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Cultural responsiveness in applied behavior analysis: Research and practice

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The new Ethics Code for Behavior Analysts requires that certificants engage in training related to culturally responsive service delivery (BACB, 2020). There is limited work in the area of culturally responsive evidence-based practice within our field. Therefore, it is incumbent on researchers and practitioners to identify best practices for working with diverse populations. Hence, the purpose of this paper is three-fold: a) to review research within and outside the field of ABA related to culturally responsive assessment and treatment and provide practice recommendations, b) to examine the extent to which current practices in behavior assessment and treatment align with aspects of culturally responsive practices, and c) to inspire research in the areas of behavior assessment and treatment to identify best practices with regard to culturally responsive behavior analytic practices. The content of this paper is grounded in the framework described by Beaulieu and Jimenez-Gomez (2022).

Key words: cultural awareness, cultural competence, cultural responsiveness, cultural humility, culture, diversity, ethics

Cultural variables impact access to healthcare services (Nelson, 2002), timing of diagnosis of autism spectrum disorder (Constantino et al., 2020), and misclassification of diagnoses (Coker et al., 2016; Constantino et al., 2020; Moody, 2016). Culturally responsive services are essential as they have been shown to improve the quality of services (Beach et al., 2004; Goode et al., 2006), patient safety (Betancourt, 2006; Brach & Fraser, 2002; Thom et al., 2004), and patient satisfaction (Beach et al., 2004). Culture and cultural variables are central to behavior-analytic endeavors; however, there is limited work in culturally responsive evidence-based practice within the field of ABA. Therefore, it is incumbent on researchers and practitioners to identify best practices for working with diverse populations.

When we use the term cultural variables, we are referring to the combination of social identities (e.g., race, ethnicity, nationality, generation) that shape how we interact with environmental stimuli (Crenshaw, 1991). Culture is dependent on what members of a particular community that share cultural variables define as conforming behaviors (Skinner, 1953). The learning histories of members of the community shape what are

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Given the topic, the authors consider it important to reveal some of the cultural identities that shape their perspective, while acknowledging many other undisclosed cultural variables also have impacted their learning history. CJG (she/her) was born and raised in Venezuela, is a speaker of English as a second language, currently residing in the United States, and has been in the field of behavior analysis for 20 years. LB (she/her) is a nonreligious White female and was born and raised in the northeast and southeast United States.

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considered conforming behaviors and hence, profoundly impact a range of behaviors including communication, social behavior, daily routines, traditions, values, and beliefs. Thus, to deliver socially meaningful behavior-analytic services, the role of culture must be considered at every step of behavior-analytic services and research.

The new Ethics Code for Behavior Analysts requires certificants to engage in training and self-evaluation related to culturally responsive service delivery (code 1.07, BACB, 2020). Until recently, however, providing culturally responsive behavior-analytic services has largely been overlooked across research, training, and practice in applied behavior analysis (ABA). As a result, there is limited research focusing on cultural responsiveness despite the field of ABA relying on the use of evidence-based practice. In applied behavior analytic research, this is evidenced by the lack of reporting demographic variables (Jones et al., 2020; Li et al., 2017; Severini et al., 2018), the limited studies evaluating the impacts of cultural variables on behavior, and the paucity of methods to improve cultural humility. In graduate training, this is evidenced by the absence of training focused on working with diverse individuals (Beaulieu et al., 2019). In practice, this is evidenced by limited engagement in culturally responsive practices and limited access to continuing education events (Beaulieu et al., 2019). For instance, although collaboration with caregivers is essential when providing culturally responsive services (Sue et al., 2019), Beaulieu et al. (2019) found that only 39% of respondents asked whether goals aligned with the family every time and 30% never, rarely, or sometimes asked when providing behavior-analytic services. Relatedly, Ferguson et al. (2019) found that only 12% of research studies published in the *Journal of Applied Behavior Analysis* (*JABA*) from 1999-2016 included social validity data.

There are several key terms related to diversity. We briefly define the key terms in Table 1, but we encourage readers to refer to Beaulieu and Jimenez-Gomez (2022) for a thorough discussion on the dimensions of cultural competence to gain a foundation on this topic with an emphasis on self-assessment—a fundamental step to providing culturally responsive services. We have chosen to use the term *culturally responsive*, which is aligned with the terminology used in the new Ethics Code (BACB, 2020). However, we use the three dimensions of cultural competence—awareness, knowledge, and skills (Sue et al., 1982; Sue et al., 1999; Sue et al., 2019)—to frame our discussion of culturally responsive behavior analytic services (see Table 2).

Cultural responsiveness and ABA overlap in several ways. Cultural responsiveness avoids gross generalizations (e.g., stereotypes) and stresses the importance of focusing on the individual and the distinct intersecting cultural variables impacting the individual's behavior. This term also highlights the importance of identifying aspects of the environment (i.e., cultural variables) that impact behavior and effective care. Further, cultural responsiveness embodies relationship building and working collaboratively with clients to achieve effective and meaningful outcomes. Involving clients and stakeholders is explicitly stated in the Ethics Code for Behavior Analysts (code 2.09; BACB, 2020). An important consideration for researchers and practitioners is that culturally responsive services implies that behavior analysts do not treat all participants and clients identically because the cultural dynamics they bring to the health care encounter differ (Kodjo, 2009). In addition, since cultural influences encompass a host of "invisible" variables (e.g., religion, sexual orientation), including ones that can shift throughout the life cycle (e.g., socioeconomic status/position [SES/SEP], geographic location, gender identity), it is important to see culturally responsive care as a continuous approach to be used with all research participants and clientele, not just those whose physical appearance differs from the researcher or practitioner or at one point in time.

Table 1

Definitions of Key Diversity Terms

Term	Definition	Citation
Cultural Competence	"…a lifelong process in which one works to develop the ability to engage in actions or create conditions that maximize the optimal development of client and client systems. Multicultural counseling competence is aspirational and consists of counselors acquiring awareness, knowledge, and skills needed to function effectively in a pluralistic democratic society (ability to communicate, interact, negotiate, and intervene on behalf of clients from diverse backgrounds), and on organizational/societal level, advocating effectively to develop new theories, practices, policies, and organizational structures that are more responsive to all groups."	Sue and Torino (2005, p. 8)
Cultural Humility	Cultural humility is a life-long process that requires continual self-reflection to produce a dynamic partnership that reduces power imbalances between clinician and client and requires respect for and lack of superiority toward another's cultural background	Tervalon & Murray-Garcia, 1998
Cultural Responsiveness	"…using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively."	Gay (2002, p. 106)

Note. Reprinted from Beaulieu and Jimenez-Gomez (2022)

There has been a recent increase in publications on the topics of cultural diversity in ABA (e.g., Beaulieu et al., 2019; Dennison et al., 2019; Fong et al., 2016; Fong et al., 2017; Fong & Tanaka, 2013; Gingles, 2021; Mathur & Rodriguez, 2021; Najdowski et al., 2021; Rosales et al., 2021; Sivaraman, & Fahmie, 2020a, b) including a special issue on diversity and inclusion published by the journal *Behavior Analysis in Practice* (*BAP*) in 2019 and an emergency issue on racism and police brutality also published through *BAP* in 2021. This is an encouraging trend given that cultural variables impact behavior in many important ways, and we praise all the researchers and practitioners engaging in this important work. Mathur and Rodriguez (2021) is notable as the authors discuss specific competencies that could be included in ABA graduate training programs, and Najdowski et al. (2021) provide the groundwork for developing antiracist graduate programs. However, to meet the needs of the coming generations, we must begin to integrate cultural variables into all our applied research, training, and practice.

The purpose of this paper is three-fold: a) to review research within and outside the field of ABA as related to culturally responsive assessment and treatment and provide practice recommendations, b) to examine the extent to which current practices in behavior assessment and treatment align with aspects of culturally responsive practices, and c) to inspire research in the areas of behavior assessment and treatment to identify best practices with regard to culturally responsive behavior analytic services. This paper highlights important works within and outside the field of ABA but it is not a comprehensive review paper. The research ideas in this paper are not exhaustive and the authors recognize that their own cultural variables impacted their selection of specific research questions. We encourage others to identify further possibilities of research. Additionally, we acknowledge and encourage others to recognize that training in this area is a life-long commitment.

Culturally Responsive Assessment

In accordance with the ethical code enacted by the Behavior Analyst Certification Board® (BACB®), behavior analysts should strive to conduct culturally responsive behavior assessments

Table 2

Dimensions of Culturally Responsive Behavior Analytic Services

Awareness	• Self-assess one's culture; discriminate and tact cultural variables that impact behavior
	• Respect and appreciate differences; use a posture of cultural humility with individuals from cultural backgrounds different than own
	• Discriminate one's biased behaviors and their impact on services, including both clients and the supervision of trainees
	• Assess limits of scope of competence regarding cultural diversity and access additional support or provide referrals as needed
Knowledge	• Tact past and current treatment of minoritized groups with respect to sociopolitical systems in the country/region one lives
	• Acquire specific knowledge about the cultural group with which one works
	• Discriminate and tact barriers that prevent people from minoritized groups use of behavioral services
	• Identify possibly contraindicated treatments due to cultural variables and conduct risk assessments
	• Identify how behaviors related to ethical dilemmas and decision-making vary across cultures
	• Discriminate and tact the role of cultural variables in the supervision and training of trainees
	• Tact differences in defining targets, preferences for treatments, and treatment effects across cultures
Skills	• Self-monitor relationships with clients and caregivers and prevent and disrupt biases
	• Respond effectively to feedback on mistakes one emits related to cultural differences
	• Practice self-compassion with oneself when confronted with challenges during the life-long learning process and following the emission of mistakes regarding cultural differences
	• Respond to cultural cues and communicate effectively with all forms of verbal behavior (vocal and gesture)
	• Deliver culturally responsive interventions to clients as needed
	• Engage in a variety of rapport building behaviors
	• Adapt treatments based on cultural variables
	• Ask open-ended questions and actively listen to caregiver concerns
	• Collaborate with caregivers on treatment goals and treatment selection
	• Offer choices of treatment components
	• Conduct risk assessments if using potentially contraindicated treatments and comprehensive monitoring plan
	• Utilize a decision-making model and understand the context related to cultural variables when making ethical decisions
	• Seek and incorporate feedback from others to improve future performance
	• Conduct social validity assessments throughout the assessment and treatment process

Note. Reprinted from Beaulieu and Jimenez-Gomez (2022).

with all clients (BACB, 2020). In this section, we describe the degree to which behavior analytic assessments align with culturally responsive services and describe how behavior analysts can develop more culturally responsive intakes, descriptive assessments, and functional analyses by incorporating aspects of culturally responsive services (e.g., assessing and incorporating cultural variables, using a posture of cultural humility, collaborating with stakeholders). Lastly, we highlight areas of needed research to identify best practices for culturally responsive assessment.

Previous Research

There are a few examples of studies focusing on behavior assessments that specifically incorporate cultural variables. For instance, Rispoli et al. (2011) demonstrated how linguistic variables can be considered during functional analysis (FA) implementation. The authors evaluated the effects of language used for implementation of FA conditions on the levels of problem behavior emitted by a participant from a Spanish-speaking family. They observed increases in problem behavior when the FA was

conducted in English compared to when it was conducted in Spanish, supporting the need for researchers and practitioners to identify and consider linguistic backgrounds (i.e., cultural variables). Despite the need to incorporate linguistic variables in behavioral research, Brodhead et al. (2014) found that only 6% of verbal behavior research studies in *JABA* and 3% of verbal behavior research studies in *The Analysis of Verbal Behavior* disclosed cultural and linguistic background.

Tsami et al. (2019) is another example of incorporating cultural adaptions during an FA. The authors evaluated procedures to teach parents to conduct FAs and implement function-based treatment in eight countries outside of the United States via telehealth services. For two of the children residing in Greece, the authors designed an escape from touch condition because in Greece, touching children affectionately on the face is common. The authors found that the function of problem behavior for one child was escape from touch and effectively taught parents to implement a function-based treatment. In this study, the authors also attended to linguistic variables by including therapists who spoke the language of participants, or offering interpretation services and involved parents in goal selection. Given the vast literature on FAs, it is surprising there is limited research around cultural adaptations.

According to Jessel et al. (2020), the standard FA described by Iwata et al. (1982/1994) is the most-implemented by behavior analysts, with 51% of the FA research published from 1994 through 2016 including the basic five components of Iwata et al. This finding suggests that most FAs reported in the literature were standardized (i.e., conducted exactly as described in the original publication) as opposed to individualized (i.e., adapting consequences to be relevant to the lived experience of each client). This is a concerning finding because standardization, or treating all clients identically, is antithetical to culturally responsive services (Kodjo, 2009). Implementing culturally responsive services necessitates behavior analysts to consider the cultural variables the client brings to the encounter.

Failure to routinely consider idiosyncratic variables within FAs may explain why Hagopian et al. (2013) found that out of 176 FAs based on the Iwata et al. (1982/1994) model, only 47% resulted in identifying the function of problem behavior. For the remaining 53% of FAs included in this analysis, modifications or other forms of assessment were needed; however, it is not clear the degree to which cultural variables impacted lack of differentiation. It is also critical to note that because Jessel et al. (2020) found 51% of published FAs were standardized, the rest (49%) were not standardized and included modifications to the FAs, but it is unclear whether the modifications considered cultural variables. Further, as Rispoli et al. (2011) and Tsami et al. (2019) demonstrated, the standard FA can be adapted to incorporate cultural variables by considering linguistic background and modifying conditions to incorporate variables related to the client's culture (e.g., modifying conditions to include culture-specific demands and attention).

Although not explicitly described as culturally responsive in the research literature, Hanley et al. (2014) describe a functional analysis model that includes both an interview with caregivers (i.e., fostering the collaborative approach) that explicitly captures the lived environmental conditions related to the problem behavior, and the direct observation of the client. Because this approach involves designing conditions based on the interview, which captures the lived environment, it might facilitate identifying cultural variables that impact the client's behavior (i.e., identifying culture-specific demands and attention). This method has been replicated and extended in numerous studies (e.g., Beaulieu et al., 2018; Jessel et al., 2016; Rose & Beaulieu, 2019; Slaton et al., 2017), but research is needed to specifically assess the impact of culture on FA outcomes and treatment effects.

In addition to considering cultural variables in FAs, Dennison et al. (2019) suggest

conducting a cultural analysis, assessing linguistic needs, and determining when professional translation and interpretation services would be necessary to provide more culturally responsive services. When offering translation and interpretation services it is important to consider how the caregiver and client perceive this offer. It is possible some may be offended by this offer as they may perceive the offer as an insinuation that their English ability is subpar. That is, this suggestion may be perceived as a microaggression, which is an intentional or unintentional comment or behavior directed at members of minoritized communities that communicate biases or discrimination (Sue et al., 2007; e.g., a White[1] person repeatedly interrupting a BIPOC colleague during a work meeting). Therefore, to potentially reduce the likelihood of an individual feeling singled out, it may be better to include an option for translation and interpretation services on the intake form all new clients and research participants complete. Understanding that individuals from various backgrounds will perceive things differently is an important part of providing culturally responsive services (Beaulieu & Jimenez-Gomez, 2022) and it is important to use a posture of cultural humility and apologize when we have offended others.

Using a posture of cultural humility (see Table 1 for definition) is critical throughout the assessment process (e.g., selecting goals). Cultural humility requires behavior analysts to engage in continuous self-monitoring and self-assessment (see Beaulieu & Jimenez-Gomez, 2022), while remaining open to learning new information regarding the cultural background of others. This approach is vital to behavior assessment as it can help practitioners uncover important cultural and environmental variables relevant when evaluating clients' behaviors. We were unable to identify any behavioral research with respect to methods to improve cultural humility. However, in nursing, Schuessler et al. (2012) evaluated the use of reflective journaling during a four-semester experiential learning experience on cultural humility with nursing students. The authors observed changes in the journal entries across semesters that reflected an improved understanding of the impacts of culture and biases on health care. In addition, the authors observed changes in the students' journal entries as they related to their own biases with their patients. In other words, students were able to reflect on biases they originally held with patients and how they shifted over time. Juarez et al. (2006) evaluated the effects of a 1-year diversity course on medical school residents' behaviors related to cultural humility with simulated patients during mock exams. A strength of this study was that researchers examined behavior changes with simulated patients during mock exams as opposed to solely relying on self-report. The authors observed improvements in collaborative behavior during the mock exams. For instance, participants sought the perspective of the patient and involved them in decision-making. Research in this area within behavior analysis could inform the impact that particular interventions have on promoting cultural humility and a collaborative approach to service delivery (e.g., collaboratively selecting targets with caregivers, caregivers informing the assessment process).

Next, we consider the three dimensions of cultural competence proposed by Sue and colleagues (Sue et al., 1982; 1999; 2019) to frame our discussion of cultural responsiveness in behavior assessment.

Awareness

With respect to behavior assessment, the *awareness* dimension relates directly to being

[1]There is currently no consensus regarding the capitalization of White when referring to race (Daniszewski, 2020; Ewing, 2020); however, we capitalize all races in this paper. We made this decision after thorough consideration of the implications of using lowercase "w," which some assert supports the continued minimization of the privileges of Whiteness in our society (see Ewing, 2020; Mack & Palfrey, 2020; NABJ, 2020; Painter, 2020).

comfortable and respectful of differences, being able to discriminate and tact biased behaviors and their impact on services, and the ability to assess limits and provide referrals as needed. Therefore, in this section we will discuss how behavior analysts can be more culturally responsive with intake assessments and the selection of goals.

Intake Assessments

Whether an intake aligns with culturally responsive service delivery depends on the type of information gathered (e.g., demographic variables), how the information is used, the extent to which practitioners employ a posture of cultural humility, and the collaborative nature of the assessment. With respect to the awareness dimension, we focus on collecting and using demographic information, building rapport with caregivers, and selecting goals in a culturally responsive manner. Because there is limited behavioral research in this area, we include research from related fields of education, psychology, and medicine.

Uses of Demographic Information. Limited demographic variables are typically reported in ABA research (Jones et al., 2020; Li et al., 2017; Severini et al., 2018). This is unfortunate because they provide valuable information that can be used in several ways to enhance the ABA research and services provided by ABA practitioners (Fong et al., 2016; Fong, 2020; Green et al., 2015; McIntosh et al., 2014; Sue et al., 2019). There are four areas in which access to demographic information might be useful for behavior analysts: (1) learning information about the clients served, (2) evaluating one's competence to provide services, (3) building rapport with various stakeholders, and (4) monitoring service delivery and outcomes. First, in the simplest sense, assessing demographics increases the practitioner/researcher's awareness of their clients'/participants' different backgrounds and can help the practitioner/researcher consider the impacts of culture on behavior. Fong et al. (2016) assert that considering the impact of culture is necessary for becoming a culturally competent behavior analyst. For example, a more culturally aware practitioner may pause to consider all relevant variables when they walk into a house that they label "chaotic" (e.g., children loudly running around) or observe a parent assisting a child in skills the behavior analyst thinks children should do independently (e.g., a caregiver hand-feeding a 5-year-old child). This practitioner may recognize that their interpretation of "chaos" or "order" and what a child should be able to do independently at a given age is based on their cultural background. Hence, this practitioner may be more likely to listen to the goals described by the caregivers rather than identifying goals based solely on their observation of the client's home life. In this way, collecting demographic data can function as an antecedent tactic to facilitate the practitioner's cultural awareness.

Second, gathering demographic data can help the practitioner assess whether they are qualified to provide services to the client. Fong (2020) provides a decision tree for practitioners to determine whether they are qualified to deliver behavioral services when the cultures of the client and practitioner do not match. The decision tree proposes questions that require the practitioner to reflect on the client's culture, their own culture, the practitioner's training and experience working with individuals with the particular cultural background of the client, potential biases that may impede services, and barriers to services related to culture. Given the emphasis the Ethics Code (BACB, 2020) places on practicing within the practitioner's area of competence, Fong's decision tree is a ready-to-use tool to evaluate competence in the area of culture; however, it should be noted that research on the utility of this tool is still needed.

Third, demographic data can be used to facilitate follow-up questions when establishing a client–practitioner relationship. For instance, if religion was noted, the behavior analyst could ask whether there are special considerations based on the indicated religion (e.g., specific foods that should be avoided as reinforcers). If a family notes a different nationality, questions regarding important customs, family routines, sleep routines, and mealtime routines may be helpful when designing culturally sensitive assessment and treatment procedures. Additionally, this information can be helpful to ensure the practitioner is abiding by house rules (e.g., taking shoes off at the door, greeting the client or family in a specific manner), following day-to-day practices to maintain rapport (e.g., such as preferred forms and frequencies of communication with the family via text, email, phone call), and considering who to involve in assessment and treatment planning sessions (e.g., in some cultures, the elder family members such as grandparents will make the decisions so having them present may be helpful). Tanaka-Matsumi et al. (1996) provide additional guidance on specific areas and types of questions a practitioner can gather through a culturally informed functional assessment (CIFA) interview.

Fourth, collecting demographic data might be useful for monitoring services across groups. For instance, there is evidence that Black students are punished more than White students for the same behaviors (McFadden et al., 1992), and Black students experience more school suspensions than White students and other students of color (Losen & Skiba, 2010). Even the most well-intentioned practitioners and researchers may engage in biased behaviors and show discrimination towards people in other groups; therefore, it may be helpful to review objective data to disrupt discrimination. For example, practitioners could set up a monitoring system where relevant demographic variables (e.g., race, ethnicity, SES/SEP) and behavioral procedures (e.g., reinforcement, punishment, etc.) are reported; these data could be aggregated to assess patterns. Although behavior-analytic research with such a monitoring system is yet to exist, these systems are being used in education to assess and address disproportionality in discipline delivered in schools (Green et al., 2015; McIntosh et al., 2014). McIntosh et al. (2014) describe how school teams implementing school-wide positive behavior interventions and supports can use demographic and discipline data to identify and address disproportionality. They recommend that schools collect discipline data on office referrals and school suspensions. Behavior analysts could adapt this approach to behavior-analytic procedures (e.g., specific types of punishment procedures such as time-out or the use of restraint).

Types of Demographic Data. Despite a consensus across fields that demographic information should be collected, the specific data deemed most helpful differ across fields. Furthermore, the specific types of demographic information that are most likely to enhance behavior-analytic services are unknown. To better understand current practice in collecting demographic information, we reviewed the areas of health care, education, and psychology. In health care, collecting demographics is critical to better understand health disparities. A review of literature and the minimum standards set forth by the US Department of Health and Human Services identified the following demographic variables: primary language, race, ethnicity, gender identity, sex at birth, sexual orientation, age, disability status, and religion (Cahill et al., 2014; Cahill et al., 2016; Lee-Poy et al., 2016; U.S. Department of Health and Human Services [HHS], 2011). It is recommended that questions about ethnicity are asked prior to race and the minimum categories for ethnicity to include Hispanic, Latino, and Not Hispanic or Latino (US Department of HHS, 2011). The minimum categories for race include American Indian, Alaska Native, Asian, Black, African American, Native Hawaiian, Other Pacific Islander, and White (US Department of

HHS, 2011; see US Department of HHS, 2011 for expansion of ethnicity and race categories). We were unable to find consensus on specific categories to include for gender identity, and these differed across publications. However, research indicates that participants are comfortable reporting the following: pronouns, male, female, nonbinary/third gender, transgender male/trans man, transgender female/trans woman, genderqueer-neither exclusively male nor female, prefer to self-describe (with space to describe), and prefer not to say (American Psychological Association [APA], 2017; Cahill et al., 2014; Cahill et al., 2016; German et al., 2016). Due to the wide range of gender diversity and how gender identity can change across the lifespan, APA (2017) recommends offering a space to self-describe in addition to the categories used. In the area of education, the US Department of Education has conducted the Civil Rights Data Collection since 1968. The minimum standards of demographics collected in education include primary language, race, ethnicity, sex at birth, and disability status. In the field of counseling psychology, the APA (2002) and Sue et al. (2019) have suggested collecting data on primary language, marital status, nationality, race, ethnicity, gender identity, sexual orientation, age, disability status, level of education, and religion. The APA (2017) has described additional considerations for those who have immigrated to the US, such as collecting data on fluency in English, length of time in the United States, number of generations in the country, extent of family support, and community resources.

Hughes et al. (2016) describe some recommendations for psychology researchers regarding the type of demographic information collected and the answer choices provided, with the aim of promoting diversity and inclusion. For instance, they recommend adding the word 'currently' to questions about gender identity to account for gender fluidity. To prevent confusion surrounding the terms *ethnicity* and *race*, Hughes et al. propose asking more broadly about all categories that describe the person (i.e., select all that apply) and allowing for the individual to specify if none of the options provided are suitable. In terms of evaluating social class, Hughes et al. suggest the use of a subjective social status (SSS) measure instead of the more traditional SES; whereas others have suggested the use of socioeconomic position (SEP) measures to assess this variable (e.g., Galobardes et al., 2006). Importantly, given that terminology used to describe cultural variables is constantly evolving, researchers and clinicians should regularly check the language used in their demographic surveys to ensure it aligns with current norms and the terminology used by members of diverse communities.

Overall, there is some overlap in demographic variables deemed important across fields reviewed (i.e., primary language, race, ethnicity, sex at birth, and disability status). However, the lack of clear consensus on which demographic information to collect and how knowledge about each demographic variable could be useful for research and clinical purposes highlights a need for evidence-based recommendations for researchers and practitioners in behavior analysis.

Considerations When Collecting Demographic Data. Table 3 lists several important considerations when collecting demographic information during intakes. Another important consideration when collecting demographic data is that not all individuals will be comfortable reporting various types of demographics (e.g., nationality, SES/SEP, gender identity). For instance, for families for whom immigration status may be a concern, asking for demographic information may not be appropriate and could hinder the client–practitioner or participant–researcher relationship. Providing a form, rather than vocally requesting the information, allows a person to skip questions. Engaging in culturally responsive care includes recognizing cultural differences with respect to sharing personal information. In addition, even if an individual skips all demographic questions, behavior analysts can incorporate the key features of cultural responsiveness outlined in Figure 1 to enhance their services. Perhaps

future research will teach us that employing a culturally responsive framework in our service delivery is more important than the specific demographics we collect.

Building Rapport. Building rapport with caregivers and clients begins during the assessment process and to do so in a culturally responsive manner requires using a posture of cultural humility and engaging in perspective-taking (see Beaulieu & Jimenez-Gomez, 2022). In the behavioral literature, Taylor et al. (2019) describe the need for compassionate care and outline a variety of observable skills, many of which are relevant to rapport building and maintaining positive relationships with clients. The skills outlined in Taylor et al. (e.g., collaboration, positive social interactions, skills related to empathy and compassion) could be used by practitioners to help facilitate rapport building; however, it is important to note that there is limited research to identify which skills are most important in cross-cultural interactions and how specific rapport-building skills may vary across cultures. Research on methods to employ a posture of cultural humility with clients and whether this results in improved clinical outcomes is needed. Notwithstanding, the focus on compassionate care aligns well with culturally responsive services as it emphasizes relationship-building between the provider and the client.

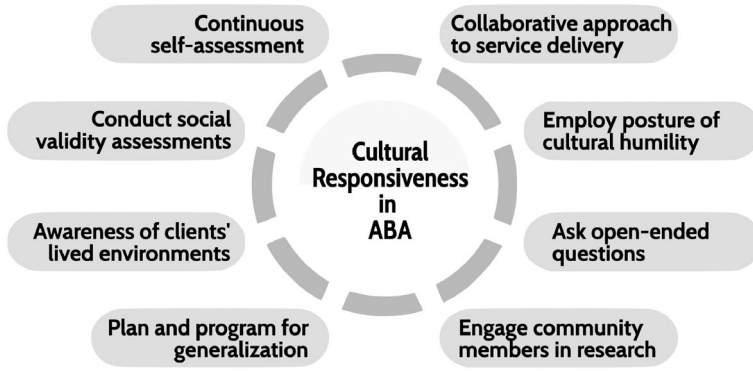
Selecting Goals and Measurement. Culturally responsive care requires collaboration with caregivers and clients when selecting goals (Sue et al., 2019). In addition, considering one of the dimensions of ABA includes selecting socially significant behaviors (Baer et al., 1968), behavior analysts should strive to *always* ask families which goals are important to them; however, as mentioned, Beaulieu et al. (2019) found that only 39% of survey respondents reported asking every client whether the treatment goals aligned with their values. Further, only 12% of research studies in *JABA* reported social validity data (Ferguson et al., 2019). Involving clients in planning and selecting goals relevant to their unique environments and assessment results directly corresponds with the BACB Ethics Code for Behavior Analysts (2.09 Involving Clients and Stakeholders and 2.14 Selecting, Designing, and Implementing Behavior-Change Interventions; BACB, 2020). When selecting goals, it is critical that behavior analysts are aware of relevant cultural variables and how they impact values and goal selection on the behavior analysts' part (e.g., cultural practices regarding meals or toileting). Similarly, when designing a measurement system and operationally defining behaviors, the behavior analyst should aim to capture the relevant aspects of the behavior to

Table 3

Considerations for Collecting Demographic Information

Area	Example
Explain purpose and privacy policy	"This information is collected to ensure our services are aligned with your family's values. The information is confidential, will be stored in … and only members of your child's clinical team will have access to it."
Use paper or electronic form	Instead of interviewing the individual, providing a form allows for privacy and time to determine which information they choose to share
Ensure data collection is ADA-compliant	Present information in Braille for visually impaired clients
Ensure data collection is offered in various languages or translation is available	Note whether demographic survey is available in other languages or translation services are available
Use inclusive language	Instead of using the terms "mother" and "father" when asking about a child's parents, use the word "caregiver" to recognize the variety of existing family dynamics
Offer multi-select boxes	Under the race and ethnicity section, allow individuals to select as many options as they deem appropriate
Allow individuals to self-describe	Under gender identity and race, provide individuals an option to specify their answer if the ones listed are not adequate
Allow for questions to be skipped	Provide a "prefer not to answer" option
Regularly review terminology used	Ensure terms used align with *current* norms and the terminology used by members of diverse communities

Figure 1
Key Features of Cultural Responsiveness in Applied Behavior Analysis (ABA)



Note. Although not directly an aspect of service implementation, engaging community members and stakeholders in research (i.e., community-based participatory research; Hacker, 2013) is integral to identifying culturally responsive behavior analytic practices.

make socially significant change (e.g., culturally appropriate social initiation behaviors). It is worth noting that research is needed to determine the extent to which this results in increased positive outcomes for clients.

Knowledge

Acquiring knowledge about the group to which a client belongs may provide important information for the assessment and treatment process. A common criticism of the knowledge dimension of cultural competence is the potential to develop stereotypes and prejudices towards members of groups. In addition, there are many differences and subcultures within the same culture, which further complicates the process of learning about cultural variables. Descriptive assessments are a common behavioral assessment that behavior analysts could use to help mitigate the development of stereotypes. Gathering knowledge about a client's culture via a descriptive assessment, instead of by solely reading a book chapter or other general information on the cultural group to which they belong, may help mitigate stereotypes because it involves observing a specific member of the group (i.e., the client) in their lived environments to acquire individualized knowledge about the cultural practices to which they subscribe.

Culturally Responsive Descriptive Assessments

When assessing behavioral contingencies, cultural variables provide important clues about likely histories of reinforcement and punishment, and these histories can alter the effectiveness of specific reinforcers and punishers. For example, Black, Indigenous, and people of color (BIPOC) living in the U.S. are likely to experience microaggressions daily (Sue et al., 2007). This history of microaggressions related to race can impact the types and sources of attention that may or may not be reinforcing to an individual's behavior. That is, the same type of attention that may function as a reinforcer for someone from one racial background may function as a punisher for someone from a different racial background because of their differential history of reinforcement and punishment. For example, a White employee telling another White colleague they are very articulate may function as a positive reinforcer for the White colleague's behavior; whereas a White employee telling a BIPOC colleague they are very articulate

may function as an aversive stimulus due to differential histories of reinforcement and punishment. Descriptive assessments might be useful to identify environmental stimuli that relate to culture (e.g., types of directives, routines). We were unable to find any examples in the behavioral research literature using descriptive assessments to identify the impacts of culture on behavior; however, we discuss two potential applications as illustration of areas of research that could be evaluated further.

Descriptive Assessments: Identifying Cultural Variables. One potential use of descriptive assessments in providing culturally responsive services is to help behavior analysts identify specific instances of cultural variables acting on behavior. For example, in home-based services, by scheduling observations during mealtime or family time, the behavior analyst might be able capture rich information as to how the family interacts and communicates with one another, the quality and types of attention, the types of demands delivered, the customs the family engages in, and the overall structure of the house. This information may not be identified during the intake process even if questions were asked about particular customs or rituals important to the family. Caregivers may have a hard time describing practices and customs unique to their family because their practices may feel like the norm or seem irrelevant to behavioral interventions. Observing the family in action, and carefully attending to interactions, might provide a useful basis for follow-up questions. Further research is needed to assess the best way to collect relevant cultural data, the utility of descriptive assessments used in this manner, and the implications for clinical outcomes.

Descriptive Assessments: Advocating for Clients. A second potential use of descriptive assessments is to help advocate for clients who belong to minoritized groups. As mentioned previously, Black students are disproportionally punished compared to White students in schools (Losen & Skiba, 2010; McFadden et al., 1992). Research could evaluate best methods to assist practitioners consulting in schools and residential facilities. For example, a practitioner consulting in a school for a BIPOC client could collect class-wide data while the practitioner observes their assigned student to obtain a class-wide benchmark of the target behavior. If the practitioner observes that several students are engaging in similar levels of the disruptive behavior, a class-wide intervention may be a more appropriate intervention. Class-wide programs are a less restrictive intervention type compared to small group and individual, so this process is in line with the least restrictive alternative outlined in the Ethics Code for Behavior Analysts (BACB, 2020). Collecting class-wide data will not definitively indicate whether a client experienced discriminatory treatment but doing so can help the practitioner advocate for that child. If the child was singled out, whether intentionally or unintentionally, these data can help educate the team and school administrators with the aim of protecting the child. For behaviors for which the goal is to decrease or shape the topography, not eliminate the behavior (e.g., requesting attention from teacher, call outs), the practitioner could use the class-wide data to set goals for the client and self-monitor their own behavior to ascertain they are not applying more stringent rules for the BIPOC student compared to the other students. For example, the practitioner or researcher can ask themselves and assess whether the BIPOC student is being held to a zero-callout standard while other White students are permitted to call-out at a low level. As with the other suggestions for culturally responsive care provided in this paper, this application would require empirical evaluation to ascertain its utility.

Skills

There is some overlap among the awareness, knowledge, and skills dimensions. The previously discussed rapport-building and communicating with clients and caregivers with a

posture of cultural humility involves observable skills as well. Therefore, in this section, we focus on specific skills related to designing culturally responsive functional analyses, which involves collaboration with caregivers.

Culturally Responsive Functional Analysis

A culturally responsive approach to FAs should consider cultural variables in implementation. As mentioned previously, it is generally unclear whether or how researchers and practitioners are incorporating cultural variables when individualizing FAs. Collaboration with caregivers and clients is key to culturally responsive services (Sue et al., 2019). Collaboration can be accomplished by interviewing the clients and caregivers and gathering information on the specific conditions that evoke the problem behavior and the specific consequences that follow the behavior. Designing a culturally responsive FA involves creating test and control conditions that incorporate cultural variables designed to simulate the client's lived experiences (e.g., types of demands delivered, specific types of reinforcers, specific types of attention, language used) to identify the function of the client's challenging behavior. More research is needed to identify best practices and impacts on outcomes with respect to designing more culturally responsive FAs; however, using a more collaborative approach that involves individualization is key when aiming to deliver culturally responsive services. For instance, it would be useful if researchers explicitly included details regarding what type of information was considered and how it was incorporated when designing FAs.

Future Research

There are many research questions related to behavior assessment that could help inform culturally responsive research and practice in applied behavior analysis. Table 4 summarizes a variety of research questions across the dimensions of cultural responsiveness. It is important to note that the list in Table 4 is not meant as an exhaustive list, but rather as an initial list that we hope will prompt future research and further additions to the list.

Culturally Responsive Treatment

Previous Research

There is limited behavioral research specifically addressing cultural variables in behavior treatments. In one such study, Lang et al. (2011) observed increases in challenging behavior and decreases in correct responding when instruction was delivered in the participant's second language (English), but researchers observed the opposite when instruction was delivered in the participant's first language (Spanish). This finding demonstrates the impact of one cultural variable on treatment outcomes. In another study, Jimenez-Gomez et al. (2022) taught listener skills to three boys with autism whose primary language in the home was Spanish. The researchers arranged learning trials to deliver the initial instruction in English while delivering instructive feedback in Spanish, allowing researchers to promote learning of skills that would be socially significant in the clinical (English) and home (Spanish) environments.

Dennison et al. (2019) describe several considerations for practitioners who work with culturally and linguistically diverse families. The recommendations include using a posture of cultural humility, encouraging the use of interpreters at the first point of contact with the family when their language differs from the practitioner's, conducting a cultural analysis that systematically identifies the impact of cultural variables on behavior, and avoiding gross generalizations of a culture to a particular client (see also Wang et al., 2019 for recommendations for linguistic diversity). Sivaraman & Fahmie (2020a) conducted a systematic review of cultural adaptions of ABA-based telehealth services. All nine studies included involved providing telehealth services in countries outside of the United States. The primary adaptions of

Table 4

Future Research in Behavior Assessment Across the Dimensions of Cultural Responsiveness

Dimension of Cultural Responsiveness	Research Questions
Awareness	• Assess the impact of collecting, reviewing, and using demographics • Assess the utility of Fong (2020) decision tree at assessing one's competence to provide services • Evaluate methods for a practitioner/researcher to maintain a posture of cultural humility with all clients across time • Evaluate skills and methods related to rapport building with culturally diverse clients
Knowledge	• Evaluate the use of demographic data for formulating relevant follow-up questions during intake • Evaluate the utility of a developing a decision tree for practitioners/researchers compared to information gathered from a CIFA interview • Assess the impact of cultural variables on FA outcomes • Assess the use of descriptive assessments to collect relevant cultural data • Assess the impact of collecting group data of punishment across minoritized groups in service settings and best methods to address disproportionality
Skills	• Evaluate strategies for teaching others to engage in and maintain cultural humility and culturally responsive rapport building • Evaluate methods to enhance collaboration with clients and caregivers • Evaluate whether collaboration with caregivers and clients when selecting goals results in improved clinical outcomes • Evaluate methods to design culturally responsive assessments (e.g., descriptive assessments, functional analyses) and the impact on treatment outcomes • Evaluate methods to respond effectively to mistakes one emits related to cultural differences (e.g., during rapport building)

Note. These are sample research questions, and we encourage readers to expand this list.

the studies reviewed included translated material, matching language with family's primary language, matching therapist characteristics to family characteristics (e.g., ethnicity, birthplace, and/or gender identity), and parent selection of goals. However, there were additional adaptions in some studies such as rapport-building sessions, changes in service delivery time due to time zone differences and school day, and culture-relevant tasks.

Sivaraman & Fahmie (2020b) is another notable example of how behavior analysts can make cultural adaptions to treatments. The authors evaluated the effectiveness of a parent-training program at a clinic in India and provided a multitude of cultural adaptions. Some of these adaptions included: matching the ethnicity between trainer and participants, translating materials to the language the participants spoke, the trainer speaking in the primary language of the participants, employing video models matched in ethnicity, role-playing culturally relevant scenarios (e.g., specific tasks given to children were relevant to the region), using specific terminology relevant to the region, matching data collection to culture-specific behavior/tasks, among others. Tsami et al. (2019) included similar cultural adaptions such as matching language with participants, use of reinforcers relevant to the culture, and parent selection of targets.

Despite the studies described, ABA lacks sufficient research to identify best practices for cultural adaptions and culturally responsive behavior analytic service delivery. This section is not intended to be a comprehensive review of cultural adaptions. Rather, the purpose is to highlight some of the culturally responsive work that is being conducted in ABA. In the next section, we review how current ABA practices align with culturally responsive services and discuss how these practices can be implemented to support a more culturally responsive practice by incorporating the various tenets of cultural responsiveness (e.g., collaboration). Lastly, we review some areas of needed research to identify best practices for culturally responsive behavior analytic treatment.

Awareness

Providing Choices

Offering choices among effective evidence-based options is supported by the Ethics Code for Behavior Analysts (BACB, 2020) and the literature on social validity (Baer & Schwartz, 1991, Hanley, 2010; Hanley et al., 2005). In addition, providing choices aligns well with culturally responsive service delivery as it involves collaboration between the behavior analyst and the client and caregivers. Behavior analysts are often trained to select the best evidence-based treatment and offer that to their clients. However, there are typically several approaches that could work given the situation. A behavior analyst's treatment selection depends on their own training history (e.g., what their mentor/supervisor preferred) and their cultural history (e.g., a culture that admonishes the use of any aversive consequence may influence the behavior analyst's selection of aversive consequences). A behavior analyst opposed to punishment or escape extinction may be less likely to offer them as treatment options despite substantial empirical support for both interventions, whereas client preference for specific interventions can vary. For example, Hanley et al. (2005) found that not only was punishment plus reinforcement more effective than reinforcement alone, punishment plus reinforcement was preferred over reinforcement alone by both participants. In another example, Potter et al. (2013) found that two participants preferred to receive prompting, blocking of stereotypy (which functioned as a punisher), and differential reinforcement as opposed to free access to preferred activities (with no punishment and no differential reinforcement). The third participant preferred to experience an alternation of the treatment package and free access to activities. With all three participants, the treatment package was the most effective. If the authors had decided to forgo punishment due to their values regarding the use of punishment, the participants would have missed out on their most preferred and most effective treatment. However, even with studies demonstrating how treatment preference can vary, Ferguson et al. (2019) found that only 6% of studies from 1999-2016 in *JABA* used intervention choice as a measure of social validity.

The study by Padilla Dalmau et al. (2011) is a notable example of incorporating choice related to cultural variables by assessing preference of language implementation during the reinforcement period of an FCT intervention with two participants whose caregivers spoke both English and Spanish in the home. Both treatments—the treatment with the reinforcement period in English and the treatment with reinforcement period in Spanish—produced similar reductions in destructive behavior, and the participants did not demonstrate preference for a particular language during reinforcement. However, it should be noted that a considerable limitation of the study was failing to evaluate whether the participants discriminated between the languages. Nonetheless, this study provides an example of offering treatment choices related to cultural variables that future research could expand upon.

It may be possible to increase the effectiveness and acceptability of interventions by giving clients choices of evidence-based treatments. By giving clients a choice between a few evidence-based treatments, practitioner biases are removed from the selection and social validity may be improved (Hanley, 2010; Schwartz & Baer, 1991). Offering choices can be conducted in various manners, such as via discussion with the caregiver or through concurrent chains arrangement (Hanley, 2010; Hanley et al., 2005; Potter et al., 2013). Although we are advocating for behavior analysts to become facilitators of behavioral services by using a more collaborative approach, more research is needed to identify the most effective methods for providing evidence-based choices to clients and caregivers in various settings (e.g., public schools vs. homes). A related topic needing more research within our field, but which is beyond the scope of this paper, is consent and assent to participate in research and behavioral interventions (e.g., Morris et al., 2021).

Social Validity Assessments

Social validity assessments measure whether the goals are important, the treatment is acceptable, and the effects are significant to the clients and families (Wolf, 1978). These assessments align well with culturally responsive services due to the collaborative nature of seeking information from clients and caregivers regarding the acceptability of assessment and treatment procedures. Values are culture dependent; therefore, social significance can only be determined by the person receiving the services and relevant stakeholders. Hanley (2010) asserts that it is important to assess social validity objectively because the values of those imposing the treatments may vary from those of the individuals receiving the treatments. It follows that behavior analysts seeking to select socially significant targets should aim to conduct social validity assessments with every client, participant, and stakeholder at various points throughout the assessment and treatment process. Social validity can be measured in many ways including interviews, questionnaires, and concurrent chains arrangements as discussed in the previous section (Hanley, 2010; Schwartz & Baer, 1991; Wolf, 1978). It is important for social validity to be assessed throughout the clinical interaction to ensure that a high level of social acceptability is maintained. For example, a treatment may have been approved and received high scores in a social validity assessment before treatment implementation began, but after a week or two, the caregivers may learn that it is either too difficult to implement or the side effects are too distressing.

Consider Evaluating Unproven Therapies

A caregiver who places less value on Western science might suggest an unproven treatment (e.g., gluten free diet). By using a posture of cultural humility with clients and caregivers, the behavior analyst may be able to approach the caregiver who is suggesting an unproven therapy with compassion and better understanding. Per the Ethics Code for Behavior Analysts (BACB, 2020), behavior analysts should provide caregivers information on the most effective treatment options, and they are required to provide evidence-based treatment. However, the caregiver has the right to choose treatments and may decide to continue with an unproven treatment. Such cases may be an opportunity to foster a collaborative relationship with the client and caregivers by using behavioral methodology to evaluate such treatments using single-subject design if the treatment coincides with the behavioral services (e.g., gluten free diet, running sessions after hyperbaric oxygen therapy). Lerman et al. (2008) provide several considerations for behavior analysts who evaluate unproven therapies. The authors provide an example using a multiple baseline design to examine the effects of hyperbaric oxygen therapy on problem behavior, communication, and task engagement exhibited by three children diagnosed with autism spectrum disorder. The authors observed no improvement in problem behavior and task engagement for any participant and idiosyncratic differences in communication with one participant. Although evaluating unproven therapies may assist clients and caregivers to make more informed decisions about which treatments they would like to experience, we could not find research evaluating whether this approach impacts the likelihood a caregiver will select a proven therapy after observing little or no results with the unproven therapy or a therapy with no empirical evidence.

Treatment Integrity

Treatment integrity, sometimes referred to as procedural integrity, is the extent to which a person implements the treatment with accuracy (Wilder et al., 2006). Assessing treatment integrity aligns well with culturally responsive services as it enables the behavior analyst to determine whether the treatment is being implemented as prescribed. Often, behavior analysts interpret low treatment integrity as a problem of insufficient or inadequate training, which can be remedied by additional coaching. However, it is also possible low treatment integrity reflects the treatment was

not culturally appropriate (e.g., the practitioner-prescribed toileting practices were incompatible with those practiced in client's lived environment). Research is needed to identify whether low integrity relates to low acceptability due to cultural variables. Assessing the acceptability of the program can be conducted in several ways as discussed in the social validity section. Collecting treatment integrity data can align with culturally responsive practices if the practitioner/researcher uses the data to assess whether low levels of integrity is related to the low acceptability and if so, works collaboratively with clients and caregivers to make modifications to improve the acceptability of the treatment while still aligning the treatment with evidence-based practice.

Knowledge

Treatment Selection

With respect to treatment selection, acquiring knowledge about groups of people with which one is working can be helpful in both becoming aware of barriers that prevent people in particular groups from accessing behavioral health services and identifying potentially contraindicated treatments. Cultural variables alone will not contraindicate a treatment and sometimes contraindicated treatments may need to be considered given the results of a risk assessment (i.e., when the benefits outweigh the risks) or when the client chooses the contraindicated, empirically validated treatment over other treatments. Having information on clients' cultural variables may highlight potentially contraindicated treatments. For instance, using food as a reinforcer may be contraindicated for clients experiencing poverty. In addition, clients experiencing poverty are more likely to experience trauma (Maguire-Jack et al., 2021) and hence trauma-informed care (TIC) should be considered (see Rajaraman et al., 2022 for more information on TIC in ABA). Further, acquiring knowledge about the clients' cultural variables can help identify barriers that prevent members of minoritized groups from accessing specific services. For example, Black and Latino children are less likely to take medication for treatment of ADHD (Coker et al., 2016), which Moody (2016) reports could be due to various concerns related to the mistrust of institutions, cultural misconceptions, and the fear of medication leading to drug abuse. Learning about the varied perspectives of others may lead to a more compassionate approach to service delivery.

Skills

The components of the *skills* dimension that relate to behavior treatment include producing a variety of verbal responses as a result of differences in client concerns and differences in treatment effects, responding to cultural cues and communicating effectively using all forms of verbal behavior (vocal and gestural), designing treatments with cultural adaptions, and executing intervention skills on behalf of clients as needed. See Table 2 for an in-depth list of skills.

Functional Communication Training

Functional communication training (FCT; Durand & Carr, 1991) is one example of a treatment component that is not typically described as culturally responsive but might incorporate cultural variables. FCT aligns well with culturally responsive services as it requires the behavior analyst to teach the client communication skills relevant to the client's challenging behavior. In this way, culture-specific reinforcers might be captured and utilized in functional communication. Banerjee et al. (2022) adapted FCT implemented with two bilingual learners with disabilities to incorporate linguistic variables. Specifically, Banerjee et al. demonstrated that, when the trained functional communicative response was placed on extinction, the response in the alternative language did not emerge unless directly taught. This finding is important for learners in bilingual or

Table 5

Future Research in Behavior Treatment Across the Dimensions of Cultural Responsiveness

Dimension of Cultural Responsiveness	Research Questions
Awareness	• Evaluate the impact of utilizing social validity assessments for all interventions – before, during, and after delivering services – on clinical outcomes, treatment integrity, and maintenance of clinical gains
	• Assess whether low treatment integrity relates to low acceptability due to cultural variables and methods to mitigate treatments that are not culturally appropriate
	• Evaluate whether providing clients choices of evidence-based treatments impacts effectiveness and acceptability of interventions
	• Evaluate methods to request assent for evidence-based treatments while also assessing impacts of assent on clinical outcomes with children (e.g., implications of children assenting on meeting skill acquisition goals)
	• Identify best practices for obtaining assent and consent with clients of various abilities and cultural backgrounds (e.g., comparing effectiveness and social validity of different manners of presenting information to clients)
Knowledge	• Evaluate best methods for providing evidence-based choices to clients of various abilities and cultural backgrounds
	• Evaluate strategies for discussing ineffective or unproven treatments and negotiating evidence-based treatments
	• Evaluate caregiver choice after an unproven therapy is evaluated and demonstrated not effect
Skills	• Evaluate best practices to conduct risk assessments if using potentially contraindicated treatments
	• Evaluate best practices for making cultural adaptations to treatments
	• Assess best practices of programming for generalization while considering cultural variables and assessing whether this improves clinical outcomes
	• Evaluate best practices for providing intervention choice to clients and caregivers and its impact on clinical outcomes
	• Assess the degree to which behavior analytic interventions already capture cultural variables (e.g., FCT, programming generalization) by collecting and reporting cultural variables in behavior analytic research
	• Evaluate which tactics for discussing ineffective treatments with caregivers lead to best clinical outcomes
	• Evaluate methods to shift preference toward evidence-based treatments
	• Evaluate methods to enhance client and caregiver collaboration throughout the treatment process
	• Evaluate methods to respond effectively to mistakes one emits related to cultural differences

Note. These are sample research questions, and we encourage readers to expand this list.

multilingual environments in which a communicative response may not be met with access to reinforcement under certain conditions (e.g., mand in Spanish may not result in access to reinforcer in a school setting, mand may be followed by extinction or aversive stimuli). Findings from the Banerjee et al. study underscore the need to include cultural variables in behavioral interventions and adapt treatments to the lived environments of clients.

Selection of Goals and Interventions

Treatments that are informed by interviews with caregivers are another example of culturally responsive behavior treatment. For example, the FA model discussed previously (Hanley et al., 2014) is followed by a corresponding skill-based treatment that is informed by an interview with the caregiver and the FA results. This interview provides robust information regarding important contexts that occasion the targets, which are then incorporated into the treatment process. It is likely many practitioners use procedures that incorporate caregiver input in the design and implementation of behavior treatments; however, it is not clear to which degree cultural variables are explicitly incorporated. It is also unclear whether caregiver input impacts goals and interventions selected and whether this would ultimately result in positive clinical

outcomes. Directly collaborating with the family on the selection of targets and contexts makes a treatment more culturally responsive; however, more research is needed to inform practice in this area.

Programming for Generalization

To program for generalization, practitioners must collaborate with caregivers and other stakeholders to better understand the lived environment and context of the client (e.g., daily routines, culturally appropriate practices). Programming for generalization requires practitioners to closely consider variables in a client's context, such as behaviors that will be reinforced, stimuli present, schedules of reinforcement naturally present, variations of behaviors and situations where behaviors will be reinforced, behaviors that will be punished, and incorporate relevant aspects of this context into the instructional setting (Baer, 1999; Cooper et al., 2020; Stokes & Baer, 1977). If done correctly, programming for generalization aligns well with culturally responsive services and may involve designing more culturally responsive treatments by incorporating aspects of the client's culture in the instructional setting. Again, however, research is needed in this area to identify ways in which culture is captured when programming for generalization.

Future Research

There are many available avenues of future research in the area of providing culturally responsive behavior analytic treatment. For instance, Wang et al. (2019) make various suggestions regarding the consideration of multilingualism in ABA research, including consideration of which language to use for delivering behavioral services. Many of these recommendations require further research to evaluate their utility within the field of applied behavior analysis. Table 5 provides a sample list of potential research questions in the area of behavior treatment. In addition to the questions listed, we encourage researchers to explicitly describe any specific considerations and modifications made based on a client's culture in their methods (e.g., variation of behavior, stimuli used, instructions delivered, situations targeted, language spoken), which can allow practitioners to have evidence-based guidance on designing culturally responsive treatments. We urge researchers to also include relevant, detailed demographic information of research participants that can help provide guidance to practitioners and better assess generality of findings.

Summary

Applied behavior analysts work with diverse populations and there is a growing need for behavior analysts to provide culturally responsive services. In this paper, we described current practices within and outside of ABA related to culturally responsive behavioral assessment and treatment with the aim of inspiring further research and showcasing how some behavior analytic tools and processes can be used in a more culturally responsive manner. Given the urgent need to provide culturally responsive behavioral services, it may be tempting to simply adopt recommendations and strategies from education, nursing, and psychology into behavior analytic practice. Whereas that may be a place to begin, it is important for practitioners to consider whether existing practices are compatible with behavior science and can be readily incorporated by practitioners. Although we suggest more research is needed to identify best practices with respect to culturally responsive behavior analytic services, we describe specific ways behavior analysts can begin to provide more culturally responsive services with their clients and participants (e.g., collecting relevant demographic information, considering linguistics needs of clients, using descriptive assessments to collect information related to culture). We encourage behavior analysts to adopt some of the key features of cultural responsiveness,

outlined in Figure 1, in the services they provide.

This paper is not meant as an exhaustive list of potential research needs or as a complete practice guide to culturally responsive behavioral services. The purpose is to consolidate extant information and to identify areas of needed growth. It is important to note that the research reviewed and areas for future research identified are guided by our own cultural backgrounds and training history. Therefore, an important step towards developing evidence-based culturally responsive behavior analytic services is for researchers from diverse backgrounds to continue contributing to the growing body of literature in this area and for practitioners from varied cultural backgrounds to provide input regarding the effectiveness and utility of proposed practices. We strongly believe that diversity of perspectives is needed to continue moving the field towards cultural responsiveness. The hope is that this paper aids practitioners and researchers by highlighting research on cultural responsiveness in and outside the field of ABA, identifying practice recommendations to begin delivering more culturally responsive services, and inspiring future research in the area of behavior assessment and treatment.

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