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# A SYSTEMATIC REVIEW AND REFLECTION ON THE DIMENSIONS OF DIVERSITY REPRESENTED IN BEHAVIOR ANALYTIC RESEARCH

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A SYSTEMATIC REVIEW AND REFLECTION
ON THE DIMENSIONS OF DIVERSITY
REPRESENTED IN BEHAVIOR ANALYTIC RESEARCH

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Abstract

The United States continues to transition towards a majority-minority composition and this trend has most rapidly emerged for school-aged children. Work with diverse populations calls for specialized skills and training experiences, but these are not strongly reflected in most training programs in Applied Behavior Analysis (ABA). The present review was conducted to evaluate the scope and range of the dimensions of diversity included in Behavior Analytic research (e.g. race/ethnicity, gender, sexuality, etc.), as well as to compile recommendations related to culturally responsive practice in ABA. The search revealed a total of 50 publications featuring a dimension of diversity. These works were summarized in terms of the dimensions of diversity featured, the goals of the research (i.e., empirical or conceptual), the demographics reported in empirical studies, and the recommendations provided for culturally responsive practices in ABA. A reflection on the current state of diversity research in the field is provided and discussed in the context of current and future recommendations for culturally responsive Behavior Analysis.

*Keywords:* gender, race, ethnicity, diversity, cultural competency

# Introduction

The most recent projections compiled by the United States (US) Census Bureau indicate that the rates of racial and ethnic diversity will continue to increase rapidly through to the year 2060 (Colby & Ortman, 2017). Within this projection, the overall composition of the US is expected to reach majority-minority status by the year 2044. That is, the plurality of minority populations will comprise the majority of the US population. This trend is expected to occur across all ages and demographics, though modeling of these trends has indicated that the most rapidly growing subset of the Culturally and Linguistically Diverse (CLD) population has been those under 18 years of age, or school-age children. Indeed, recent analyses have indicated that the overall demographics of school-age children have reached majority-minority status and that this composition has existed for years (Hussar & Bailey, 2014).

## Serving Culturally and Linguistically Diverse Populations

The diversification of the educational and clinical landscape is not a recent development. Over the past several decades, most fields have developed guidelines and training experiences to prepare providers to work with diverse individuals and their families. For instance, the American Psychological Association (APA; American Psychological Association, 2003), the National Association of School Psychologists (NASP; National Association of School Psychologists, 2010a), and the American Academy of Pediatrics (AAP; Fuentes-Afflick, Stoddard, Britton, & et al., 1999) have each developed and maintained guidelines for culturally responsive practices in their respective areas. Although these organizations vary in terms of their primary settings and scope of practice (e.g., education, healthcare), each emphasize the importance of pre-service coursework and on-going training in supporting culturally responsive practice. Behavior

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Analytic programs also train pre-service clinicians to work with individuals and their families to improve individual capacity and functioning; however, pre-service coursework and training experiences specific to culturally responsive practices are not strongly reflected. At present, no coursework or training experiences related to practice with CLD populations are listed in the most recent version of the Behavior Analyst Certification Board (BACB) Task List (Fong, Catagnus, Brodhead, Quigley, & Field, 2016; Fong & Tanaka, 2013).

As noted in both Fong and Tanaka (2013) and Fong et al. (2016), the most recent version of the BACB Task List prohibits acts of discrimination but offers neither objectively-defined behavioral expectations for culturally responsive practice nor recommendations for how trainees or clinicians would acquire these skills. Similarly, looking to the current version of the Professional and Ethical Compliance Code for Behavior Analysts (Behavior Analyst Certification Board, 2017), element 1.05 states:

> Where differences of age, gender, race, culture, ethnicity, national origin, religion, sexual orientation, disability, language, or socioeconomic status significantly affect Behavior Analysts' work concerning particular individuals or groups, Behavior Analysts obtain the training, experience, consultation, and/or supervision necessary to ensure the competence of their services, or they make appropriate referrals. (p. 5).

Noted again here, Behavior Analysts are directed to acquire the training necessary to work effectively with CLD populations but no guidelines exist regarding where to obtain this training, what types of experiences to pursue, or whom to consult with or refer to in those cases.

**Behavior Analysis and Culturally Responsive Practice**

A lack of defined behavioral expectations related to individual diversity is likely due (in part) to how Behavior Analysts are trained to view and interpret culture. That is, students in Behavior Analysis are trained to view culture and diversity in light of the contingencies that support them, i.e. functionally (Skinner, 1972). Skinner (1981) covered this topic and posited that diverse cultural practices are a product of the contingencies for imitating behavior modeled by others in their group. Although a function-based interpretation is most consistent with Behavior Analytic commitments to parsimony and directly linked to behavioral principles, diversity and individual identity are complex, multidimensional constructs that require the consideration of both individual and ecological factors.[1] For example, diversity includes (but is not limited to) the individual's native language, gender, sexual orientation, race, ethnicity, socioeconomic status, and belief system(s). As noted in Wang, Kang, Ramirez, and Tarbox (2019)[2]:

> …[W]e [Behavior Analysts] have tended not to take into account the more traditional meanings of diversity, for example, the interrelated dimensions of human identity such as gender, race, ethnicity, religious beliefs, language, socio-economic status, sexual orientation, and so on. (p. 796).

Building from the observations noted in Wang et al. (2019), others in Behavior Analysis have also commented on the sparse consideration of individual diversity in the literature. For instance, Li, Wallace, Ehrhardt, and Poling (2017) reviewed how participants were characterized

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[1] This statement serves to emphasize the Behavior Analytic preference for terms derived from basic research (i.e., low-level terms rather than higher level terms, such as identity).
[2] We note here that this work was one of several included in a special issue of diversity in Behavior Analysis in Practice (BAP). We encourage interested readers to consult this special issue on diversity in Behavior Analysis.

in Behavior Analytic research and found that [between 2013-2015] only 10% of publications included information related to participants' reported race/ethnicity and only 2% included information related to their socioeconomic status. In a similar review, Brodhead, Durán, and Bloom (2014) searched published works in the *Journal of Applied Behavior Analysis* and *The Analysis of Verbal Behavior* and found that 6% of publications included demographic information beyond age and sex and 3% included information on the native language of participants and their families. These works illustrate a common theme in Behavior Analytic research whereby information related to diversity is seldom reported or discussed. Beyond consumers and participants in Behavior Analytic research, little information is available regarding the diversity of practicing Behavior Analysts. Conners, Johnson, Duarte, Murriky, and Marks (2019) revealed a lack of clarity on the diversity of Board Certified Behavior Analysts, noting that the composition of current Behavior Analytic providers is also not well understood.

Recent Behavior Analytic research has encouraged greater consideration of the traditional dimensions of diversity and further incorporating these into Behavior Analytic research, practice, and training (Conners et al., 2019; Fong et al., 2016; Fong, Ficklin, & Lee, 2017; Wright, 2019). Specifically, researchers have called for more deliberate efforts to include individual cultural practices and norms in the design, development, and evaluation of function-based treatment, e.g. bilingual Functional Communication Training (FCT) for English language learners (Dalmau et al., 2011). Behavior Analytic practitioners have also expressed interest in additional professional development related to diversity. Beaulieu, Addington, and Almeida (2019) surveyed current certificants and found that training in diversity was rated, on average, as "very-to-extremely important" to their current work in the field. Additionally, respondents reported, on average,

having "little-to-no" or "no-training" on how to deliver ABA services with CLD populations. Given this growing interest in diversity, this naturally raises questions regarding how diversity has been explored in Behavior Analysis and the degree to which the existing literature represents the traditional dimensions of diversity.

**Research Questions**

The purpose of this review was to answer questions related to how dimensions of diversity have been featured in conceptual and empirical research in Behavior Analysis. Referring to <u>Wang et al. (2019)</u>, traditional dimensions of diversity include individual race/ethnicity, gender, sexual orientation, socioeconomic status, belief systems, and language. This work extends upon earlier reviews that have explored a limited range of diversity in Behavior Analytic research. Specifically, the search was designed to answer three questions:

**RQ1:** To what degree have the traditional dimensions of diversity been included (e.g., gender), over time, in leading Behavior Analytic journals?

**RQ2:** To what degree are each of the dimensions of diversity included in Behavior Analytic research?

**RQ3:** What resources and recommendations have been provided to support culturally responsive practice in Behavior Analysis?

## Methods

**Literature Search Methods**

The greater Behavior Analytic research base was reviewed to evaluate the degree to which dimensions of diversity were included in Behavior Analytic research. Searches were conducted beginning in March 2020 and concluded in May 2020. There were no restrictions related to the original date of publication. The search strategy was consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and focused on the four primary Behavior Analytic research venues: the *Journal of Applied Behavior Analysis* (JABA), the *Journal of the Experimental Analysis of Behavior* (JEAB), *Behavior Analysis in Practice* (BAP), and *Perspectives on Behavior Science* (formerly *The Behavior Analyst*; PoBS/TBA). The following keywords were provided for all searches with Boolean operators and truncation: (1) "divers\*" OR (2) "cult\*" OR (3) "cultural competence" OR (4) "bilingual" OR (5) "multilingual" OR (6) "heritage language" OR (7) "diversity training" OR (8) "multicultural" OR (9) "graduate education." Ancestral and hand searches were conducted following the initial searches to index works that were either not revealed in the initial search or were currently in press.[3]

**Study Selection and Criteria for Study Inclusion**

Search procedures were designed to index the scope and breadth of Behavior Analytic research that explored human diversity. Studies were eligible for inclusion if one or more dimension(s) of diversity were a topic of discussion. Although Behavior Analytic work generally

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[3] We note here that hand searches were not conducted for non-Behavior Analytic journals to preserve a focus on publications that were Behavior Analytic in nature (e.g., not from the *Journal of Autism and Developmental Disorders*).

applies single-case research design, alternative research methods were also included in the search so long as they were relevant to the research questions (e.g., surveys).

There were no constraints on the range of diversity included in works, and eligible studies could have simultaneously featured multiple dimensions of diversity (e.g., gender as well as sexuality). Articles that did not focus on human behavior, that were not published in English, or that were not available as full-text documents did not meet the criteria for inclusion. Results from the initial search were independently screened by both the first and second authors and selected based on whether titles and abstracts reflected issues relevant to diversity.

Empirical studies (i.e., studies that included the collection and analysis of data) were categorized as having a principal focus on intervention, assessment, training, research methods, or exploring novel extensions of Behavior Analytic research. A focus on intervention referred to studies that primarily implemented behavior change procedures. Publications coded as focusing on assessment entailed the validation of ecological tools and procedures. Studies categorized as focusing on research methods discussed the processes involved in conducting applied research. The training category referred to works where the purpose was to train agents of change (e.g., Behavior Analysts, caregivers). The final category, exploratory extensions, represented studies designed to gain a greater understanding of an existing phenomena (e.g., evaluating ethnic and acculturation factors on service delivery). In contrast to empirical studies, conceptual studies were defined as works with a focus on either practical recommendations or theoretical issues related to the practice of Behavior Analysis. The practical subcategory focused on recommendations for culturally responsive clinical work, education, and training. The theoretical

subcategory was defined as focusing on Behavior Analytic theory and its relation to human diversity, more generally.

**Inter-Rater Reliability**

Studies meeting criteria for inclusion in the review were independently scored by the first author and a trained undergraduate research assistant. The undergraduate research assistant was trained on all search procedures before coding studies. Mastery was considered accurately identifying the dimensions of diversity (i.e., 100% IOA) with the primary data collector on three study results using a data sheet (see supplemental materials). Disagreements between recorders were resolved via discussion until a consensus was reached and there was 100% agreement across recorders and studies.

**Dimensions of Diversity**

When we speak of diversity in this review we refer to the various dimensions that comprise an individual's or group's identity. Diversity, as defined and used here, is a high-level construct which encompasses multiple dimensions. The individual dimensions of diversity explored here are presented as mid-level constructs (e.g., race, ethnicity, gender). The individual dimensions of diversity included in this review were race/ethnicity, gender, sexual orientation, socioeconomic status, belief system, and language. Each of the included studies was coded as either featuring or not featuring the respective dimension (i.e., yes/no). These dimensions were noted in Wang et al. (2019) and are each defined in greater detail in the following section.

*Race/Ethnicity*

Race is a social construct placed upon individuals based on physical characteristics such as skin color, nose shape, or hair type, where hierarchical distinctions in power are established

(Cooper & Leong, 2008; Eisenhower, Suyemoto, Lucchese, & Canenguez, 2014). In contrast, ethnicity is a social construct chosen by the individual based on their community and shared cultural values (Cooper & Leong, 2008; Eisenhower et al., 2014). Race and ethnicity are often conflated and their definitions have historically been debated; therefore, consistent with other psychological fields, the two have been grouped in this review (Betancourt & López, 1993; Long, Miller, & Upright, 2019). Articles were coded for this dimension if race or ethnicity were featured in the publication.

*Gender*

The term gender, as used in this review, refers to an individual's gender identity. Gender identity is a social construct chosen by an individual to classify themself as a man, woman, or some other identity along the gender spectrum. This is fundamentally different from an individual's sex assigned at birth, which is based on the appearance of one's genitalia and classifies individuals as males, females, or intersex (C.-Y. S. Lee, Goldstein, Dik, & Rodas, 2020; Leland & Stockwell, 2019; University of California Santa Barbara, 2020). Within the spectrum, cisgender refers to those whose gender identity aligns with their sex assigned at birth in a way that is expected within the society in which they reside (American Psychological Association, 2015; Leland & Stockwell, 2019; Murphy, Prentice, Walsh, Catmur, & Bird, 2020). Transgender is an umbrella term for individuals whose gender identity differs from their sex assigned at birth and can refer to individuals whose identity does not fit within a dichotomous view of gender (American Psychological Association, 2015; Leland & Stockwell, 2019; Murphy et al., 2020). Additionally, gender-nonconforming individuals are those whose gender identity or behavior does not align with the accepted gender roles for men and women within the society in

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which they live (Leland & Stockwell, 2019). Articles were coded for this dimension of diversity if gender was featured in the study.

*Sexual Orientation*

Sexuality, or sexual orientation, refers to an individual's sexual attraction to another person (or persons) and the resulting behavior or relationships that may result from the said attraction. Examples of sexual identities include lesbian, bisexual, gay, pansexual, asexual, heterosexual, and others (American Psychological Association, 2015). For the sake of this review, articles were coded for sexuality if a non-heterosexual orientation was featured in the research.

*Socioeconomic Status*

Socioeconomic status (SES) refers to the social and economic position that an individual or family holds. This is typically characterized by a combination of three factors: family income, educational level, and occupation (White, 1982). However, the discussion of SES within research most often revolves around family income; specifically, those who are categorized as economically disadvantaged. Those who are economically disadvantaged are typically characterized as having an aggregated family income at, or near, the federal poverty level and qualify for federal assistance programs (Fontenot, Uwayo, Avendano, & Ross, 2019). As such, articles were coded for this category if economically disadvantaged individuals or families were featured.

*Belief System*

Belief Systems are a set of values and beliefs related to the nature of reality, knowledge, and ethics. These sets of values and beliefs are not open to question nor can be disproven through

experiences by the individual (Frank, 1977). Belief systems are a part of culture and may influence individual and group behavior, traditions, clothing, art, and more. Examples of belief systems include Christianity, Judaism, Hinduism, Paganism, among others. Articles were coded for this category if belief systems were featured within the publication.

*Language*

Language, as used in this paper, refers to a system for expressing thoughts and feelings through the use of vocal or visual arbitrary symbols among humans (Brown, 2000, pp. 16-17). As a distinctive part of one's culture, language is a specific communicative system used by a particular group of people. All articles included in this review are published within American journals, which reflect the majority language of English. Therefore, articles were coded for this dimension of diversity if a minority language (i.e. non-English) was featured.

## Results

A total of 50 articles met the criteria for inclusion in the review, see Table 1. The search

and review procedures are visualized in Figure 1. The initial searches of JABA, JEAB, BAP, and

TBA/PBoS in April 2020 revealed a total of 17, 10, 23, and 27 articles, respectively. Of the 77

articles from the initial search, 76.62% of these ($n = 59$) did not feature a dimension of diversity.

Ancestral searches yielded an additional 27 articles (11.11% were duplicates; $n = 3$). Although

the initial search was focused on Behavior Analytic research outlets, there were no restrictions

placed on the ancestral search. Works cited in the source material were considered suitable for

inclusion and discussion because these were used as supporting works in publications that passed

Behavior Analytic peer-review. As such, material published outside of the four core venues in

the search was considered appropriate for inclusion if those contributed to culturally responsive

Behavior Analysis. Following ancestral search procedures, the total number of articles meeting

these criteria rose to a total of 42. Hand searches were conducted within the four journals and

revealed an additional 8 works that were currently in press.[4]

### RQ1: Research on Diversity Over Time

The results of the search indicated that the rate of diversity-related research in Behavior

Analysis has been rapidly increasing in recent years, see Figure 2. The earliest work that featured

a dimension of individual diversity was published in JABA in 1973. However, it warrants noting

that the Barlow and Agras (1973) study was designed to evaluate an intervention for reducing

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[4] Note: Hand searches were restricted to the initial four journals to ensure the content included in the review was primarily Behavior Analytic in nature. Although Behavior Analytic work had been found in journals such as *Journal of Autism and Developmental Disorders* through the ancestral search, works from these generally are seldom purely Behavior Analytic in design and in interpretation.

homosexual attraction and increasing heterosexual attraction (i.e., conversion therapy). As such,

this work was relevant to the search question but such practices would be considered unethical

Table 1. Studies included in Systematic Review

| Authors | Year | Title | Dimensions of Diversity | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | G | L | R/E | B | SES | S | NS |
| Barlow, D. H., & Agras, W. S. | 1973 | Fading to increase heterosexual responsiveness in homosexuals | | | | | | * | |
| Rekers, G., & Lovaas, O. | 1974 | Behavioral treatment of deviant sex-role behaviors in a male child | * | | | | | | |
| Nordyke, N. S., Baer, D. M., Etzel, B. C., & LeBlanc, J. M. | 1977 | Implications of the stereotyping and modification of sex roles | * | | | | | * | |
| Rekers, G. A. | 1977 | Atypical gender development and psychosocial adjustment. | * | | | | | * | |
| Winkler, R. C. | 1977 | What types of sex-role behavior should behavior modifiers promote? | * | | | | | * | |
| Glenn, S. S. | 1988 | Contingencies and metacontingencies: Toward a synthesis of behavior analysis and cultural materialism | | | | | | | * |
| Glenn, S. S. | 1993 | Windows on the 21st Century | | | | | | | * |
| Hayes, S. C., & Toarmino, D. | 1995 | If behavioral principles are generally applicable, why is it necessary to understand cultural diversity? | | | | | | | * |
| Evans, I. M., & Paewai, M. K. | 1999 | Functional Analysis in a Bicultural Context | | * | * | * | | | |
| McSweeney, F. K., Donahoe, P., & Swindell, S | 2000 | Women in applied behavior analysis | * | | | | | | |
| Dyches, T. T., Wilder, L. K., Sudweeks, R. R., Obiakor, F. E., & Algozzine, B. | 2004 | Multicultural Issues in Autism | | | * | * | | | |
| Washio, Y., & Houmanfar, R. | 2007 | Role of Contextual Control in Second Language Performance | | * | | | | | |

Note: G = Gender, L = Language, R/E = Race/Ethnicity, B = Belief System, SES = Socioeconomic Status, S = Sexuality, NS = Not Specified

| | | | Dimensions of Diversity | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Authors | Year | Title | G | L | R/E | B | SES | S | NS |
| Vandenberghe, L. | 2008 | Culture-sensitive functional analytic psychotherapy | | | | | | | * |
| Dalmau, Y. C. P., Wacker, D. P., Harding, J. W., Berg, W. K., Schieltz, K. M., Lee, J. F., ... & Kramer, A. R. | 2011 | A Preliminary Evaluation of Functional Communication Training Effectiveness and Language Preference When Spanish and English are Manipulated | | * | | | | | |
| Lang, R., Rispoli, M., Sigafoos, J., Lancioni, G., Andrews, A., & Ortega, L. | 2011 | Effects of Language of Instruction on Response Accuracy and Challenging Behavior in a Child with Autism | | * | | | | | |
| Rispoli, M., O'Reilly, M., Lang, R., Sigafoos, J., Mulloy, A., Aguilar, J., & Singer, G. | 2011 | Effects of Language of Implementation on Functional Analysis Outcomes | | * | | | | | |
| Hambly, C., & Fombonne, E. | 2012 | The Impact of Bilingual Environments on Language Development in Children with Autism Spectrum Disorders | | * | | | | | |
| Fong, E. H., & Tanaka, S. | 2013 | Multicultural alliance of behavior analysis standards for cultural competence in behavior analysis. | * | * | * | * | * | * | |
| Brodhead, M. T., Durán, L., & Bloom, S. E. | 2014 | Cultural and Linguistic Diversity in Recent Verbal Behavior Research on Individuals with Disabilities: A Review and Implications for Research and Practice | | | * | * | | | |
| Hambly, C., & Fombonne, E. | 2014 | Factors influencing bilingual expressive vocabulary size in children with autism spectrum disorders | | * | | | | | |
| Drysdale, H., van der Meer, L., & Kagohara, D. | 2015 | Children with Autism Spectrum Disorder from Bilingual Families: A Systematic Review | | * | | | | | |

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(table cont'd.)

| Authors | Year | Title | | | | Dimensions of Diversity | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | G | L | R/E | B | SES | S | NS |
| Fong, E. H., Catagnus, R. M., Brodhead, M. T., Quigley, S., & Field, S. | 2016 | Developing the Cultural Awareness Skills of Behavior Analysts | | * | | | | | |
| Aguilar, J. M., Chan, J. M., White, P. J., & Fragale, C. | 2017 | Assessment of the language preferences of five children with autism from Spanish-speaking homes. | | * | | | | | |
| Fong, E. H., Ficklin, S., & Lee, H. Y. | 2017 | Increasing Cultural Understanding and Diversity in Applied Behavior Analysis | | | * | | | | |
| Amant, H. G. S., Schrager, S. M., Peña-Ricardo, C., Williams, M. E., & Vanderbilt, D. L. | 2018 | Language barriers impact access to services for children with autism spectrum disorders | | | * | * | | | |
| DuBay, M., Watson, L. R., & Zhang, W. | 2018 | In Search of Culturally Appropriate Autism Interventions: Perspectives of Latino Caregivers | | | * | * | | | |
| Li, A., Curiel, H., Pritchard, J., & Poling, A. | 2018 | Participation of women in behavior analysis research: Some recent and relevant data | * | | | | | | |
| Lim, N., & Charlop, M. H. | 2018 | Effects of English versus heritage language on play in bilingually exposed children with autism spectrum disorder | | * | | | | | |
| Nosik, M. R., Luke, M. M., & Carr, J. E. | 2018 | Representation of women in behavior analysis: An empirical analysis | * | | | | | | |
| Beaulieu, L., Addington, J., & Almeida, D. | 2019 | Behavior Analysts' Training and Practices Regarding Cultural Diversity: The Case for Culturally Competent Care | | | | | | | * |
| Brodhead, M. T. | 2019 | Culture Always Matters: Some Thoughts on Rosenberg and Schwartz | | | | | | | * |
| Clay, C. J., Bloom, S. E., Slocum, T. A., Samaha, A. L., & Callard, C. H. | 2019 | Language preference and reinforcing efficacy of praise in bilingual children with disabilities | | * | | | | | |
| Conners, B., Johnson, A., Duarte, J., Murriky, R., & Marks, K. | 2019 | Future Directions of Training and Fieldwork in Diversity Issues in Applied Behavior Analysis | | | * | * | | * | |

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(table cont'd.)

| | | | Dimensions of Diversity | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Authors** | **Year** | **Title** | **G** | **L** | **R/E** | **B** | **SES** | **S** | **NS** |
| DeFelice, K. A., & Diller, J. W. | 2019 | Intersectional Feminism and Behavior Analysis | * | | | | | * | |
| Dennison, A., Lund, E. M., Brodhead, M. T., Mejia, L., Armenta, A., & Leal, J. | 2019 | Delivering Home-Supported Applied Behavior Analysis Therapies to Culturally and Linguistically Diverse Families | | * | * | | * | | |
| Fontenot, B., Uwayo, M., Avendano, S. M., & Ross, D. | 2019 | A Descriptive Analysis of Applied Behavior Analysis Research with Economically Disadvantaged Children. | | | | | * | | |
| Kornack, J., Cernius, A., & Persicke, A. | 2019 | The Diversity Is in the Details: Unintentional Language Discrimination in the Practice of Applied Behavior Analysis | | * | | | | | |
| Kunze, M., Drew, C., Machalicek, W., Safer-Lichtenstein, J., & Crowe, B. | 2019 | Language Preference of a Multilingual Individual with Disabilities Using a Speech Generating Device | | * | | | | | |
| Lee, J. & Goldstein, C. | 2019 | Gender-Affirming Services in Treatment of Transgender Patients: Understanding Gender Variance and Current Issues | * | | | | | | |
| Leland, W., & Stockwell, A. | 2019 | A Self-Assessment Tool for Cultivating Affirming Practices with Transgender and Gender-Nonconforming (TGNC) Clients, Supervisees, Students, and Colleagues | * | | | | | | |
| Nava, C. E., Fahmie, T. A., Jin, S., & Kumar, P. | 2019 | Evaluating the Efficacy, Preference, and Cultural Responsiveness of Student-Generated Content in an Undergraduate Behavioral Course. | | | | | | | * |
| Neely, L., Graber, J., Kunnavatana, S., & Cantrell, K. | 2019 | Impact of language on behavior treatment outcomes | | * | | | | | |

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(table cont'd.)

| | | | Dimensions of Diversity | | | | | | |
|---|---|---|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| **Authors** | **Year** | **Title** | **G** | **L** | **R/E** | **B** | **SES** | **S** | **NS** |
| Plessas, A., McCormack, J., & Kafantaris, I. | 2019 | The Potential Role of Applied Behavior Analysis in the Cultural Environment of Māori Mental Health | * | * | * | * | | | |
| Strand, P. S., Vossen, J. J., & Savage, E. | 2019 | Culture and Child Attachment Patterns: A Behavioral Systems Synthesis. | | | | | | | * |
| Wang, Y., Kang, S., Ramirez, J., & Tarbox, J. | 2019 | Multilingual Diversity in the Field of Applied Behavior Analysis and Autism: A Brief Review and Discussion of Future Directions | | * | | | | | |
| Wright, P. I. | 2019 | Cultural Humility in the Practice of Applied Behavior Analysis | | | | | | | * |
| Baires, N. A., & Koch, D. S. | 2020 | The Future Is Female (and Behavior Analysis): A Behavioral Account of Sexism and How Behavior Analysis Is Simultaneously Part of the Problem and Solution. | * | | | | | | |
| Blair, B. J., Blanco, S., Ikombo-Deguenon, F., & Belcastro, A. | 2020 | Sex/Gender Phenotypes and the Diagnosis and Treatment of Autism Spectrum Disorder: Implications for Applied Behavior Analysts | * | | | | | | |
| Matsuno, E., Dominguez, S., Waagen, T., Roberts, N., & Hashtpari, H. | 2020 | The Importance of Empowering Nonbinary Psychology Trainees and Guidelines on How to Do So | * | | | | | | |
| Neely, L., Gann, C., Castro-Villarreal, F., & Villarreal, V. | 2020 | Preliminary Findings of Culturally Responsive Consultation with Educators | | | * | * | | | |

and inconsistent with current Behavior Analytic values. Following this initial work, rates of publication in Behavior Analytic venues

remained low from the 1970s through to the 2000s. Rates of publication increased sharply in the 2010s, with the majority of works

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(table cont'd.)

included in this review emerging from a special issue published in BAP in 2019. Publication rates for 2020 appear comparable as well, with 12 studies featuring a dimension of diversity listed as being either published or in-press.

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┌─────────────────────────────────────────────┐         ┌─────────────────────────────────────┐
│ Search of 4 Journals (JABA, JEAB, BAP, TBHA/PoBS) │     │ Criteria 1: Human diversity         │
└─────────────────────────────────────────────┘         │ Criteria 2: Written in English      │
                      │                                   │ Criteria 3: Full-text Available     │
                      ▼                                   └─────────────────────────────────────┘
┌─────────────────────────────────────────────┐
│        Initial searches revealed 77 articles │
└─────────────────────────────────────────────┘
                      │                                   ┌─────────────────────────────────────┐
                      ├──────────────────────────────────▶│ 59 articles did not meet criteria   │
                      ▼                                   └─────────────────────────────────────┘
┌─────────────────────────────────────────────┐
│        18 articles met inclusion criteria    │
└─────────────────────────────────────────────┘
                      │                                   ┌─────────────────────────────────────┐
                      ├──────────────────────────────────▶│ 3 Duplicate records removed         │
                      ▼                                   └─────────────────────────────────────┘
┌─────────────────────────────────────────────┐
│  Ancestral Searches revealed 27 additional articles │
└─────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────┐
│ Hand searches of journals revealed 8 additional articles │
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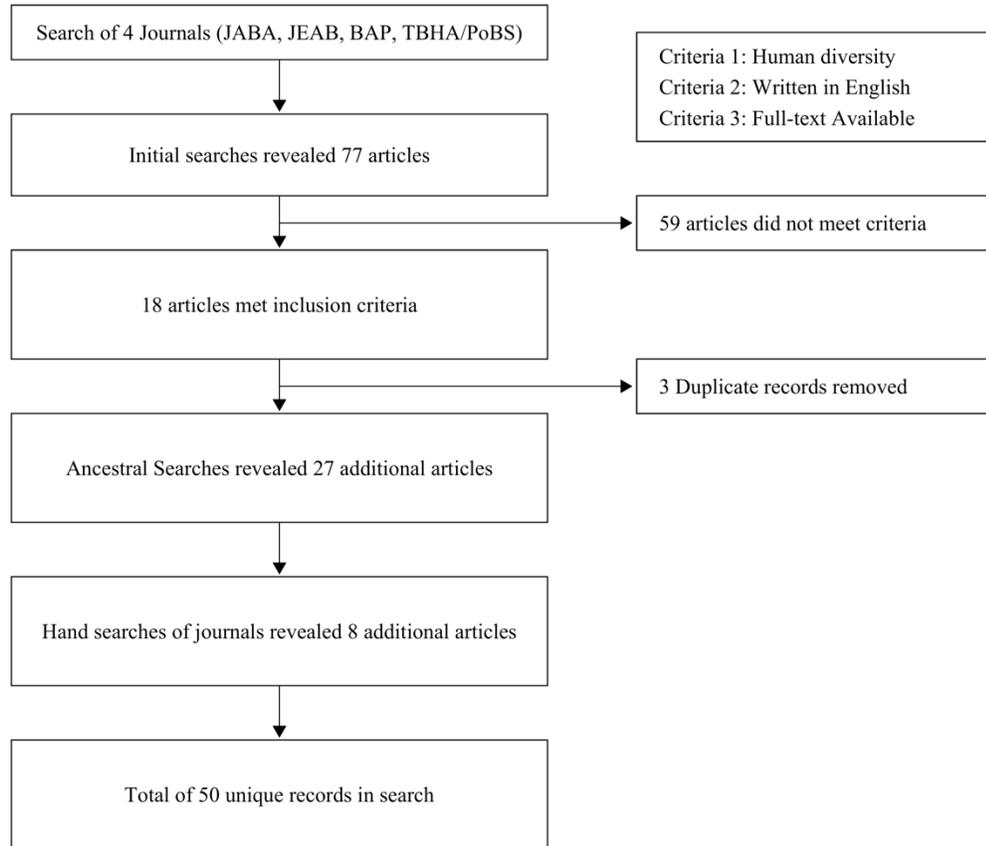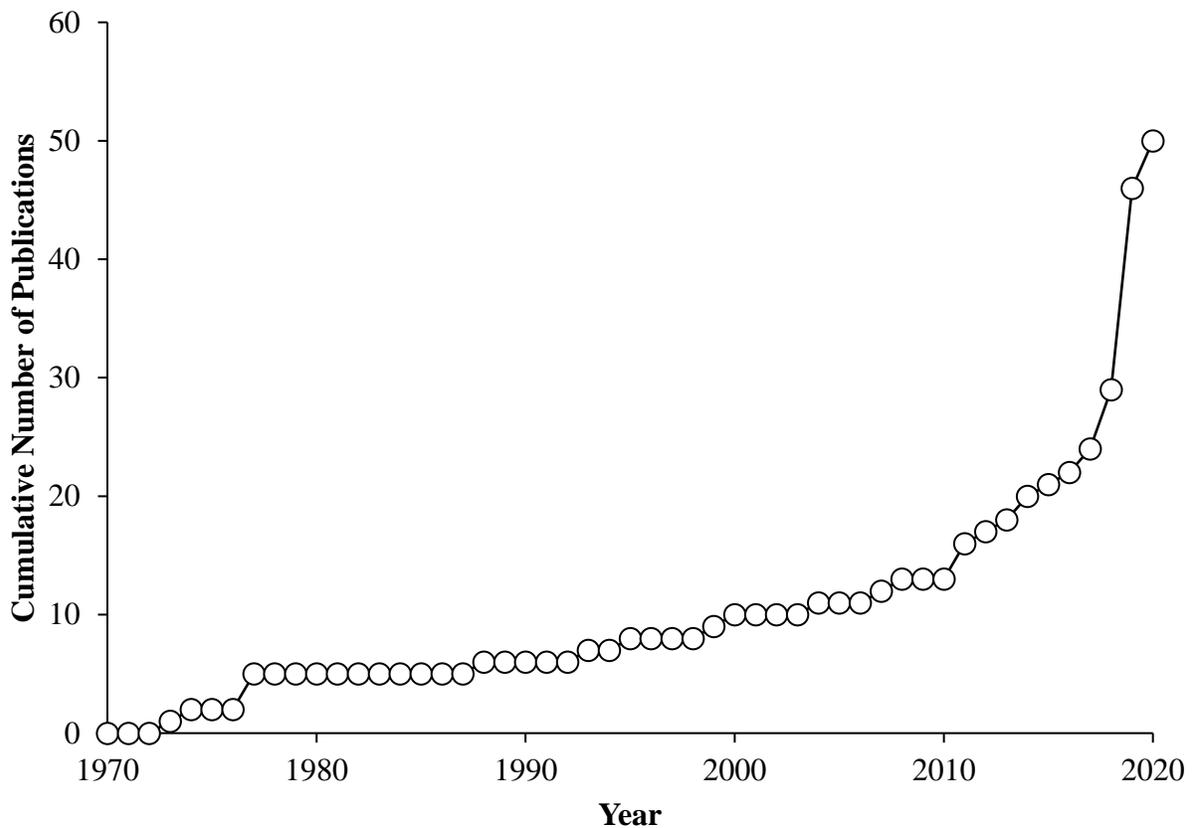
Figure 1. Flow Chart Study Inclusion

Figure 2. Diversity-focused Publications by Year

Note: There is a notable increase in publications in 2019. This is associated with the special issue on diversity within Behavior Analysis in Practice.

**RQ2: Dimensions of Diversity in Behavior Analytic Research**

The distribution of the dimensions of diversity featured in the included articles is illustrated in Figure 3. The types and subtypes of studies across conceptual and empirical works are displayed in Figure 4 and the populations reflected in empirical studies are listed in Table 2. Within the 50 articles included in this review, 82% ($n = 41$) included either one or more of the specific dimensions of diversity listed in the search. The remainder of the included articles discussed diversity as a general concept (i.e., no dimension in particular).

Table 2. Demographic Information Reported of Empirical Studies (n = 25 studies)

|  | *n* | Percentage of Studies (%) |
|---|---|---|
| Gender |  |  |
| Cis-Boy/Man | 18 | 72% |
| Cis-Girl/Woman | 17 | 68% |
| Transgender/Nonbinary/Gender Nonconforming | 2 | 8% |
| Sexuality |  |  |
| Non-heterosexual | 1 | 4% |
| Race/Ethnicity |  |  |
| Latinx | 8 | 32% |
| Black/African American | 5 | 20% |
| Asian | 6 | 24% |
| Caucasian | 9 | 36% |
| Polynesian | 2 | 8% |
| Indigenous | 3 | 12% |
| Multiracial/ethnic | 2 | 8% |
| SES |  |  |
| Economically Disadvantaged | 1 | 4% |
| Not Recorded | 2 | 8% |

Note: The numbers associated with Transgender/Nonbinary/Gender Nonconforming and Non-heterosexual include presently illegal and/or unethical studies. Gender is listed as reported and presumed to be consistent with participant report.

*Race/Ethnicity*

Race/ethnicity were featured in 22% (*n* = 11) of the included articles. Most works featured this dimension as part of a larger discussion of diversity and just one featured race/ethnicity alone. Fong et al. (2017) reviewed the barriers that exist when providing Behavior Analytic services to ethnically- and racially-diverse individuals. Within the studies that spoke to some aspect of race/ethnicity, these were similarly represented in terms of empirical research (*n* = 5) and conceptual discussions (*n* = 6). For example, Neely, Gann, Castro-Villarreal, and Villarreal (2019) developed and evaluated a culturally-responsive Behavioral Skills Training package related to classroom behavior management.
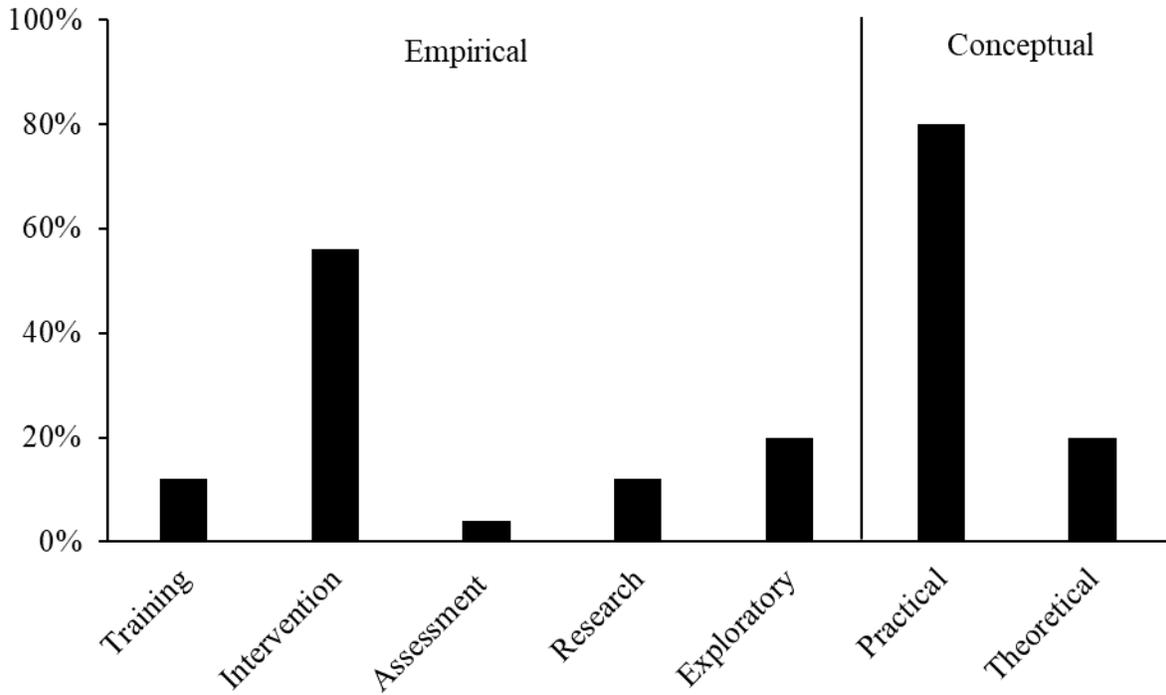
Figure 4. Article Type and Focus

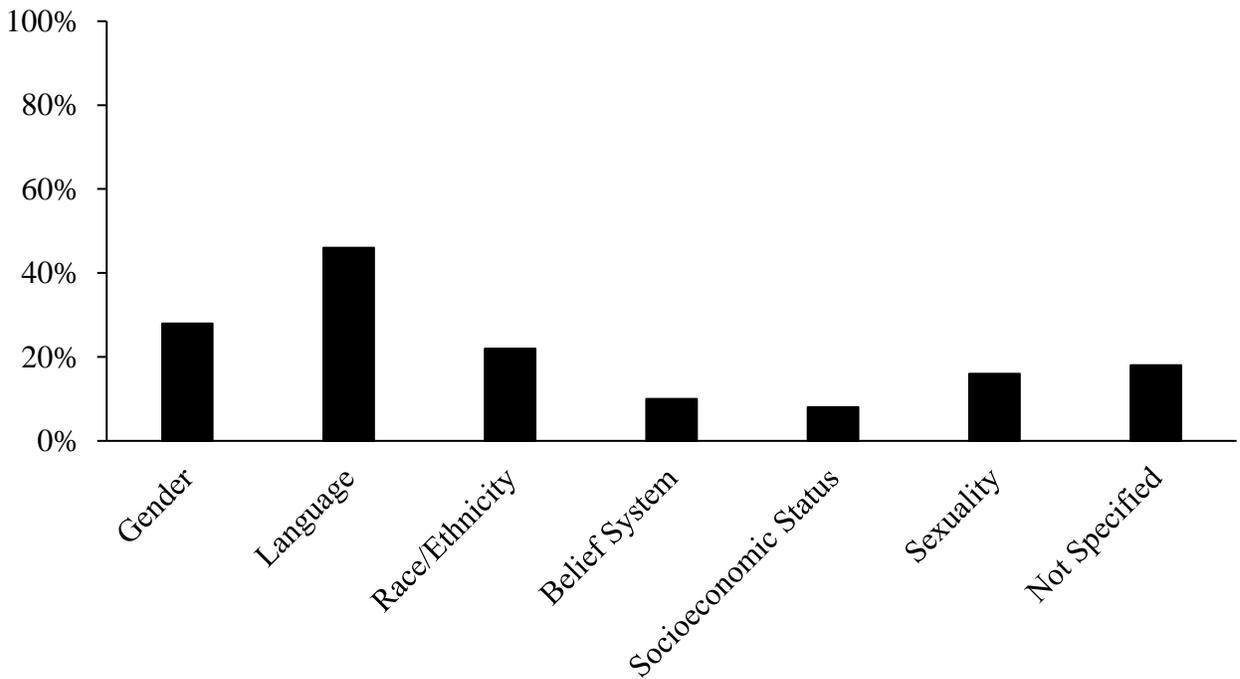Note: The frequency of Empirical and Conceptual articles were equal in the sample (*n* = 25 x 2).



Figure 3. Dimensions of Diversity (*n* = 50)

Note: The percentages associated with gender and sexuality include contemporary and historical studies (i.e., methods presently not legal and/or unethical count towards this quantity).

*Gender*

Gender was reflected in 28% (n = 14) of the included studies. Both the experiences of (presumed) cisgender women (e.g., the representation of women in Behavior Analysis) and Trans and Gender-Nonconforming individuals (TGNC; e.g., gender-affirming services for transgender patients) were represented in the sample.[5] Gender was a feature of the research questions in 9 publications and gender was more frequently discussed in conceptual studies (*n* = 10) than in empirical studies (*n* = 4). In an example of a conceptual paper focusing on gender diversity, Leland and Stockwell (2019) discussed the delivery of services with TGNC populations and provided a self-assessment for guiding culturally-responsive practices. In contrast, Nosik, Luke, and Carr (2019) provided an empirical paper on the current representation of women in Behavior Analysis.

*Sexual Orientation*

Sexuality was an element of diversity featured in 14% (*n* = 7) of the included articles. However, just one study included sexuality as a central element of its research questions. As noted in the results for Research Question 1, the sole article focusing on sexuality is not consistent with current Behavior Analytic values, and thus, its results and recommendations are not revisited. The remaining works were primarily conceptual in nature (*n* = 5). In a relevant example of a conceptual paper, Fong and Tanaka (2013) presented standards for culturally responsive practices as well as recommendations for working with diverse populations.

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[5] We make a note here that issues affecting cisgender women in the practice of Behavior Analysis were relevant to gender-related diversity. Specifically, women in Behavior Analysis comprise the majority of certificants but have historically been less represented in positions of leadership (Li, Curiel, Pritchard, & Poling, 2018).

*Socioeconomic Status*

Socioeconomic status was featured in 8% (*n* = 4) of the studies in the current sample. The majority of studies featured SES as part of a larger discussion of diversity and just a single study featured SES alone. Studies in this area were primarily conceptual in nature (*n* = 3) and just 1 empirical study was identified in the sample. In a conceptual paper on SES, Dennison, Hall, Leal, and Madres (2019) reviewed the various barriers that exist for economically-disadvantaged populations. Alternatively, Fontenot et al. (2019) was an empirical study that quantified the degree to which children from economically-disadvantaged families were represented in behaviorally-oriented journals.

*Belief System*

Individual belief systems were featured in 10% (*n* = 5) of the included studies. Studies in this area discussed individual belief systems in a general sense and no studies had research questions specific to this dimension. The majority of studies in this area were categorized as conceptual (*n* = 4) in nature. For example, Evans and Paewai (1999) presented a conceptual work wherein functional analyses could be conducted while simultaneously considering dominant and non-dominant cultural contexts (i.e., multiple sources of control). In contrast, Conners et al. (2019) was an empirical study that examined certificant perceptions of individual diversity using a survey instrument (i.e., included belief systems in the survey).

*Language*

Linguistic diversity (i.e., non-English native languages) was the most represented dimension of diversity in the sample (*n* = 23; 46% of studies). Within these studies, 15 focused on service delivery to English language learners and their families. In contrast with other areas of diversity, most studies evaluating linguistic diversity were empirical (*n* = 16) in nature rather

than conceptual ($n = 7$). In a relevant empirical example, Lang et al. (2011) evaluated how the language of instruction influences response accuracy and challenging behavior. Alternatively, Wang et al. (2019) is a conceptual paper that provided general recommendations for improving linguistic diversity in Behavior Analysis.

*Reported Participant Demographics*

Empiricial studies that featured one or more dimensions of diversity were coded for participant demographics. Participant demographics from the 25 empirical studies were compiled across each of the dimensions of diversity. Metrics in this section present the percentage of studies that reported the relevant information (i.e., not percentage of participants). These data are presented in Table 2 and discussed in greater detail in the following sections.

**Race/Ethnicity.** The overall sample included 12 studies that reported individual race/ethnicity. As indicated in Table 2, Latinx individuals were included in 32% of studies, Black/African American in 20% of studies, Asian in 24% of studies, Caucasian in 36% of studies, Polynesian in 8% of studies, Indigenous in 12% of studies, and multi-racial/ethnic in 8% of studies.

**Gender.** A total of 21 studies in the sample reported on gender-related demographics. Although representative of the majority, both cis-boys/men and cis-girls/women were included along with TGNC under the category of gender.[6] Most studies included cis-boys/men and cis-girls/women ($n = 15$), followed by only cis-boys ($n = 3$) and only cis-girls ($n = 2$). TGNC individuals were included in only 2 studies in the sample and only one publication reported on all the gender categories. It should be noted that, unless specifically reported, articles that reported binary gender categories were assumed to only include cisgender individuals. As such, it is

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[6] A more in-depth discussion of gender and gender-related terms is available at: https://www.apa.org/pi/lgbt/programs/safe-supportive/lgbt/key-terms.pdf

possible and likely that some participants in these studies are binary transgender individuals (transwomen or transmen). However, this cannot be determined conclusively from the limited data presented in these works.

**Sexuality.** Demographics related to reported sexuality almost exclusively restricted to non-heterosexual participants. Within the sample, just 1 study included non-heterosexual participants. However, the focus of this study was on conversion therapy and therefore should not be considered an exemplar of culturally responsive Behavior Analysis.

**Socioeconomic Status (SES).** One study in the sample provided information on the reported SES of individuals and their families.

**Age.** Participant age was reported in all empirical studies ($n = 25$). Within these studies, 11 included preschool-age children, 10 included school-age children, and 9 included adult participants. Regarding studies that included adult participants, 2 focused on trainees and clinicians, 2 on college students, 2 on parents, 1 on teachers, and 2 on adult participants receiving treatment services.

*Empirical and Conceptual Research in Diversity*

Studies in the review were coded as being either empirical or conceptual. The distribution of studies is listed in Figure 4. Within the category of empirical studies, studies were coded as focusing on either behavior intervention, assessment, exploratory work, training, or research methodology. Most empirical studies ($n = 14$) focused on behavior intervention. The next most represented category was exploratory extensions of Behavior Analytic methods ($n = 5$), followed by training ($n = 3$), research methods ($n = 3$), and assessment ($n = 1$). Conceptual studies were characterized as either focusing on practical application (e.g., recommendations) or theory. The majority of conceptual studies focused on issues of practical importance ($n = 20$). These studies

most often focused on recommendations for culturally responsive Behavior Analytic practice.

The remaining portion of these works focused on Behavior Analytic theory in the context of

diversity ($n = 5$).

**RQ3: Recommendations for Culturally Responsive Behavior Analysis**

The third research question was designed to compile existing recommendations for culturally responsive Behavior Analytic research and practice. Recommendations have been grouped qualitatively by the following themes: Training/education, clinical practice, research, and general application. Recommendations are listed in Table 3 and discussed in greater detail in the following sections.

Table 3. Recommendations from Conceptual Studies (n = 20 Studies)

| | *n* | Percentage (%) |
|---|---|---|
| **Training and Education** | | |
| Training in Diversity | 13 | 65% |
| Increased Recruitment of Diverse Students/BCBAs | 7 | 35% |
| Inclusion of Diversity Curricula | 6 | 30% |
| Increase Minority Faculty | 2 | 10% |
| Increase Mentorship Opportunities | 2 | 10% |
| Attend Professional development courses on issues associated with sex/gender phenotypes of ASD | 1 | 5% |
| **Clinical Work** | | |
| Consider Cultural Norms for Assessment/Selecting Interventions | 8 | 40% |
| Include a Cultural Identity Analysis as Part of Assessment | 5 | 25% |
| Include Families/Communities in Decision-Making | 5 | 25% |
| Consider Language of Assessment/Intervention | 3 | 15% |
| Develop Systems to Evaluate Staff Performance with Diverse Individuals | 3 | 15% |
| Develop Interventions in Collaboration with Community Members | 3 | 15% |
| Provide Native Language ABA Resources for Caregivers | 2 | 10% |
| Formally Treat Bias of BCBAs | 1 | 5% |
| Use of a Trans Self-Assessment Tool | 1 | 5% |
| Define Culturally Specific Topographies using Behavioral Principles | 1 | 5% |
| Include Therapist Behaviors in Functional Analyses | 1 | 5% |
| Treat Behaviors that are Considered Inappropriate for "Both" Genders | 1 | 5% |
| Teach Skills that are Considered Desirable for "Both" Genders | 1 | 5% |
| Consider behaviors across sex/gender phenotypes when making referrals for ABA services | 1 | 5% |

| | | |
|---|---|---|
| Create a Collaborative Alliance with Transgender Clients | 1 | 5% |
| Create an Environment that is Visibly Affirming for Non-heterosexual and Non-cis Clients | 1 | 5% |
| Adopt the Language of Transgender Patients | 1 | 5% |
| **Research** | | |
| Publish Feminist and Multicultural Analyses of Behavior Analytic Texts | 1 | 5% |
| Ensure research participants are representative across areas of diversity (e.g. gender, race, etc.) | 1 | 5% |
| **General Recommendations** | | |
| Practice Cultural Analysis | 7 | 35% |
| Increase Access to ABA Services in Diverse Communities | 3 | 15% |
| Advocate for Nonbinary Individuals | 2 | 10% |
| Relearn Gender as Nonbinary | 1 | 5% |
| Develop Culturally Informed Processes/Ethical Decision-Making | 1 | 5% |

Note: Recommendations related to unethical practices found in this review were excluded from this list

*Training and Education*

Recommendations related to training and education spanned across various contexts, including Behavior Analytic curricula and coursework, specific training opportunities and skill development, development and mentorship of diverse faculty, and on-going professional development. The most frequently endorsed recommendations were to construct formal pre-service training and professional development in the area of diversity, to increase the recruitment of diverse graduate students, faculty, and clinicians, and to expand Behavior Analytic coursework to include diversity-specific content.

*Clinical Practice*

Recommendations related to clinical practice focused on rendering Behavior Analytic services in a culturally responsive manner. The most frequent recommendations were to incorporate the individual's or the group's cultural norms in the development and evaluation of treatments. This was followed by recommendations to include cultural identity as an element of behavioral assessment and to include familial and community factors in treatment-related decision-making.

(table cont'd.)

Explicit recommendations were provided related to language, gender, and sexuality. Regarding language, recommendations were to prioritize the individual's native language in assessment/intervention and to provide ABA resources in the native language of the individual and their family. Gender recommendations were also well-represented in this area, with ten specific recommendations provided. Recommendations specific to cisgender individuals included focusing on treating forms of behavior considered inappropriate for "both" genders, targeting skills that are socially desirable for "both" genders, and considering behavior across sex/gender phenotypes when making referrals for ABA services. Considering behavior across sex/gender phenotypes refers to allocated attention toward the differential topographies of stereotypic behaviors, restricted interests, and sensory-related issues across sex/gender. Recommendations regarding services for TGNC individuals were to conduct self-assessments related to transgender care, to create a collaborative alliance with transgender clients, to adopt the language of transgender individuals, to advocate for nonbinary individuals, and to re-learn gender as a nonbinary construct. There was just one recommendation which applied to both gender and sexuality. This was to create an environment that is visibly affirming for non-heterosexual and non-cis clients.

*Research*

Recommendations related to culturally responsive research practices were relatively limited and largely referenced research materials and designs. One recommendation was to publish feminist and multicultural analyses of existing Behavior Analytic texts. Another recommendation was to more deliberately sample diverse participants to make Behavior Analytic research more representative across various populations

*General*

General recommendations referred to those that did not fit under the existing categories (i.e., other recommendations). Within general recommendations, two themes emerged. The first was to encourage the practice of cultural analysis, which involves the clinician conducting an individual analysis of the cultural factors affecting their own environment and contingencies. The second theme was to increase access by removing barriers to ABA services in diverse communities.

# Discussion

Individual diversity and identity are phenomena of growing interest to researchers and
clinicians in Behavior Analysis. However, relatively few guidelines exist to prepare and support
Behavior Analysts working with CLD populations. The relatively sparse literature on this topic is
somewhat expected for Behavior Analytic research, as the subjective and broadly-defined
constructs comprising individual identity and diversity are not easily translated into existing
Behavior Analytic procedures, training, or curricula (Fong et al., 2017). However, select research
teams and labs have been exploring ways to render Behavior Analytic research and practice in a
culturally responsive manner.

In one work that recommended standards for culturally responsive Behavior Analysis,
Fong and Tanaka (2013) highlighted five core elements that support organizations in developing
greater cultural competence. These include valuing diversity, having the capacity for cultural
self-assessment, being aware of the dynamics that exist when varying cultures interact, having
cultural knowledge, and adapting service delivery to reflect an understanding of cultural
diversity. Although most elements are not represented in the current model for training and
supporting Behavior Analysts, it warrants highlighting that Behavior Analysts value diversity
and that there is a demand for further training and mentorship related to CLD populations
(Beaulieu et al., 2019). The purpose of this review was to search and appraise the existing
Behavior Analytic literature related to the traditional dimensions of individual diversity and to
compile existing recommendations for working with CLD populations.

**Dimensions of Diversity Reflected in Behavior Analytic Research**

This review has revealed that the traditional dimensions of diversity have been
represented to varying degrees. The most well-represented dimension was linguistic diversity

and this most often referred to the use of the native language of consumers (e.g., efforts to use FCT alongside native languages). This also included language in terms of consumer preference (Aguilar, Chan, White, & Fragale, 2017; Kunze, Drew, Machalicek, Safer-Lichtenstein, & Crowe, 2019), behavioral consultation (Neely et al., 2019), instruction (Lim & Charlop, 2018), and functional analysis (Rispoli et al., 2011). The consensus in this domain was that the native language of consumers is readily integrated into existing practices and that accommodating this dimension of diversity has a positive impact on service delivery. Whereas this dimension of diversity is a relative strength in the Behavior Analytic literature, no other dimension of diversity was near as developed.

This review found that the identity, culture, and worldview of consumers were seldom represented in Behavior Analytic research. For instance, just one study focused on Behavior Analytic practices related to racially and ethnically diverse consumers. In this work, Fong, Ficklin, and Lee (2017) reviewed systemic barriers that exist when serving racially and ethnically diverse learners. Similarly, just one study explored how SES was reflected in behavioral research. Consistent with this review, Fontenot et al. (2019) reviewed the behavioral literature and also concluded that the SES of participants is not well characterized. Research related to sexuality in Behavior Analysis was generally negative, with the only empirical work being considered unethical at best and illegal at worst. Lastly, no studies focused directly on belief systems and how they relate to Applied Behavior Analytic practices.

Gender diversity is an emerging area of research in Behavior Analysis. At present, the available research on gender in ABA has focused on cisgender women as clinicians and researchers and TGNC individuals. Research regarding cisgender women in ABA is generally positive, with recent reports of greater representation in research (Li et al., 2018) as well as in

positions of leadership (Nosik et al., 2019). In contrast, existing research on TGNC individuals in ABA varies to extremes. For instance, Rekers and Lovaas (1974) developed and evaluated a treatment where "masculine" behavior was reinforced and "feminine" behavior was extinguished for a young TGNC child. In contrast, more recent work encourages the use of gender-affirming language, advocacy, and cultural responsiveness for clients (J. Lee & Goldstein, 2019) as well as graduate students (Matsuno, Domínguez, Waagen, Roberts, & Hashtpari, 2020). Given that studies using methods consistent with conversion therapy remain published and available in JABA, more explicit and visible commitments to supporting TGNC individuals appears warranted at this time.

**Resources for Culturally Responsive Practice**

Diversity is less represented in the current model for training and supporting Behavior Analysis. The APA, NASP, American Counseling Association (ACA), and the AAP have each established standards, guidelines, ethics codes, and accreditation requirements that emphasize the importance of diversity. As such, many models for including diversity in pre-service training and accreditation exist beyond the few suggested by Behavior Analysts. For instance, the APA has thorough guidelines for preparing clinicians for multicultural practice (American Psychological Association, 2017), the provision of services to diverse populations (Guzman, 1993), and has formalized standards for program accreditation in this regard (Vazquez-Nuttall et al., 1997). Similar guidelines exist for the NASP (National Association of School Psychologists, 2010a, 2010b, 2019), the AAP (American Academy of Pediatrics, 2004, 2007), and the ACA (American Counseling Association, 2014). Given the range of relevant exemplars, it is timely and necessary to explore similar initiatives to support culturally responsive Behavior Analysis.

Various researchers have developed and evaluated tools to support culturally responsive research and practice. For example, Behavior Analytic researchers may capitalize on tools such as the Culturally Responsive Research Rubric (Bal & Trainor, 2016). This tool serves as a task analysis of culturally responsive research, prompting researchers to effectively characterize their study participants, describe applied settings in relevant detail, and design study methods or interventions in ways that are sensitive to diversity and culture. A variety of practice guidelines and recommendations have been recommended as well. Various resources exist for developing culturally responsive functional behavior assessments (Salend & Taylor, 2002), and interviews (Tanaka-Matsumi, Seiden, & Lam, 1996) as well as framing Behavior Analytic terms in ways that are culturally responsive (Sugai, O'Keeffe, & Fallon, 2012). Further, researchers in School Psychology have extended upon the Behavior Analytic definition of social validity to more deliberately integrate elements of culture and diversity. Barnett et al. (1995) presented the term 'ethnic validity' to represent an extension of social validity, whereby goals and methods of behavior change are more directly linked to the individual's local community and culture. Similarly, Varjas, Nastasi, Moore, and Jayasena (2005) suggested further use of tools from ethnography to better tailor treatment goals and service delivery to fit within an individual's or group's culture.

**Developing and Supporting Culturally Responsive Behavior Analysis**

Behavior Analytic training and research has not emphasized diversity to the same degree as other, related fields (e.g., psychology, medicine). However, several Behavior Analysts have been working to increase the awareness and sensitivity to diversity in the field and address the vacuum for Behavior Analytic training related to CLD populations. Fong and Tanaka (2013) provided a set of standards and recommendations for culturally responsive Behavior Analytic

practice. Prominent among these standards and recommendations is a call for formal coursework and training experiences as a part of Behavior Analytic graduate training. It warrants noting that formal coursework and training related to diversity are typical in most fields that work with CLD populations (American Psychological Association, 2017; National Association of School Psychologists, 2010b; American Counseling Association, 2014). These experiences serve to support the development of individual cultural self-awareness (Fong et al., 2016) and an improved understanding of how various aspects of culture and diversity influence service delivery (Fong et al., 2017). As such, these areas would be relevant and valuable additions to the current Behavior Analytic training model.

Beyond experiences and coursework for prospective Behavior Analysts, a lack of consideration for diversity also affects students and faculty in Behavior Analysis. Research in higher education has found that faculty of color regularly experience a lesser degree of mentor support when compared to colleagues representative of the majority, e.g. Caucasian, English-speaking, cis-gender, male (Vasquez et al., 2006). Additionally, diverse faculty are often sought as mentors by both majority and minority students and this increased burden often has negative effects on their scholarly output (e.g., less time for academic publication). As a result, this increases the risk of burn-out for diverse faculty (Johnson, 2002). Organizations such as the APA have developed mentorship models to address these inequalities and support these faculty. Consistent with calls to expand the current Behavior Analytic training model, Fong et al. (2017) also suggested the establishing mentorship models to address these inequalities with Behavior Analytic training programs.

**Limitations and Future Directions**

This review surveyed the greater Behavior Analytic literature and found that the traditional dimensions of human diversity have not been strongly represented in Behavior Analytic research. In presenting these results, we make note of two potential limitations. First, this was not an exhaustive search of the literature and the focus was on four of the largest Behavior Analytic publication venues. Whereas further expansion of the search parameters would likely yield some additional studies, this is unlikely to alter the conclusions drawn here regarding a limited representation of diversity in Behavior Analytic research. As such, this is a topic that warrants continued and expanded exploration. Second, this review evaluated the scope and range of diversity represented in Behavior Analytic research. It is likely and possible that individual organizations and Behavior Analysts in practice have acquired training in diversity outside of their training to better integrate diversity in their service delivery. As such, it is likely that culturally responsive practices are occurring despite a lack of representation in the core training model. However, despite these limitations, it is unlikely to change the fact that issues of diversity warrant greater consideration in Behavior Analytic research and practice.

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# Vita

Jodie Allison Waits completed her Bachelor of Science in Psychology from the University of New Orleans in 2018. During this time, she worked in two research labs and volunteered as a line tech for two schools in the New Orleans area. Her first experience working in a research lab was under the supervision of Dr. Elliott Beaton, where she traced MRI brain images of children with 22q11.2 Deletion Syndrome. Jodie then worked in Dr. Christopher Harshaw's lab studying the effects of thermoregulatory irregularities on social behavior in mouse models of Autism Spectrum Disorders. Under the supervision of Dr. Erin Perry, she delivered ABA services to two children within the school setting in the New Orleans area.

Jodie's experiences working with children with disabilities in the school system led her to Louisiana State University's school psychology program, where she is earning her doctor of philosophy under the supervision of Dr. Shawn Gilroy. She is planning to earn her Master of Arts this December 2021. Her current research interests involve diversity issues within the field of Applied Behavior Analysis, including the development of effective strategies for teaching bilingual communication to ethnically diverse children with Autism Spectrum Disorders.