out of 5 (range 4.2 to 4.7) for the peers, and 5 out of 5 for the teachers. The results showed that the learners liked that their peers taught them. They reported that they liked being in the project. For peers, they liked being the person to teach their friend what to do if they were ever bullied and thought the steps were easy to tell someone about. The teachers rated the PM bullying safety skills intervention as highly acceptable and effective and that all students could benefit from this type of intervention.

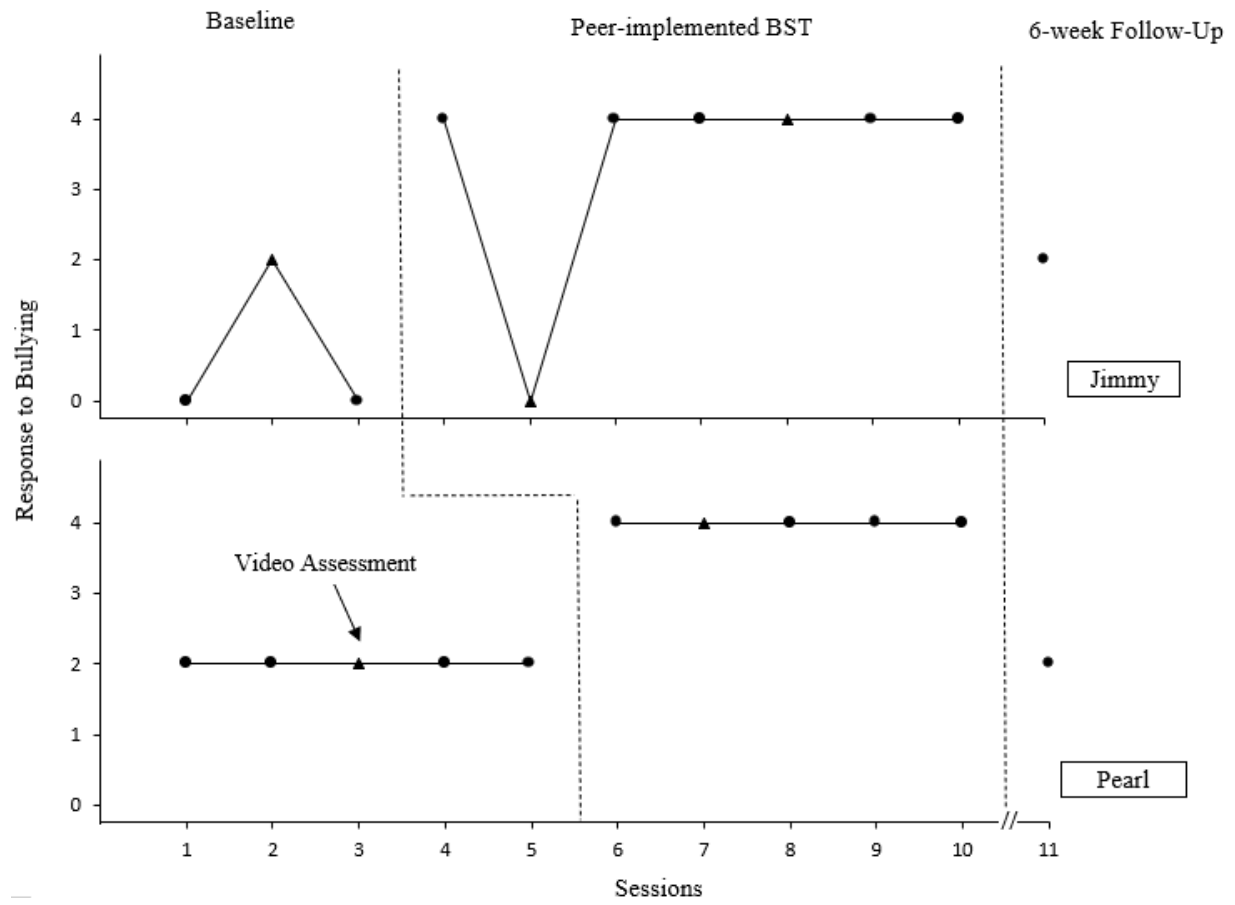


Figure 1. Learners' use of bullying safety skills.

## DISCUSSION

In this study, two children with disabilities participated in PM bullying safety skills intervention. Two peers were trained to implement BST to teach the children with disabilities bullying safety skills. The results indicate that both students successfully acquired bullying safety skills following PM training. The skill acquisition was immediate when the target students received training from their peers. Both learners achieved perfect scores throughout the post-training assessments, with the exception of the second post-training assessment for Jimmy. Social validity assessments indicated that the intervention was highly accepted by the teachers, peers, and learners. The students that participated reported that they enjoyed training their peers and the learners enjoyed being trained by their peers. High acceptability of the intervention from peers aligns with other PMI literature (Brain & Mirenda, 2019).

The current study adds to the literature on PMI for children with disabilities. The results obtained from this study align PMI studies that have shown to be successful for teaching social and communication skills (Brain & Mirenda, 2019; Rhijn et al., 2019; Zagona & Mastergeorge, 2018), and other functional and safety skills to children with disabilities (Aldabas, 2019). It was found that learners with disabilities could be successfully trained using peer-implemented BST to acquire bullying safety skills. PMI literature has not examined social safety skills such as appropriate responding to bullying. The participating peers demonstrated successful implementation of BST to teach their peers with disabilities bullying safety skills with fidelity although they required prompts from the researcher.

The current study also adds to the literature on safety skills interventions for individuals with disabilities by bringing peers into bullying interventions. In most studies on safety skills interventions for individuals with disabilities including school-age children, researchers have primarily the implementers with a few studies involving teachers as implementers and with one study involving peers as implementers (Maxfield et al., 2021a). Further, this study extends the literature on bullying safety skills interventions for individuals with disabilities. Although the numbers are limited, all studies on bullying interventions for individuals with disabilities have utilized adults, mainly researchers and teachers, as implementers (Maxfield et al., 2021b). In particular, this study extends the literature on teaching bullying safety skills intervention to individuals with disabilities using BST procedures. As shown in a study on using BST to teach adults with disabilities how to appropriately respond to bullying (Stannis et al., 2019), the results of the current study suggests that BST can be successful in teaching children with disabilities bullying safety skills when used the procedures by typical peers.

In examining the maintenance effects, the data showed that neither learner maintained that acquisition at 6-week follow-up. However, it is possible that collecting additional follow-up data could have shown a different data trend. It might be possible that providing a booster training session after the first follow-up assessment, the learners could have reestablished skill performance and increased the likelihood of maintenance over time (Miller et al., 2014).

### **Implications for Practice**

The results of the study suggest that learners with disabilities are capable of learning from their peers as shown literature on PMI. Some implications for practice could include the need for actively involving peers in bullying prevention and interventions to support children with disabilities. Considering that including children with disabilities in general education classrooms

has been a challenge for educators (McIntosh et al., 1993), involving peers in intervention may be an effective way to help the children with disabilities be included in the general education classroom. Peers themselves may also increase their knowledge about disabilities and increase positive attitude towards classmates with disabilities while being involved in implementing interventions (Kasari et al., 2012), which may contribute to preventing bullying in schools, benefiting all students in the school.

### **Limitations and Future Research**

This study has several limitations that should be noted when interpreting the obtained results. First, because there were only two participants, there was not enough replication to demonstrate experimental control given the design. No other participants were recruited due to time constraints and circumstances surrounding the current pandemic of COVID-19. The school was also a local private school that did not have many students with IEPs, especially in the target age range that this study had. Another limitation the current pandemic posed was the lack of generalization of evaluation. When at the school, the researcher and participants were only allowed to work in the specified areas by the school administrator. This included three empty resource rooms located near the front office of the school. Generalization probes in other settings such as the playground, classroom, or lunchroom were not permitted to limit the possibility of exposure and transmission of COVID-19. Future research should explore the possibility of completing this type of intervention virtually to assess for generalization to another platform, especially when circumstances such as the current pandemic arise (Fisher et al., 2020; Geiger et al., 2018).

Another limitation of the study was the type of assessments used to demonstrate the bullying safety skills. Assessments such as role-play assessments and video assessments are

supported in literature (Kopp & Miltenberger, 2008; Rex et al., 2018), and the target skills were demonstrated using them. However, the skills were unable to be assessed in the natural environment. Future research should utilize in situ assessments to assess whether the bullying safety skills learned would be correctly used in a real bullying situation (Miltenberger, 2016). Although not a limitation of the study, both Anthony and Carol required researcher prompts during the actual implementation of BST to the learners. Future research should utilize the learners in the training sessions when training the peers to implement BST. This allows for the roleplay step of BST to be as similar to the real training scenario as possible. A final limitation of the study is the one maintenance probe showing that neither learner maintained the bullying safety skills. In future research, sufficient follow-up data should be collected to examine a larger data path showing the long-term outcome of PM bullying safety skills interventions for children with disabilities in schools.

## **Conclusion**

In conclusion, the peer-implemented BST to teach children with disabilities bullying safety skills demonstrates that these children with disabilities can acquire a social safety skill such as bullying safety skills when being taught by a peer. This study is the first study that involved typical peers to teach elementary-aged children with disabilities how to appropriately respond to bullying. This study addressed several gaps in PMI and bullying literature by incorporating active learning approaches when teaching children with disabilities how to appropriately respond to bullying, and by involving same-aged typical peers to teach these children the appropriate response skills. More research is needed to further evaluate the use of the PM approach to teaching bullying safety skills to children with disabilities in schools.

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## APPENDIX A: PARTICIPANT SCREENING CHECKLIST

### Peer (Number):

1. Is this peer 6 to 12 years old?	Yes	No
2. Is this peer in attendance at least 80% of school days?	Yes	No
3. Does this peer exhibit behavior problems at school?	Yes	No
4. Does this peer have a disability status?	Yes	No
5. Does this peer exhibit age-appropriate social skills?	Yes	No
6. Does this peer engage in age-appropriate verbal language?	Yes	No
7. Does this peer exhibit age-appropriate play skills?	Yes	No
8. Is this peer able to attend to a task for at least 10 min?	Yes	No
9. Is this peer willing to participate?	Yes	No

### Learner (Number):

1. Is the learner 6 to 12 years old?	Yes	No
2. Does the learner have a diagnosed disability?	Yes	No
3. Does the learner understand what bullying is and that it can happen in school?	Yes	No
4. Is the learner able to identify bullying?	Yes	No
5. Can the learner communicate verbally with at least 4-word sentences?	Yes	No
6. Does the learner have difficulty working with peers?	Yes	No
7. Can the learner follow 2- to 3-step instructions?	Yes	No
8. Does the learner engage in severe problem behaviors?	Yes	No

**APPENDIX B: BULLYING SAFETY SKILLS DATA SHEETS**

**Data Collector/Researcher:**

**Date:**

**Participant:**

**Session Type (circle one):**    Baseline    BST    Booster    In Vivo    Follow-Up

<b>Step Number</b>	<b>Action of Step</b>	<b>Completed (+) / Incomplete (-)</b>
1.	Refrained from retaliating.	+   -
2.	Stated disapproval to bully.	+   -
3.	Walked away from bully.	+   -
4.	Told adult about bully statement.	+   -
<b>Adverse Effects</b>	Verbally stated discomfort because of study	Yes   No
	Cried during session	Yes   No
	Engaged in severe problem behavior during session	Yes   No
	Other:	Yes   No

**Data Collector/Researcher:**

**Date:**

**Participant:**

**Session Type (circle one):**    Baseline    BST    Booster    In Vivo    Follow-Up

<b>Step Number</b>	<b>Action of Step</b>	<b>Completed (+) / Incomplete (-)</b>
1.	Refrained from retaliating.	+   -
2.	Stated disapproval to bully.	+   -
3.	Walked away from bully.	+   -
4.	Told adult about bully statement.	+   -
<b>Adverse Effects</b>	Verbally stated discomfort because of study	Yes   No
	Cried during session	Yes   No
	Engaged in severe problem behavior during session	Yes   No
	Other:	Yes   No

**APPENDIX C: RESEARCHER'S FIDELITY OF BEHAVIORAL SKILLS TRAINING  
CHECKLIST**

<b>Procedure:</b> Implementation of Peer- conducted BST	<b>Trainee Name:</b>  <b>Trainer Name:</b>	<b>Date:</b>	<b>Training Session:</b>	<b>Correct = (+) Incorrect = (-)</b>
<b>Instructions</b>	1. Gave peer task analysis of steps of peer-conducted BST (instructions, modeling, rehearsal, feedback)			<b>1.</b>
<b>Model</b>	2. Demonstrated providing instructions for RtB, modeling RtB, rehearsal for RtB, and providing feedback for RtB.			<b>2.</b>
<b>Role-Play / Rehearsal</b>	3. Researcher asked peer to rehearse the steps in peer-conducted BST			<b>3.</b>
<b>Feedback</b>	4. Researcher immediately provided feedback on one thing the peer did correctly			<b>4.</b>
	5. <i>Researcher then provided feedback on what the peer could do better (if anything)</i>			<b>5.</b>
	6. <i>Following corrective feedback, the researcher praised the peer for what they did well</i>			<b>6.</b>

<b>Training to Criterion: Mastery 100%: (2) consecutive sessions</b>	7. Instructions were repeated until the peer no longer needed corrective feedback and criteria was met 8. Modeling was repeated until the peer no longer needed corrective feedback and criteria was met 9. Role-plays were repeated until corrective feedback was no longer needed, and criteria was met 10. Researcher provided feedback until the peer no longer needed corrective feedback and criteria was met 11. <u>Researcher thanked peer for completing behavior skills training</u>	7.  8.  9.  10.  11.
<b>Percentage of steps correct:</b> _____ / _____ x 100 = _____		<b>Total # of steps correct (+)</b> _____
<b>Trainer Initial:</b> _____ <b>PI Signature:</b> _____ <b>IOA RA Signature:</b> _____ / <b>Date:</b> _____		

**APPENDIX D: PEERS' FIDELITY OF BEHAVIORAL SKILLS TRAINING**

**CHECKLIST**

<b>Procedure:</b> Response to Bullying	<b>Trainee Name:</b>  <b>Trainer Name:</b>	<b>Date:</b>	<b>Training Session:</b>	<b>Correct = (+) Incorrect = (-)</b>
<b>Instructions</b>	<ol style="list-style-type: none"> <li>1. Gave learner task analysis of steps of the Response to Bullying (RtB)</li> <li>2. Accurately defined RtB</li> </ol>			<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> </ol>
<b>Model</b>	<ol style="list-style-type: none"> <li>3. Demonstrated refraining from retaliating. Verbally stated disapproval of bullying "I don't like that." Walked away from bully. Told an adult (researcher, teacher, etc.).</li> </ol>			<ol style="list-style-type: none"> <li>3.</li> </ol>
<b>Role-Play / Rehearsal</b>	<ol style="list-style-type: none"> <li>4. Peer gave a scenario of bullying to learner</li> <li>5. Peer asked learner to rehearse the steps in the RtB</li> </ol>			<ol style="list-style-type: none"> <li>4.</li> <li>5.</li> </ol>
<b>Feedback</b>	<ol style="list-style-type: none"> <li>6. Peer immediately provided feedback on one thing the learner did correctly</li> <li>7. <i>Peer then provided feedback on what the learner could do better (if anything)</i></li> <li>8. <i>Following corrective feedback, the peer praised the learner for what they did well</i></li> </ol>			<ol style="list-style-type: none"> <li>6.</li> <li>7.</li> <li>8.</li> </ol>
<b>Training to Criterion: Mastery 100%: (2) consecutive sessions</b>	<ol style="list-style-type: none"> <li>9. Instructions were repeated until the learner no longer needed corrective feedback and criteria was met</li> <li>10. Modeling was repeated until the learner no longer needed corrective feedback and criteria was met</li> </ol>			<ol style="list-style-type: none"> <li>9.</li> <li>10.</li> </ol>



	<p>11. Role-plays were repeated until corrective feedback was no longer needed, and criteria was met</p> <p>12. Peer provided feedback until the learner no longer needed corrective feedback and criteria was met</p> <p>13. <u>Peer thanked learner for completing behavior skills training</u></p>	<p>11.</p> <p>12.</p> <p>13.</p>
<p><b>Percentage of steps correct:</b>  _____ / _____ x 100 = _____</p>		<p><b>Total # of steps correct (+)</b>  _____</p>
<p><b>Faculty member step</b> <i>(not calculated in Fidelity percentage):</i></p> <p>Faculty member present responds “Thanks for letting me know” when learner reports bullying instance to them.</p>		<p><b>Yes or No</b></p>
<p><b>Adverse Effects</b> <i>(not calculated in Fidelity percentage):</i></p> <ol style="list-style-type: none"> <li>1. Verbally stated discomfort because of study</li> <li>2. Cried during session</li> <li>3. Engaged in severe problem behavior during session</li> <li>4. Other:</li> </ol>		<p><b>Yes or No</b></p> <p><b>Yes or No</b></p> <p><b>Yes or No</b></p> <p><b>Yes or No</b></p>
<p><b>Trainer Initial:</b> _____</p> <p><b>PI Signature:</b> _____ <b>IOA RA Signature:</b> _____ / <b>Date:</b> _____</p>		

## APPENDIX E: SOCIAL VALIDTY QUESTIONNAIRE (PEERS)

*1=Strongly Disagree 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree*

1. I learned what to do when someone is mean to me or another person.



2. I liked that I was the person that taught others what to do when someone is mean to them.



3. I thought it was easy to tell someone what to do when someone is mean to them.



4. I think this will help other children.



5. I think the friend I taught will know what to do when someone is mean to them.



6. I liked being in this project.



## APPENDIX F: SOCIAL VALIDITY QUESTIONNAIRE (LEARNERS)

*1=Strongly Disagree 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree*

1. I learned what to do when someone is mean to me.



2. I liked that a friend was who taught me what to do when someone is mean to me.



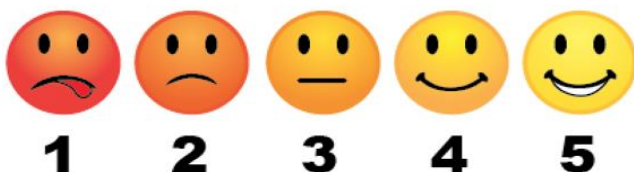
3. It was easy to learn what to do when someone is mean to me.



4. I am going to do these things if someone is mean to me.



5. I liked being in this project.



## APPENDIX G: SOCIAL VALIDITY QUESTIONNAIRE (TEACHERS)

*1=Strongly Disagree 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree*

1. I liked the idea of typically developing peers teaching children with ASD bullying safety skills.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree		Neither		Strongly Agree

2. I find the treatment to be acceptable regarding my concerns about this student.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree		Neither		Strongly Agree

3. The peer component of this intervention helped the student with ASD socially.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree		Neither		Strongly Agree

4. Any possible disadvantages to this treatment will be outweighed by the advantages.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree		Neither		Strongly Agree

**APPENDIX H: IOA DATA SHEETS**

**Research Assistant/Scorer:**

**Session Number:**

**Participant:**

<b>Step Number</b>	<b>Action of Step</b>	<b>Completed (Y) / Incomplete (N)</b>
1.	Refrained from retaliating.	
2.	Stated disapproval to bully.	
3.	Walked away from bully.	
4.	Told adult about bully statement.	
	<b>TOTAL STEPS COMPETED</b>	<b>/4</b>

**Research Assistant/Scorer:**

**Session:**

**Participant:**

<b>Step Number</b>	<b>Action of Step</b>	<b>Completed (Y) / Incomplete (N)</b>
1.	Refrained from retaliating.	
2.	Stated disapproval to bully.	
3.	Walked away from bully.	
4.	Told adult about bully statement.	
	<b>TOTAL STEPS COMPETED</b>	<b>/4</b>

**IOA Calculation:**

**Total Number of Agreements (A) :** \_\_\_\_\_

**Total Number of Steps (B) :** \_\_\_\_\_

**(A)** \_\_\_\_\_ **/ (B)** \_\_\_\_\_ **= (C)** \_\_\_\_\_

**(C)** \_\_\_\_\_ **x 100 =** \_\_\_\_\_ **(IOA Percentage)**

**APPENDIX I: IRB APPROVAL SHEETS**



**APPROVAL**

November 9, 2020

Jennifer Trapani  
 202 S Parker St. #441  
 Tampa, FL 33606

Dear Ms. Trapani:

On 11/9/2020, the IRB reviewed and approved the following protocol:

<b>Application Type:</b>	Initial Study
<b>IRB ID:</b>	STUDY001189
<b>Review Type:</b>	Expedited 6, 7
<b>Title:</b>	Using a Peer-Mediated Bullying Safety Skills Intervention for Children with Disabilities
<b>Funding:</b>	None
<b>IND, IDE, or HDE:</b>	None
<b>Approved Protocol and Consent(s)/Assent(s):</b>	<ul style="list-style-type: none"> <li>• Protocol, Version #1, 10.1.20.docx;</li> <li>• Child Learner Verbal Assent, Version #1, 10.1.20.pdf;</li> <li>• Child Peer Verbal Assent, Version #1, 10.1.20.pdf;</li> <li>• Learner Parental Permission Consent, Version #1, 10.1.20.pdf;</li> <li>• Peer Parental Permission Consent, Version #1, 10.1.20.pdf;</li> <li>• Teacher Consent, Version #1, 10.1.20.pdf;</li> </ul> <p>Approved study documents can be found under the 'Documents' tab in the main study workspace. Use the stamped consent found under the 'Last Finalized' column under the 'Documents' tab.</p>