



# They have a Voice; are we Listening?

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## Abstract

The field of applied behavior analysis (ABA) has produced powerful changes and improvements to the lives of many. However, the field is not immune from criticism. One criticism from those outside the field is that the goal of ABA therapy is to make Autistic people appear “indistinguishable” from their peers. This paper examines “indistinguishability” and its implications by defining “indistinguishable” in behavior analytic terms, exploring how the term was used in two notable studies in the field (Lovaas, 1987, *Journal of Consulting and Clinical Psychology*, 55[1], 3–9; Rekers & Lovaas, 1974, *Journal of Applied Behavior Analysis*, 7[2], 173–190), and providing a review of the social validity and ethical implications of having “indistinguishability” as an explicit or implied goal. This is partially accomplished by incorporating concerns from the Autistic self-advocate community. We argue that the Autistic self-advocate community’s concerns surrounding “indistinguishability” as a goal have a degree of legitimacy and need to be given due consideration. Suggestions for addressing these concerns in ABA degree programs and research are discussed, emphasizing the importance of considering stakeholder values, taking criticisms seriously, and making changes when necessary.

**Keywords** Autism · Ethics · Social validity · Indistinguishability · Criticism · Self-advocates

The field of applied behavior analysis (ABA) has undeniably produced powerful changes and improvements in the lives of many. Over its history, the principles of ABA have been applied to various populations, such as Autistic children (Belisle et al., 2016; Hanley et al., 2014; Jones et al., 2013; Lang et al., 2009; LeBlanc et al., 2003; Lovaas, 1987), people with mental health conditions (Ayllon & Houghton, 1962; Isaacs et al., 1960; Jones & Friman, 1999; Villatte, et al., 2010), parents (Barnard et al., 1977; Bernal et al., 1980; Brookman-Frazee et al., 2009; Koegel et al., 1978; Latham, 1994; Latham et al., 2017, 2018; Marcus et al., 2001; Matson et al., 2009), teachers (Lerman et al., 2008), students (Krohn et al., 2012; Neef et al., 2011), and employees (Johnson & Fawcett, 1994; Rice et al., 2009). People receiving behavior analytic services have experienced gains in communication skills (Charlop-Christy et al., 2002; Falcomata et al., 2013), behavioral self-management (Christian & Poling, 1997), training staff (Kissel et al., 1983; Lambert et al., 2013; Roscoe & Fisher, 2008; Welch & Holborn,

1988), smoking cessation (Alessi et al., 2008; Azrin & Powell, 1968; Dallery et al., 2008; Dunn et al., 2008; Powell & Azrin, 1968), athletic performance (Anderson & Kirkpatrick, 2002; Ward & Carnes, 2002), vocational skills (Parsons et al., 2016; Reid et al., 2003; Reid et al., 1998; Wacker & Berg, 1983; Wallace & Knights, 2003), and safety skills (Alice Shillingsburg et al., 2017; Austin et al., 1998; Cope et al., 1988; Gras et al., 2003; Jones et al., 1981; Jostad et al., 2008; Miltenberger et al., 2013; Van Houten, 1988). The examples stated above do not constitute exhaustive lists of populations who have benefitted from the application of the principles of ABA or of the scope of skills taught to people. More than 50 years of empirical research has spoken to how effective ABA can be, and professionals apply its principles daily with diverse populations around the world (Association for Behavior Analysis International, 2020; Lin & Zhu, 2020).

The growth of ABA has led to recognition and increased discussion of the science and methods used to apply it. Public discussion has shed light on both positive and negative aspects of applications of ABA. We must examine critical feedback to continue making progress. Many consider ABA controversial (Child Mind Institute, n.d.; Devita-Raeburn, 2016; Goode, 2019). Much of

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the external criticism surrounds the application of the principles of ABA to Autistic children<sup>1</sup> (Brown, 2012; Delisle, 2018; Child Mind Institute, n.d.). Some common criticisms are that ABA focuses too much on repetitive drills and discrete trial training (Goode, 2019; Hetzler, 2016; Ward, 2015), does not focus on generalizable skills (Steinberg Behavior Solutions, n.d.; Ward, 2015), has children work too many hours (Devita-Raeburn, 2016), and focuses too much on compliance (Acuity Behavior Solutions, 2018; Ward, 2015).

The field of behavior analysis has resolved some of the aforementioned concerns as the science has progressed, with incidental teaching (Hart & Risley, 1975) and pivotal response training (Koegel & Koegel, 2006) addressing issues with poor generalization and rigid drills. These advancements effectively changed the appearance of many teaching programs from work at a desk to more naturalistic learning environments without reducing efficacy.

However, the field has not made as much progress addressing criticisms of ABA from Autistic self-advocates. As our field has matured, so have the clients who received behavior analytic services. At best, it is a mistake to not seek feedback from former service recipients. At worst, it is an intentional form of ableism,<sup>2</sup> dismissive of the criticisms of former service recipients based on their disability. Many can and have reported on the acceptability of interventions. Critical feedback from adult recipients of treatment programs based upon the principles of ABA echo criticisms we mentioned earlier (Devita-Raeburn, 2016; Lynch, 2019; Ward, 2015). However, there are distinct criticisms from self-advocates, including claims that ABA therapy can be abusive (Lynch, 2019), causes trauma (Perry, 2018), and has the overarching goal of making Autistic people appear indistinguishable from nonautistic people (Autistic Self Advocacy Network, n.d.; Li, 2018; Ne’eman, 2016; Perry, 2018). The purpose of this paper is to evaluate the idea that the implied or explicit goal of therapy based upon the principles of ABA is to make Autistic people appear nonautistic. Many Autistic self-advocates view autism through a neurodiversity paradigm, arguing that autism is a natural human variation that should be accepted and accommodated. They argue that trying to make autistic people appear nonautistic is highly problematic and can have negative effects on a person’s well-being (George, n.d.; Lynch, 2019; Restless Hands, 2014). We also hope to educate behavior analysts about the controversy surrounding ABA, the concerns of the self-advocate

community, and to provide criteria for providing treatment that addresses the controversy and concerns.

It may be an automatic reaction to say these criticisms are simply not true. We may become defensive and want to speak about how we strive to teach clients functional skills that they can use independently in a wide variety of settings or how we capitalize on our clients’ interests in creating programming that is fun, educational and tailored to their unique needs. As we likely obtain reinforcement from our peers and the people we work with through positive statements such as “you do good work” or “I help people” it is probable that negative statements regarding the implementation of our science may be experienced as aversive stimuli. Dismissing the claims altogether would provide easy access to negative reinforcement. Knowing that, we must be cautious and self-monitor our own behavior individually and as a field.

With that in mind, we discuss criticism from self-advocates with the assumption that it is honest and well-intentioned. We can see parallels between our historic mistakes and those in other realms of psychology. Many self-advocates recall traumatic experiences in intervention, in which they were punished, denigrated, or restricted in ways that would now be deemed antiquated or unethical (Perry, 2018; Stout, n.d.). Trauma has been openly discussed in the context of many historical psychological interventions, including the residential treatment of teenagers who engaged in self-harm or other worrisome behaviors (Fuchs, 2020; Miller, 2020).

We acknowledge that Lovaas’s contributions to the field have profoundly changed many lives in inarguably positive ways. The criticisms in this paper are in no way meant to lessen his contributions or retroactively vilify him. Our assumption is that Lovaas was well-intentioned and that his motivations should be considered in the context of the social norms and information available at the time.

In the history of psychology and behavior analysis, many interventions that were once commonplace are now commonly recognized as intrusive, inappropriate, and unnecessary (LeBlanc, 2020). Some interventions have drawn concerns from a human rights perspective (LeBlanc, 2020; SuchIsLifeVideos 2011a, 2011b). Indeed, there are interventions from decades ago that would no longer be implemented (Foxy & Azrin, 1973; Koegel & Covert, 1972; Rekers & Lovaas, 1974; Zlutnick et al., 1975). The field has generally moved away from overly intrusive interventions, has become much more aware of fundamental rights (Bannerman et al., 1990; Faw et al., 1996), and has moved toward compassionate care (LeBlanc et al., 2020; Taylor et al., 2018). These changes have altered a lot about the field of ABA and have changed the legacy of treatment that consumers will recall.

A core value among behavior analysts is to do no harm (Behavior Analyst Certification Board, 2020). Values are never fully achieved, but are a frame of outcomes that

<sup>1</sup> We use identity-first language throughout the paper. Those in the autistic self-advocate community generally prefer identity-first language and consider autism to be an integral part of who they are.

<sup>2</sup> For a more thorough discussion about the concept of ableism, please refer to our table of resources.

require continual evolution and adaptation (Plumb et al., 2009). In service of continually modifying our behavior so that it is aligned with our stated values, we should make determinations about the validity of critical feedback and incorporate appropriate changes into our practice. Many behavior analysts have begun the work of learning about missteps in our science's past, and more attention is consistently brought to these topics. Becoming informed about these issues, processing the information, and working it into clinical practice is a paradigm shift for many behavior analysts and understandably will take time.

In order to provide a thorough evaluation of the criticisms from the self-advocate community, this paper examines three related topics: First, we operationally define the term *indistinguishability* in behavior analytic terms, how the concept played a role in previous behavior analytic interventions, and the outcomes it hoped to achieve. Next, we broaden our discussion about the extent to which indistinguishability is a socially valid or ethical treatment goal, incorporating a subset of arguments Autistic self-advocates make about the implications of indistinguishability. Finally, we propose ways to begin a conversation regarding how and when these topics should be addressed in ABA degree programs, future directions for research, and discuss which behaviors are ethical and socially valid to target for elimination or acquisition.

## The Concept of “Indistinguishability” and Lovaas

### “Indistinguishability” Defined

Initially, with the explosion of interest in early intensive behavioral intervention following Lovaas's study (Lovaas, 1987), there was a large focus on “recovery” and measuring treatment success by the level of indistinguishability of Autistic children from their neurotypical peers. As time went on, the term “indistinguishably” sparked debate amongst stakeholders and recipients of treatment. We discuss a proposed definition of the term and its impact on the perception of ABA-based treatments for autism.

At its core, the concept of indistinguishability involves how two or more people, items, or constructs that may be different but generally are not identifiable as such. To break it down into behavior analytic terms, we would be describing when two or more stimuli ( $S^1$ ) evoke behaviors within the same response class. These stimuli result in organisms emitting functionally substitutable responses ( $R^1$ ) in their presence or, if the stimulus is also an organism, due to the stimulus' properties when in their presence. For example, when a teacher yells, “circle time” ( $S^1$ ), 10 children may respond in behaviors of significantly different topography that ultimately results in them all arriving at the front of the room

and sitting next to each other in the general shape of a circle ( $R^{1-10}$ ). This concept may be measured along one dimension or across a variety of dimensions. These responses, for the purpose of attending circle time, are indistinguishable.

At this point, it is worth noting that indistinguishability is not static, nor does it imply an absence of variability. Responses can possess different dimensional qualities at different times, altering the extent to which they can be considered indistinguishable from another stimulus or group of stimuli to an observer. For example, one member of a pair of monozygotic twins moves from the United States to Australia for a year and develops an accent. As a result, their mother can now easily discriminate the twins from one another when they speak.

Despite what may be implied, the level of indistinguishability between two or more stimuli is not always reliant on altering just one response. In choral singing, multiple singers need to alter their voices so they can match each other in pitch, tone and dynamics, so individual voices do not stand out. Conversely, it is possible to mold two identical pieces of clay into different objects. In short, it is possible to alter two or more operants simultaneously to increase or decrease their levels of indistinguishability. To provide a more direct example, if one were to walk into a preschool classroom during free time, it may be easy to pick out the Autistic child, who might be lining up Legos in a row organized by color, even if all the other children are creating buildings or other Lego-based activities that would generally be considered play.

For the purposes of this paper, we focus on the concept of indistinguishability as it relates to altering one response (or response class) to make it appear as if it has been added to or possesses the relevant properties of a response class to which it had not previously been a member. We choose to focus on this form of indistinguishability because a large portion of the research and literature in ABA focuses on populations with perceived behavioral excesses or deficits. Due to these differences, people receiving ABA treatment often stand out from their peers. Researchers and clinicians often alter different variables to make the population's behavior appear less distinguishable from a typical population. For example, lowering the frequency and intensity of the severe self-injurious behavior of a person with an intellectual disability to levels that are indistinguishable from a neurotypical person's can have significant positive effects on their health and well-being. Increasing an Autistic person's safety skills so their repertoire is indistinguishable from a neurotypical person's can help them access more of their community, as in the case of crossing the street.

We must also consider alternatives that would not necessarily help the person “blend in” but would instead serve to increase the person's health and safety, even if they still are clearly distinguishable from neurotypical peers, if the

intervention is less intrusive and more acceptable to the person. Wearing safety glasses to prevent eye gouging may be less intrusive than a 1:1 aid redirecting their behavior 24 hours a day, 7 days a week. This would be especially relevant if the person engages in escape-maintained behavior in the presence of the 1:1 and tolerates the safety glasses without interfering behavior.

There are times when indistinguishability is beneficial and the stated goal of the person seeking treatment. However, there are instances where making indistinguishability a goal has caused significant harm, raising controversy and ethical concerns about the social significance of the concept (Dawson, 2004). There are also instances in which different groups have differing opinions regarding the beneficence of indistinguishability (Maurice, 1993; Ne’eman, 2010). This debate can be best illustrated by two examples from the literature, touching on the 1960s through 1980s, which examine how our past affects our current practices.

### Lovaas, Rekers, and Kirk<sup>3</sup>

In the late 1960s and 1970s, Lovaas was working at UCLA, where he taught classes, conducted research, and founded the Young Autism Project, all while mentoring doctoral candidates. One of those candidates was George Rekers. Rekers’ doctoral research focused on children and adults who engaged in what was described as “deviant” sex-role behaviors, and under Lovaas, his research was published several times (Rekers & Lovaas, 1974, 1975; Rekers et al., 1974). One of those children was Kirk.

**The “Sissy Boy” Experiment<sup>4</sup>** Kirk was 4 years and 11 months old when a physician referred them<sup>5</sup> to Rekers and Lovaas for treatment. According to Rekers and Lovaas (1974), a psychiatric authority described Kirk as having one of the more severe cases of gender identity problems he had observed in his practice. Kirk had a history of “cross-dressing” from the time they were 2 years old and would play with their mother and grandmother’s cosmetics. Rekers and Lovaas (1974) noted how they would not engage in “rough and tumble” games with boys and would almost exclusively play with girls and that Kirk would insist they were a girl, describing it as “compulsive or ‘rigid’” (p. 174). Kirk’s parents,

although amused by their “feminine” mannerisms when they were 2 years old, grew concerned about the behavior as they got older and wanted them to receive professional help. Their mother described her rationale for seeking treatment, saying, “It bothered me because I wanted Kirk to grow up and have a normal life” (SuchIsLifeVideos, 2011a). Rekers and Lovaas (1974) first addressed Kirk’s “feminine” behaviors in a clinic setting. During the initial experimental condition, the researchers created a table with target “boy’s toys” and target “girl’s toys.” Kirk was instructed to play with the toys on the table. Simultaneously, the researchers instructed Kirk’s mother to attend to their “masculine” play by smiling and complimenting them on it, while ignoring their “‘feminine’ behavior” by pretending to read a book. During treatment, when Kirk’s mother withdrew her attention, they would at times engage in crying and aggression significant enough to terminate the session. When this happened, the researchers would reassure Kirk’s mother she was doing the right thing. Eventually, Kirk started to engage in higher rates of “masculine” behaviors and lower rates of “feminine” behaviors during treatment sessions. Rekers and Lovaas (1974) extended treatment to Kirk’s home as well. Instead of setting up play tables, Rekers and Lovaas (1974) trained Kirk’s mother to implement a token system in the house. In this system, Kirk could earn blue tokens contingent on desired behaviors (i.e., engaging in “masculine” activities) and exchange them for backup reinforcers, such as a candy bar. Conversely, Kirk received red tokens contingent on undesired behaviors, which either subtracted blue tokens from what they had earned, were exchanged for a time-out, or a spanking from their father.

**The Results of the Study and Beyond** When Rekers and Lovaas (1974) wrote follow-up reports from 26 months after they terminated treatment, they stated, “Reports from [Kirk’s] parents, neighbors, and school teacher concurred that [Kirk was] indistinguishable from any other [child assigned male at birth] in terms of gender-related behaviors” (p. 186). The study also notes how Kirk would now play with a male neighbor, their play would be reckless, and they were no longer “‘fussy’” (p. 186) about their appearance. Rekers and Lovaas considered the study a success, describing the changes in Kirk as profound (Rekers, 1977; Rekers & Lovaas, 1974; SuchIsLifeVideos, 2011a). Kirk’s behaviors now more closely aligned with the gender norms of their time and of their community. The behavior analytic community of that time did not fully agree with Rekers and Lovaas’s assessment of their study (Nordyke et al., 1977; Winkler, 1977), as is discussed later in the paper.

After graduation and without the involvement of Lovaas, Rekers conducted more research on “effeminate” children assigned male at birth apart, wrote books such as *Growing Up Straight: What Every Family Should Know About*

<sup>3</sup> Rekers and Lovaas (1974) referred to the participant as “Kraig” in their study. We refer to the participant as Kirk, the name the parents chose for the participant.

<sup>4</sup> The study done by Rekers and Lovaas (1974) gained notoriety as the “Sissy Boy” experiment when reported on by Anderson Cooper in 2011. See SuchIsLifeVideos (2011a, 2011b) for more information.

<sup>5</sup> Since Kirk did not live long enough to tell us their preferred pronoun or experience a time where gender-neutral pronouns were more commonplace, we refer to Kirk using gender-neutral pronouns.



*Homosexuality* (Rekers, 1982), and cofounded the Family Research Council. Many consider his research and scholarly works amoral and inhumane (SuchIsLifeVideos, 2011b; Szalavitz, 2011), and the Family Research Council received hate group designation by the Southern Poverty Law Center due to its anti-LGBTQ+ stances (Southern Poverty Law Center, n.d.). Rekers's research contributed to the field of conversion therapy, which the United Nations has recently recommended be banned (United Nations Human Rights Council, 2020). To our knowledge, Rekers never renounced his work with gender nonconforming children or acknowledged the harm that resulted from it. Furthermore, Kirk, the "success" story from the study, died by completing suicide at the age of 38. They arguably did not have the "normal" life their mother wanted. According to their sister, although they came out as gay in 1985, Kirk "never had a loving, committed relationship" and struggled with their attraction to men for their entire life (SuchIsLifeVideos, 2011b).

### Lovaas, Autistic Children, and the Growth of a Clinical Field

At roughly the same time as his collaboration with Rekers, Lovaas began a behavior intervention study that would eventually be considered one of the most famous and seminal studies within the fields of autism and ABA (Lovaas, 1987). This study, along with first-hand testimonials, such as Catherine Maurice's *Let Me Hear Your Voice: A Family's Triumph Over Autism* (Maurice, 1993), contributed to the significant growth of ABA therapy. ABA therapy quickly gained respect and attention for its effectiveness with Autistic children and was actively sought by many parents. At this point, we review some of the important aspects of Lovaas's (1987) seminal study in order to provide context for the rest of this discussion, as it is frequently used by critics to argue that all ABA treatment is abusive and functionally equivalent to conversion therapy.

**The Study that Brought ABA to the Forefront in Autism Treatment** The outcomes for Autistic people were poor in the 1970s, and research into behavioral intervention was in its infancy. In one early study, a 3 ½-year-old Autistic child was referred for evaluation due to an inability to tolerate medically essential corrective lenses (Wolf et al., 1963). He was admitted to a hospital for behaviors related to his corrective lenses, as well as significant self-injury, tantrums, and bedtime refusals. Procedures utilized included time-out from positive reinforcement, differential reinforcement, shaping, and edible reinforcers with an establishing operation in place. In a follow-up study, maintenance was demonstrated, and results were very encouraging, as the child was attending a public school (Wolf et al., 1967). Although this study demonstrated increases in language, social skills, and

other meaningful targets without the use of mild aversives (aside from time-out), it received relatively little attention. This may be due to Wolf's studies employing single subject designs, which most psychologists are unfamiliar with or consider less convincing than traditional group research designs that make use of randomization, control groups, and more participants. Functionally, the options for parents to choose from included underfunded institutions where very little treatment occurred (Lawton, 2015) and the use of first-generation antipsychotics with significant, serious side effects (Posey et al., 2008).

Around the time Lovaas undertook his seminal work, behavior analytic research was demonstrating behavioral treatment held promise in helping Autistic children gain language and lower rates of aggression (Lovaas et al., 1973). Lovaas, citing his previous research (not including the aforementioned Wolf et al. studies), noted how treatment gains that children made with behavior therapy did not generalize or maintain over time and how none of the children had "recovered" (Lovaas, Koegel, Simmons, & Long, as cited in Lovaas, 1987).

It is clearly the case that some elements of the interventions in Lovaas's (1987) study would be currently unacceptable from a humane care perspective. All of the participants received interventions, such as ignoring high rates of aggressive and self-stimulatory behavior, the use of time-out, shaping alternate behaviors considered more socially acceptable, and, for the experimental group, a slap on the thigh or the delivery of a loud "no" contingent upon undesired behavior. Although there is debate about the acceptability of the use of extinction and time-out, we all agree that programmatic procedures that include yelling at a child or slapping them would not be considered appropriate programmed consequences for any behavior.

**The Results of the Study and Beyond** The results of the study are widely known in the field of behavior analysis. Forty-seven percent of participants in the experimental group completed first grade in mainstream schools and had average to above-average IQ scores as opposed to only 2% (or one participant) in both control groups (Lovaas, 1987). Lovaas used completion of first grade as a benchmark goal because it spoke to a child's ability to perform academically and their social-emotional functioning. According to reports obtained by Lovaas, school personnel described the children who completed mainstream first grade as "indistinguishable from their normal friends" (Lovaas, 1987, p. 8). These children were labelled as "recovered" from autism. This study also used a research design with which psychologists are more familiar, which may have increased its relevance in fields outside of ABA.

Since that time, ABA has grown in popularity, partly due to the 47% "recovery rate" and the idea that an Autistic child

could become indistinguishable from their typical peers. One personal account from a parent of an autistic child recounts how their dreams for their child's future had been shattered, leaving them with feelings of horror, fear, and sadness, and, through ABA therapy, they had found the child they thought they lost (Schoales, as cited by Maurice, 1993). Another parent account speaks to how their child became "very different" (Sharon, as cited by Maurice, 1993, p. 309) due to receiving ABA therapy and how they were confident their child would start first grade "indistinguishable (except as an individual personality)" (p. 310) from their peers. Many parents of Autistic children would subsequently speak about the positive effects ABA therapy had on their children (Dillenburger et al., 2012; McPhilemy & Dillenburger, 2013). ABA therapy continues to grow in its popularity due to its commitment to evidence-based best practices, data-driven treatment, and the gains people have made toward living independent lives.

At this point, we would be remiss to not speak about the other ten participants in the experimental group Lovaas's 1987 study. Eight of the 10 (42% of the experimental group) were placed in classrooms for children with mild intellectual disability, and two (11% of the experimental group) were placed in classrooms for children with profound intellectual disability. When we consider that 45% of the children in both control groups ended up in classrooms for children with mild intellectual disabilities, it is reasonable to conclude there some of the 10 participants in the experimental group that were exposed to the intensive and often aversive conditions of the full treatment may have had the same results without aversive procedures.

**Kirk, Autistic Children, and Indistinguishability** On the surface, the Rekers and Lovaas (1974) and the Lovaas (1987) study appear quite different. One study focused on a gender nonconforming child who engaged in "effeminate" behaviors and the other focused on Autistic children. One study focused on increasing "masculine" behaviors and the other focused on increasing academic and social-emotional behaviors. One study is considered controversial and would not be considered ethical by today's standards; the other is hailed as a seminal foundation point for modern autism therapy, albeit with concerns about procedures and the descriptions of outcomes. So, why bring them up together?

It is understandable these studies appear to be basically identical to some outside the field of behavior analysis. Both studies used differential reinforcement, putting "undesirable" behaviors on extinction while reinforcing "desirable" behaviors. Rekers and Lovaas (1974) put "effeminate" behaviors on extinction for Kirk, while Lovaas (1987) put self-stimulatory and aggressive behaviors on extinction for Autistic children. Rekers and Lovaas (1974), in turn, reinforced "masculine" behaviors for Kirk, while Lovaas (1987)

reinforced behaviors including compliance, imitation, and toy play for Autistic children. Both studies also employed physical aversives as well; Rekers and Lovaas (1974) prescribed spankings from Kirk's father for "effeminate" behavior, and Lovaas (1987) prescribed occasional slaps on the thigh for "undesirable" behavior in which the children in the experimental group engaged.

A behavior analyst would certainly note similar methods were utilized in both studies. Differential reinforcement and token economies are so commonplace that these studies would probably not stand out as similar, at least not more so than any other two studies from the same time period. However, the similarity that may go unnoticed by behavior analysts is the use of the word indistinguishable when describing results. Kirk's behavior, according to Rekers and Lovaas (1974), became indistinguishable from other children their age assigned male at birth, and the 47% of Autistic children labelled recovered in Lovaas's (1987) study were considered indistinguishable from their peers. The use of this term goes beyond semantics, as it speaks to a host of underlying societal constructs and assumptions about what is "good" or "normal." We examine the term in three ways. First, we address the extent to which the goal of indistinguishability is a socially valid one. Second, we consider the extent to which the goal of indistinguishability is an ethical one. Third, we examine the implications that the concept of indistinguishability may have on a person.

## Indistinguishability, Social Validity, and Ethics

### Is Indistinguishability a Socially Valid Goal?

**Definition and Philosophy** Before fully discussing this question, we need to examine social validity as a concept in itself. Social validity is a subjective concept that cannot be defined by behavior analysts alone without consulting groups affected by our interventions. We rely on others to help define social validity for us. The concept has different meanings for different people and can change with time. As behavior analysts, we need to continuously evaluate whether what we are targeting for change is what we *should* be targeting for change. This can be challenging, especially when participants, caregivers, and other stakeholders disagree about which behaviors to target for change.

In his seminal article on the topic, Wolf (1978) implores behavior analysts to determine the social validity of their programming through considering three interrelated factors: First, if the specific goals of treatment are socially significant; second, if participants, caregivers, and others consider

treatment procedures acceptable and appropriate; and third, if the effects of treatment are socially important. Schwartz and Baer (1991) build on Wolf's (1978) article, arguing that measuring social validity should be standard practice in programming and applied research. They argue that the social validity of a program should not only be assessed by direct clients, but by community members who may affect the success of programming. Finney (1991) expands on Wolf's (1978) and Schwartz and Baer's (1991) arguments in his article, emphasizing the importance of measuring for social validity on a continual basis with clients.

Schwartz and Baer (1991) considered an ideal social validity measurement to be a two-part process: first, opinions need to be collected from an "accurate and representative" (p. 190) sample of people affected by the treatment program. Second, the information gathered from this sample should be used to sustain practices viewed as satisfactory and change practices that are not. The authors elaborate, emphasizing how it is important to avoid assessing the opinions of a limited or dissimilar community, assessing the opinions of the relevant community incorrectly, and not using information from relevant communities to enact necessary changes.

The main points Schwartz and Baer (1991) made, as described above, are ones behavior analysts need to take to heart and seriously consider. Although there are times when fulfilling all those standards is not possible, behavior analysts should attempt to accurately gauge the social validity of programming and/or practices to the best of their ability. For example, if working with a person with Pallister-Killian mosaic syndrome, a rare condition which usually causes significant intellectual disability and other medical issues (MedlinePlus, 2020), we would likely not be able to find a large number of people with the condition who could speak to the acceptability of treatment using traditional methods of communication (e.g., vocal verbal, sign language). Often, persons who are most significantly affected by the behaviors targeted may be the most difficult from which to collect social validity feedback. In such cases, we tend to rely heavily on other stakeholders, such as family members, to report on behalf of the person receiving treatment. In such cases, we must make all possible efforts to evaluate client preferences.

The field of psychiatry has spent a considerable amount of time attempting to define what constitutes a disorder since the first publication of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* in 1844. Similar to social validity, the discussion centers on which behaviors require treatment and *should* be treated (disorders). The *DSM5* defines a mental disorder as follows:

A mental disorder is a syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a

dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. An expectable or culturally approved response to a common stressor or loss, such as the death of a loved one, is not a mental disorder. Socially deviant behavior (e.g., political, religious, or sexual) and conflicts that are primarily between the individual and society are not mental disorders unless the deviance or conflict results from a dysfunction in the individual, as described above. (American Psychiatric Association, 2013, p. 20)

This definition specifies that nonconformance with social norms, which would include expressions of homosexuality and neurodiversity, does not constitute a disorder requiring treatment. This is not to say this definition is correct or sufficient, as it has significant flaws. One issue is that there are many examples of conditions that result in "significant distress or disability" due to a lack of appropriate accommodation by the community. For example, persons with hearing loss who identify as part of the Deaf community do not view hearing loss as a disability, but rather an alternate way of life that does not cause any harm and are uninterested in a "cure" that would make them part of the hearing community (Wallis, 2020). As we will discuss, many Autistic persons have similar feelings about their diagnosis, arguing that it is not a disorder as defined in the *DSM5* at all.

If a behavior is considered as outside the norm but does not cause distress to the individual or harm to others, like hand flapping or displaying behaviors considered incongruent with the person's gender assignment at birth, it is difficult to justify why intervention would be appropriate or necessary. One question a clinician might ask themselves is, "If the client could fully participate in selecting treatment procedures and goals, would they *ever* provide voluntary consent? When the program is faded, will the behavioral outcomes be maintained by natural consequences?" If the answer is no, or a clinician is unsure, the clinician should thoroughly consider all alternative treatment options until this thought experiment yields an affirmative answer to the questions. If a clinician cannot arrive at a "yes," we suggest they discuss the case with other behavior analysts and conduct risk/benefit analysis.

Similar concepts have been discussed by behavior analysts since the 1970s (Goldiamond, 1974). Although children would rarely engage in some essential behaviors without programmed reinforcement or withholding of preferred stimuli (earning a toy or having to wait to watch a preferred program contingent on toothbrushing), by adulthood, the vast majority of us elect to continue brushing our teeth and maintaining personal hygiene. Although the child may not

provide voluntary consent to a toothbrushing intervention at 3 years old, adults' voluntary adherence to some form of dental hygiene would result in an answer of "yes," they would eventually consent to the program. This would presumably be maintained by positive reinforcement (a clean mouth and nice breath) and by negative reinforcement (avoiding dental work and discomfort). As we will discuss, behavior maintained primarily by negative reinforcement should raise ethical concerns.

**Social Validity Assessment** Our field has not always acted upon the main points Wolf (1978) or Schwartz and Baer (1991) laid out. Both Rekers and Lovaas's (1974) and Lovaas's (1987) studies were conducted prior to the publication of foundational articles on the topic of social validity. Examining how they may have been evaluated according to Wolf (1978) and Schwartz and Baer's (1991) points if they were available at the time is a useful exercise. When the Rekers and Lovaas (1974) study was conducted, there were significant disagreements about the social validity of the study with regards to multiple factors that play into the concept. Although it is likely that Kirk's parents and members of their community would have considered Kirk's behaving in a stereotypically "masculine" manner a socially significant goal, contemporaries of Rekers and Lovaas criticized the study (Nordyke et al., 1977; Winkler, 1977). A point of criticism was a failure to consider the viewpoints of what Schwartz and Baer (1991) would consider an "accurate and representative" sample of people when determining the social significance of altering Kirk's "feminine" behavior to have them appear more "masculine." Although Winkler (1977) acknowledged how Kirk's parents valued traditional gender roles, and that these views reflected the views of those in their community, he criticized Rekers and Lovaas (1974) for not mentioning how attitudes toward homosexuality and other sexual behavior considered deviant were evolving. In the 1970s, laws and psychiatric opinion were changing, and the gay liberation movement was gaining momentum. Nordyke et al. (1977) added social significance criticisms, arguing that not every social pressure needs to be labelled deviant or therapeutically addressed. They pointed out how many populations may be scorned and isolated by segments of society (the authors mentioned feminists and pacifists), while members of those populations would argue society needs to change, and not them. Importantly, Winkler (1977) and Nordyke et al. (1977) argued that Rekers and Lovaas (1974) should have reached out to members of the gay liberation movement and other LGBTQ+ groups to determine the social significance of targeting Kirk's "feminine" behaviors via an "accurate and representative" sample.

**Social Validity Measurement** In short, there was considerable debate about the social significance of modifying Kirk's

behavior to appear more "masculine." Although Kirk's parents and those in Kirk's community appeared to think it socially significant, members of the gay liberation movement and other LGBTQ+ groups would have probably disagreed. Furthermore, although we can never know how Kirk would have felt about the goal of their treatment, they would have likely not considered it socially significant. Today, there is considerably less debate about whether or not the goal of having children engage in behaviors stereotypically associated with their sex assigned at birth is a socially significant one. With the increase in acceptance of homosexuality and gender nonconformity, a larger number of people and communities do not consider modifying any behaviors involving gender or sexuality, or any form of conversion therapy, socially significant (Ashley, 2020).

The social appropriateness of Rekers and Lovaas's (1974) procedures was viewed by their contemporaries as questionable and debated considerably. Nordyke et al. (1977) criticized Rekers and Lovaas's (1974) use of physical punishment, arguing the risk of harm did not match the possible benefits when addressing Kirk's "feminine" behaviors. In response, Rekers (1977) argued since Kirk's father only gave them six "mild aversive 'swats'" (p.568) during the study, Nordyke et al.'s (1977) arguments about the use of physical aversives were overblown. While the study was conducted, Kirk's mother appeared to have doubts about the appropriateness of the procedures as well. Rekers and Lovaas (1974) noted how Kirk's mother needed reassurance that she was doing the right thing during treatment, indicating there were times when she was not fully comfortable with the procedures. With regard to Kirk, the fact that Kirk engaged in crying and aggression significant enough to terminate treatment sessions likely indicates that Kirk did not always consider the procedures acceptable or appropriate.

There is now a general consensus that the procedures used in the Rekers and Lovaas (1974) study were not socially appropriate. When interviewed by Anderson Cooper, Kirk's siblings appeared distraught while describing Kirk's subjection to significant spankings and whippings from their father during the study (SuchIsLife, 2011a); a far cry from the six "mild aversive 'swats'" (Rekers, 1977, p. 568) Rekers reported. Kirk's brother, who reported his parents implementing the red and blue token system with him in order to make the procedure more acceptable to Kirk, would remove red tokens from Kirk's pile and put them on his so Kirk would face less severe punishment. Furthermore, there is currently a campaign within the behavior analytic community and beyond to have the study retracted due, in part, to the unacceptability of the practices they used (Johnson, 2021). The knowledge we now have about the harms of conversion therapy (Alempijevic et al., 2020; Huang, 2017; Ludwig, 2016) solidifies the Rekers and Lovaas (1974) study as one that did not employ socially appropriate procedures.



Initially, Kirk's parents were mostly satisfied with the effects of the treatment and considered the effects socially significant. Although Kirk's mother reported some concerns about Kirk engaging in rough play, Rekers and Lovaas (1974) noted that Kirk's parents and others around Kirk considered their behavior indistinguishable from other children assigned male at birth in terms of gender-related behaviors, meeting the original goal of treatment. When interviewed by Anderson Cooper in 2011, Kirk's mother was significantly less satisfied with the results of the treatment than she reported immediately after the study was conducted (SuchIsLife, 2011b). During the interview, Kirk's mother referred to Kirk's "murder" directly resulting from the behavioral interventions they received. Furthermore, Kirk's siblings reported that Kirk was "destroyed" by the treatment (SuchIsLife, 2011a). Although we will never know the extent to which Kirk was "satisfied" with their experiences during and after treatment, it is reasonable to infer they were not. In short, the goals, methods, and social importance of the effects of the Rekers and Lovaas (1974) study cannot be considered socially valid.

Just as the social validity of the Rekers and Lovaas (1974) study has decreased over time, the social validity of the Lovaas (1987) study has also decreased. When the study was first published, the treatment goals, procedures, and results were considered highly socially valid. The fact that ABA became significantly more popular as a treatment for Autistic children during the 1990s, due, in part, to the 47% "recovery rate" and the prospect of autistic children becoming indistinguishable from their peers, speaks to how socially significant the goals were at the time. However, we did not have input from a significant number of autistic people appraising the social validity of the Lovaas (1987) study when it was first published. Given the fact that the neurodiversity movement did not grow in popularity or visibility until much later (Kras, 2010), the lack of input from Autistic self-advocates is understandable. Additionally, we would be also remiss if we failed to note that the 47% recovery rate does not consider that 53% of the participants in the experimental group ended up being placed in classrooms for children with intellectual disabilities, and the social validity of the outcomes for that group is unknown.

The social significance of the goals of the Lovaas (1987) study have become a subject of debate as time has passed due to the rise of the neurodiversity movement and increased visibility of Autistic self-advocates. Fortunately, it is no longer difficult to find perspectives from autistic self-advocates about the study and about ABA in general. Although some report mostly positive views of ABA (Lamb, 2019; Lowery, 2017), there are others whose views are generally negative (Dawson, 2004; Lynch, 2019). Even in the more positive accounts, there are some criticisms. However, the criticism most relevant to our appraisal of Lovaas (1987)

centers around the goal of indistinguishability (Dawson, 2004; Li, 2018; Ne'eman, 2016). An example that draws from the indistinguishability issue that appears often is that the people receiving therapy should not have their stereotypic behavior suppressed (Lamb, 2019; Lowery, 2017; Lynch, 2019), a focus of Lovaas's (1987) study. In short, we are now able to view the social significance of the goals of the Lovaas (1987) in a more balanced way. Behavior analysts need to understand that there are goals in Lovaas (1987) study that are no longer socially significant and should not be incorporated into practice.

Fortunately, the behavior analytic community has addressed many of the concerns around the appropriateness of the procedures in Lovaas's 1987 study. We have spoken about procedures used in the study which now would no longer be acceptable, including slapping children on the thigh and yelling at them. We have also noted now that structure of teaching sessions has changed since the study was published, becoming more naturalistic and less rigid. Behavior analysts should not lose sight of the fact that there are procedures in the Lovaas (1987) study that are no longer socially appropriate and should strive to evolve their practice as they encounter new information about treatment.

To evaluate the social validity of the interventions used in the 1987 paper in 2021, we have the opportunity to gain feedback from the Autistic self-advocate community. As stated before, many self-advocates recall traumatic experiences from their time receiving therapy, due to receiving treatment procedures now deemed antiquated and unethical. Some of those treatment procedures can be attributed to Lovaas (1987). We cannot ignore the fact that trauma can have lasting negative effects (Felitti et al., 1998)—ones with which a person would not be satisfied. Nor can we ignore the fact that a significant number of participants in the study did not obtain the socially significant results that provided hope to so many people affected by autism.

We now return to the concept of indistinguishability and how it is viewed in the Autistic self-advocate population. The prevailing view is that the term indistinguishable is code for normal (Fahrenheit, 2020; Li, 2018; Restless Hands, 2014). Many Autistic self-advocates are happy being autistic and do not want to be what others refer to as "normal" (Gerry-Tucker, 2020; Ne'eman, 2010; Somashekhar, 2015), and would not find the goals of Lovaas's (1987) study that were related to indistinguishability as socially significant. We must seriously consider the harm that can be inflicted when we send the message that behaviors people consider core to their sense of self are "bad" or "wrong." With that in mind, which behaviors to target for change must be carefully examined. ABA is a powerful, effective science. As such, behavior analysts must be extraordinarily cautious when wielding it. In practice, we often run a "fine line" between programming for increasing skills and programming for indistinguishability. For example, when targeting play skills, we

strive to teach our clients skills which could increase their ability to negotiate with their peers and think creatively. At the same time, we may inadvertently be teaching our client that the way they play is “bad” or “wrong” and they should be playing like a neurotypical child. In short, because indistinguishability is not considered a socially significant goal by many, has been taught using socially inappropriate procedures, and potentially has lasting effects that would not be considered satisfactory by the direct recipient of therapy, we cannot consider indistinguishability a socially valid goal in most cases. In practice, behavior analysts should avoid making it a goal as much as possible. Furthermore, behavior analysts should consider Wolf’s (1978), and Schwartz and Baer’s (1991) prescriptions on social validity, ensuring they obtain an “accurate and representative” sample of people to consider which behaviors are socially valid to target for change.

### Is Indistinguishability an Ethical Goal?

It is important to examine relevant core ethical principles to answer this question. In the case of making indistinguishability a treatment goal, we must consider the concepts of “do no harm,” according dignity, and benefitting others. Behavior analysts must make every effort to consider unintended harms of treatment and find ways to mitigate possible harmful effects. This includes planning to eliminate or minimize known side effects of procedures, schedules of reinforcement, and signs of ratio strain. In addition to what is clearly described in ABA textbooks and the Ethics Code for Behavior Analysts, clinicians need to consider unintended side effects of treatment that may not be as straightforward. An essential element in minimizing risk providing treatment that aligns with the value of “do no harm” is evaluating consent or assent.

Obtaining assent if the client is under guardianship or consent if the client is not under guardianship is essential and involves much more than having someone sign a document. If people are involved in contingencies or contracts maintained by negative reinforcement, it is coercive by nature, and consent cannot be considered fully voluntary (Goldiamond, 1974). This would include programs and procedures that employ the use of negative reinforcement, which requires presentation of an aversive. Goldiamond (1974) and Sidman (1993) both recommend the use of acquisition programs using positive reinforcement to expand repertoires as a solution to this problem. In his seminal paper, Goldiamond (1974) makes the case for a constructivist approach in which the behaviors that generate the referral should be, “considered as among the entry repertoires available for construction or program guidance” (p. 122). Essentially, Goldiamond argues that all behavior is adaptive and can be shaped or built upon to address the problem. This is in contrast to an approach centered on elimination, a

painfully slow way to teach using coercion or punishment as a means for change. In the same paper, Goldiamond cites an adult with substance use issues as being determined to have an “inadequate personality” (p. 110). This woman happened to have a heavy Southern accent. A program was designed to shape her vocal verbal emissions into a more acceptable Midwestern accent. As she was involuntarily admitted to a hospital, her functional ability to consent to treatment is questionable. In these cases, Goldiamond asks, “What are the limits on behaviors under purview?” (p. 110). This is essentially the same ethical problem of indistinguishability, albeit without the use of that word. Which behaviors we *can* change and which behaviors we *should* change are questions we must continuously ask ourselves as clinicians.

Both Sidman (1993) and Goldiamond (1974) offered examples of exceptions to these guidelines. Sidman agreed that punishment may, on rare occasion, be necessary in an emergency. However, Sidman clearly stated that in the vast majority of cases when he received reports that all alternatives using positive reinforcement have been tried, he would say, “Tell me what you did. I will then suggest a procedure you did not try” (Sidman, 1993, p. 83). The point is the rarity of cases in which coercive procedures are indicated or ethically in agreement with “do no harm.” Sidman knew how destructive and predictable the side effects of punishment (and coercion) can be, as he performed the basic research on avoidance and warning stimuli (Sidman, 1955). In 1993, Sidman wrote that consequences of coercion in interpersonal relationships often lead to “divorce, dropout, mental illness, and suicide” (p. 80). It is impossible to say that Kirk’s suicide was directly caused by the treatment they received in childhood. We do know that the elements suggesting such outcomes were present—punishment, coercion, lack of assent and maintenance of the target behaviors being under the control of negative reinforcement after active treatment. In terms of Kirk and coercion, we must also consider the question of whose behavior required change. Theirs or the community/society?

### Ethical Questions in Rekers and Lovaas (1974) and Lovaas (1987)

Follow-up data conducted by Rekers and Lovaas (1974) suggested the results were largely considered beneficial for Kirk. It was only after the public was informed of Kirk’s suicide when the beneficence of the study started to be widely questioned. In regard to according dignity, it is debatable whether or not Kirk was able to communicate their wishes to those around them effectively (which would be the case for any child their age). Winkler (1977) raised the question of where the primary allegiance of the therapist lies and posed it could be to the client or their parents, the therapist’s own values, or to society in itself. Some argued that Rekers and

Lovaas (1974) placed their primary allegiance with Kirk's parents and their own values over Kirk's values, rights, and well-being (Dawson, 2004; Nordyke et al., 1977). In the original study, Rekers and Lovaas (1974) argued that, even though society could become more tolerant, it would be preferable to change Kirk's behaviors because they were facing ridicule and poor outcomes. The authors and Kirk's parents appeared to be acting to prevent them from encountering social problems in the future.

In the case of Lovaas's (1987) study, the ethical questions raised are more complex. As with the previous study, Lovaas (1987) did not set out to cause harm. Follow-ups showed largely beneficial results for a significant percentage of the children who received treatment in terms of skill acquisition (Lovaas, 1987, 1993). However, we do not have information regarding other dependent measures, such as rates of crying, self-injury, or tantrums for the participants deemed "recovered" or the 53% of participants who did not experience the same results. Because this information was not mentioned in the study, we do not have a full picture of the kinds of harm the participants experienced during treatment. In terms of according dignity, Lovaas (1987) targeted behaviors that would increase the children's abilities to communicate their wishes with others.

When considering Lovaas (1987), ethical questions from outside the field stem primarily from distal outcomes rather than the direct outcomes that were targeted and measured. Some people question whether therapy based upon the principles of ABA helps or harms children (Delisle, 2018) due to the perceived focus on indistinguishability. Others consider the goal of indistinguishability abusive (Lynch, 2019), due to how having indistinguishability as a goal posits that natural, nonharmful aspects of the person receiving treatment are unacceptable. The implications of these statements require a more thorough examination by behavior analysts.

Indistinguishability should be considered, at best, an ethical gray area that requires thorough examination by clinicians and recipients of treatment with special attention paid to social validity and assent/consent. Instead of focusing on indistinguishability, behavior analysts should focus on teaching or strengthening their client's skills, which enable them to function independently or interdependently in society. Ethical programming does not require clients to shed parts of their identity to fit societal norms outside of extreme cases that threaten the health and safety of others in the community, as can be the case with pedophiles, for example.

**Further Thoughts on the Implications of Indistinguishability as a Goal** For Autistic people, the term *indistinguishability* implies that the measure of their "success" is based on how well they can "mask" or "camouflage"—both terms that describe when a person consciously or subconsciously hides autistic traits to effectively navigate a wide variety of social

situations (Hull et al., 2019; Russo, 2018; Swan, 2018). Self-reports from those who engage in masking or camouflaging report they do so in order to connect to others, find a job, find a romantic partner, and/or to survive in a world that is generally not accepting of autistic difference (Russo, 2018). In short, many self-advocates report having to behave in ways in which appear "normal" (or, in other words, indistinguishable from neurotypical people) in order to access more of their natural environments (Deweerd, 2020a; Russo, 2018; Swan, 2018; Swaim, 2019). The self-reports also note how draining that engaging in this behavior can be, leading to adverse reactions when the person is alone (Swan, 2018). These adverse reactions are sometimes described as "autistic burnout" (Deweerd, 2020b; Swaim, 2019). "Autistic burnout" is reported to have multiple topographies, such as a person temporarily not being able to speak, emotional and physical exhaustion, and difficulty making decisions (Swaim, 2019). Although most of these reports are anecdotal in nature, researchers are starting to conduct research on masking and camouflaging (Hull et al., 2019), and behavior analysts need to consider these concerns thoroughly.

Although some may argue that everyone's behavior is shaped to better conform to their peers, the comparison is a false equivalency. The amount of effort and energy many Autistic people invest *every day* just to fit in is enormous. A more appropriate comparison would be asking an adult with a severe thyroid disorder to maintain a BMI of 25. Technically, they may become indistinguishable from their more fit peers if they exercise 6 hours a day and only eat 600 calories per day. However, very few treatment providers would find that to be a reasonable or ethical expectation. A large swath of the American public has great difficulty eating 2,000 calories per day and exercising at all, yet we have seen that public punishment is not an effective stimulus when the behavior that requires modification is incredibly difficult to change and the environment encourages the behaviors we are trying to reduce. Consider the amount and intensity of aversive stimuli that would be necessary for a person to endure hours of effortful, difficult, and unnatural behaviors to escape aversive social stimuli. No one should have to endure that just to participate in society.

Although we can attribute many of the self-reports on camouflaging, masking, and autistic burnout to a society that is often not accepting of difference, we have to address how our field may have unwittingly contributed both directly and indirectly to the idea that camouflaging or masking are necessary for Autistic people. If our field held up indistinguishability as the overarching goal for autistic people, we may have unintentionally communicated that they have to engage in camouflaging or masking in order to access more of their environment and/or to achieve their goals. When we examine some of the messaging that has come out of our field in this way, we can start to understand *why* some criticize

ABA, and that some criticisms have *a considerable degree of legitimacy*, many of which stem from making indistinguishability a goal (Autistic Self Advocacy Network, n.d.; Lamb, 2019; Li, 2018; Lowery, 2017; Lynch, 2019; Ne’eman, 2016; Perry, 2018). Implying, intentionally or unintentionally, that someone has to hide natural tendencies that are not harmful and do not interfere with skill acquisition in order to gain acceptance in society is not a productive or positive message for anyone. For those that must already contend with overcoming daily obstacles that, to able-bodied or neurotypical persons are often invisible, it is even more unreasonable and cruel. Behavior analysts need to be mindful of this concept and acknowledge how societal pressures can make accessing natural environments harder for Autistic people.

In order to ensure treatment goals are socially valid and ethical, behavior analysts must acknowledge and examine the mistakes the field has made, to avoid making the same mistakes in the future. Furthermore, behavior analysts must continuously assess the social validity of treatments in ways that align with Wolf (1978) and Schwartz and Baer (1991), ensuring they gather data from an “accurate and representative” sample of people.

## Discussion

If a parent asks a behavior analyst to teach their Autistic child to behave “normally,” how should the behavior analyst respond? Should the response be different if the child can speak in full sentences, has developmentally appropriate preacademic skills, and engages in nonharmful, noninterfering motor stereotypy, versus a child who has very few communicative skills and engages in significant self-injury? Is the focus of parental concerns their own embarrassment or their child’s risk of ending up in highly restrictive environments? Does the child appear distressed by their situation or the behaviors they engage in? These questions do not always have clear or easy answers. Determining the answers to these questions requires an examination of the extent to which the child can self-advocate, how much agency they are able to exert regarding their own decisions and determining the extent to which the parents’ concerns are valid. In short, behavior analysts must consider a number of factors when determining what and how to treat.

The passage of time and the increased visibility of the Autistic self-advocate community has prompted us to reexamine the social validity of Lovaas’s 1987 study. What was once hailed as a study with highly socially significant goals, socially appropriate procedures and socially important results is now one viewed in a more complicated and nuanced manner. We no longer consider all of the goals socially significant, all of the procedures socially appropriate, nor all of the results socially important. Disagreements

about social validity are often unavoidable, and behavior analysts must always factor those disagreements into account as they resolve how to conduct their practice. Much like ethics, social validity does not lend itself to a purely objective definition. Furthermore, current society and “accurate and representative” samples will never be perfectly homogeneous and will continuously undergo change. As ethics and social validity are values, disagreement and continuous reevaluation are encouraging indicators of their use, unlike poor Interobserver Agreement (IOA) in data collection. If we as a field never stop discussing these topics or reach perfect IOA, it indicates successful discourse and work toward our stated values. Just as we strive for our clients to use consequences from past behavior to inform future responses, we need to use consequences from our past to inform our practice moving forward. In this section, we share our opinions regarding how to avoid some of the mistakes our field has made in the past and how to incorporate what we learned from our mistakes into our current and future practice.

## Suggestions for Degree Programs

**ABA History** Students graduating from ABA degree programs need an understanding of ABA history to behave ethically and competently in practice. Specifically, they need an understanding of the historical underpinnings of the field, how it has been affected by social movements, and an ability to contextualize this information. Specifically, when it comes to the issues this paper addresses, there are two topics we suggest incorporating into degree programs: teaching the problematic aspects of ABA’s history and teaching disability in context.

With many historical events, there are aspects of the event one can speak about easily and comfortably, and other aspects that are not as easy to discuss. For example, it may be easy for a teacher to speak about defeating the confederacy during the Civil War and the liberation of enslaved people through the 13th amendment to the constitution. At the same time, it may be more difficult speak about the horrors of slavery and how conditions for African Americans generally remained poor after the Civil War and Reconstruction. Both aspects need to be taught in order to determine how to move forward in a manner that is respectful of those affected, and to continue making progress toward valued outcomes.

In regard to ABA, the Rekers and Lovaas study and the emphasis on indistinguishability as a treatment goal are problematic aspects of our history. Understanding that our history has problematic aspects will help behavior analysts when responding to criticisms and concerns about ABA from an informed, compassionate perspective. Additionally, it will help practitioners avoid potentially harmful decisions today and enable them to develop a decision-making process



that better considers the implications of their treatment decisions in the future.

**Disability History and Philosophy** A majority of behavior analysts surveyed report that they work with Autistic people (Behavior Analyst Certification Board, n.d.). A significant percentage of students in ABA programs choose to go into ABA to work with Autistic people as well. With these facts in mind, students in ABA degree programs should also have a working knowledge of disability history. Just as with ABA history, problematic aspects of disability history need to be taught along with more comfortable aspects of disability history, such as the passage of the Americans With Disabilities Acts. When it comes to teaching disability philosophy, curricula should include paradigm shifts that have taken place throughout history. Special attention should be paid to differences between medical and social models of disability. The medical model refers to impairment as a physical condition, while social model of disability focuses on obstacles society places on persons with disabilities. Having knowledge of different models of disability, especially the social model of disability, should enable any behavior analyst to better identify variables in the environment which could serve as barriers to learning new skills or accessing less restrictive environments.

Students need to examine disability history through an intersectional lens, studying disability history in the context of other marginalized groups. An understanding of the concept of ableism (i.e., a social process of discrimination and bias toward people with disabilities; Friedman & Owen, 2017) and the ability to contextually connect it to similar concepts, such as racism and sexism, is central to this learning. These contextual connections may be made by first acknowledging people with disabilities as members of a minority group in their own right and by identifying intersections between the disability rights movements in different countries with the struggles for women's rights, LGBTQ+ rights and civil rights for ethnic minorities. Having a knowledge of ableism and framing disability as a minority status should also enable a behavior analyst to better evaluate their programming in a more culturally humble manner. Refer to the Appendix for resources and suggested reading regarding ableism, intersectionality, Autistic self-advocacy, and coercion.

### Suggestions for Future Research

To establish treatment goals with greater social validity in the future, more research is indicated. We suggest collecting social validity data from adults who received ABA services as children and are now able to provide feedback. Attempts should be made to assess social validity measures among individuals who cannot communicate effectively. For example,

data on behaviors associated with happiness could be collected and examined before, during and after intervention (Parsons et al., 2012). If the data reveal the individual receiving treatment is markedly unhappy throughout therapy, we should reconsider whether the current therapy goals are appropriate and/or necessary. At a minimum, the intervention should be modified, if possible. This is especially true for acquisition programs. Choice should be considered in all interventions, including evaluating client's choices regarding treatments employed. Concurrent chain schedules have been used to evaluate schedules of reinforcement in children (Hanley et al., 1997), which is an excellent solution to determining preferences in persons who have difficulty communicating their satisfaction via traditional language. The topic of treatment tolerance and preference is well researched (Koegel & Egel, 1979; Layer et al., 2008; Schmidt et al., 2009). We encourage readers to review the available literature thoroughly, and to continue to the work in light of current social issues. Regarding treatment satisfaction, studies providing longitudinal data on social validity measures, maintenance, and rates of mental illness and suicide would be immensely valuable. We also suggest tools for practitioners when selecting and continuing treatment be developed and tested, with a primary focus on social validity and ethics.

To our knowledge, there are no follow up interviews or social validity data from the participants in Lovaas's 1987 study. There is a great deal of feedback from Autistic self-advocates who received early intervention as children (DeVita-Raeburn, 2016). Early intervention with ABA can be the difference between a child being able to communicate and live independently later on in life and a child who is completely dependent on their caregivers and unable to meaningfully shape the direction of their life. The positive changes early intervention can make for an Autistic child cannot be overstated. With that in mind, we should carefully evaluate practices found to not be socially valid by the Autistic self-advocate population and gather social validity data from current participants in ABA interventions. An example of a practice that should be reconsidered is teaching Autistic children to make eye contact. Neurological research has shown there is a correlation between eye contact and amygdala activation in the brains of autistic people (Hadjikhani et al., 2017; Kliemann et al., 2017), suggesting an increased fear or stress response when Autistic people make eye contact. This evidence is corroborated by self-advocates, who report that eye contact can be painful (Endow, 2014). As a field, we need to consider social validity data gathered and listen to the concerns of Autistic self-advocates with compassion instead of defensiveness.

### Conclusion

Examining our past mistakes can be a painful exercise. Just as the field transitioned away from the use of punishment in all but the most extreme cases as we realized

the damage it did, we need to reexamine our treatment goals for individuals who are easily distinguishable from their peers. What we hope to achieve with this paper is engagement in an active discussion and reflection on our current practices so we can go forward with empathy and cultural humility. The Autistic and intellectually/developmentally disabled (IDD) populations have a heart-breaking history of maltreatment, abuse and neglect. One need only to look to institutions such as Willowbrook (The Closing of Willowbrook, 2021) and the disturbingly high rate of sexual assault experiences among Autistic people and people with IDD (Shapiro, 2018, 2018) to confirm the need for vigilant self-reflection and advocacy on behalf of those not always able to effectively advocate for themselves. When members of these communities do speak out, we must listen with open minds, open hearts, and with a determination to rectify the issues.

## Appendix

### Resources and Further Reading

Topic	Resource(s)
Ableism	Wolbring, G. (2008). The politics of ableism. <i>Development, 51</i> , 252–258. <a href="http://Stoppableism.org">Stoppableism.org</a> (Koegel & Egel, 1979; Schmidt et al., 2009; Vernon et al., 2012) <a href="https://www.divergentminds.org/">https://www.divergentminds.org/</a>
Autistic Self-Advocate concerns about ABA	Dawson, M. (2004, January 18). <i>The misbehaviour of behaviourists: Ethical challenges to the autism-ABA industry</i> [Blog post]. <a href="https://www.sentex.ca/~nexus23/naa_aba.html">https://www.sentex.ca/~nexus23/naa_aba.html</a> .
Coercion and Choice	Goltz, S. M. (2020). On power and freedom: Extending the definition of coercion. <i>Perspectives on Behavior Science, 43</i> (1), 137–156. <a href="https://doi.org/10.1007/s40614-019-00240-z">https://doi.org/10.1007/s40614-019-00240-z</a>
Coercion and Punishment	Sidman, M. (1989). <i>Coercion and its fallout</i> . Authors Cooperative Boston.
Interdependency in Disability Issues	Symeonidou, S., & Mavrou, K. (2020). Problematising disabling discourses on the assessment and placement of learners with disabilities: Can interdependence inform an alternative narrative for inclusion? <i>European Journal of Special Needs Education, 35</i> (1), 70–84.

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## Declarations

**Conflict of interest** We have no known conflicts of interest to disclose.

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