Behavior Analysis in Practice
https://doi.org/10.1007/s40617-023-00888-9

SI: COMPASSION IN APPLIED BEHAVIOR ANALYSIS

Compassion: The Eighth Dimension of Applied Behavior Analysis

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Accepted: 6 November 2023

Abstract
Applied behavior analysis (ABA) is rooted in the conviction that behavior change can lead to improved quality of life. The goal of ABA has always been to help our consumers achieve outcomes and milestones that are important to them and improve their lives in ways that they choose. For more than half a century, this approach has proven successful. But we are now hearing increasing concerns about problematic application of behavioral principles, suggesting that as our field has grown, we may have lost sight of client-centered interventions and outcomes. In this article, we propose a reconceptualization of the practice of ABA, adding compassion to the current dimensions that have represented our field since 1968. Adding compassion as a definitional dimension of ABA will help behavior analysts find their way back to implementing interventions in a responsive, collaborative, and humble manner that includes working with our consumers and our critics, and listening to perspectives that can help us improve our practice.

Keywords Autism · Applied behavior analysis · Compassion · Empathy · Beneficence

Applied behavior analysis (ABA) is "a self-examining, self-evaluating, discovery-oriented procedure for studying behavior" (Baer et al., 1968, p, 91). In the 50+ years since Baer et al. wrote their seminal article defining ABA, the field has developed and grown in remarkable ways. The science behind ABA has led to improvements in the quality of life for autistic people[1] and people with intellectual and developmental disabilities (I/DD) (e.g., Estes et al., 2021; Lovaas, 1987; Reichow et al., 2012). It has enhanced treatment for addiction (e.g., Silverman et al., 2011) and supported progress in areas ranging from workplace safety (e.g., Balcazar et al., 1985; Chhokar & Wallin, 1984) to education (e.g., Horner & Sugai, 2015; Ruggles & LeBlanc, 1982). As a field, we have demonstrated that we can help people who receive our services change their behavior in meaningful ways, and these services can result in improvements in the quality of life of people who participate in them (Schwartz & Kelly, 2021).

ABA has always been about compassion, values, and optimism. It emerged as a response to clinical dilemmas that could not be answered through existing approaches in the mid-20th century. In its earliest iterations, educators and researchers collaborated to resolve clinical challenges they could not address alone. For example, Wolf et al. (1963) taught a young boy to wear his glasses so that he would not lose his vision. Allen et al. (1964) taught students with and without disabilities to play together during recess. After observing limited language skills of kindergarteners who had attended Head Start, Hart and Risley (1968) developed incidental teaching, a fundamental instructional strategy still used by behavior analysts and early childhood educators throughout the world, to improve the quantity and quality of children's verbal skills.

Not all outcomes have been good ones, however. Although most practitioners and researchers implement behavioral practices in an ethical and humane manner, there are key examples where best practices in ABA have not been

[1] Language is a powerful and sometimes hurtful tool. Although many of us have been taught to use person-first language, many autistic adults prefer identity-first language. Our practice is to begin interactions using the majority preferred identity-first language, but once a person expresses a personal preference, we use the type of language they prefer. We have tried to be intentional and respectful throughout this article in our use of language.

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Published online: 07 December 2023

implemented (e.g., Sohn, 2020; Summers, 2022; Veverka, 2022). Some organizations providing ABA services have grown too quickly to maintain fidelity of implementation and training (Sohn, 2020). In other examples, individualization of treatment has been lost during treatment planning (Veverka, 2022). For some providers, convenience seems to have become more important than the applied nature of the treatment, causing them to lose sight of the most important outcome, improving the quality of life of the client (Veverka, 2022). In the most extreme cases, harm was done to many clients (e.g., McAllister, 1972; McKim, 2019; Neumeier & Brown, 2020; Summers, 2022). Although many of these examples come from anecdotal reports or mainstream journalism, and are not found in peer-reviewed journals, their messages are important. Our critics are less likely to have access to publication in academic journals, but their voices and stories are valuable. Although publication in peer-reviewed journals is a gold standard for strong evidence to support claims, anecdotal evidence can still be included as a source of social validity. These reports demonstrate the social invalidity (Schwartz & Baer, 1991) of the services some consumers are receiving. They are not satisfied and are angry enough to do something about it.

The purpose of this article is to build on the emerging definitions of compassion in the behavior analytic literature, to propose compassion as a dimension of applied behavior analysis, and to provide examples for distinguishing compassionate ABA. We gather to write this article as five women, four white and one Latina, all neurotypical board certified behavior analysts, who are dedicated to working with autistic children and children with I/DD and other disabilities and their families. Although we have followed different paths to get here, we all work at a major university. Some of us are parents, some of us are not, and one of us is a parent of an autistic child. Some of us have research positions, some faculty, and some clinical. We are all dedicated to promoting the quality of life of recipients of behavior-analytic services and concerned about preparing the next generation of behavior analysts. We acknowledge that not all behavior analysts work with autistic individuals and individuals with developmental disabilities. Given that this is our area of focus, most of the examples included in this article will be shared from this perspective. Future behavior analysts, as well as the clients that they will serve, and practitioners they will supervise, motivated us to write this article.

Our Roots and Looking Ahead

When ABA was in its embryonic stage of development during the 1960s, behavior analysts worked to define the field, to establish its methodological rigor, and to demonstrate its most effective and useful outcomes. Our earliest colleagues needed to understand what differentiated ABA from the types of behaviorism that preceded it (e.g., experimental analysis of behavior). In 1968, Baer et al. provided that definition in their cornerstone article proposing seven principles or "*some* current dimensions" of ABA. In 1987, Baer et al. revisited these seven dimensions, expanded upon our understanding of them, and at that time, highlighted the importance of the need to revisit them again in 20 years. These dimensions have served us well, and the time has come to do as Baer et al. asked us to in 1987 and revisit how they fit into the current practice of ABA.

In the half century since we first welcomed the seven current dimensions, our field has amassed a growing volume of data demonstrating the fidelity of behavioral methods and effectiveness of behavioral interventions. We are now a mature science with demonstrated efficacy. It is time to build on our success and learn from the feedback of our client consumers. As behavior analysts, we are committed to using evidence-based practices. As a field, it is also time to contextualize these practices in compassion and explore the values that will result in improved quality of life for our clients (Schwartz & Kelly, 2021). In 1968, Baer et al. implied compassion throughout their descriptions of the seven original dimensions. In 1987, they called more explicitly for compassion through their descriptions of social validity and through examples included in the applied dimension. In this article, we take it a step further and propose that compassion be viewed as an eighth current and essential dimension of ABA. This dimension builds on the descriptions of Baer et al., answering their call for continual examination of our science by incorporating 50 years of lessons learned through practice and societal changes.

Taylor et al. (2019) described compassionate ABA as a combination of empathy and action. Building on the definitions proposed by others in the field (Lown et al., 2014; Strauss et al., 2016; Taylor et al., 2019), we define compassion as acting with empathy to improve the quality of life of the individuals we serve and their families, as well as to prevent or alleviate current or future suffering. Compassion elevates the voice of, and outcomes achieved by, the individual at the center of services, and is action-oriented. Compassionate ABA is concerned with the intersection of the procedures, outcomes, and goals, but extends beyond social validity by incorporating humility into practice. Finally, compassionate ABA suggests that practitioners are not the drivers of the program, but are partners, who like all partners in the process are both learners and teachers.

Rising Demand, Service Delivery Problems, and Issues of Scope

One of the challenges facing behavior analysts is to understand how the *science* of ABA differs from the current *practice* of ABA. The science of ABA is concerned with how

we can change behavior to improve the quality of life for the people with whom we work. Unfortunately, the current practice of ABA is plagued with challenges that make service delivery difficult and cause tension between providers and clients. These include personnel shortages (Behavior Analyst Certification Board [BACB], 2022) and criticism of behavioral change procedures and outcomes.

The personnel shortage is a serious problem. Rising demand means that some behavior analysts are taking lead roles with families without adequate training or supervision (Sohn, 2020), with some families reporting poor professionalism and lack of compassionate care from their providers (Summers, 2022; Taylor et al., 2019). At the same time, behavior analysts are still learning, along with the rest of our society, about how to work in allyship with the neurodiversity movement. Some autistics do not believe they should be asked to change their behavior to the extent that most behavioral programs encourage. Many autistic advocates are concerned that the goal of ABA is to make autistic people appear neurotypical, to suppress the autism and make them "fit in" or mask their autism (Autistic Self-Advocacy Network [ASAN], 2019). We are experiencing growing friction within the field and with consumers about what ABA is and what the scope of intervention should be. As behavior analysts, our job is not to change behavior based on neurotypical norms, or to target behaviors solely because they are associated with autism. Our job is to work in partnership with our clients, some of whom are autistic people and their families, to help them achieve goals that are important to them and learn behaviors that are valued by them.

ABA has always been a practice based on compassion, values, and optimism. At present, researchers are exploring these key characteristics (Kirby et al., 2022; Rohrer et al., 2021; Taylor et al., 2019) and how they present in current practice. Our science has been built on the partnership of a behavior analyst working with a client to solve a problem of importance to that client. Individualization—including understanding what clients thought of the importance of the target behavior, the appropriateness of the intervention, and significance of the outcomes—has been key to that process (Rosenberg & McConnachie, 2021; Schwartz & Baer, 1991; Wolf, 1978). Encouraging behavior change without input from the client and their family is not, by definition, ABA (Baer et al., 1968, 1987; Wolf, 1978). Who but clients and their families can determine if the behaviors targeted for change are socially important?

Although these key characteristics are being outlined, many autistic advocates have simultaneously become vocal and vociferous critics of ABA as a practice (i.e., Devita-Raeburn, 2016; Kupferstein, 2018; McGill & Robinson, 2021). Some of these criticisms were made in journal articles, some in TED talks, and many elsewhere on the internet. Anti-ABA voices have become loud and persuasive. Some behavior analysts attempted to respond. Unfortunately, responses defending a field with so much power and influence can come across as defensive and dissonant (e.g., Gorycki et al., 2020; Leaf et al., 2018), and they drowned out opportunities for productive discussions, leaving two sides that refuse to compromise and a lot of people who stand to lose. In this debate, many behavior analysts, parents, caregivers, and advocates occupy an uncomfortable middle ground.

When we hear from clients that our goals, outcomes, and procedures are not acceptable, we must remind ourselves that *something about the behavior of behavior analysts led to these complaints*. The behaviors of critiquing and complaining serve a function, and until we understand that function we will not be able to address the underlying issues motivating and maintaining the behavior. As a field, we must be willing to own criticism and learn from it. Baer et al. (1968) described the dimension of "analytic" through the answer to the question: "How immediately important is this behavior or these stimuli to this subject?" (p. 93). The authors suggested that the relationship between the target behavior and the individual is the most important to determine the definition of "applied." For example, the best person to make a choice about what is socially important for a young child is often that child's legal caregiver, and when appropriate, the child. However, behavior analysts and professionals from other disciplines need to work with the caregiver to provide appropriate information so that caregivers can make informed choices. If we fail to recognize this, our work is no longer "applied."

Rediscovering Our Values

As behavior analysts, we have the advantage of standing on the shoulders of giants, the behavior analysts, mentors, faculty, family members, people with disabilities, and others from whom we have learned our science. We can remain committed to the original seven dimensions of ABA and the science of behavior analysis while we respond to criticism to improve our field. We can use them to incorporate opinions from behavior analysts, autistic adults, parents, teachers, other consumers, colleagues from other fields, and implementation scientists to build the next generation of behavior analysts. We have seen the value of this form of adaptation in medicine (Mellado-Cairet et al., 2019; Zink et al., 2016), in education (Horner & Sugai, 2015; Rubow et al., 2018), and in technology (Fedushko & Ustyianovych, 2022).

Behaviorism is a natural science, not a therapy. In 1991, Neuringer discussed the value of humility in behavior analysis, specifically stating that it "is broadly used to imply tentativeness of theoretical and methodological positions, willingness to consider alternative views, support for diversity, openness to criticism—in brief, a scientific stance that

all knowledge is provisional and that one's most deeply held positions must continually be reconsidered" (p. 1). This important message was reiterated and built upon recently by Kirby et al. (2022), suggesting that a lack of humility continues to plague our field more than three decades later. As with any science, a basic expectation of behavior analysis is that it changes and improves over time as we learn more.

It is time to codify compassion within ABA. Compassion requires behavior analysts to show concern for our clients and their families. Behavior analysis has always been dedicated to addressing and solving problems that are socially important, but compassion requires our field to take a large step forward and consider how the professional behavior of behavior analysts impacts our clients and partners. Unfortunately, our practice recently seems to be contextualized in profit (Bannow, 2022), rather than compassion. In the field of autism intervention, where private equity firms are taking over many behavioral health agencies, behavior analysts might make recommendations that are motivated by the concerns of their private equity partners rather than the quality of life of their clients. We may end up prioritizing acquisition of skills in decontextualized clinical settings over learning skills in settings where behaviors naturally occur (e.g., Dixon et al., 2017). We may focus on goals that are easy to teach, rather than those that address socially important behaviors. Although adaptations to implementation may have seemed necessary for financial reasons or efficiency, they may have also detracted from an emphasis on compassion, opening the potential for harm to the quality of life of people receiving services. Codifying compassion as a dimension elevates it from an accessory to a necessity in the practice of behavior analysis. It is time for that change.

In 1978, Mont Wolf described measures of social validity as integral to our moral compass, as a field, as a way to measure "complex reinforcers in socially acceptable and practical ways" (p. 213). When we ask ourselves, why we are here, behavior analysts respond in similar ways to doctors, educators, and social workers, we are here to help. We are here to *improve the quality of life of our clients and consumers*. We are here to make the world a place where *everyone belongs*.

As behavior analysts we have spent much time focusing on "how" and "what" we do. We use an ever-improving collection of strategies and interventions to change socially important behaviors and teach new skills. We have lost our way when it comes to "why" we do what we do. Despite Wolf's efforts to restore the heart of behavior analysis in 1978, the goalposts of social validity most often continue to focus on the what and the how of our work (Snodgrass et al., 2018, 2022). Therefore, behavior analysts should ask the question; "Why am I making these choices about outcomes and behavior change procedures for this client, and who benefits from them?" It is time to reconceptualize the current dimensions of ABA.

Reconceptualizing The Dimensions

Baer et al. (1968) proposed their original seven dimensions to define a new science of ABA and to evaluate the results of research that was applied rather than basic in its nature. These dimensions provided a bedrock for our science and helped consumers, researchers, practitioners, and family members achieve meaningful and lasting behavioral change. Building from this foundation, ABA has grown into a thriving field of practice that cannot meet all the requests for intervention. Demands for services resulted in unprecedented growth in our field, with now more than half of certified behavior analysts receiving their training within the last 5 years (BACB, 2022). In this attempt to address an increasing demand for behavioral services, it is possible that important elements of the applied and analytic nature of our science may have taken a back seat to easier-to-implement standardized and prescriptive approaches (Bannow, 2022).

Although the seven original dimensions remain critical, they are no longer sufficient to define the current practice of high-quality ABA today. The 1968 article by Baer et al. was titled, "some" current dimensions, not "all." Codifying these dimensions helped define our field. If a study didn't meet these dimensions, for example, it did not qualify as being ABA. Figure 1 demonstrates the evolution of compassion from the original 1968 article by Baer et al. through today. In 1968, compassion was implied many times in the examples laid out by Baer et al., but the primary purpose of the article was to define and differentiate ABA from the experimental analysis of behavior. In their original description of the dimension "applied," Baer et al. discussed how the "behavior, stimuli, and/or organism under study are chosen because of their importance to man and society, rather than their importance to theory" (p. 92). "Effective" was discussed as having practical importance and altering a behavior enough to be socially important. In 1987, Baer et al. revisited these seven dimensions, extending their examples and descriptions from the original 1968 article, suggesting more focus on compassionate ABA. They carefully detailed through the description of "effective" the need for measures of social validity. They called out practitioners for focusing on "attractive programs that don't solve problems" in their description of "applied" (p. 314). Further, they described the need for modification of procedures to fit local and cultural contexts (p. 321). When discussing "technological," Baer et al. stated the need for flexibility in application so others can modify programs to "suit their situation and their contingencies." When describing the dimension "effective," Baer et al. (1987)

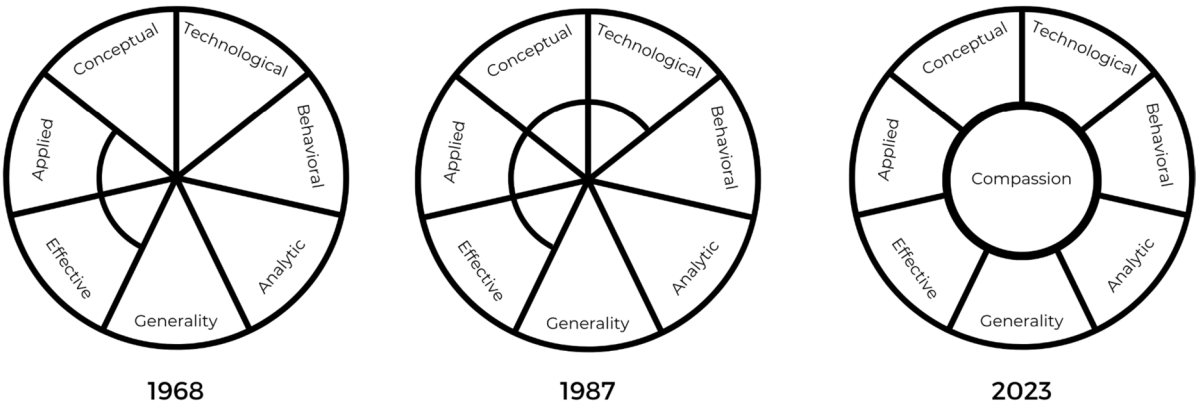

Fig. 1 Progression of compassion within the dimensions of ABA in 1968, 1987, and 2023

suggested that "perhaps the most important remedy of all, however, will be to establish the proper context in which to respond to failures" (p. 324). And yet, today our field is at a crossroads, firmly established in our original seven dimensions, but still struggling to learn from our mistakes and improve.

The seven original dimensions differentiated applied research from basic research. The addition of compassion as the eighth dimension will help us better serve clients in our current contexts of practice that include clinics, schools, and other community settings. We need to learn what socially important behaviors are valued and what quality of life looks like to each unique individual, family, and community we serve. And, we need guidance that will help us walk the tightrope between increased demand for services and losing the individualization that has always made ABA a personalized and unique service. In addition to ensuring that the practices are scientifically rigorous and evidence-based, as behavior analysts we must ensure that our practices prioritize consumers' interests. We believe that the new dimension we propose will help us do that.

We are clearly not alone in these concerns (BACB, 2022; Kirby et al., 2022; Taylor et al., 2019). The 2022 BACB ethical code was updated to include core principles intended to serve as the foundation and framework for the ethical code. These core principles are (1) benefit others; (2) treat others with compassion, dignity, and respect; (3) behave with integrity; and (4) ensure their competence. These additions are meaningful and have further stressed the importance of compassion as a core value of the field of behavior analysis. Although most of these core principles focus on the professional behavior of behavior analysts, the inclusion of compassion centers the consumer. The original seven dimensions of behavior analysis have served as a constant and consistent foundation for our field. As we learn and grow as a field, we update and improve upon our ethical code. Likewise, it is time to update our dimensions and codify compassion as equally fundamental to ABA as the original seven dimensions.

Five Guiding Principles

A set of five guiding principles that predates the updated BACB's (2022) core principles has been suggested for behavior analysts to use in making clinical and ethical decisions (Kelly et al., 2021). Conversations about the current issues in our field are complex and nuanced. Therefore, we use the five guiding principles proposed by Kelly et al. to support our ability as practitioners to contextualize decision making around compassionate behavior analysis. Ethical principles are important to our practice. They serve as a north star, or overall propositions to describe why we do the work we do and make the decisions we make as behavior analysts. The following section will explore the definition of compassion as the eighth dimension of ABA and the associated behaviors and outcomes through the guiding principles of (1) beneficence; (2) inclusion; (3) professional excellence; (4) self-determination; and (5) social justice. For each guiding principle we will provide an overview of the guiding principle and implications for practice associated with compassionate ABA.

Beneficence

Kelly et al. (2021) defined beneficence as engaging "in practices that maximize their clients' well-being and avoid those that cause harm. We understand that behavior-analytic services are most likely to benefit our clients when they are provided in the context of a trusting and compassionate relationship. Where conflicts of interest arise between consumers of behavior analysis, we prioritize outcomes for the most vulnerable clients" (p. 494). Behavior analysts, like professionals in other fields, must first do no harm. This means that

the ultimate goal of everything behavior analysts do should be guided by the well-being of our clients. It can be easy to believe that our work is accomplishing this goal, especially when our graphs may demonstrate immediate or significant behavior change. Unfortunately, a beautiful graph does not sufficiently answer the question about the client's well-being or the acceptability, sustainability, and cultural relevance of behavior change, all of which are important measurements for compassionate ABA. A compelling graph also does not identify harm. After all, what is more important: a better graph or a meaningful outcome?

Implications for Practice Behavior analysts are accustomed to improving practices based on feedback from consumers or the emergence of unexpected outcomes. In 1968, Baer et al. said, "If the application of behavioral techniques does not produce large enough effects for practical value, then application has failed" (p. 96). That admonition stands today, as we hear from consumers that our behavioral techniques have not "done enough," have not led to the improvements the family hoped to see, or in some cases, have also caused harm (e.g., McAllister, 1972; McKim, 2019; Neumeier & Brown, 2020).

Another question posed by the founders of our field was, "How much did that behavior need to be changed?" (Baer et al., 1968, p. 96). We should couple that advice with the idea of, "is this behavior interfering with a person's ability to participate in a manner that is meaningful to them?" This is important as we learn from autistic advocates about the impact of intervening on noninjurious self-stimulatory behaviors, eye contact, or other neurotypical-normative skills.

The most important goal of our work as behavior analysts will always be the well-being of our clients, research participants, students, and consumers. Consumer satisfaction, or social validity, is our way of seeking feedback about consumer well-being and measuring the effects of high-quality intervention. But a review of studies published between 1999 and 2016 found that only 12% of studies in *The Journal of Applied Behavior Analysis* included measures of social validity (Ferguson et al., 2019). This finding is consistent with those of other studies, including any measurement of social validity (Snodgrass et al., 2018, 2022). Over the past few decades, researchers have identified shortcomings related to the rigor of measuring social validity, including reliability and validity (Anderson et al., 2022) as well as psychometric rigor (Fuqua & Schwade, 1986; Schwartz & Baer, 1991). These problems persist and contribute to a lack of understanding of the value of intervention (Ferguson et al., 2019).

Interventions should be evaluated based on the social importance of behavior change. In particular, Wolf (1978) identifies the following three areas for evaluation, which we as a field should incorporate into practice as we move forward:

1. Social significance requires practitioners to put aside their personal biases, beliefs, and standardized intervention formats when developing goals for clients. Behavior analysts need to consider the contexts in which consumers exist and focus on goals the consumer and their family want and believe to be important for the person. We propose extending the social significance of the goals targeted in intervention by considering who we are consulting when making these decisions. What perspectives or identities might we need to include in our consideration of social significance for this client? Are we considering social significance from the perspective of neurodivergent individuals, culturally diverse individuals, society at large, or predominately neurotypical individuals? Also, who would benefit from these goals—the individual, the family, or society?
2. Social appropriateness requires behavior analysts to attend to the fit of intervention to the client and their caregivers. Wolf (1978) discussed the importance of asking whether the procedures are acceptable to the consumer. If a client has questions about a procedure, those should be addressed. If a procedure feels objectionable to an individual, it should not be used. As practitioners, it is not our role to convince consumers of our application or procedures but rather to find strategies and supports that are acceptable to consumers and their families. This does not mean that we are taking effectiveness and rigor out of our analysis, but it does mean the addition of compassion. If a consumer or family member says no to an intervention, behavior analysts need to listen and rethink the procedures and intervention plan with family members as active participants. For example, if a family says no to escape extinction, behavior analysts need to hear that no means no and work to find an alternative way to achieve the desired outcomes.
3. Social importance of the effects can be defined as the impact that the intervention has on the quality of life for the consumer and their family. Did the intervention solve a problem? Does it provide the consumer with more opportunities to participate in an authentic manner in their community? This question bears considerable weight as our field grapples with criticisms and unintended outcomes of intervention for consumers. Some autistic advocates and autistic people are expressing trauma because of ABA-based intervention (Anderson, 2023; Kupferstein, 2018; McGill & Robinson, 2021). We must routinely ask not only whether we helped but also whether we did any harm.

There are several additional questions, guided by beneficence, for behavior analysts to ask when evaluating compassion in their work. For example, how is the client's life better after the intervention? Whose life is being improved by the client acquiring this skill? How is the behavior analyst seeking feedback from clients? Who is providing the feedback? Answers to these questions should inform the behavior analyst as to whether or not meaningful goals and outcomes. Take, for example, a family whose primary concern is their young child eloping from home. This behavior is dangerous, leaving caregivers constantly on edge and worried about their child's safety. Following a functional assessment, the behavior analyst created a comprehensive program to reduce eloping, including environmental modifications such as adding locks on doors and windows. The BCBA shares a graph with caregivers to show that eloping has significantly reduced, thus is no longer a behavior of concern and they are going to close out the program. However, locks remain on doors and windows, and the parents feel their child is still unsafe in different environments. Elopement remains a primary concern for the family and should not be closed out until the family is no longer concerned about their child's safety in this area. In this instance, behavioral change has not occurred to the extent that it actually improves the quality of life of the family, nor has this led to a reduction in harm for the child or family, indicating that the work of this ABA team is not yet done. We must seek feedback from our clients about the outcomes that matter to them, with the focus remaining on the most vulnerable individual.

Inclusion

Kelly et al. (2021) defined inclusion as, "authentic participation in meaningful activities that promote relationships, a sense of community, and an improved quality of life" (p. 494). Unfortunately, many families and individuals accessing behavior analytic services are faced with decisions between participating in extracurricular activities and family time *or* receiving ABA services, because there are only so many hours in a day. These services are presented as a therapy to improve quality of life, so it is not surprising that families are missing after school activities, family events, and other extracurricular activities when they are told that they *must* participate in a high number of hours to ensure best outcomes. However, as a field we should consider the places where recipients of our services want to spend their time, where they would choose to spend their time if they were not receiving behavior analytic services. The emphasis on inclusion as a guiding principle for compassionate behavior analysis means that we may need to program for clients outside of clinical settings and allow our clients, and the caregivers in their life, to help us understand what meaningful inclusion and participation is on an individual level.

Implications for Practice As behavior analysts, we must remember that children exist within systems (Bronfenbrenner, 1996). Instead of fitting a child into ABA, we should be thinking about where ABA belongs within their existing systems, or communities. Take, for example, a family that loves to go to the beach, but the young child does not yet have the capacity to distinguish dangerous from not dangerous. The caregiver shares with the therapist that the family loves the beach, but she does not bring her daughter to the beach often because she will run through the busy parking lot, straight into the water, or engage in other high-risk behaviors. Teaching the child other things to do while at the beach (e.g., collecting shells, burying toes in the sand) while practicing responding to simple safety directions of "stop" or "come back" would allow this family and child to access an activity that would likely improve their daughter's quality of life. Contextualizing instruction changes an instructional program from something that sounds arbitrary to something that may be life changing for a consumer.

It is important to consider the locations where individuals access ABA services. As a field, we often ask families to commit their young children to hours of intensive services without requiring practitioners to demonstrate generality to meaningful daily activities and events that matter to the child and family. Unfortunately, when the outcomes do not match our projections, some practitioners recommend increased intensity rather than engaging the child and family to consider the fit and relevance of goals and services (Summers, 2022). It is time to innovate our practice, moving towards collaborative integration of behavioral principles within extracurricular activities such as Little League or soccer practice.

Pulling children out of school early to go to ABA is a commonly discussed practice (Raches, 2018). Under the Individuals with Disabilities Education Act (IDEA, 2004), all students have the right to a free and appropriate public education ("Free appropriate public education for students with disabilities," 1996). All children are entitled to educational services and for some, this may be the only opportunity they have to participate in their community, so removing children from free educational services to attend services in a clinic is problematic. Any time someone is profiting financially from pulling a child out of their community activities and participation, we should be required to provide a compelling answer as to why and how this is in the best interest of the child and family.

It is essential that ABA practice aligns with the best interests of the child and family. Rather than pulling children out of school, we should as a field be advocating for inclusive education practices, where children can benefit from

a free and appropriate public education while getting their behavioral needs met in that setting. Our goals as behavior analysts should be integrated into individualized education plans (IEPs) rather than separate from school goals, where children spend most of their time.

In a system where ABA is funded through insurance companies, access to ABA is indicated by what is deemed "medically necessary." Medical necessity means that treatment from a health-care provider is indicated for a specific condition or diagnosis, and is not cosmetic, experimental, or purely for convenience (National Association of Insurance Commissioners, n.d.). These services should supplement, not supplant publicly funded educational programs to which children are entitled. Sometimes authentic participation in communities and activities that result in good quality of life may extend beyond what is funded by health insurance. In this case, it makes sense for practitioners to rethink how these services may be accessed in community services, schools, and other relevant settings. When considering the lifespan of supports that some individuals may require, linking services solely to schools is problematic, in that services end at the age of 21. The problem with insurance as the sole funder for services is that coverage only pertains to issues deemed "medically necessary." The real issue facing practitioners of our field is, how do we support individuals who need services in a holistic way? Compassionate care may extend beyond our current funding sources, suggesting the need for a funding model that supports this. Although this funding implication may extend beyond what is immediately possible for most behavior analysts, there are simple, actionable things professional behavior analysts can do in the meantime. Behavior analysts can begin asking clients, "where would your family choose to spend time if your child wasn't busy with ABA?" "Is there something you wish your family could do together or that your child would like to participate in, but barriers are preventing this right now?" For now, the onus should be on practitioners to demonstrate that their goals and programs are closely tied and directly relevant to the lives and goals of their clients.

Professional Excellence

Kelly et al. (2021) defined professional excellence as being honest and transparent about one's skills and scope of competence and engaging in ongoing professional development, including analyzing our own practices. Professional excellence requires respectful and effective collaboration with individuals from other disciplines, while maintaining a commitment to data-based decision making. Analyzing evidence from different methodologies is encouraged as a way of collaborating with others and improving practice" (p. 494). Professional excellence for behavior analysts is more than demonstrating proficiency on a task list. Our colleagues have identified humility in particular as vital to our success (Neuringer, 1991; Kirby et al., 2022). To be humble practitioners, we must understand that we have just as much to learn (but likely more) from our clients and their families as they do from us. A colleague once shared with us her motto for collaboration: "Make friends before you make changes."

Implications for Practice Behavior analysts are accustomed to families accessing different types of services for their child(ren). Yet, although we know coordination across services is a facilitator of high-quality intervention and treatment (Schwartz et al., 2017), implementation of our services often occurs in isolation. Through intentional coordination and consistency among all team members, outcomes of intervention can be maximized.

Neuringer (1991) pointed out our need to collaborate when referencing research outside of the field of ABA: "We hinder our contributions to a science by not taking that research seriously" (p. 10). For those unable to secure employment in interdisciplinary organizations, service delivery models such as Project ECHO (Extension of Community Healthcare Outcomes; Arora et al., 2007) hold promise for supporting resource-efficient ways to conduct such collaboration. Project ECHO is a state-of-the-art approach to facilitating virtual, high-quality support, professional development, and collaboration. Project ECHO teams consist of interdisciplinary university-based experts (hub) and rural and/or community-based professionals (spokes) connecting virtually, via Zoom, to engage in didactic instruction and an opportunity for telementoring through interdisciplinary case-based support. Common in medicine (Arora et al., 2007; Bennett et al., 2018; Katzman et al., 2016) and increasingly popular in education (e.g., Bateman et al., 2023; Hardesty et al., 2020; Root-Elledge et al., 2018; Sussman et al., 2021), the ECHO model and similar case-based learning formats could lead to meaningful interdisciplinary collaboration and professional development for behavior analysts.

Working with other professionals involves myriad complexities that cannot be fully accomplished within one field. Collaboration is crucial to our work, and behavior analysts should collaborate with, among others, educators, speech pathologists, and occupational and physical therapists. When a behavior analyst sees a client in a school setting, at home, or in a clinic, there may be more than one professional on the team who is present. In both public and private agencies, multidisciplinary professionals are often not housed in the same building, which can lead to disconnects, miscommunication, and misunderstandings across disciplines. To provide continuity of care, BCBAs should ensure that they are effectively reaching out to all relevant stakeholders in ways that highlight each discipline. Examples of this would include working collaboratively with a speech pathologist,

together with the family, on communication goals to ensure that important language development expertise is included in the planning and implementation of communication goals, as well as relevance and fit of the goals for the child and family.

The language used by behavior analysts can be adapted to facilitate collaboration across disciplines. ABA professionals are often criticized for using ABA-specific terminology during times of collaboration, where they should instead employ more simple terminology because it is established in research that the use of technical language creates hurdles for consumers (Becirevic et al., 2016). For example, why use words like "mands," and "tacts," when "request," and "label," may be more effective when communicating with parents and other professionals? Other examples include negative connotations that some of our terminology carries in the common vernacular, such as "consequence" and "negative reinforcement." When working collaboratively with parents and providers from other disciplines, language that is specific and descriptive would be better.

ABA agencies have the ability to influence a workplace culture that values collaboration. In our Zoom-friendly, post-2020 world, it is now easier to find time for a brief meeting with other providers in our schedules. Positive experiences with collaboration can strengthen beliefs about its value and increase provider desire to collaborate more in the course of practice. BCBAs often operate in an overworked, overburdened culture that prevents them from having the bandwidth to collaborate with others. For example, a BCBA working 60-hr weeks with too many clients on their caseload will understandably not prioritize additional time to talk with other providers. This, however, may lead to diminishing quality of services. When our field has consistently overworked practitioners, we can begin to lose sight of our "why" and instead only focus on "what" we need to do.

As individual practitioners within a field, we must be willing to enter into what social researcher Brené Brown, calls "the wilderness" (Brown, 2017). This means learning about our shortcomings as practitioners and working together to solve them. We should meet our consumers and their families on their turf, where we have left them alone for too long. We must be prepared to participate in uncomfortable discussions with an openness to being wrong and a commitment to working together until we can get it right. This process may begin with small conversations with other providers working with our clients or by listening to a parent express concern about our treatment procedures and being willing to make changes based on this feedback.

Self-Determination

Kelly et al. (2021) defined self-determination as, respecting "clients' rights and promoting client dignity, privacy, and autonomy. We assist clients in setting and achieving their own goals, developing their own agency, and making their own decisions about their own lives" (p. 494). Self-determination relates to people's ability to set goals for themselves and take action to achieve them. Unfortunately, it is common that the clients we serve are not present in these important conversations, sharing their own wants and needs in their intervention programming (Summers, 2022). We hear this from the disability community itself (e.g., Lynch, 2019), and it is at the heart of what social validity means for ABA. But self-determination can be complicated by many factors.

We often find professional and moral gray areas related to informed consent and assent. When safety is concerned, for example, there may be times when the ability to follow rules or directions may override client assent or choice. For example, wearing a seatbelt in an airplane during take-off is not a choice. In some cases, decision-making rights can also extend to parents or to nonparental adults via the principle of "in loco parentis" ("in place of a parent"), which allows an adult who is not the child's parent to make decisions on behalf of a child in their best interest. This issue of assent, especially when addressing dangerous or potentially isolating behaviors is complex. Decisions about consent, assent, and treatment should always be made with the safety and best interest of the individual as the priority (see Breaux & Smith, 2023; Flowers & Dawes, 2023, for more thorough discussion of assent and consent).

Self-determination means understanding client and family priorities. Although self-determination is a lifespan issue, how it is realized changes with age. As behavior analysts, our job is to help clients and their families achieve outcomes that *they* believe are socially important. We can advise and provide choices, but we can never determine the social importance, cultural relevance, or acceptability of intervention targets or behavioral interventions.

Implications for Practice Autistic individuals and individuals with IDD should be included in as many decisions about their lives as possible, in chronologically age-appropriate ways from the beginning of intervention. They should be given as many opportunities to make decisions about their lives as neurotypical people are given. For very young children this could mean allowing them to make choices about what to wear or how to play. For older children this could mean deciding which activities they want to participate in after school. In circumstances when an individual is unable to make decisions for themselves (e.g. young children, individuals in crisis, individuals with significant support needs), a group of people with the person's best interests in mind might come together to make decisions based on what they believe the individual wants and needs (Rosenberg & McConnachie, 2021).

Our clients and their families have a right to be involved in decision making about their treatment. In recent years, the field has noted the importance of client assent in addition to informed consent. Self-determination requires that we have informed consent or assent prior to initiating treatment. In the United States, consent typically can only be given by an individual who is 18 years of age or older. For children under the age of 18, consent is often achieved through written agreement from a parent or legal guardian. Assent for services should also be sought from clients younger than 18 or those who cannot provide informed consent. This is not only best practice, but is now required by our ethical code (BACB, 2022; Code 2.11 and 6.04). Assent-based intervention means asking recipients if they agree to take part in services and only continuing on with programming when individuals participate willingly. This also means honoring, adapting, and problem-solving when assent is withdrawn. Assent-withdrawal might be verbal (e.g. saying "no") or nonverbal (e.g. pushing a task away, or leaving the room). Continued research and clinical application of assent-based intervention is needed until this is the norm in ABA.

Of critical importance to self-determination are factors of culture and family values. We must keep families in the driver's seat for their young children. It is our duty as professionals in the field to support parents and work in partnership while not overriding their ultimate authority in their child's development. Let us consider the examples of interdependence versus independence in a family's life. One family may place high importance on their child's independence and foster skills such as self-advocacy, self-help skills, making decisions, and playing on their own. Another family may place high importance on the interdependence of their family unit and foster skills such as helping others, community-building, and being a part of the larger group (e.g., family, classroom). In another example, many families consider deference to be a form of respect, especially when in the presence of elders (Calzada et al., 2010). Other families may value individualism. Practitioners must work *within* each family to meet their goals, while remembering that many of the research studies that inform our work are based on a white-centered "norm" that often excludes people of color.

Children without disabilities get to choose, to an extent, what they participate in. We ask them, for example, if they want to try soccer or karate. By contrast, children with disabilities are often put into hours of ABA without being asked or without being given a way to explore their interests. As behavior analysts, we should seek the most effective way to integrate ABA support with activities and participation that the child *wants* to do. This could involve attending soccer practice, gymnastics, or guitar lessons with the child, or implementing behavior-analytic strategies throughout the child's day to ensure that the child is able to choose to participate in their preferred activities. Practitioners in the field can lean into opportunities to engage clients and key stakeholders in self-determination outcomes by asking questions such as, "Where do you want to spend your time?" and "How can I help you do that?"

Social Justice

Although beneficence, inclusion, professional excellence, and self-determination are all crucial guiding principles, we end on social justice because it is central to determining compassionate ABA. Kelly et al. (2021) defined social justice as attending "to injustice where they see it, avoid perpetuating inequitable systems, and advocate for change to produce equitable systems. We are uniquely qualified to identify controlling and contextual variables that contribute to inequitable educational and service-delivery systems and develop solutions to supplant them" (p. 494). Social justice concerns itself with the concepts of fairness and equity. Although this concept can be applied to a variety of disciplines, we must consider how social justice intersects with the field of ABA by first highlighting the populations of people that have historically been oppressed and suffer injustice—namely, people of color and individuals with disabilities. The field has been experiencing a movement from autistic advocates banding together to create space and celebrate neurodiversity. They have encouraged fellow autistics to take pride in who they are. In the United States, we have also been experiencing a new wave of racial reckoning while our field has been learning how critical it is to acknowledge family culture and hold it at the very center of our work (Mathur & Rodriguez, 2021).

Despite the many challenges outlined in this article, our field has been growing exponentially in recent years, with more practitioners entering every year. From 2012 to 2022, the number of board certified behavior analysts (BCBAs) in the United States increased by 449%, or 46,585 certificants (BACB, 2022). As the U.S. population continues to grow, so do the ranges of individuals and families from a multitude of racial and ethnic backgrounds. Data from the 2020 Census reveal that the white population in the United States decreased from 63.7% to 57.8% since the year 2010 (Jones et al., 2020). Our increasingly racially diverse population requires our field to become more culturally inclusive. In a survey conducted by Conners et al., (2019), BCBAs indicated feeling that their graduate coursework was lacking in cultural responsivity. These behavior analysts call for more robust certification requirements to create a field that supports intersectional ties of disability, race, religion, etc. Centering each individual child and family's values, customs, and beliefs will allow us to humbly and effectively achieve our goals of improved well-being and quality of life.

As behavior analysts, we are in a position to work in allyship against oppressive systems and move towards a more equitable practice. ABA is grounded in social validity (Wolf, 1978) and in today's practice we must therefore embed this in a way that honors social justice (Pritchett et al., 2021). Mathur and Rodriguez (2021) explain that racism, implicit bias, and white supremacy are deeply entrenched in the U.S. health-care system and in society, which continue to marginalize Black, Indigenous, and People of Color (BIPOC). For behavior analysts, it takes an active, culturally responsive approach to work against this. For example, we can be continuously asking our consumers (e.g., families, or our clients themselves) if our interventions are providing meaningful change, rather than assuming that they are. Behavior analytic practices are based on decades of research. However, there are documented racial disparities in this body of research, with white families being much more likely to participate in ABA research than families of color (West et al., 2016). This is a social injustice. Returning to the definition provided by Kelly et al. (2021), we are in a position to take action on this and ask ourselves, "what are the behaviors that are maintaining the systems that result in disproportionate racial representation in research?" We can't assume that the strategies and practices that have been effective in the research of white children and families are also effective and a good fit for BIPOC families if we don't include them in the process. The concept of cultural humility aims to reduce the power imbalances that inherently exist between a professional (e.g., a behavior analyst) and the client or patient (Fisher-Borne et al., 2015). It is critical to remember that behavior analysts are already in an inherent position of power. This power imbalance is heightened if a white practitioner is working with a family of color (Miller et al., 2019). A family of color may not feel like they can speak up regarding their child's ABA services for fear that they may lose services (Mathur & Rodriguez, 2021). As behavior analysts, we must work towards undoing assumptions that white, middle class, and able-bodied American culture is the norm, and all families or individuals who do not fit this mold are "outside of it."

Implications for Practice Researchers such as Fong et al. (2016) propose ways to combat a lack of cultural humility by becoming more aware of our assessment methods in ways that highlight each family and individual's unique makeup. Not only can we move towards more equitable assessment standards, but we can also remember that some assessment methods may not work for all families such as assessment questions and practices that default to white, middle-class norms around mealtimes. Although our field awaits innovative research to formulate new assessments that more accurately capture a variety of cultures, there are strategies that we can put into place today. Behavior analysts working with families can remember that these assessments may be biased and therefore should work *within* the family unit to ensure that the goals chosen are indeed representative of what they want for their child. For example, Fong et al. (2016) discuss an example of a behavior analyst who fails to prioritize a family's goals that would increase their child's participation in church, a highly valued activity for this family. The adverse outcome in this situation could be a lack of participation in a meaningful community because the behavior analyst centered their values and beliefs over those of the family.

Behavior analysts can and should take action towards creating a field that centers social justice. For example, practitioners can support organizations that elevate and empower practitioners of historically marginalized communities (e.g., Black applied behavior analysts [BABAs], https://babainfo.org/; Latino Association for Behavior Analysis [LABA], https://www.laba-aba.com/; Asian and Pacific Islander Association for Behavior Analysts [APIABA], https://www.apiaba.org/) within the field of ABA in a variety of ways, including by becoming members and supporting and elevating the work of our colleagues. ABA graduate programs can also train new practitioners in ways that center social justice, such as reading articles by BIPOC behavior analysts, particularly those that aim to work against oppressive systems (e.g., Pritchett et al., 2021). Behavior analysts make decisions every day that lead their clients either closer to or further from social justice. For example, when training new behavior analysts to work with families on goal selection for behavior analytic services, practitioners should be taught to select behaviors that are culturally sustaining and relevant to the family. In addition, as mentioned previously in this article, behavior analysts should consider the context in which the behaviors will occur and if there are reinforcers in those environments to maintain those new behaviors (Čolić et al., 2021; Mathur & Rodriguez, 2021). Using social justice as a guiding principle for compassionate ABA will support behavior analysts in truly centering their clients.

Why Does Compassion Need to be the Eighth Dimension?

Baer et al. (1987) suggested that "codification will evoke more of the necessary professional behavior" (p. 321). It is for this reason that we are proposing compassion as the eighth dimension. Naming and defining compassion as a dimension makes it clear that if our practice is not compassionate, it no longer meets the standards associated with applied behavior analysis. Elevating compassion to a dimension of the field allows us to evaluate whether or not our procedures are compassionate, just as we evaluate whether or not they are applied, behavioral, analytic, technological, conceptually systematic, effective, or have generality.

The original seven dimensions on their own do not ensure compassion. Take, for example, a physical prompting procedure for teaching a child to tie their shoe. A case can be made that the goal and procedures fit the original seven dimensions. We can say that the goal of shoe tying is applied and behavioral. Shoe tying is a measurable behavior that could be deemed to be socially significant to the individual. A shoe-tying program could be based on behavior change principles such as prompt fading, chaining, or shaping and written in a way that all those who work with the child could implement, making it conceptually systematic and technological. The learned skill would be said to have generality when it's used in various environments. The behavior analyst implementing the shoe tying program would certainly analyze data to determine whether the intervention is working to consider it effective, regardless of if the child is crying throughout physical prompting.

Adding compassion as a dimension forces us to pause and ask different questions about our goals and procedures. Are we practicing beneficence by maximizing well-being and avoiding harm? If the child is in distress due to the procedures we use, then the answer is "no." Does shoe-tying lead to inclusion? Forcing one to learn to tie shoes when there are other options for footwear (e.g., slip-ons, Velcro shoes) doesn't increase access to environments of their choosing. Are we practicing professional excellence by considering evidence from different methodologies, or are we just pulling from our "bag of tricks" because that's always how we've taught shoe-tying? Are we building self-determination if we don't allow our client to withdraw assent from an intervention that feels aversive or from learning skills that they believe to be a waste of their time? Finally, and this is an important question, is this goal socially just? Is it ableist to expect a client to tie shoes, rather than find a shoe that works best for them? The original seven dimensions focused on the technical aspects of ABA, compassion adds a social dimension. By defining compassion as our eighth dimension, we are required to further examine the practice of our science and engage in action that centers the needs and priorities of our clients.

Conclusion

Over the past 50 years, ABA has improved the lives of autistic individuals and individuals with I/DD. But it has also produced negative, unintended outcomes. Our field has been criticized for these outcomes, as we struggle to adapt and modify our applied science to improve our services for a population we care deeply about. There is distinct irony that, in a field of professionals who specialize in skills and strategies to change behavior, we struggle to change our own. It is this sentiment that implores us to continually assess and modify the application of our science, contextualizing our work in compassion while identifying what can give way or change to meet the needs of autistic and I/DD populations more effectively. Borrowing a sentiment from Wolf, we encourage practitioners in the ABA field to reflect on our own work with a critical eye, to learn our missteps and struggles, and adapt to meet the needs of individuals we work with to the best of our ability. Are we humble enough to change our practices? If not, we risk too much. What do our years of research demonstrating the effectiveness of ABA mean if consumers do not want to access it? The reevaluation we propose in this article is needed to ensure that compassionate, high-quality intervention is provided with a focus on continuous improvement.

Funding This article was supported in part through funding from the Seattle Foundation.

Data Availability Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

Declarations

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human or animal participants performed by any of the authors.

Informed Consent This article does not contain any studies with participants requiring informed consent.

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