Using Teaching Interaction Procedure to Increase Empathetic Responding During Cross-racial Behavior Analytic Supervisory Relationships

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Using Teaching Interaction Procedure to Increase Empathetic Responding During Cross-racial Behavior Analytic Supervisory Relationships

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Abstract

As graduate student's racial/ethnic identities continue to diversify among individuals pursuing applied behavior analysis, there is an increased risk for marginalization to occur during supervision. To promote successful supervisor-supervisee relationships, supervising behavior analysts need to acquire culturally responsive practices such as empathetic responding and partake in continuous education to shape their supervising repertoire. This will expand their ability to provide quality support for supervisees belonging to various identity groups. The teaching interaction procedure is a training tool that can be used to teach culturally responsive practices to supervising behavior analysts. It is an evidenced-based tool that has been used to teach social skills to children and adults. This training tool procedural components consist of labeling the social skill, providing rationale for that social skill, describing the steps involved in the social skill, modeling examples and non-examples of the social skill, and providing feedback throughout the process. The purpose of this study was to evaluate the teaching interaction procedure effectiveness as a training tool to teach empathetic responding skills to three supervising behavior analysts within cross-racial dyads in a web-based training format. The results of a multiple-baseline design will show the teaching interaction procedure was effective at training all 3 supervisors empathetic responding in a contrived setting and suggests this had a positive impact on the perceived level of satisfaction among their supervisees.

Keywords: culturally responsive supervision, social skills training, behavior analysis supervision, cross-racial supervision, teaching interaction procedure, empathetic responding
Statements and Declarations

Author’s Contributions: All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Sapphire U. Robinson. The first draft of the manuscript was written by Sapphire U. Robinson and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Competing Interests: Sapphire Robinson, the primary investigator of the research being reported here, attended Saint Louis University as a graduate student. The completion of this study was required as part of the applied behavior analysis program graduation criteria. The authors did not receive support from any organization including Saint Louis University for the submitted work. The authors declare they have no financial interests. The authors have no competing interests to declare that are relevant to the content of this article.

Data Availability: The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

Compliance with Ethical Standards: All subjects gave their informed consent for inclusion before they participated in this study. All participants signed informed consent regarding publishing their data in this study. The study was conducted accordance with the Declaration of Helsinki, and the protocol was approved by the Institutional Review Board of Saint Louis University Protocol: 32418.
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Demographic Data, Diversity, and Behavior Analysis Programs

The number of graduate students belonging to diverse racial and ethnic groups have increased. Graduate students of color increased from 20.8% to 32% from 1996 to 2016 (Association of American Colleges & Universities, 2019). In 2019, The enrollment of White students in master’s, doctoral, and professional doctoral programs decreased by 9% from 2009 to 2019. Concurrently, there was a 68% increase of Hispanic or Latino enrollment and a 9% increase of Black students’ enrollment (National Center for Education Statistics, 2021).

Despite the rising number of students of color enrolling graduate programs, the faculty, staff, and administrators of many college programs remain predominantly White (Association of American Colleges & Universities, 2019). In 2021, it was reported that of all full-time college level faculty (professors, associate and assistant professors, instructors, lecturers, research, and public service faculty) 68% identified as White, 12% identified as Asian or Pacific Islander, 6% each identified as Black and Hispanic or Latino. Those who identified as American Indian or Alaska Native and of having two or more races made up 1% or less of full-time faculty each. Less than 1% of full-time faculty did not report their race or ethnicity (National Center for Education Statistics, 2021). The profile of graduate students is becoming increasingly more diverse, while the profile of instructors and professor remain unchanging. It is important to consider these variables across different graduate areas of study including behavior analysis programs.

The demographic data of college faculty resembles the racial-ethnic demographics of eligible supervising behavior analysts. The Behavior Analyst Certification Board© (BACB©) require students to receive supervision from a qualified board-certified behavior analyst while completing fieldwork experience to obtain certification. Unfortunately, the BACB© has not released specific demographic data of certified behavior analyst supervisors. However, in December 2020, demographic data on including racial-ethnic information on all Board-Certified Behavior Analysts (BCBA) was reported. 71.82% of all BCBA identified as White, 9.34% identified as either Hispanic or Latin X, 5.99% identified as Asian, 3.60% identified as Black, 0.38% identified as Native Hawaiian or Pacific Islander, 0.30% identified as American Indian or Alaska Native, and 8.57% of BCBA did not report their race or ethnicity (BACB, 2020). The data indicates that the majority of all BCBA that may be eligible to supervise,
identify as White. As there continue to be more students of color enrolling into graduate programs, supervisors within the field of behavior analysis should anticipate an increase of racial-ethnic diversity among supervisees.

The racial-ethnic diversity among supervisees—and lack thereof among eligible behavior analysis supervisors—can set the occasion for marginalization to occur across cross-racial supervision relationships. Cross-racial supervisory relationships are impacted by the relationships among cultural groups over time, the ongoing contingencies within societies of political and cultural discourses, and the positions of the supervisor and supervisee (Ming-sum & et.al, 2014). Marginalization is a goodness-of-fit issue between the needs, interests, and skills of people of color. It involves the institutional priorities and protocols; cultural, racial, ethnic, and social differences; and prejudices and discrimination. Marginalization results from lack of culturally relevant academic and social support systems and maintaining one's ethnic identity and cultural integrity (Gay, 2004). Marginalization involves withholding access to resources and support from individuals belonging to underrepresented racial/ethnic groups due to competing contingencies.

Results from a study done by Gatmon and colleagues (2001), demonstrated there was a low frequency of discussions regarding cultural factors during supervision with only 12.5% to 37.9% of supervisory relationships reporting discussing cultural variables as part of their supervision. Miscommunications, a lack of resources, lack of access to high quality supervision, feelings of isolation, and stereotyping, to name a few, may create barriers to success for students of color (Dulabaum, 2016). These barriers typically result from White supervisors who have limited experiences with working with students belonging to different racial identity groups while engaging in a deficit-based perspective, microaggressions, culture insensitivity, benign neglect, or other cultural exclusionary acts (Gay, 2004; Dulabaum, 2016; Warren, 2013; Constantine & Sue, 2007). The allowance and permittance of discrimination enable a social power differential which is systematically reinforced by the predominant race/ethnic group.

As diversity increases and social injustice continues to be prevalent across the world; the science of behavior can help with change. The first step is for the field to examine our behavior among practitioners and to consider radical change (Pritchett et al., 2020). To address increasing diversity among students pursuing behavior analysis, it is important for BCBAs to shape their own supervisory repertoire by acquiring culturally responsive practices that will ensure success during cross-racial supervisory relationships.
Behavior Analytic Supervision Practices

With the rise of behavior analytic supervisees in general, supervision is a critical activity of most BCBAs (Turner et al., 2016). There are clear requirements established by the BACB, supervision consists of more than meeting those basic requirements (LeBlanc & Luiselli, 2016). Supervisors play a pivotal role in the student’s success in acquiring professional and behavior analytical skills. The supervisor has responsibility for the development of all aspects of the applied behavior analytic repertoire including assessment and treatment skills as well as the ethical decision-making and overall values, professional behavior, and interpersonal skills (Sellars et. al., 2016; LeBlanc & Luiselli, 2016). The relationship between a supervisor and supervisee contributes to the success of the supervisee, client outcomes, and future advancements in the field (Turner et al., 2016; Sellars et. al., 2016).

The BACB© provides a guiding ethical framework for BCBA’s supervisory practices within the Ethics Code for Behavior Analysts (previously known as the Professional and Ethical Compliance Code for Behavior Analysts). In the updated ethics code, Section 4: “Responsibility to Supervisees and Trainees”, contains twelve standards that outline the ethical requirements for supervising behavior analyst. Under this section, there are several standards that support the need for supervising behavior analysts to develop and maintain culturally responsive skills. Standard 4.02-Supervisory Competence states that it is the supervisor’s responsibility to provide adequate supervision within their scope of competence which includes providing supervision only after obtaining knowledge and skills in effective supervisory practices, and continually evaluating and improving their supervisory repertoire through professional development. 4.04-Accountability in Supervision states that behavior analysts are accountable for their supervisory practices. 4.06-Providing Supervision and Training states that behavior analysts must implement supervision procedures that are evidence based, focus on positive reinforcement, and are individualized for each supervisee and their circumstances. 4.07-Incorporating and Addressing Diversity states that, behavior analysts actively incorporate, and address topics related to diversity (e.g., age, disability, ethnicity, gender expression/identity, immigration status, marital/relationship status, national origin, race, religion, sexual orientation, socioeconomic status) during supervision (Behavior Analyst Certification Board©, 2021).

In addition to providing guiding supervisory standards in the ethical code, the BACB© also requires supervising BCBAs to complete an 8-hour supervision training and the attainment of 3 hours of continuing education per certification cycle (Bailey & Burch, 2011). The supervision training is based on the Supervision Training Curriculum Outline 2.0 (Behavior Analyst Certification Board©, 2019). In the outline, the purpose of
supervision is reviewed as well as risks of ineffective supervision, considerations to prepare for a supervisory relationship, supervision content planning and training, competency-based evaluations, and adherence to fieldwork experience requirements. The training curriculum also discusses the importance of creating a committed and positive relationship with supervisees. This objective examines how positive body language, communication, feedback, and attention can impact the supervisory relationship (Behavior Analyst Certification Board©, 2018). The ethics code and supervision training requirements established by the BACB© are designed to exert antecedent control over the supervisor’s behavior. The supervisor should not only ensure familiarity with those requirements, but also engage in thoughtful analysis and conversations with supervisees (Sellars et al., 2016) Further research is needed to identify and develop evidence-based supervisory practices for building and maintaining positive supervisory relationships.

Turner and colleagues’ (2016) practice model suggests evidence-based training and addresses ethical issues among supervising BCBAs. They describe the BCBA supervisory relationship in being made up of two components. The first part is the degree to which a supervisor and supervisee are mutual discriminative stimuli for generalized reinforcement. The second part is the degree to which a supervisor and supervisee mutually agree upon expectations and goals for supervision (Turner et al., 2016). They go on to explain the supervisee’s behavior towards the supervisor is impacted by the supervisory relationship. If a supervisor does not function as a cue for reinforcement or functions as a cue for punishment, there is an increased probability that the supervisee will engage in avoidance behaviors and instead seek out others for guidance and feedback (Turner et al., 2016). The authors recommend being approachable, responsive, using more positive statements to negative statements, and demonstrating undivided attention may assist supervisors in becoming sources of reinforcement for the supervisee.

Sellers, Valentino, & LeBlanc (2016) also proposed a model for behavior analytic supervisory practices in an initiative to capture supervision practices according to the Professional and Ethical Compliance Code for Behavior Analysts. The proposed practices are: (1) Establish an effective supervisor-supervisee relationship (2) Establish a structured approach with specific content and competencies, (3) Evaluate the effects of your supervision, (4) Incorporate ethics and professional development into supervision, and (5) Continue the professional relationship post-certification. While their suggested guidelines speak to the previous edition of the ethics code, the practices remain relative for any supervisory relationship and still comply to the current BACB ethical code.

Despite engaging in the recommended practices mentioned, problems may still occur during the supervisory relationship if the supervisor does not engage in optimal supervisory practices at the onset of the
relationship or perhaps if the supervisor is in the process of shaping their interpersonal and professional skills (Sellars et al., 2016). Specifically, regarding cultural responsiveness, perceptions or beliefs about a particular cultural identity may be an underlying barrier to a healthy supervisory relationship as well as the communication styles involved (Sellars et al., 2016). The supervisor may be perceived negatively if they appear aloof or indifferent to the disparities the supervisee faces. However, if the supervisor is a good listener that provides thoughtful suggestions and goes beyond the call of duty, they will be valued and trusted (Bailey & Burch, 2010). By practicing cultural responsiveness, supervisors will be more effective in establishing a positive rapport during cross-racial supervision experiences.

**Cultural Responsiveness**

Cultural responsiveness refers to a set of behaviors that involves interacting with individuals belonging to different cultures while practicing humility, self-evaluation, and vulnerability. Cultural responsiveness has been described in literature as an essential component to cross-racial relationships across varying disciplines. In education, Geneva Gay defines culturally responsive teaching as a pedagogy that uses the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively (Gay, 2000). Anu Subramanian describes cultural responsiveness in the Perspectives of the American Speech Language-Hearing Association Special Interest Groups journal, as the ability to learn from and relate to people of your own culture and other cultures and explains using the word “responsiveness” implies that a person cannot be completely knowledgeable in all areas of cultural diversity, but is open and can adapt to working with people from different cultures (Subramanian, 2020; Garrett et al., 2001).

Alan Burkard focused on supervision issues when describing cultural responsiveness and defined it as responses that acknowledge the existence of, show interest in, demonstrate knowledge of and express appreciation for the supervisee’s ethnicity and culture and that place the supervisee’s problem in a cultural context (Burkard et al., 2006). Based on these definitions, in the context of supervisory relationships, culturally responsive supervision practices involve developing self and cultural awareness while practicing cultural humility by explicitly acknowledging the social issues impacting the supervisee, delivering statements that affirm the supervisee’s cultural experiences, and incorporating the perspective of the supervisee during training and skill building activities. Despite limited research on the effects of culturally responsive practices and cross-racial supervisory relationships, literature suggests culturally responsive supervision enhances and creates a positive supervision relationship, strengthens the
supervisory working alliance, fosters a better learning environment, and support acquisition of cultural competence (Burkard et al., 2006).

Developing self-awareness is an essential component of cultural responsiveness. It is important for the behavior analyst to understand their own cultural identity and the variables that have shaped it. Our operant behavior and some of our respondent behavior is affected by our cultural identity (Beaulieu et al., 2018). A person’s cultural identity can be described as a “unique set of distinguishable stimuli and response classes collectively” (Fong et. al., 2016). With that being said, “humans control contingencies of reinforcement and punishment that affect the behavior and learned reinforcers and punishers of a person or a group of people” (Fong et. al., 2016). A person’s cultural identity is shaped by the “extent to which a group of individuals engage in overt and verbal behavior reflecting shared behavioral learning histories, serving to differentiate the group from other groups, and predicting how individuals within the group act in specific setting conditions”. Race, socioeconomic class, age, religion, sexual orientation, ethnicity, disability, nationality, and geographic context are stimuli and response classes that are included within a person’s cultural identity (Fong et. al., 2016; Sugai et al., 2012, p. 200).

Behavior analysts should also increase their knowledge about the cultural systems the supervisee belong to or identify with. A cultural system consists of the shared values and contingencies present among an identity group (Fong et. al., 2016). By becoming more self-aware and understanding of the supervisee’s culture, behavior analysts will be able to identify personal biases and contingencies that have been established among social groups that can have an aversive impact on the supervisory relationship (Fong et al., 2016). More recently, Watkins and colleagues, (2019) examined supervisors who reflected upon missed opportunities to acknowledge culture during their supervisory relationship. The study found the supervisors engaged in avoidant behaviors when addressing cultural issues and missed the opportunity to increase cultural awareness and gain knowledge of the supervisee’s experience. Acknowledging limitations of cultural knowledge will allow room for behavior analyst to demonstrate flexibility, setting the stage for cultural humility.

Cultural humility can be defined as a lifelong commitment of self-evaluation and criticism, that addresses the power imbalances of relationships to develop mutually beneficial partnerships. It requires a shift in perspective and acknowledgment of oppression and power (Tervalon & Murray-Garcia, 1998; Abe, 2020). Miguel E. Gallardo (2021) states, “Cultural humility is about understanding that, regardless of who we are and where we come from, we
are all working together” (p.70). It is essential for supervisors to demonstrate cultural humility by addressing personal biases, acknowledging power imbalances, and being flexible in gaining perspective of the supervisee. This will communicate commitment to working together and will help establish an effective supervisory relationship.

**Empathetic Responding**

Open and honest dialogue on race, culture, and ethnicity can be a challenging task for many White Americans, especially in supervisory relationships (Utsey, Gernat, & Hammar, 2005). It can be empowering for a supervisee of color to talk about feeling marginalized or a “token” to a supervisor of color regardless of the supervisor having experienced similar situations. These conversations could also take place with a White supervisor, but perhaps do not occur as readily (Lowe & Davis, 2010), possibly due to deficit perspectives.

A deficit perspective exists when White supervisors fail to resign dominant frames of reference that have been established by the heritage of the dominant racial group in the United States. Deficit perspectives focus on an individual’s behavior that is considered to be a problem or limitation based on the dominant racial group norms. Historically, professional behaviors that are associated with positive social norms in the United States neglects different cultural customs and typically attempts to change behaviors that differ from the status quo. There is an emphasis to change the professional behaviors of individuals identified in belonging to historically marginalized racial/ethnic groups rather than to attempt to understand the behaviors. The corrective behaviors being demonstrated by the supervisor may be aversive and serve as punishers to the supervisee. Aversive stimuli are defined by their ability to evoke or elicit avoidant patterns that result in a decreased frequency of engagement in a behavior which is essential for defining punishment (Horner, 2002). In addition to producing negative emotional or aggressive side effects, other issues with punishment are that the effects of punishment are short-lived, and the potential abuse of punishment presents great risks. Also, punishment does not teach alternative behaviors (Vollmer, 2002).

Instead of utilizing punishment-based approaches found in deficit perspectives, the supervisor can use a culturally humbled approach that uses active listening and empathy skills to gain the perspective of the supervisee (Mosher et al., 2017 p. 226). Listening to others is a critical component of social experiences that leads to more advanced listener repertoires such as emitting behaviors characterized as empathy (Lawson & Walsh, 2007). An active listening response builds empathy and trust with the speaker by showing unconditional regard for him/her and confirming his/her experience (Weger et al., 2010). The purpose of an active listening response is that a listener, especially a person who is in a helping relationship with the speaker, can demonstrate an understanding of the
Communication that includes active listening responses that involves empathy is a key building block of any supervisory relationship but can also demonstrates that the cultural identity of the supervisee is valued and respected in cross-racial supervisory relationships (Mosher et al., 2017 p. 226). A supervisor who displays a neutral affect may be perceived as aversive to supervisees, resulting in a barrier to developing an effective supervisory relationship (Sellars et al., 2016). The empathetic response is a component of an active listening response that involves identifying emotions displayed by the supervisee and delivering statements or questions that communicate that the supervisee’s emotional response is important (Taylor et al., 2018).

By providing reinforcement to supervisees in the form of empathetic responding, supervisors demonstrate to the supervisee their cultural experience is valued and increase the probability that the cross-racial supervisory relationship will be successful. Empathetic responding does not require that the supervisor involved have had the same cultural experiences of the supervisee. Instead, the supervisor takes the perspective of the supervisee while drawing upon his or her own unique experiences to inform their understanding of the supervisee’s situation (Taylor et al., 2018). Communication that conveys awareness of the person’s experience, demonstrate an understanding of that experience, and allows for an assessment for accuracy to occur is involved in an empathetic response (Taylor et al., 2018; Goetz & Simon-Thomas, 2017). This has the potential to create a positive supervision experience and increase the level of cultural responsiveness within the relationship. Empathetic responding is central to culturally responsive interactions, and by extension, essential for cultivating culturally responsive professional practices (Warren, 2013).

**Teaching Interaction Procedure**

There are several training strategies that are used to teach adults in workplace settings. Didactic approaches involve delivering instruction in a lecture format where instructional stimuli such as a presentation, written, or visual stimuli are given to trainees. Research found this approach is useful in enhancing a trainee’s conceptual knowledge, however this approach is inadequate in training performance skills (Parsons et al., 2012). Behavior skills training (BST) is an evidenced-based approach that is used to teach performance skills to competency. It consists of delivering instruction, modeling the targeted response, roleplaying, and delivering feedback to the trainee until
competency is reached. Researchers have explored variations of the BST model such as incorporating video modeling, group, or pyramidal training (Parsons et al., 2012).

The teaching interaction procedure (TIP) is another training strategy based on applied behavior analysis that is similar to BST. TIP is an evidenced-based procedure that have been developed and used to teach valuable social behaviors to individuals diagnosed with autism spectrum disorder (ASD). It consists of six components: (a) identifying and labeling the target behavior, (b) providing a meaningful rationale, (c) describing the target behavior, (d) demonstrating the target behavior, (e) role-playing, and (f) providing feedback (Green et al., 2019; Leaf et al., 2015). The main difference between BST and TIP is the inclusion of providing rationales in the TIP procedure (Leaf et al., 2012).

One of the first studies that evaluated the effectiveness of TIP was done by Leaf et al. (2009) which examined the effects of TIP combined with a token economy to teach social skills to children diagnosed with ASD. There is a scarcity of research on TIP’s effectiveness as training tool for staff or adult professional development, even though the volume of empirical evidence has increased validating TIP’s effectiveness as a training tool for the acquisition of social skills among children and adolescents (Peters, Tullis, & Gallagher, 2016; Ng, Schulze, Rudrud, & Leaf, 2016; Kassardjian et al., 2014; Leaf et al., 2012; Dotson et al., 2010).

Harchik, Sherman, Sheldon, & Strouse (1992) utilized TIP to train staff members from a group home for developmentally disabled adults during a mini workshop. Following the workshop, feedback was provided to the staff throughout the duration of the study. The results found that the training package was effective for increasing accurate implementation of a token economy, engagement with the group home residents, and the number of teaching components of TIP that were implemented by staff when working with adults. More recently, Green et al. (2019) evaluated TIP effectiveness as a staff training tool to train staff to utilize TIP to teach social skills for children diagnosed with ASD. The study also examined the efficiency of TIP in the acquisition of social skills by the children participants. The results demonstrated that staff learned to implement the TIP correctly within six to nine probe sessions with a maximum of 5 hours and 44 minutes of total training time and that two of the three children participants acquired the targeted social skill following correct interventionist implementation of TIP.

**Web Based Training**

As technology continue to evolve, the possibility to use web-based virtual settings to conduct trainings expands. Allocating time and resources for individuals to conduct and attend trainings can be burdensome. One
benefit of web-based trainings, is the increased accessibility. According to the U. S. Census Bureau, internet access in American homes is increasing. Approximately 57% of households reported in having access to a DSL, cable-modem, or fiber-optic Internet connection (U. S. Census Bureau, 2013). The accessibility of web-based technology would allow for training to take place irrespective of where the individuals reside.

The field of applied behavior analysis have begun to explore how web-based technology can increase training accessibility. In a study conducted by Fisher et al., (2014), investigators developed a 40-hour virtual web-based training program to train technicians on how to implement behavior analytic procedures. In addition to the didactic modules within the training program, technicians also received BST. Following the training, the technicians were observed in discrete-trial and play-based settings to evaluate the impact of the web-based training. Findings showed there was improvement behavior reduction and skill acquisition implementation among the technicians suggesting the web-based training program was effective. The technicians also provided feedback on the training format, rating it as highly socially acceptable.

In a different study by Higgins et al., (2017), investigators used a web-based training that consisted of (a) a presentation; (b) feedback from pre-recorded baseline sessions; and (c) role-play with immediate feedback, to train direct-care staff how to conduct a multiple stimulus without-replacement preference assessment (MSWO). The study results demonstrated immediate improvements in the direct-care staff ability to conduct the preference assessment even during 1- to 2-month follow-up observations. In addition to the improved skills, the direct-care staff reported high satisfaction with the web-based materials training experience.

Purpose of the Present Study

As the racial-ethnic identities of behavior analytic supervisees continue to become more diverse, the social significance of acknowledging and addressing the plight many underrepresented groups face during cross-racial supervisory relationships have become increasingly evident. While literature on culturally responsive supervisory practices is starting to increase across other disciplines, there continues to be a lack of empirical evidence on effective training procedures for acquiring culturally responsive practices as well as research evaluating the performance of these skills and how culturally responsive supervisory practices impact supervisory relationships. In general, there continues to be an ongoing discussion in examining interpersonal supervisory practices in the field of behavior analysis (LeBlanc & Luiselli, 2016; Turner et al., 2016; Hartley et al., 2016; Sellars et al., 2016). The primary purpose of the present study is to evaluate TIP’s effectiveness in training culturally responsive practices to
behavior analyst supervisors by targeting active listening skills specifically, empathetic responding. This study attempted to extend results of Green et al.’s (2019) study by utilizing TIP as a training tool for adults. In addition, this study also assessed participants satisfaction with TIP training delivered in a web-based setting via Zoom©. Following TIP training, testing for generalization of empathetic responding skills occurred and the supervisee’s perceptions of the supervisor’s ability to demonstrate culturally responsive practices was assessed.

METHODS

Participants

An email blast was sent to BCBAs and asked if they were interested in participating in a study regarding cultural responsiveness and supervision practices. In addition to an email blast, advertisements were posted on social media platforms asking supervising BCBAs if they would be interested in participating in the study. For this study, the selected participants included three behavior analytic cross-racial supervisory dyads that met eligibility criteria consisting of a BACB qualified supervisor and graduate level supervisee. The supervisees selected within each dyad identified as either Latino or Asian and the supervisors selected among each dyad identified as Multi-racial, White, or Latino. The selected participants were located within various regions across North America. The age of each supervisor and supervisee ranged from 25-37 years old. Dyads were selected following the completion of a cultural responsiveness survey that assess the supervisee’s perceived satisfaction of the supervisor. Each dyad was asked to meet a minimum of 30 minutes in their naturally occurring supervisory meeting setting. For the purposes of this study, each Dyad corresponding supervisor and supervisee has been labeled either A, B, C. For example, Dyad A consists of Supervisee A and Supervisor A. Table 1 displays each participating dyad demographic information.

Dyads that showed interest in being a participant but were not selected for this study were supervisor-supervisee dyads that were not cross-racial. This exclusion criterion was set in place to ensure that participants’ demographics were within the targeted population.

Table 1: Participant Demographic Information

<table>
<thead>
<tr>
<th>Dyad</th>
<th>Participant</th>
<th>Race/Ethnicity</th>
<th>Age</th>
<th>Regional Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Supervisor A</td>
<td>Multi-racial</td>
<td>35</td>
<td>Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Supervisee A</td>
<td>Hispanic</td>
<td>37</td>
<td>Massachusetts/relocated to Texas</td>
</tr>
<tr>
<td>B</td>
<td>Supervisor B</td>
<td>White</td>
<td>36</td>
<td>Canada</td>
</tr>
<tr>
<td></td>
<td>Supervisee B</td>
<td>Asian</td>
<td>36</td>
<td>Canada</td>
</tr>
<tr>
<td>C</td>
<td>Supervisor C</td>
<td>Hispanic</td>
<td>33</td>
<td>Minnesota</td>
</tr>
<tr>
<td></td>
<td>Supervisee C</td>
<td>Asian</td>
<td>25</td>
<td>Minnesota</td>
</tr>
</tbody>
</table>
Settings and Materials

The experimenter created a survey containing 27 items and was adapted from Duan & Roehlke’s (2001) cross-racial supervision. The experimenter decided to use this survey based on its ability to assess the supervisee’s perceptions across the following areas: (a) level of experience supervisors have in supervising individuals from the same racial-ethnic group as the supervisee, (b) the supervisor’s attitudes/behavior in addressing race related issues, (c) the supervisors’ positive attitudes toward the supervisee cultural identity, (d) the supervisor’s personality characteristics, (e) the supervisor’s expectations for the supervisee’s self-disclosure, (f) the supervisee’s level of comfort to self-disclose, (g) level of importance for the supervisor to be culturally responsive), (h) the supervisor’s level of cultural awareness, and (i) the supervisee’s overall satisfaction with the supervisory relationship.

The survey questions were based on a 5-point Likert scale ranging from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree. The survey also contained the same two open-ended questions from the previously mentioned study, “Did any critical incidents occur in your supervision?” (Critical incidents defined as interactions that have a significant impact on the way the supervisee feels about the relationship or affected their training and professional development) and “What contributed to your satisfaction or dissatisfaction with the supervisory relationship?” (Duan & Roehlke, 2001). Table 2 displays the questions and their corresponding category on the culturally responsive survey.

Table 2: Cultural Responsiveness Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  There are other supervisees under my supervisor belonging to the same racial/ethnic identity group as me</td>
<td>Responsive</td>
</tr>
<tr>
<td>2  My supervisor has referenced positive previous experiences where they supervised individuals belonging to the same racial/ethnic identity group as me</td>
<td>Responsive</td>
</tr>
<tr>
<td>3  My supervisor primarily supervises individuals that belong to their same racial/ethnic group</td>
<td>Unresponsive</td>
</tr>
<tr>
<td>4  My supervisor has made comments during the supervisory experience that have implied that everyone is have the same opportunities regardless of race/ethnicity</td>
<td>Unresponsive</td>
</tr>
<tr>
<td>5  My supervisor acknowledges racial/ethnic social issues that many underrepresented groups faced historically</td>
<td>Responsive</td>
</tr>
<tr>
<td>6  My supervisor acknowledges racial/ethnic differences within our relationship</td>
<td>Responsive</td>
</tr>
</tbody>
</table>
TIP training sessions occurred via Zoom©. Supervisory meetings took place in their natural setting that had been determined by the supervisor/supervisee dyad and were recorded via Zoom© for observation. Materials used for the training sessions and observations were a computer or device with a camera that has access to internet,
Google Forms, and Microsoft Power Point. The observation recordings were emailed to trained observers for data collection. Data was collected by using data sheets created by the experimenter.

Dependent Variables and Operational Definitions

There were two dependent variables during this study (1) empathetic responding and (2) perceived level of cultural responsiveness. The primary dependent variable of this study, empathetic responding, is a complex response class that consists of verbal behaviors based on a review of literature that discuss cross-racial communication (Sue et al., 2007), cultural humility (Wright, 2019), empathy (Taylor et al., 2018), and active listening (Weger et al., 2010). The main dependent variable will be the engagement in verbal behaviors that consist of phrases or statements that (a) convey awareness, (b) demonstrate understanding, (c) assess for accuracy, and (d) incorporate cultural considerations (See Table 3 for Operational Definitions).

The secondary dependent variable in this study is the supervisee’s perceived level of cultural responsiveness of the supervisor for each dyad. This was measured using the Cultural Responsiveness survey created by the experimenter. The experimenter created a survey containing 27 items and was adapted from Duan & Roehlke’s (2001) cross-racial supervision survey. This survey was selected for adaptation based on its ability to assess the supervisee’s perceptions across the following areas: level of experience supervisors have in supervising individuals from the same racial-ethnic group as supervisee, supervisor’s attitudes/behavior in addressing race related issues, supervisors’ positive attitudes toward supervisee cultural identity, supervisor’s expectations for supervisee’s self-disclosure, supervisee’s level of comfort to self-disclose, and supervisors level of cultural awareness. An operational definition of cultural responsiveness is given on the survey and is defined as a response class of behaviors that acknowledges the supervisee’s race/ethnicity by delivering statements that convey awareness, understanding, and incorporates cultural considerations in the supervisory relationship. This also includes asking questions regarding cultural implications to assess for accuracy.

Table 3: Operational Definitions of Verbal Behaviors in Empathetic Responding

<table>
<thead>
<tr>
<th>Target Behavior</th>
<th>Definition</th>
<th>Example and Non-example Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convey awareness</td>
<td>Defined as the ability to tact the disparities the speaker faces due to racial-ethnic inequities and deliver at least one affirmative statement that acknowledge the speaker’s experience</td>
<td>Scenario: Black supervisee reports being stopped by police in traffic recently. Example: “Blacks are more likely to be pulled over by police. This is troubling and unjust! Driving while black is a thing” Non-Example: “When you speed, of course you will be pulled over”</td>
</tr>
<tr>
<td>Demonstrate understanding</td>
<td>Defined as the ability to identify and explicitly restate or paraphrase affective statements made by the speaker a minimum of 2 times during a conversation</td>
<td>Scenario: Asian American supervisee reports feelings of isolation at practicum site.</td>
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<td>---------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Example: “Being the ‘only’ is difficult, I am sorry the site is not very diverse”; “When you do not see yourself among your colleagues, that is disheartening”</td>
<td>Non-Example: “Speak up more and put yourself out there,”; “You seem standoffish, try doing what your peers do”</td>
</tr>
<tr>
<td>Assess for accuracy</td>
<td>Defined as asking the speaker at least one questions for clarity or expansion on the content/experience being discussed,</td>
<td>Scenario: Latino supervisee reports being mistaken for a client’s parent at the practicum site</td>
</tr>
<tr>
<td></td>
<td>Example: “Really?! What happened?”</td>
<td>Non-Example: “That happens from time to time”</td>
</tr>
<tr>
<td>Incorporate cultural considerations</td>
<td>Defined as using an asset-based approach to make at least 1 statement that integrates the speaker’s cultural identity and values into the supervision experience when addressing professional development/competencies</td>
<td>Scenario: During a group supervision meeting, a supervisee that identifies as belonging to two or more races reports that they have been struggling with using the practicum’s site supervisory paperwork</td>
</tr>
<tr>
<td></td>
<td>Example: “You are very creative and always do well in making visuals for the team. Would you like to make edits to the form or create your own document for your supervisory experience?”</td>
<td>Non-example: “This form works for everyone else. If you can use the other documents, you should be able to use this one too”</td>
</tr>
</tbody>
</table>

**Data Collection**

**Empathetic responding**

A data sheet indicating the engagement in empathetic responding during supervision meetings was used.

Engagement in making empathetic statements was recorded by counting the number of times a supervisor engages in any of the four behaviors defined in Table 2. The data sheet included a key of operational definitions for the four typographies of empathetic responding. The key defines each typography and has an assigned data code. Convey awareness data code is CA, demonstrate understanding data code is DU, assess for accuracy data code is AA, and incorporate cultural considerations data code is IC. The data sheet will have a single row of empty boxes to record each instance the supervisor engages in empathetic responding by recording the data code that corresponds to the supervisor’s responses during the supervisory meeting. There was a box to check if there were not any engagements of empathetic responding during the supervisory meeting.
Data was collected by observing the first 30 minutes of each recorded supervisory meetings that took place in their natural settings prior to and following TIP training. Engagement in empathetic responding during supervisory meetings that occurred after 30 minutes was not recorded on the data sheet. Data was also collected during the contrived role-play immediately following training. The study aim was to increase engagement in empathetic responding by the supervisor during supervisory meetings. The target frequency post-training was a minimum of 5 engagements by each supervisor per observation.

**Supervisee’s perceived level of cultural responsiveness**

Survey responses from supervisees were collected via Google Forms before and after TIP training. The survey questions were based on a 5-point Likert scale ranging from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree. The perceived level of cultural responsiveness was calculated based on the percentage of culturally responsive behaviors the supervisor engages in according to the supervisee. Each question has been categorized as responsive, unresponsive, or not applicable. Not applicable questions do not assess responsiveness nor unresponsiveness, instead the questions assess level of importance for supervisor to be culturally responsive, supervisor perceived compatibility, and the supervisee’s overall satisfaction of their supervisory experience. Scores for the survey were calculated by determining the level of responsiveness by adding the scores of questions categorized as responsive and dividing them by the highest score possible among the total number of categorical responsive questions. The highest score that could be obtained is 100% which reflects a score of 65 points out of 65 possible points.

**Inter-Observer Agreement**

Trial by trial interobserver agreement (IOA) was obtained by an additional trained observer. The observer is a current graduate student in ABA coursework. The observer was trained on empathetic responding via Zoom©. The training discussed opportunities to engage in empathetic responding and its different typographies. During this training, the investigator demonstrated accurate data collection recording and role played with the observer. The trained observer collected data by observing 30% of the recorded supervisor-supervisee dyads supervisor meetings.

IOA scores were calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. Observation of the first 30 minutes of a recorded supervisory meeting was considered a trial. An agreement has been defined as both the experimenter and trained observer recording the same number of engagements in empathetic responding regardless of typography by the participant, if there were a
discrepancy between the frequency data recorded among the observers, a disagreement was scored. The target score in this study was 80%. There was an IOA score of 40%.

**Treatment Fidelity**

Treatment fidelity data was collected for 2 of the 3 training sessions and range from 98-100%. With the consent of each participating supervisor in this study, each training was recorded. A trained observer was given a data sheet that included a task analysis for the teaching interaction procedure (TIP) which list each step of the TIP procedure and it’s corresponding PowerPoint slide. On the data sheet there was a column for the observer to circle “Yes” or “No” to indicate if the step was performed. Treatment fidelity scores were calculated by dividing the number of implemented steps of TIP by the total number of steps in TIP task-analysis and multiplying by 100. The steps during the training sessions were scored as correctly implemented if the investigator followed each corresponding instruction of the TIP task analysis, otherwise it was scored as incorrect. The TIP training was conducted with 96% fidelity.

**Experimental Design and Procedures**

A multiple baseline across participants was used to evaluate TIP’s effectiveness to increase empathetic responding among cross-racial behavior analytic supervisory relationships and to test for generalization of empathetic responding across a contrived setting and natural settings.

**Baseline**

To identify the level of cultural responsiveness for each participating supervisor, a survey was administered to each supervisee to assess their perceived level of satisfaction with the level of cultural responsiveness within their dyad. Following completion of the survey, baseline procedures included observing 3 or more recorded supervision meetings. The participants were asked to record a typical supervisory meeting via Zoom© a minimum of thirty minutes, up to one hour where there is clear video and audio of both the supervisee and supervisor from the waist up. No additional prompting, training, or feedback was delivered. For continuity, moving forward each recorded supervisory meeting will be referenced as a session. Baseline for this study was conducted until a steady state responding was achieved for the supervisee-supervisor dyad for the number of empathetic responding engagements. An empathetic response consisted of the supervisor engaging in verbal behaviors that were either phrases or statements that conveyed awareness, demonstrated understanding, assessed for accuracy, or incorporated cultural considerations.
**Training**

Participants were trained on how to recognize opportunities and how to correctly engage in empathetic responding by the investigator using the TIP procedure via Zoom©. The steps of the training included labeling empathetic responding, providing rationale on the importance of empathetic responding, a list of steps outlining the topographies involved in empathetic responding, a correct model of empathetic responding, an incorrect model of empathetic responding, an assessment of model comprehension, role play of empathetic responding using a hypothetical scenario, feedback delivered on the roleplay, and consecutive hypothetical scenario roleplays until mastery (see Table 4). Mastery criteria was to correctly roleplay empathetic responding a minimum of four of 5 hypothetical scenarios or 80% of all trials.

### Table 4: Teaching Interaction Procedure Steps

<table>
<thead>
<tr>
<th>PowerPoint Slide</th>
<th>Step of TIP procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>Title Slide</td>
</tr>
<tr>
<td>2 - 3</td>
<td>Label</td>
<td>Define empathetic responding</td>
</tr>
<tr>
<td>4</td>
<td>Rationale</td>
<td>Discuss why empathetic responding is important during supervisory relationships and literature that supports empathetic responding</td>
</tr>
<tr>
<td>5-12</td>
<td>Task Analysis</td>
<td>Describe steps to identify opportunities to engage in empathetic responding and each topography involved</td>
</tr>
<tr>
<td>13</td>
<td>Correct Model</td>
<td>Demonstrate empathetic responding correctly</td>
</tr>
<tr>
<td>14</td>
<td>Incorrect Model</td>
<td>Demonstrate empathetic responding incorrectly</td>
</tr>
<tr>
<td>15-16</td>
<td>Model Comprehension</td>
<td>Ask the participant if the response was correct or incorrect</td>
</tr>
<tr>
<td>17</td>
<td>Roleplay</td>
<td>Explain roleplaying will occur and ask the participant to demonstrate empathetic responding.</td>
</tr>
<tr>
<td>18</td>
<td>Roleplay feedback</td>
<td>Provide feedback following participant’s demonstration of empathetic responding</td>
</tr>
<tr>
<td>19</td>
<td>Roleplay to mastery</td>
<td>Continue to roleplay until participant display every topography of empathetic responding accurately 4 out of 5 trials or 80% of all trials</td>
</tr>
<tr>
<td>20-21</td>
<td>Feedback</td>
<td>Display “Congratulations on Successful Completion”. Provide a checklist displaying the participant’s mastery of each topography of empathetic responding.</td>
</tr>
<tr>
<td>22</td>
<td>Probe</td>
<td>Explain that the participant will watch a short video and be asked to deliver an empathetic response for each opportunity presented.</td>
</tr>
</tbody>
</table>
Post-Training

A post training probe was conducted after the participant met mastery criteria during training. The post-training probe represented generalization data during a contrived setting immediately following TIP training. This data was used to assess the supervisor’s engagement in empathetic responding across a controlled setting and natural settings. Following meeting mastery criteria during TIP, the participant was asked to watch a short video and to engage in empathetic responding as opportunities were presented. The video for the contrived setting within the training was developed by the primary investigator using a personal narrative that was shared by a colleague. For clarity, here colleague is defined as an individual that has worked within the field of behavior analysis for a minimum of one year and received supervision from a behavior analyst that identified as a different race from her own. In the video, this colleague shares a past real-life experience where she encountered an ethical dilemma involving her race. This encounter occurred while the colleague worked in a residential setting delivering therapy to a client. In the video, the colleague appears and shares her experience with the viewer while pretending the viewer is a supervising behavior analyst. There was a total of five opportunities to engage in empathetic responding during the video. After completing the probe in a contrived setting, the supervisors were asked to continue to record their sessions in their natural settings. Frequency data was collected for each engagement in empathetic responding by the supervisor across both settings. Following the completion of this study, cultural responsiveness surveys were administered to each participating supervisee to assess whether their perception of their supervisor’s cultural responsiveness had been impacted.

Social Validity

Training strategies to effectively improve behavior analysts’ professional skills and improve behavior analytic supervisory practices is important to the field. To assess social validity, each supervisor was asked to complete an anonymous questionnaire via Google Forms at the end of the study. The questionnaire consisted of 7 items that asked about the supervisor’s satisfaction with the training procedure and how impactful empathetic responding was during typical supervisory meetings. The first five items were questions placed on a 5-point Likert scale. The last two items were open-ended questions that asked the supervisors (1) What components of the training would you keep? (2) What components of the training would you change? The questionnaire was delivered to each supervisor via email after receiving their final supervision meeting recording.
RESULTS

Empathetic Responding pre- and post- TIP Training

Three cross-racial supervisee-supervisor dyads were observed via recording to explore the rate of empathetic responding during supervision meetings prior to and following TIP training. Each meeting was observed for the first 30 minutes of the recording, any instance of empathetic responding following 30 minutes was not included in data collection. Figure 1 displays each participating supervisor engagement in empathetic responding during supervisions meetings prior to TIP training and following TIP training in natural settings. The graph also shows the contrived setting probe immediately following TIP training. During baseline, each participant engaged in empathetic responding an average of 1 time per session. Each supervisor engaged in a minimum of 5 empathetic responses during the contrived condition. Due to the targeted rate being 5, any frequency value over 5 was not graphed, however, it should be noted each supervisor engaged in more than 5 empathetic responses during this condition. During the post-TIP training/ natural setting condition each participant engaged in empathetic responding an average of 2 times per session. Immediately following TIP training, it appears that each supervisor engagement in empathetic responding increased during the contrived condition, however, engagement decreased in natural settings and return to similar values of the pre-TIP training condition. This suggests that the training had immediate impact, but not lasting effects on each supervisor’s frequency of engagement in empathetic responding. Due to inconsistency with scheduling supervisory meetings, there were less data collection. Dyad C held supervisory meetings on a biweekly basis. This confound impacted data collection and may have been a variable in the decreased engagement in empathetic responding from Week 9 to 12. A participant within Dyad B experienced illness and did not hold any supervisory meetings Weeks 5 and 6. However, due to time constraints, TIP training occurred Week 7.

As shown in Table 5, each supervisor met mastery criteria during TIP training by accurately roleplaying empathetic responding during hypothetical scenarios a minimum of 4 of 5 trials. The average training time to complete the training was 50 minutes. This finding suggests that the TIP training may be a time effective training tool in that it can be completed within an hour’s timeframe.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Accurate Trials</th>
<th>Training Completion Duration (minutes and seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor A</td>
<td>5 of 5</td>
<td>47.13</td>
</tr>
<tr>
<td>Supervisor B</td>
<td>4 of 5</td>
<td>55.39</td>
</tr>
<tr>
<td>Supervisor C</td>
<td>5 of 5</td>
<td>47.19</td>
</tr>
</tbody>
</table>
Figure 1. The frequency of engagement in empathetic responding by each supervisor during supervisory meetings in the natural setting before TIP training, during a post-TIP training probe in a contrived setting, and in the natural setting.

Perceived Level of Cultural Responsiveness pre- and post- TIP Training

As indicated in Figure 2, the average percentage of perceived cultural responsiveness survey scores across each participating supervisee before TIP training was 87%. Due to technology errors, Supervisee C was not able to submit a survey following TIP training. The primary investigator attempted to deliver the survey via email several times after the initial error but, did not receive a response. It is important to note that survey scores of Supervisee A and B appeared to increase an average of 5.5% following TIP training. This suggests that the TIP training impacted Supervisor A and B engagement in empathetic responding and increased the perceived cultural responsiveness by their supervisees.
**Figure 2.** The percentage of perceived cultural responsiveness survey score of each participating supervisee pre-and post-TIP training

**TIP Training Questionnaire Feedback**

Results from the TIP training questionnaire suggest that the TIP training procedure may be a useful method to teach empathetic responding to practitioners, however, there are elements that could enhance the training by including an opportunity for in-vivo feedback during actual supervisory meetings or by having more opportunities to roleplay. The average Likert scale rating for the statements, “the training format was helpful” and “the feedback was effective in improving my performance” was 4 which indicated that the participants agrees with the statement. 100% of all participant responses strongly agreed that they will use empathetic responding in the future, however, majority of participant responses at 67% disagreed with the statement “the training positively impacted my supervisory relationship” and 67% of participant responses agreed that the time to complete the training was manageable.

When asked “What components of the training would you keep?”, a participant response indicated that they liked the specific and detailed examples during the roleplays and that it was helpful to hear the contexts where empathetic responding might be appropriate. Another response mentioned that they would keep the practice component at the end referring to the contrived condition that involved recognizing opportunities and practice engaging empathetic responses. The other participant’s response identified clarifying questions and making affirming statements as components of the training they would keep.

When asked “What components of the training would you change?”, a participant response stated that they would have benefited from more hypothetical scenarios for practice. Another response mentioned that they did not
need a didactic review of empathetic responding, referring to the rational component of the TIP training and preferred more time role-playing. A different response explained that it was difficult for them to engage in empathetic responding at the end of the training referring to the contrived condition. This participant expounded on this difficulty by stating that it wasn't a reciprocal interaction and would have preferred a live person to interact with rather than roleplay with a recorded video. The response stated that it was also difficult to engage in empathetic responding due to the limited opportunities presented and would rather a more proactive approach to engage in empathetic responses. This response also mentioned that they would have preferred the opportunity to receive in-vivo feedback during supervision meetings with their actual supervisee.

**DISCUSSION**

The results from this study suggest that the teaching interaction procedure is an effective training method to teach supervisors culturally responsive skills, specifically, empathetic responding. This study extends research using the teaching interaction procedure to train staff by demonstrating its effectiveness as a staff training tool and suggests its utility in teaching complex social skills. Although, there was limited data during the post-TIP training condition, each supervising behavior analyst rate of engagement in empathetic responding increased during the contrived condition. The results from the social validity survey suggests that the model comprehension component of the TIP procedure was preferred among the participating supervisors. The accessibility and time effectiveness of the web-based training suggests that the TIP procedure may be an ideal method of training among behavior analysts. The study also indicates that empathetic responding positively impacted 2 of 3 supervisees perception of their supervisors. This study contributes to literature that discuss the importance of empathetic responding and its impact on supervision relationships. This study also can help guide the field of behavior analysis to incorporate more culturally responsive trainings and prompt supervising behavior analysts to develop their own culturally responsive repertoires. In addition to exploring the utility of web-based trainings as a means to promote professional development for supervising behavior analysts by increasing accessibility.

**Limitations**

One major limitation is the subjective nature of empathy. The definitions used during the study may not fully encompass the complexity of empathetic responding. Each participant has individual learning histories which includes how the individual perceive and demonstrate empathy. The subjective nature of empathy may have also impacted data collection despite efforts to control this confound by providing training to observers and including the
definition on the data sheet. The complexity of empathetic responding also created challenges in determining the behaviors to pinpoint during the study. Empathetic responding is not limited to verbal behaviors and may also include gestures and body orientation. Individual cultural customs may also add to the complexity and subjective nature of empathy.

In addition to this limitation being discussed, it is also important to note that the study does not assess empathetic responding across dyads with supervisors belonging to the same race or dyads where the supervisor identifies in belonging to an under-represented racial/ethnic group and the supervisee identifies as white. Literature suggests empathetic responding will have positive impact on any supervisory relationship and exploring its impact across different identities and groups may provide additional evidence that supports this claim.

Another limitation was related to the study’s requirement for dyads to hold formal supervision meetings between 30-60 minutes on a weekly basis. This confound impacted data collection and created a higher response effort for dyads that may have established supervisee-supervisor contact’s outside of the meeting requirements such as during client observations, meetings that were under 30 minutes, or supervision experiences that had group meetings embedded to meet the BACB’s criteria for supervision contacts.

Presently, the only criteria the BACB has specified for supervisee-supervisor contacts is that each contact has to be a minimum of 15 minutes in duration, individuals completing supervised fieldwork must have a minimum of 4 contacts a month, and individuals competing concentrated supervised fieldwork must have a minimum of 6 contacts a month. The study request for the dyads to meet a minimum of 30 minutes on a weekly basis. This created scheduling issues and most participants did not adhere to this request. One way to control for the confound would be to use the BACB’s criteria for supervisory meetings and accept supervisory meetings that were less than 30 minutes but at least 15 minutes.

Lastly, another limitation during this study was the one on one online format of the TIP training. This created several limitations for the participants such as the opportunity to receive in-vivo feedback following training, as well as, the number of opportunities to roleplay with different individuals. The feedback from the post-TIP training suggests adding a live group component in addition to the web-based training to facilitate more roleplaying would have been preferred by the participants.
Directions for Future Research

Future studies could evaluate the teaching interaction procedure effectiveness in teaching other supervision skills pertinent to behavior analysts such as delivering feedback, delegating tasks, or addressing ethical dilemmas. Also, testing for generalization of empathetic responding TIP training across different cross-racial dyads outside of behavior analysis such as manager/employer, college professor/student, or other grade levels in education. Other future research directions could explore empathetic responding across other areas of identity such as gender, sexuality, ability, or religion among dyads. Another potential study could involve a component analysis evaluating components of the TIP training to pinpoint the steps necessary to impact the individual’s engagement in desired behavior.

One future variation of this study could explore procedures to help sustain change following TIP training. This could potentially be done by adding additional trainings following TIP training to refresh supervisors on empathetic responding. Scheduling additional trainings one month after the initial training over a three-month time frame may help with sustaining engagement in empathetic responding. Another potential procedure to help sustain engagement in empathetic responding would be to add a self-monitoring component post-training for supervisors to track their rate of empathetic responding.

A contribution of the study is the exploration of supervision relationships and assessing supervisees perceived level of culturally responsiveness within their supervision experience. This type of assessment can lead to the development and incorporation of other types of supervisee assessments during supervision such as preference assessments to help supervisors identify the learner preferences among modality of communication, how to deliver feedback, method of praise and etc. Other assessment considerations include using the perceived level of cultural responsiveness survey to evaluate the impact of other culturally responsive supervision practices such as using assets-based feedback or the incorporation of cultural identity in the environment to help supervisors identify areas of growth.

Another potential variation of this study could explore engaging in empathetic responses following statements made by a supervisee that conveys state of distress compared to engaging in empathetic responses when the supervisee is in a positive or neutral disposition. The subjective nature of empathy allows for supervisors to engage in empathetic responses regardless of the supervisee’s emotional disposition. As mentioned earlier, the learning history of each participant may also impact their ability to discriminate what is a distress statement.
compared to a neutral or positive statement however, the study could focus on impacting the supervisee’s perception.

In addition to the previously mentioned variations, a future study could explore supervisees that are people of color who have had supervisors that identified as belonging to a different race/ethnicity from the supervisee and determine if they have had personal experiences that involve ethical dilemmas related to race during their supervision. This study could be used to potentially widen the number of hypothetical scenarios during trainings, further refine the definitions, and assess how often race-related ethical dilemmas occur during supervision.

The field of behavior analysis is not only becoming increasingly diverse among its population, but also among practices and ideas as well. Conducting research to help with the development of evidenced based supervision practices will advance the field by equipping supervising behavior analysts with tools to ensure they are promoting inclusion. Although this study has its limits, it provides supervising behavior analysts with an assessment survey, training tool, and interpersonal skill that can be used to help establish and maintain more inclusive supervision which will promote more successful supervision experiences.

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Figure 1

The frequency of engagement in empathetic responding by each supervisor during supervisory meetings in the natural setting before TIP training, during a post-TIP training probe in a contrived setting, and in the natural setting.
Figure 2

The percentage of perceived cultural responsiveness survey score of each participating supervisee pre- and post-TIP training