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ORIGINAL ARTICLE

Incorporating Choice: Examining the Beliefs and Practices of Behavior Analysts Working with Individuals with Disabilities

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Abstract

Choice-making for individuals with disabilities is an important topic in the field of Applied Behavior Analysis (ABA). Choice is a fundamental human right, and opportunities to make decisions about an individual's own life honors and respects dignity and autonomy. This study explores the beliefs and practices of behavior analysts in relation to choice-making for individuals with disabilities. A total of 81 practicing behavior analysts participated in an online survey that assessed their training experience, beliefs about choice, and reported practices regarding choice in ABA service delivery. The survey responses were analyzed using descriptive statistics and Wilcoxon Signed-Rank Test to compare beliefs and practices. Results showed that while most behavior analysts strongly agreed that choice should be incorporated into ABA services, discrepancies were observed between beliefs and actual practice regarding various factors that influence opportunities to make choices. Multiple barriers to providing choice-making opportunities were identified. The findings underscore the need for increased training and coursework on the subject of choice as well as changes in practice.

Keywords Choice · Applied behavior analysis · Autonomy · Disability · Self-determination

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The importance of choice-making for individuals with disabilities has been a subject of extensive discussion in the field of Applied Behavior Analysis (ABA) for many years (e.g., Bannerman et al., 1990; Dixon & Tibbits, 2009; Dunlap et al., 1994). Choice as a fundamental human right and an integral part of one's identity is reflected in policies and practices involving individuals with disabilities across multiple agencies and organizations. The United Nations Convention on Rights of Persons with Disabilities (2006) ties the freedom to make one's own choices with respect for dignity and individual autonomy. The Americans with Disabilities Act (1990) aims to ensure that individuals with disabilities have opportunities to make decisions in various aspects of their lives. The Individuals with Disabilities Education Act (2004) requires that Individualized Education Plans include students in the decision-making process whenever possible, empowering them to play an active role in determining their own educational goals. Indeed, providing choices has been demonstrated to not only improve engagement and acquisition in academic subjects (Tiger et al., 2010; Touissant et al., 2016), but is also core to the philosophy and success of the independent living movement (CIL, 2024).

Self-determination and choice are explicitly discussed in the BACB Ethics Code (2020) and in behavior analytic literature (i.e., Peterson et al., 2021; Rispoli et al., 2013). Kelly and colleagues (2021) suggested including self-determination in a set of guiding principles for the ethical conduct of behavior analysts. Self-determination is the extent to which an individual makes decisions about their own lives (Wehmeyer & Garner, 2003). By using self-determination to guide practice decisions, we keep choice at the forefront, helping clients set and achieve goals and make their own decisions (Kelly et al., 2021).

Choice is also a necessary component of providing ethical behavioral intervention according to the Behavior Analyst Certification Board (BACB) Ethics Code (BACB, 2020). Choice is specifically addressed in the core principles of the ethics code as well as in multiple ethics standards. The BACB ethics code (2020) names the core principle, benefit others, as one of four foundational principles behavior analysts should use to interpret and apply the standards in the Code. This core principle states that behavior analysts must work to maximize benefits and do no harm by respecting and promoting clients' self-determination to the best of their abilities (BACB, 2020). Further, this principle includes acknowledging the importance of personal choice in service delivery.

Multiple standards in the Ethics Code are related to choice (BACB, 2020). For example, Standard 2.09, Involving Clients and Stakeholders, discusses giving clients the opportunity to participate in goal selection, design of assessments, and behavior-change interventions to take client preferences into account. Standard 2.11, Obtaining Informed Consent requires that behavior analysts obtain informed consent before implementation of assessments or interventions. Behavior analysts are also responsible for obtaining assent from clients when applicable (Morris, 2021). Standard 2.14, Selecting, Designing, and Implementing Behavior-Change Interventions discusses the incorporation of client and stakeholder preference in intervention.

The topics of choice and self-determination are mentioned frequently in current behavioral writing but are also at the core of the genesis of ABA. Baer, Wolf, and Risley stated that "applied research is constrained to examining behaviors which are

socially important, rather than convenient for study" (1968, p. 92), thereby requiring all applied behavior analysts to identify the behaviors their clients and participants choose as socially important. Thus, whether and how behavior analysts incorporate choice in their unique practice contexts is an important topic of consideration. Clients are often missing from conversations related to their own intervention and treatment (Summers, 2022). How can behavior analysts address behaviors of social importance if clients are not involved in choosing the goals and methods of intervention? In response to the growing concerns our field has faced, Veneziano and Shea (2023) state that we must consider, implement, and evaluate choice in every intervention we carry out to ensure we are not straying from the heart of what we do – providing services to individuals with disabilities, with ethics and social validity at the forefront. For example, when choosing target behaviors that are part of an early intensive behavior intervention program, we must ensure that these behaviors are matched with family goals and priorities rather than simply being the next thing on the assessment used by the agency. ABA is a responsive science guided by social validity (Wolf, 1978) and social invalidity (Schwartz & Baer, 1991). When criticisms of our practice grow, signaling social invalidity, we need to understand the environmental conditions to which consumers are responding and make changes to improve our practice.

Numerous factors affect an individual's ability to make decisions about their own life, often creating a complex space for behavior analysts and practitioners to provide effective intervention while practicing with honor and respect for clients. The delicate balance between habilitation and personal liberties, as articulated by Bannerman and colleagues (1990), remains a challenge in service delivery for individuals with disabilities. While some have addressed this issue, it remains salient and ever-changing as the field and science continues to expand. The exploration of this balance between habilitation and personal liberties should be an ongoing conversation, continually striving to incorporate these complex issues into discussions of client treatment.

Bannerman and colleagues provide a historical view on the exercise of control over clients' lives in the name of habilitation as mandated by legislation. They acknowledged the importance of promoting independence and self-determination while also recognizing the potential health and safety risks associated with unrestricted choices. Balancing personal liberties with the need for support and guidance in the decision-making process is complex. Teaching clients how to exercise their personal freedoms *should* be an integral part of the habilitation process (Bannerman et al., 1990). Behavior analysts are often integral in arranging the social environments of vulnerable persons (Skinner, 1971). This responsibility has significant implications for ensuring that behavior analysts are able to co-create environments that uphold the full dignity and humanity of the person, as well as eliminate any likelihood of harm (Pritchett et al., 2021).

Previous research on choice demonstrates that choice may function as a reinforcer and is an effective intervention to decrease challenging behaviors (Dunlap et al., 1994; Dyer et al., 1990; Powell & Nelson, 1997; Rispoli et al., 2013). Choice can be a powerful tool in practice, both as a meaningful outcome and important teaching tool. Making choices, however, is a multifaceted, nuanced process that requires

a well-developed repertoire of choice-making skills, stimulus conditions that signal the availability of reinforcers, a variety of reinforcers to choose from, and freedom from coercion when making choices (Bannerman, et al., 1990). Moreover, all environments are dynamic and in constant flux. As contexts change, choice making opportunities may expand or contract for a myriad of reasons. For example, children experiencing medical emergencies are much less likely to be provided with choice-making opportunities due to procedures needed to preserve their safety and well-being. Similarly, during everyday situations such as needing to go to the grocery store, leaving the house to go to school, getting vaccines, attending dental appointments, or even decisions about what food is offered and whether or not to wear a jacket, choice opportunities may be limited due to caregiver constraints, logistical issues, or health and safety concerns.

In recent years, there has been a growing emphasis on teaching choice-making as an essential skill for individuals with disabilities. For example, Deel and colleagues (2021) taught choice-making within activity schedules, highlighting the importance of individualization for incorporating choice. Huntington and Schwartz (2022) implemented a preference assessment in which participants selected their preferred intervention, and White and colleagues (2023) have offered guidelines on incorporating choice-making into service delivery. This research and discussion indicates positive outcomes when individuals with disabilities had control and autonomy over their own intervention, emphasizing the importance of incorporating choice making in behavior analytic practice.

The Current Study

Although teaching choice making as a skill may be relatively straightforward, incorporating the opportunity for clients with disabilities to have authentic choices and make important decisions about their intervention and other life choices is fraught with ethical, methodological, and philosophical dilemmas. After participating in numerous difficult conversations with colleagues and community members across allied disciplines and institutions, the question of what behavior analysts knew, believed, and practiced about choice remained unanswered. Behavior analysts must consider many factors such as age of their clients, level of support needs, and caregiver preferences, when developing, implementing, and evaluating interventions, ensuring individuals with disabilities access appropriate conditions to make meaningful choices in their own lives.

This study aims to gain an understanding of the beliefs and practices of behavior analysts regarding choice in the context of ABA service delivery when working with individuals with disabilities. To this end, the purpose of this study is to explore the following questions:

1. What are behavior analysts' beliefs about choice in ABA service delivery?
2. What are behavior analysts' reported practices regarding choice in ABA?
3. Are there differences between behavior analysts' beliefs about choice and how they practice?

Method

Survey Development

The survey was designed specifically for use in this project and presented behavior analysts with a list of questions about their beliefs and practices around choice with clients. Key items were generated from a review of the literature and through iterative discussions among the research team. Survey questions focused on (a) demographic characteristics of participants, (b) training and preparation on choice, (c) participant beliefs about factors influencing choice, (d) participants self-report about current practice related to client choice, and (e) questions about client joy during ABA.

Pilot Testing of the Survey

In the pilot testing phase, our research team initially distributed the survey to a pilot group of 8 behavior analysts. This group was composed of 4 Board Certified Behavior Analysts at the doctoral level (BCBA-D), 3 Board Certified Behavior Analysts (BCBAs), and 1 Registered Behavior Technician (RBT). After distribution, we collected detailed feedback from these professionals, focusing on both the content and structure of the survey. These insights led to several revisions, including modification of questions for clarity, addition and removal of items based on relevance, and adjustment to the order of questions for easier navigation.

Recruitment

Invitations were sent to potential participants via email listservs and ABA social media groups with a link to complete the survey on RedCap (Harris et al., 2009). These included the Teaching Behavior Analysis, Verified Course Sequence, and SpedPro listservs, Applied Behavior Analysis and ABA Business Collaborative Facebook Groups, as well as groups, listservs, and LinkedIn posts within each author's networks. The body of the email or social media post (a) explained the purpose of the survey study, (b) provided a time estimate for completion of the survey, and (c) provided information about the research team members. The survey was open for two weeks and a reminder post/email was distributed at the one-week mark. No financial compensation was provided for completion of the survey.

Participants

Of the original sample (n = 92), a total of 11 participants (12%) failed to meet the inclusion criteria of being certified as a behavior analyst at any certification level (BCBA, BCaBA, RBT, etc.), and currently practicing with individuals with disabilities or support needs. This left a total of 81 participants for the final sample size.

Survey questions about demographics were structured to match the demographic information reported by the BACB to understand if our sample was representative

of the BACB certificant population. However, we recognize that categorizing demographics in this way is not representative of all identities.

Data Analysis

Descriptive statistics and the Wilcoxon Signed-Rank Test were used to analyze survey data. Since the level of measurement used in the study was ordinal and was not normally distributed, a non-parametric test was used to analyze the data (Kim, 2015; Vetter & Mascha, 2018). The non-parametric equivalent of a paired samples t-test is the Wilcoxon signed-rank test (Riffenburgh, 2020; Vetter & Mascha, 2018). The Wilcoxon signed-rank test is based on different scores like a paired samples t-test, however, the analysis diverges from there (Riffenburgh, 2020). Once the difference scores are calculated, the absolute values of the differences (i.e., the magnitudes) are ranked from the smallest (which is assigned a value of 1) to the largest value (assigned a value of n [equal to the sample size]). We report the descriptive statistics (mean, median), Z, p-values for each pair of related variables. We analyzed the results using IBM SPSS Statistics (Version 27).

Results

Demographics of Respondents

All demographic information is presented in Table 1. The majority of participants identified as female (n = 62, 76.5%), with smaller proportions identifying as male (n = 11, 13.6%), non-binary (n = 3, 3.7%), other (n = 2, 2.5%), or preferred not to say (n = 3, 3.7%). Most participants were between the ages of 25 and 34 (n = 31, 38.3%), 35 and 44 (n = 25, 30.9%), and 45 and 54 (n = 12, 14.8%). Participants were able to select multiple categories to indicate their racial/ethnic background. A total of 65 participants selected White (80.2%), Black (n = 3, 3.7%), Hispanic/ Latino (n = 9, 11.1%), Asian (n = 9, 11.1%), Hawaiian/ Pacific Islander (n = 2, 2.5%), Other (n = 3, 3.7%), or preferred not to say (n = 3, 3.7%). All participants practice in the United States, except for one participant who practiced in Germany. The main certifications participants held were BCBA (n = 50, 58.1%) and BCBA-D (n = 20, 23.3%). The majority of participants have been certified between 4 to 9 years (n = 26, 32.1%) with the second highest proportion between 1 to 3 years (n = 23, 28.4%). Participants were able to select multiple categories from this section as well (e.g., a BCBA who was dual certified as an International Behavior Analyst [IBA]), thus leading to the total number of responses for this demographic question being 86. Participants' locations of practice included in clinics (n = 42, 51.9%), homes (n = 39, 48.1%), schools (n = 31, 38.3%), early intervention (n = 11, 13.6%), training (n = 28, 34.6%),

Table 1 Participant demographics

	N	%		N	%
Age			Years Certified		
18–24	5	6.2%	Less than 1	5	6.2%
25–34	31	38.3%	1–3	15	18.5%
35–44	25	30.9%	4–6	23	28.4%
45–54	12	14.8%	7–9	12	14.8%
55–64	5	6.2%	10–12	14	17.3%
65 and over	2	2.5%	13–15	5	6.2%
Prefer not to answer	1	1.2%	16–18	3	3.7%
Race/Ethnicity			18–20	2	2.5%
American Indian/Alaskan Native	2	2.1%	21 +	2	2.5%
Asian	9	9.5%	Current Setting		
Black or African American	3	3.2%	Clinic based	42	51.9%
Hispanic/Latinx	9	9.5%	Home based	39	48.1%
Native Hawaiian/Pacific Islander	2	2.1%	School based	31	38.3%
White	65	68.4%	0–3 (EI)	11	13.6%
Prefer not to answer	2	2.1%	Training & coaching	28	34.6%
Other	3	3.2%	Other	14	17.3%
Gender			Current Age Groups		
Female	62	76.5%	Birth to three (0–3)	31	38.3%
Male	11	13.6%	Preschool (3–5)	64	79.0%
Nonbinary	3	3.7%	Children (5–12)	68	84.0%
Prefer not to answer	3	3.7%	Adolescents (1 -17)	63	77.8%
Other	2	2.5%	Young adult 18–22	46	56.8%
In the United States			Adults (23–64)	18	22.2%
Yes	80	98.8%	Older adults (65 +)	6	7.4%
No	1	1.2%	Primary Age Groups		
Certification			Birth to three (0–3)	3	3.7%
RBT	8	9.3%	Preschool (3–5)	17	21.0%
BCaBA	0	0.0%	Children (5–12)	39	48.1%
BCBA	50	58.1%	Adolescents (13–17)	13	16.0%
BCBA-D	20	23.3%	Young adult 18–22	3	3.7%
QBA	0	0.0%	Adults (23–64)	6	7.4%
IBA	5	5.8%	Older adults (65 +)	0	0.0%
Not certified	2	2%			
Other	1	1.2%			

and other (n = 14, 17.3%). The majority worked with preschool-aged clients (n = 64, 79.0%), children (n = 68, 84.0%), and/or adolescents (n = 63, 77.8%).

Table 2 Comparison of sample with BACB demographics

	Current Study %	BACB %
Race		
American Indian/Alaskan Native	2.10%	0.40%
Asian	9.50%	7.07%
Black or African American	3.20%	10.93%
Hispanic/Latinx	9.50%	21.39%
Native Hawaiian/Pacific Islander	2.10%	0.58%
White	68.40%	52.76%
Prefer not to answer	2.10%	6.86%
Other	3.2%	-
Gender		
Female	76.50%	85.15%
Male	13.6%	13.12%
Nonbinary	3.70%	0.49%
Prefer not to answer	3.70%	1.17%
Other	3.20%	0.7%
Age		
18–24	6.20%	20.35%
25–34	38.30%	45.05%
35–44	30.09%	20.81%
45–54	14.80%	9.56%
55–64	6.20%	3.50%
65 and over	2.50%	0.73%
Prefer not to answer	1.20%	0.73%

A comparison of survey demographics to BACB demographics is shown in Table 2. Our survey captured respondents from the categories reported by the BACB.

Training on Choice

Participants were asked about their training experience related to choice-making in ABA service delivery. Table 3 provides an overview of the responses about training in both course-work and employment. When asked about coursework, the majority of respondents (50.6%) reported that the topic was addressed in a class. The next highest response (27.2%) reported that no coursework was provided on choice-making. When asked about training by their employer, 43.2% reported engaging in self-directed learning that was not provided by their employer, while 21% of respondents reported that the topic of choice-making was an ongoing part of training provided by their employer.

Table 3 Training on choice

	N	%
Training During Coursework		
No coursework on this topic	22	27.2%
Was addressed in a class	41	50.6%
Was the main focus of at least one class	3	3.7%
Was the focus of multiple classes	5	6.2%
Was an integral part of my coursework	9	11.1%
N/A, have not yet completed coursework	1	1.2%
Training Provided by Employer		
No training is provided by my employer	13	16.0%
I have done self-directed learning (not provided by my employer)	35	43.2%
I have attended at least one workshop provided by my employer	10	12.3%
I have attended multiple workshops/trainings provided by my employer	6	7.4%
It is an ongoing part of training provided by my employer	17	21.0%

Beliefs about Choice

Participants were asked about their general belief about incorporating choice into ABA service delivery. Over 83% of respondents agreed with the statement that choice should be incorporated into ABA services, with 66.7% indicating that they strongly agreed, and 18.5% indicating that they agree. Conversely, 11.1% strongly disagreed with the incorporation of choice and 3.7% indicated that they felt neutral.

Participants were further asked about their beliefs regarding how various factors should impact clients' opportunities to make choices within ABA services. Results show that most participants believed that factors such as the presence of a disability (55.6%), level of support needs (37%) age of client (35.8%), agency policies (37%), and funding guidelines (45.7%) should never impact whether clients have opportunities to make choices. Most respondents said that parental preference (40.7%) and community norms (37%) should sometimes impact choice-making opportunities. Conversely, most participants indicated that they believe safety (49.4%) and health (33.3%) should always impact choice-making opportunities.

Participants' beliefs about client choice on specific factors were also examined. Most participants believed that clients should always have a choice about reinforcers (75.3%), physical prompts (59.3%), and whether to participate in ABA services (44.4%). Participants believed that clients should often have a choice about instructional materials (45.7%), goals (44.4%), schedules (40.7%), and teaching strategies (40.7%). Most participants (35.8%) believed that clients should sometimes have a choice about settings.

Beliefs vs. Practice

The study compared beliefs and practices related to factors influencing opportunities for choice-making in ABA service delivery. Figure 1 illustrates the

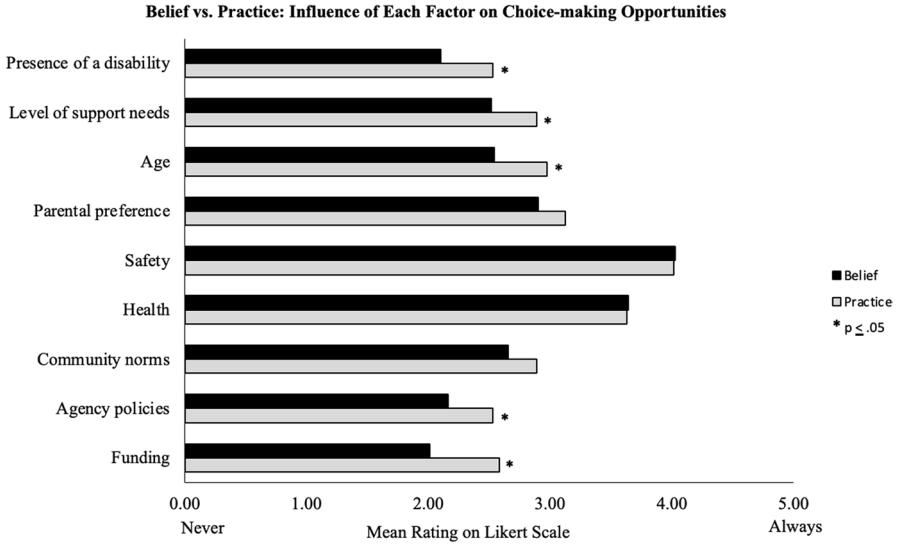

Fig. 1 Belief vs. Practice: Influence of Each Factor on Choice-making Opportunities

comparison of belief and practice ratings for each factor. The results revealed that in practice, several factors had a greater impact on choice-making opportunities compared to behavior analysts' beliefs about how these factors should influence choices. For example, behavior analysts reported that they believe that funding sources (i.e., insurance) and agency policies should have relatively little influence on choice-making in ABA (means of 2.01 and 2.16, respectively). However, in practice, behavior analysts scored this variable significantly higher (means of 2.58 and 2.53, respectively), indicating that funding sources have more of an influence on choice-making in ABA than respondents believe they should. Similarly, respondents indicated that they believe the presence of a disability, level of

Table 4 Mean and Wilcoxon signed-rank test for influence of each factor

	Belief	Practice	*Wilcoxon Signed-Rank Test*	
	M (Mdn)	*M (Mdn)*	*Z*	*p*
Presence of a disability	2.10 (1.0)	2.53 (3.0)	**-2.51**	**< 0.05**
Level of support needs	2.52 (2.0)	2.89 (3.0)	**-2.49**	**< 0.05**
Age	2.54 (3.0)	2.98 (3.0)	**-2.84**	**< 0.05**
Parental preference	2.90 (3.0)	3.12 (3.0)	-1.54	0.124
Safety	4.02 (4.0)	4.01 (4.0)	-0.221	0.528
Health	3.64 (4.0)	3.63 (4.0)	-0.152	0.879
Community norms	2.54 (3.0)	2.89 (3.0)	-1.69	0.092
Agency policies	2.16 (2.0)	2.53 (3.0)	**-2.28**	**< 0.05**
Funding	2.01 (2.0)	2.58 (2.0)	**-3.36**	**< 0.05**

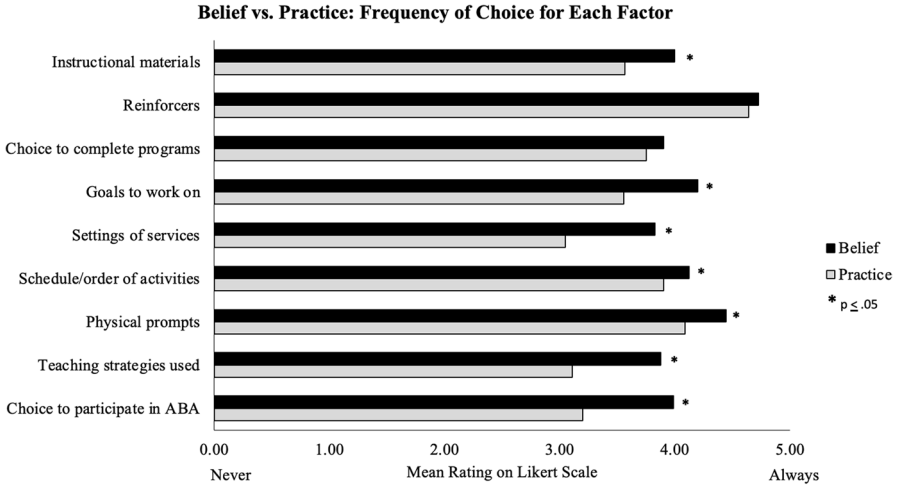

Fig. 2 Beliefs vs. Practice: Frequency of Choice for Each Factor

Table 5 Mean and wilcoxon signed-rank test for frequency of each factor

	Belief	Practice	*Wilcoxon Signed-Rank Test*	
	M (Mdn)	*M (Mdn)*	*Z*	*p*
Instructional Materials	4.00 (4.0)	3.57 (4.0)	**-3.92**	**< 0.05**
Reinforcers	4.73 (5.0)	4.64 (5.0)	-1.81	0.071
Choice to complete programs	3.90 (4.0)	3.75 (4.0)	-1.70	0.090
Goals	3.90 (4.0)	3.56 (4.0)	**-5.03**	**< 0.05**
Setting	4.20 (4.0)	3.05 (3.0)	**-5.20**	**< 0.05**
Schedule	4.12 (4.0)	3.90 (4.0)	**-2.80**	**< 0.05**
Physical prompts	4.44 (5.0)	4.09 (4.0)	**-3.42**	**< 0.05**
Teaching strategies	3.88 (4.0)	3.11 (3.0)	**-5.40**	**< 0.05**
Choice to participate in ABA	3.99 (4.0)	3.20 (3.0)	**-5.45**	**< 0.05**

support needs, and age should have less influence on choice-making opportunities than they reportedly do in practice. Mean ratings for the influence of each factor increased, except for health and safety. The Wilcoxon Signed-Rank Test (Table 4) indicated statistically significant differences for funding guidelines, age, presence of a disability, level of support needs, and agency policies.

Additionally, the study examined mean scores for beliefs and practices regarding the frequency of choice-making opportunities for various factors in ABA service delivery, as demonstrated in Fig. 2. The results showed that reported practice consistently had lower mean ratings than beliefs about how often clients should be given a choice for each factor. The Wilcoxon Signed-Rank Test (Table 5) revealed statistically significant differences for instructional materials, goals, settings, schedules, physical prompts, teaching strategies, and whether to participate in ABA services.

Barriers to Offering Choice

Participants were asked to select factors that are barriers to offering choice in ABA practice. Guardian preference (74.1%) and client ability to make choices (71.6%) were the most chosen barriers. Other barriers included cultural values (50.6%), caregiver/teacher/staff preference (49.4%), client age (48.1%), agency/organization policies (43.2%), funding guidelines (39.5%), and client program structure (38.3%).

Discussion

This study sought to explore the beliefs and practices of behavior analysts regarding the integration of choice-making into their work with individuals with disabilities. The results of this study suggest that behavior analysts believe choice-making opportunities should be more prevalent in services provided for people with disabilities, than is currently practiced. While survey respondents generally believe that factors such as the presence of a disability, level of support needs, age, agency policies, and funding guidelines should not influence choice-making opportunities, respondents reported that these factors do in fact, influence choice-making in practice.

Among identified barriers to choice-making in practice, guardian preference and client ability to make a choice emerged as the most significant obstacles to offering choice. Our findings also indicated a gap in current training (University and field-based), as many practitioners reported that they rely on self-directed learning.

Limitations

Several limitations must be considered when interpreting the findings of this survey. Despite our small sample size, our survey recruited a higher proportion of American Indian/Alaskan Native, Asian, and White practitioners, and a lower proportion of Black or African American and Hispanic/Latinx practitioners compared to the BACB demographics. Additionally, our survey included fewer females, more non-binary individuals, and fewer participants aged 18–24, with higher representation in other age categories. These demographic discrepancies may limit the generalizability of the results to the broader population of behavior analysts.

Another limitation lies in the potential for respondents to interpret questions differently. This limitation is compounded with a lack of general agreement of definitions of terminology related to choice (Peterson et al., 2021). Finally, this survey was conceptualized based on the researchers' interests. Inherent bias may be present within this survey, as well as interpretation of our results and suggested implications.

Implications

This survey underscores critical areas for future exploration in understanding how behavior analysts integrate choice-making into their practice. Through systematic

evaluation of the nuanced and complex factors that influence choice-making opportunities, behavior analysts can better support and empower individuals with disabilities to exercise their right to make meaningful choices in their services and their lives.

Who Makes Choices for Individuals with Disabilities?

The discussion around who makes choices for individuals with disabilities, particularly in the context of caregiver influence, is complex and multifaceted. What may seem to limit one person's choice may lead to improvements in quality of life. For example, a child's choice to wear a seatbelt in the car is a non-negotiable topic for most caregivers, as it is simply a matter of safety. A child does not typically get a choice in this situation because it is the caregiver's decision to make that choice for the child and keep them safe. In another example, a child may not get the choice to take needed medication. The caregiver makes the decision for them and acts in their best interest. In these examples, while choice-making opportunities are limited, health and safety—and therefore quality of life—are improved.

As discussed in pediatric bioethics (Rhodes & Holzman, 2014), the concept of acting in the best interest of an individual is subjective and nuanced. This is particularly complex when the decisions involve individuals with disabilities. Offering choice in every scenario is not feasible and varies from one family to another. Essential care decisions related to feeding, sleep, health, and safety, are not always conducive to choice-making. Take, for example, choices related to eating and mealtime. For a child whose family is of low socio-economic status and is affected by food insecurity, choices of what to eat may be limited by family circumstances and logistics of obtaining food. This child may not have any choices of what to eat based on availability. For another child whose family can afford and logistically obtain food without barriers, choices may be abundant. This child may have more choices of what food to eat and whether or not to eat food that is offered. Other examples of contextual factors that can influence choices around mealtime are food allergies that can influence health, cultural factors such as dietary restrictions, and factors related to the settings in which children eat (e.g. Head Start food program rules).

Increased Training and Coursework

Increasing access to comprehensive training in choice is vital for ABA practitioners, both within graduate coursework and through ABA agencies and organizations. Results of this survey suggest a disconnect between the desire for training on choice and available options. This preliminary data suggests a need for future research to explore current coursework and training and the impact on behavior analyst skills and practice to make clear recommendations for improvement to training and coursework. ABA coursework should embed applied case studies and discussions regarding choice and ethical decision making around choice. Furthermore, employers can play a vital role by offering ongoing training opportunities within the practice setting, or even facilitating case-based discussions, with a specific focus on

increasing practitioners' ability to integrate choice-making into their daily service delivery.

Discussions about quality of life (e.g., Schwartz & Kelly, 2021) and self-determination (e.g., Wehmeyer &, Shogren, 2016) should be the focal point of coursework and training on choice. By doing so, students and behavior technicians can learn how to contextualize important decisions and weigh factors such as the personal liberties of the individual. For example, how do we equip behavior analysts to address a situation where an individual is no longer consenting to ABA services despite their caregivers' desire to continue? Engaging in difficult discussions through focused and direct training has the potential to give behavior analytic students the tools to thoroughly consider the nuances in a future scenario. By addressing this lack of training, behavior analysts may be better equipped to support individuals in choice-making opportunities and improve overall quality of ABA services.

Finding the Balance Between Habilitation and Personal Liberty

The delicate balance between habilitation and personal liberties, as articulated by Bannerman and colleagues (1990), remains both an opportunity for service enhancement and continual challenge in the delivery of ABA services for individuals with disabilities. Survey results indicate belief among practitioners about the influence of health and safety on choice-making opportunities aligned closely with their reported practice. This convergence may be attributed to the importance of health and safety in ABA practice, leading practitioners to prioritize these factors as deciding elements when considering choice-making opportunities for their clients. For example, a behavior analyst may feel more comfortable restricting choice-making for an individual when their choice could impact their safety or health (e.g. self-harm behaviors, running into the street, refusing a medical procedure).

Another aspect of the delicate balance pertains to physical prompting, where a discrepancy between beliefs and practice emerged in our survey. Practitioners expressed the belief that clients should have the opportunity to make choices regarding physical prompting, but the reported practice did not consistently align with this belief. This indicates that, although behavior analysts believe that clients should make decisions regarding physical prompting, they may not be actually practicing in this manner. Decisions about whether to allow individuals a choice about physical prompting are context-dependent. For example, a child may recoil and not tolerate hand-over-hand prompting in a matching task, so the behavior analyst may choose to prompt primarily using gestures and positional prompting. This same child, however, may necessitate physical prompting to stop them from running into the street or their backyard pool. In the latter scenario, the range of choices diminishes as the context becomes an issue of safety.

To strike a better balance between habilitation and personal liberties, it is imperative for behavior analysts to reflect on the nuanced factors influencing their decisions. Habilitation, health, and safety, while crucial, should not completely overshadow the potential for providing meaningful choice-making opportunities that promote self-determination and independence. A rules-based approach to nuanced decisions such as whether or not to offer choice-making opportunities can be

problematic (Rosenberg & Schwartz, 2019). Context matters significantly, and two or more rules can conflict. The right to self-determination is important, but it must be balanced with the need for habilitation and cultural considerations, which might suggest a different course of action than other rules. As behavior analysts, it is our role to recognize the complex factors that influence whether or not to offer choice-making opportunities to individuals with disabilities. This involves 1) understanding the factors involved in allowing or limiting choice-making opportunities and 2) applying an ethical decision-making process.

Understanding Factors Involved

Behavior analysts must recognize the complex factors that influence whether or not to offer choice-making opportunities to individuals with disabilities. These factors can include guardian preference, health and safety concerns, societal norms, provider biases, agency guidelines, funder policies, and more. It is the behavior analyst's job to understand the role each of these factors plays in allowing or preventing choice-making opportunities in order to find balance between habilitation and personal liberties of their clients. For example, a 10-year-old client tells their behavior analyst that they want to participate in a school robotics club. The parents are unsure if they should allow their child to participate in the club because it would mean dropping ABA services. The ABA agency has rules around attendance and would fill the client's spot if they attend the robotics club. It is the behavior analyst's responsibility to weigh the many factors involved in this decision (e.g. goals of ABA services, client values, caregiver values, agency rules, age, logistics, etc.) to collaborate in making decisions about whether or not to allow this choice-making opportunity.

Applying an Ethical Decision-Making Process

Ethical decision making is crucial in navigating the complexities of choice-making opportunities. As described by Rosenberg and Schwartz (2019), a structured, ethical decision-making process can help behavior analysts systematically evaluate ethical dilemmas. Decision making around opportunities for choice for individuals with disabilities is fraught with ethical dilemmas. Behavior analysts must consider the context, culture, and specific circumstances of each client to make ethical decisions. For example, a behavior analyst has decided to prioritize choice-making for their clients and will no longer practice anything that resembles forced compliance. The mother of one of their clients shares the importance of her child learning the culturally-specific behaviors of "respeto," or a parent's calm authority and child's affiliative obedience. The behavior analyst now encounters an ethical dilemma where their views of what is best for the client's self-determination does not match the family's culture and values. The behavior analyst must now use an ethical decision-making process to come to a decision about how to proceed in service delivery.

By understanding all the co-occurring factors and applying an ethical decision-making process, behavior analysts can make decisions that empower individuals

to exercise their personal freedoms, while keeping health, safety, and other factors related to quality of life at the forefront.

Start with Small, Achievable, Meaningful Changes Starting with small, achievable, meaningful changes can pave the way for significant improvement regarding choice. Whenever possible, behavior analysts can give their clients choices throughout the time they spend with them. For example, the client may have the opportunity to choose the instructional materials, location of a community outing, activity to play during recess, or what to eat for lunch. While not all contexts and situations allow for choices (e.g., the choice to put on shoes to leave the house or attend class), behavior analysts can carefully examine their implementation of choice-making as much as possible. There may be opportunities that they have previously missed, such as the opportunity for a client to choose their communication modality (Donaldson et al., 2023).

Combating Ableism Through Choice Incorporating choice-making into behavioral practice is a powerful way to allow opportunities to enhance the expressed goals, procedures, and outcomes (Wolf, 1978) of services for persons with disabilities. Choice-making also has the opportunity to develop an individual's sense of self-determination and agency (Donaldson et al., 2023). Further, this integration of choice-making in ABA service delivery enhances practitioner awareness and perhaps actively challenges embedded ableism (Shyman, 2016). Assumptions about the needs of individuals may unconsciously influence treatment decisions, and by emphasizing choice, practitioners can ensure decisions are aligned with the true preferences and needs of their clients.

Future Research

Continued discussion of choice is necessary to continue to advance ABA. Currently, the lack of consensus on terminology in applied behavior analytic practice related to choice hinders the development of our understanding and progress in this area. Peterson and colleagues (2021) highlighted the absence of agreement on definitions, emphasizing the importance of addressing this issue. Some examples of terms often used interchangeably, but which would benefit from increased clarity and agreement would be choice, autonomy, self-determination, and agency. For any science to evolve and progress, we must agree on the definitions we use. Thus, future work should explore the terminology we use to provide a common framework for researchers and practitioners.

Future research should explore this topic with a larger and more diverse sample. Further, it would be valuable to compare the beliefs of consumers of ABA services with those of practitioners. To gain a deeper understanding of the barriers to providing choice identified by respondents and their implications for practice, further exploration through qualitative research is warranted. Future research and exploration are also warranted to better understand the specific thresholds and criteria that

behavior analysts, caregivers, and consumers of ABA services use to determine when certain risks may limit choices.

Conclusion

This study aimed to explore beliefs and practices of behavior analysts regarding choice for individuals with disabilities within ABA service delivery. Results indicated that while most behavior analysts strongly agreed that choice should be incorporated into ABA, there were multiple discrepancies between beliefs and reported practices. It is crucial to address the barriers to providing choice-making opportunities through increased training and further exploration of this topic. By addressing these issues and prioritizing choice-making in services, the field of ABA can continue to work towards ensuring increased quality of life is the primary outcome of services through the promotion of individual autonomy and dignity.

Data Availability Data described in this article are openly available in the Open Science Framework at https://osf.io/wmgpq/?view_only=dc11f5344a03469f934713f645600a13.

Compliance with Ethical Standards

Ethics Approval Approval was obtained from the ethics committee of University X (blinded for review). The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

Informed Consent Informed consent was obtained from all individual participants included in the study for participation and publication.

Competing Interests The authors have no competing interests to declare that are relevant to the content of this article.

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