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The Crossroads: Interdisciplinary Teams and Alternative Treatments

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Abstract

Behavior analysts collaborating within interdisciplinary teams are likely to find themselves at difficult crossroads. Some of these crossroads include implementing alternative treatments, defining and determining risk and harm, and evaluating research and interventions. The purpose of this paper is to highlight some of these crossroads and provide guidelines on successfully navigating them. We contend that it is possible to navigate these crossroads while minimizing harm or risk for the client, adhering to the principles of science and behavior analysis, and remaining respectful of all members of the interdisciplinary team. That is, we can maintain the scientific tenets of philosophic doubt, empiricism, and experimentation, while remaining humble, and ensuring our clients access the most effective interventions available.

Keywords:

Alternative Treatments, Collaboration, Evidence Based Practice, Autism

Introduction

Behavior analysts value effective collaboration with professionals within and across different disciplines and with our consumers. As Kelly and Tincani (2013) stated, "There is no standard operational definition for collaboration..." (p.121). Despite this, behavior analysts have continued to discuss collaboration with interdisciplinary teams within the peer-reviewed literature (e.g., Bowman et al., 2021; Kelly & Tincani, 2013; LaFrance et al., 2019). Across the behavior analytic literature on collaboration with interdisciplinary teams, there appears to be consensus that to effectively collaborate, behavior analysts should engage in a multitude of behaviors, including: (a) joint problem solving, (b) recognizing the strengths of other members of the interdisciplinary team, (c) active listening, (d) engaging in good communication amongst team members, (e) having a universal and agreed upon code of ethics, (f) not engaging in disciplinary centrism, and (g) not being judgmental (e.g., Bowman et al., 2021; Brodhead, 2015; Cox, 2012; Galloway & Sheridan, 1994; Hall, 2005; Kelly & Tincani, 2013; LaFrance et al., 2019; Lawson, 2004). For collaboration to occur, "It is imperative that all members of a team recognize their own knowledge limitations and value the expertise afforded by *professionals* who have

been trained in other areas" (LaFrance et al., 2019, p. 710). Additionally, all members of the team need to value maximizing benefits while minimizing any potential harm. An interdisciplinary team should: (a) develop shared goals, (b) develop interventions jointly, (c) develop data tracking methods, and (d) set a plan for communication (Newhouse-Oisten et al., 2017).

Cox (2012) discussed the importance of a united set of ethical principles that provides common ground amongst professionals in an interdisciplinary team. These common ethical principles and obligations for interdisciplinary autism interventionists included: (a) beneficence, (b) nonmaleficence, (e) respect for persons, and (d) professional commitments. These principles were provided to help ensure competence and define acceptable behaviors, so all members of the interdisciplinary team are held to a high standard from the outset. Brodhead (2015) created a decision-making model to help behavior analysts determine if a nonbehavioral treatment would put the client's safety at risk, how to navigate with colleagues if the client's safety is at risk, and how the behavior analyst can navigate with colleagues if the client's safety is not at risk. This decision-making model can be useful to help behavior analysts navigate if they should address concerns about alternative treatments with outside colleagues.

Bowman and colleagues (2021) expanded the tools available for behavior analysts working on interdisciplinary teams by outlining standards for interprofessional collaboration when providing intervention for autistics/individuals diagnosed with autism spectrum disorder[1] (ASD). These standards included: (a) collaborative communication, (b) roles in collaboration, (c) what the roles are for individuals within the organization, (d) ensuring quality client care, (e) ways to resolve conflict, (f) creating joint partnerships across professionals, and (g) best ways to ensure appropriate treatment approaches across disciplines. Finally, Kirby and colleagues (2022) described a framework to help guide behavior analysts to develop skills to advance and maintain professional relationships when working in an interdisciplinary team, specifically with respect to cultural reciprocity. The framework included skills such as self-reflecting, listening, validating, and compromising.

The ethical codes for which certified behavior analysts are bound also place value on and promote collaboration. For example, the Board-Certified Behavior Analyst (BCBA) code of ethics for BCBAs specifically notes that behavior analysts are to collaborate with others in the best interest of clients and stakeholders (Behavior Analyst Certification Board, 2020). Further, the Behavior Analyst Certification Board (BACB) code of ethics for BCBAs states that any conflicts should be addressed "by compromising when possible and always prioritizing the best interest of the client" (Behavior Analyst Certification Board, 2020, p. 11). The International Behavior Analysis Organization's (IBAO) ethics code (International Behavior Analysis Organization, 2021) directly states "certificants participate in collaborative relationships with professionals in other disciplines and treatment teams, prioritizing the client's best interest" (p. 8). The recently developed Progressive Behavior Analyst Autism Council (PBAAC) ethics code (Progressive Behavior Analyst Autism Council, 2022) also highlights the importance of collaboration and states, "The CPBA-AP works collaboratively with other professionals to serve their clients effectively within the context of providing only evidence-based procedures/interventions" (p. 3).

The numerous benefits of effective collaboration have been long discussed in the literature. For example, Lawson (2004) stated that effective collaboration could better enhance problem solving. Hall (2005) concluded that effective collaboration could result in better outcomes for clients and that professionals will report higher job satisfaction. Galloway and Sheridan (1994) found that effective collaboration is preferred by clients, results in better treatment integrity, and leads to better maintenance of gains. Brodhead (2015) provided a decision-making model to assist behavior analysts navigate non-behavioral treatment recommendations by members of a treatment team to help maintain professional collaboration and help develop a better understanding of other approaches to interventions.

In addition to collaboration, behavior analysts have also placed value on the use of interventions that are effective, efficient, and conceptually systematic (Baer et al., 1968, 1987). As such, behavior analysts only implement, recommend, and endorse procedures that would be considered an evidence-based practice (EBP) and are empirically supported. Although promoting and only using EBPs and ensuring effective collaboration are core values of behavior analysis, sometimes these two values find a behavior analyst at a crossroads. For example, what does a behavior analyst do when providing services for a client in a clinic setting and an outside professional recommends a procedure for that client that may be harmful? What if a behavior analyst is working in a school setting, as part of an interdisciplinary team, and an outside professional recommends an intervention that will not cause physical harm to the learner but has been proven ineffective in the empirical research? What if a behavior analyst, who is also a researcher, is attending a conference where presenters are touting misinformation about behavioral intervention, while making inaccurate claims about their intervention? Should the behavior analyst remain silent or complacent with the alternative interventions, make compromising statements (e.g., "That is fine as long

as we use progress monitoring data to evaluate the decision"), or critique those interventions based upon the universal concepts of science and research but risk being ostracized from the interdisciplinary team or accused of lacking humility?

There are no easy answers to these questions, and the context as well as many other variables would likely influence possible answers and solutions. When the concepts of evidence based/alternative treatment and collaboration come to a crossroads, it is difficult for any behavior analyst to navigate the collaborative circumstances effectively. While there have been guidelines and tools created and discussed within the literature to help behavior analysts navigate these issues (e.g., Brodhead, 2015; Kirby et al., 2022), the guidance and tools likely reflect the authors' personal values (Brodhead, 2015) and more discussion and guidance is warranted. Thus, the purpose of this paper is to provide some guidelines for navigating collaboration within an interdisciplinary team.

Some Crossroads

As previously noted, there are several potentially difficult crossroads to navigate when collaborating as a behavior analyst on an interdisciplinary team. What follows are examples of three major crossroads related to EBPs and alternative treatments that are likely to occur when collaborating as a behavior analyst on an interdisciplinary team.

Implementing Alternative Treatments

The first crossroad with respect to navigating collaboration within an interdisciplinary team is that as a field relates to many certified behavior analysts implementing alternative treatments. Marshall and colleagues (2023) conducted a survey of doctoral level BCBAs (i.e., BCBA-Ds), BCBAs, Board Certified associate Behavior Analysts (BCaBAs), and Registered Behavior Technicians (RBTs) on the implementation of alternative treatments. The responses from 921 individuals were evaluated regarding the implementation of 30 different interventions that were categorized as: (a) effective (e.g., interventions based on the principles of applied behavior analysis), (b) interventions that have emerging evidence (e.g., Music Therapy), (c) interventions that have not been proven (e.g., Social Thinking™), and (d) interventions that can be considered ineffective and possibly harmful (e.g., Rapid Prompting Method). These categories were created using national standards that have been developed to evaluate autism interventions (National Autism Center, 2009, 2015). The results of the survey showed that bleach therapy was the only one of the 26 interventions that was categorized as either having emerging evidence, not established, or harmful, that was not reported as being implemented by the respondents (i.e., those certified by the BACB). As such, interventions such as Social Thinking™, hyperbaric oxygen chamber, and Relationship Development Intervention were reported as being implemented. Furthermore, 2.6% of BCBA-D respondents indicated that they implement Rapid Prompting Method. These results are concerning in that certified behavior analysts, who are ethically bound to the use of EBPs, are implementing alternative and dangerous interventions.

Defining Risk and Harm

Another crossroad that occurs when navigating collaboration within an interdisciplinary team is the lack of a comprehensive definition of harm or risk. Brodhead (2015) defined risk as "...as any treatment that will likely cause short- or long-term psychological or physical harm to the client" (p. 72). This definition is a great step in defining risk and harm, as it guides behavior analysts away from interventions that may cause psychological or physical harm. As such, behavior analysts should be less likely to implement interventions such as chelation or bleach therapy and more likely to avoid and advocate against their use within the interdisciplinary team.

Brodhead's (2015) definition of risk is a great start; however, we suggest that it should be expanded further to mitigate possible risk and harm for our clients. Specifically, we contend that there is harm and risk involved in spending valuable instructional time on ineffective alternative treatments. For example, Social Thinking™ is an intervention that is not empirically supported (Leaf et al., 2018; Leaf et al., 2016) and is considered as an unestablished intervention within the National Standards Project evaluating autism interventions (National Autism Center, 2015), but would not be considered a risky intervention or harmful based on Brodhead's definition. As a result, if a professional on an interdisciplinary team in a school setting recommends the implementation of Social Thinking™ for 30 min per day and this recommendation is implemented, it would result in the team implementing 5,400 min (i.e., 90 hr) of Social Thinking™ across an entire 180-day school year. That is 90 hr of instructional time that could have been spent on an intervention with documented effectiveness.

While 90 hr of instructional time may not seem significant, researchers have shown the tremendous outcomes that autistics/individuals diagnosed with ASD can make with even less time. For example, Leaf et al. (2017) demonstrated that participants of a behaviorally based social skills group that lasted a total of 64 hr resulted in the participants acquiring over 100 social and adaptive skills. The results also indicated significant improvements on standardized social and adaptive assessments. If there is agreement that there is harm and risk involved in spending valuable instructional time on ineffective alternative treatments,

behavior analysts must weigh that risk and harm with advocating against the use of alternative treatments and possibly eroding professional relationships, being removed from the interdisciplinary team, or not being labeled as a humble behaviorist (Kirby et al., 2022)

Evaluating Research and Interventions

Kirby et al. (2020) contended that "Disciplinary centrism within our field [behavior analysis] can also result in claims that programs designed by non-behavior analysts are unscientific and not supported by evidence when such practices do not readily fit within our behavior analytic model..." (p. 136). Kirby and colleagues further argued that "Hubris is at the core of the idea that if an intervention wasn't designed by a behavior analyst, it is not scientific nor supported by evidence" (p. 136). It is true that an intervention should not be considered not scientific or supported by evidence just because an intervention was not designed by a behavior analyst. Rather, an intervention is not scientific or supported by evidence if it does not meet well established standards in research and practice. As such, even interventions developed by behavior analysts can be classified as not scientific or supported by evidence if they have not met the criteria to be considered as such.

Kirby et al. (2020) also implied that the hallmarks of research and science are not universal and that behavior analysts cannot, or should not, evaluate non-behavioral research using well established standards in research and science. It should be noted that the value behavior analysts place on the use of single case designs was developed, in part, by evaluating and identifying the limitations of other common research methodologies (Sidman, 1960). The research methodology used by and advocated for by behavior analysts has resulted in numerous advances in the development of meaningful behavior and amelioration of dangerous behavior (e.g., functional analysis; Iwata et al., 1982). It, therefore, seems reasonable and fruitful to evaluate research, behavior analytic or otherwise, using the tenants of behavior analytic research methodology (e.g., operationally defined and observable dependent variables, clearly described independent variables, interobserver reliability).

Relatedly, it is important to note that threats to internal and external validity go across various disciplinary research. Thus, threats of maturation, history, testing, instrumentation, regression, selection, or mortality within research exist across disciplines (e.g., psychology, occupational therapy, behavior analysis) and researchers (e.g., behavior analysts, speech language pathologists, occupational therapists). Additionally, while some research designs are more common (e.g., single case designs within behavior analysis) and less common (e.g., pre-test post-test control group designs within behavior analysis) within different disciplines, no field can lay claim to one or more designs. Rather, the research design should be selected based on what best answers the experimental question and that design should be implemented as designed to ensure as much experimental control as possible. Just as the possibility of threats to external and internal validity are not unique to any discipline's research, the hallmarks of science, pseudoscience, and anti-science (Green, 1996) are not concepts that belong to the field of behavior analysis. Rather, they are universal concepts and principles that can be applied to any intervention or population demographic.

Listening and/or Following

The topic of listening is not new within the behavior analytic literature, but much of that literature is discussing listening from a verbal behavior perspective (e.g., Hayes, 1996; Schlinger, 2008). Recently, the topic of listening within the literature and other outlets (e.g., social media) has shifted to listening to consumers of applied behavior analysis (ABA) interventions and autistic advocates. It should be noted, however, that listening to consumers has been a hallmark of ABA for many years (i.e., Wolf, 1978). Discussing listening from a verbal behavior perspective is beyond the scope of this paper, but a crossroad many behavior analysts will find selves at while navigating an interdisciplinary team is what does it mean to listen. It appears that listening, in this context, does not necessarily mean agreeing or avoiding disagreement especially in situations in which risk or harm are likely (Brodhead, 2015). If this is the case, then a behavior analyst could listen to the recommendations of other members of the team, while still disagreeing and advocating for an alternative recommendation. However, some may contend that listening requires following as opposed to discourse, difficult discussions, and possible compromise. In these situations, not following may lead to being ostracized or accused of not listening to other members of the interdisciplinary team. When this is the case, the pathway forward for the team is often a rocky one.

Navigating the Crossroads: Practitioners

There is no doubt that challenges will arise for behavior analysts navigating the crossroads of collaborating with members of an interdisciplinary team and the implementation of alternative treatments. There have been some previous discussions within the literature to help provide guidance to behavior analysts in these situations (e.g., Brodhead, 2015; Kirby et al., 2022). What follows are some additional guidelines to navigate these crossroads for practicing behavior analysts. We, like others (e.g., Brodhead, 2015), acknowledge that the guidelines we offer are influenced by our professional and personal histories. Furthermore, we offer these as guidelines and encourage the reader

to view them as such (i.e., not apply them as rules to use across interdisciplinary teams as each team is likely to be unique and require the behavior analyst to use clinical judgement to address challenges as they arise). Thus, a behavior analyst/technician must evaluate their specific situation (e.g., environmental variables) when considering these guidelines.

Determine Your Professional Values: The Implementation of Alternative Treatments

One initial step any practicing behavior analyst should take is determining their personal values with respect to the implementation of alternative treatments. Said differently, which procedures are you comfortable or uncomfortable implementing? Some have conceptualized different interventions using a red, yellow, green system (e.g., Association for Science in Autism Treatment, n.d.; Autism New Jersey, n.d.; Weiss et al., 2022). Weiss et al. (2022) described each of these tiers as,

> *Green light treatments signal efficacy. Yellow light treatments are those that should be implemented with caution and need additional research regarding their potential impact. Red light treatments are those that have been proven to be ineffective and/or harmful and that should not be implemented (p. 143).*

More specifically, green light interventions are those that would be considered EBPs with documented evidence of their effectiveness. Yellow light interventions are those that may have emerging evidence, but are not EBPs, or those that may pose little risk or harm for the client and can be closely monitored and altered quickly if necessary. Those who are uncomfortable with this three-tiered system may choose to adhere to a stricter red/green system, where there are only interventions that meet or do not meet the requirements to be implemented.

Regardless of the system the practicing behavior analyst chooses, they must determine how they view EBPs and non-EBPs. Will you view EBPs as a list of procedures and packages that meet qualifications regarding the available evidence (e.g., National Autism Center, 2009, 2015), in terms of manualized treatment packages that consist of randomized control trials to support their effectiveness (i.e., Smith, 2013), or as a decision making model drawing upon the best available scientific research, client values and context, and a behavior analyst's clinical expertise (e.g., Slocum et al., 2014)? This view will help determine the system to use to help determine if a procedure should or should not be implemented as well as the components of that system (e.g., which interventions should be green, how to determine if an intervention is yellow).

Select a Professional Environment that Aligns with your Values

It is imperative that practicing behavior analysts select a workplace whose organizational values align with their own. This could help prevent some of the challenges associated with the aforementioned crossroads. For example, if a practicing behavior analyst decides that implementing procedures with no empirical data to support their use does not align with their values, then it would be helpful to avoid working for organizations where those procedures are readily implemented. Conversely, and hopefully unlikely, if a practicing behavior analyst decides that implementing procedures with limited to no empirical data to support their use does align with their values, then it would be helpful to avoid working for organizations where those procedures would not be implemented under any conditions.

As such, it is important to proactively evaluate possible employers/organizations prior to employment to see if their values align. If this preliminary evaluation results in identifying an organization with aligned values, it will be important to follow-up and ask questions (e.g., "Does your organization support the implementation of alternative treatments?") during the interview process to confirm the results of the preliminary evaluation and address any areas that may be unclear. Concurrently, the interview is a good opportunity to describe your values and any possible areas of conflict and how those conflicts will be resolved.

Be as Proactive as Possible

Similar to progressive approaches to treating challenging behavior (e.g., Ala'i-Rosales et al., 2019), practicing behavior analysts should proactively discuss the use of alternative treatments when collaborating on an interdisciplinary team. The approach to being proactive is likely to vary depending on the setting in which the practicing behavior analyst is working. For example, if a behavior analyst finds themselves working in a home or clinic setting, the process should start during client screening and no later than intake. At this time the behavior analyst should clearly articulate for the consumer: (a) how the parent/client values are incorporated at all stages of intervention, (b) the procedures that will be implemented, (c) the philosophy/rationale behind those procedures, (d) what constitutes an EBP and why it is important, (e) what procedures will not be implemented, (f) what happens if these procedures are implemented or suggested, and (g) how collaboration occurs within the agency. Throughout this initial discussion meaningful and genuine rationales should be provided and any questions are answered. This discussion should continue to be revisited periodically throughout the course of the intervention.

Many practicing behavior analysts work within school settings where the likelihood of collaborating on an interdisciplinary team is practically inevitable. Although, the approach within this setting will differ from services that take place within a clinic or home setting, there are several steps the behavior analyst may take. First, when possible, seek out members of the interdisciplinary team prior to collaborating on any specific case. This provides an opportunity to develop rapport with other members of the team and could involve getting to know the team members, identifying their general ideas and philosophies, and how to best communicate with their team (e.g., how to provide feedback, how to bring up disagreements). Second, communicate your values and approaches to intervention with the team members. This could be done in a manner like the approach within home and clinic settings described previously. Finally, establish the nature of the collaborative relationship, outlining how to work together best, listen to each other's recommendations, and how to best navigate professional discourse. Similar to working in a home or clinic setting, these discussions should be revisited periodically to maintain rapport and address any changes since the initial, or previous, discussion.

When all else Fails, Develop a Reactive Plan

Each of the previous guidelines were designed to proactively address recommendations or the implementation of alternative treatments. It is likely that even if these guidelines are used, members of an interdisciplinary team will recommend or implement alternative treatments. It is possible to be reactive in these situations while minimizing harm or risk for the client, adhering to the principles of science and behavior analysis, and remaining respectful of all members of the interdisciplinary team.

First, it will be important to engage in active listening. Psychologists and behavior analysts have recommended active listening for many years, which involves engaging in appropriate nonverbal behavior (e.g., facing the person speaking, making eye contact, appropriate facial expressions) and listening to the other person without interrupting (Borck & Fawcett, 1982). Throughout the exchange, it will be important to engage in behavior that demonstrates listening and reflecting (e.g., head nods, reflective statements, verbal encouragements). When it is appropriate to engage in meaningful and productive dialogue (e.g., the other person has stopped talking), it will be important ask clarifying questions, seek out more information, and outline one's values and perspective. This should be a discussion, but does not mean there may not be discourse. At some point in the discussion there will be agreement to implement or not implement the alternative treatment.

If there is a recommendation for the implementation of an alternative treatment, then it will be necessary to conduct a risk benefit analysis. In this situation, a risk benefit analysis would involve identifying and comparing the relative risk of implementing the alternative treatment to its possible benefits. Assessing possible benefits should involve, but is not limited to, identifying research supporting the effectiveness of the alternative treatment and client and consumer satisfaction and preferences. Assessing possible risks should involve, but is not limited to, an analysis of the possibility of short- or long-term psychological or physical harm to the client (Brodhead, 2015) and negative effects on the members of the interdisciplinary team. We strongly encourage practicing behavior analysts to include the possibility of time spent on an ineffective, but not harmful, alternative treatment as a possible risk. If it is determined that the risks outweigh the possible benefits the treatment should not be implemented, and it will be important to share this information with the interdisciplinary team, client, and caregivers in a clinically sensitive and responsive manner. If it is determined that the risks do not outweigh the possible benefits and the decision is made to implement the alternative treatment, there are at least two options available to the practicing behavior analyst.

One option that has been previously recommended is to systematically evaluate the effects of the alternative treatment (e.g., Normand, 2008). This recommendation has proven fruitful and has resulted in published evaluations of alternative treatments and methods (e.g., Chok et al., 2010; Lerman et al., 2008). However, great caution must be taken when systematically evaluating the effects of the alternative treatment in this way. In essence, the team would be conducting a mini experimental analysis and all the same procedural safeguards used within research to control for threats to internal and external validity should be considered. As such, this systematic analysis needs to go beyond simply taking baseline and intervention data and involve best practices in single subject research such as, but not limited to, establishing stable baseline responding, repeated baseline conditions, implementing the intervention without any other changes, repeated and/or staggered intervention conditions, and measures of treatment fidelity.

A second option that has been previously recommended is to alter the alternative treatment to align with behavioral principles (Kirby et al., 2022). This can be done by adding components of behavior analytic intervention to the alternative treatment (e.g., including preference assessments) or identifying if any components of the alternative treatment are conceptually aligned with ABA. Similar to the previous option, this option must be exercised with great caution for several reasons. First, the addition

of behavior analytic components may increase the perceived benefits and effectiveness of the alternative treatment. However, like any treatment package, it will remain unclear what is responsible for any behavior change (desired or undesired). As a result, time could be spent implementing ineffective or less effective components. Second, if the alternative treatment has competing components, it could decrease the effectiveness of any added behavioral components. This could lead the team and consumer to conclude that otherwise effective behavioral interventions are not effective. Third, as Goldiamond (2002) importantly noted, "just because some sets of procedures can be analyzed in operant terms does not make them behavior modification procedures" (p. 149). Nonetheless, conceptualizing an alternative treatment as behavior analytic may lead the team and consumer that the alternative treatment is, in fact, an ABA-based intervention.

Navigating the Crossroads: Researchers

Behavior analytic researchers have a long history of critically and experimentally evaluating alternative treatments that are implemented with autistics/individuals diagnosed with ASD (e.g., Chok et al., 2010; Howard et al., 2005; Leaf et al. 2018; Lerman et al., 2008; Normand, 2008). These critiques have included such alternative interventions as facilitated communication (Montee et al., 1995), rapid prompting method (Schlosser et al., 2019), Social Thinking™ (Leaf et al., 2018), bonding (attachment) therapies (Chaffin et al., 2006) and sensory integration (Lang et al., 2012). Recently, some have suggested that such evaluations are examples of disciplinary centrism, hubris, and "may stunt our science and the progression of our field" (Kirby et al., 2022, p. 136). When statements are made in less formal settings (e.g., social media) to avoid these evaluations, it is concerning; however, such statements occurring in peer reviewed behavior analytic journals is alarming. Regardless of the outlet, we could not disagree more. These evaluations have provided much needed critical and experimental evaluations of alternative treatments which can help save consumer resources and prevent harm for the clients we serve. We contend these evaluations are based on the scientific tenets of philosophic doubt, empiricism, and experimentation, not disciplinary centrism. Suggesting otherwise minimizes the importance of the scientific method and EBPs and may result in an increased adoption of harmful alternative treatments.

The previously cited examples of critical and experimental evaluations of alternative treatments did not conclude the evaluated treatments were negative or ineffective simply because they were not conducted or developed by behavior analysts. No intervention should be discounted simply because it stems from a different field, practice, or researchers (Kirby et al., 2022). There are numerous examples of the development of quality interventions and research evaluations stemming from the fields of speech language pathology (e.g., Speech-Language & Audiology Canada, 2018), occupational therapy (e.g., Bodison & Parham, 2018), psychology (e.g., Sanders, 1999), and pediatrics (e.g., American Academy of Pediatrics, 1998) to name a few. Research and interventions should be evaluated upon the universal principles and standards of science (previously described) and interventions should be selected or not selected based on these evolutions regardless of the origins of the interventions. For example, the quality of the research methodology (e.g., clear operational definitions, appropriate research methodology) used in Social Stories™ research has been evaluated numerous times (e.g., Kokina & Kern, 2010; Leaf et al., 2015; Rust & Smith, 2006; Sansosti et al., 2004). Thus, warnings against the use of Social Stories™ (e.g., Leaf et al., 2020) have been issued as a result of a lack of experimental evidence of effectiveness not the credentials of the individuals conducting the research. Similarly, Social Thinking™ was evaluated to determine if the research met the definitions of an EBP or empirically supported treatment (e.g., Leaf et al., 2018). Social Thinking™ research was found to not meet these definitions but did have many of the hallmarks of pseudoscience (Leaf et al., 2016), and this would be the case regardless of the credentials of the individuals conducting the research.

We contend that behavior analytic researchers have an obligation to the science and practice of behavior analysis to continue to critically and experimentally evaluate alternative treatments. This is not to diminish the value of other interventions, but, rather, to provide necessary information to inform best practices and maximize the effectiveness of the interventions for our clients. This information can also be invaluable in informing effective and compassionate collaboration within interdisciplinary teams. A hallmark of our profession is ensuring that all procedures implemented by our professionals are conceptually systematic, effective, and empirically supported; this is an aspect of alternative treatments that must continue to be discussed in the literature.

Conclusion

There are hundreds, if not thousands, of interventions designed to help improve the symptomology associated with autism (Jacobson et al., 2010), with the ultimate goal of improving the quality of life for autistics/individuals diagnosed with ASD. Many of the interventions available have no empirical evidence to support their effectiveness (e.g., Rapid Prompting Method, Son-Rise), while others have studies in peer reviewed journals (e.g., Social Thinking™, Relationship

Development Intervention) but include methodological flaws limiting the interpretation of the results (e.g., see Leaf et al., 2018; Milne et al., 2020). Behavior analysts collaborating within interdisciplinary teams are likely to find themselves at difficult crossroads that include implementing these alternative treatments, defining and determining risk and harm, and evaluating research and interventions. These crossroads and the decisions that result have always been a relevant aspect of being a behavior analyst, especially when working within an interdisciplinary team. Nonetheless, the challenges associated with collaborating within interdisciplinary teams are likely increasing with behavior analysts continuing to expand the field by working with different populations and within different contexts. Ultimately, when navigating any crossroad that a behavior analyst might find themselves in, it is important to remember the moto "Primum Non Nocere" (i.e., first, do no harm; Normand, 2008). The guidelines and discussion provided here was done to demonstrate the possibility of navigating these crossroads while minimizing harm or risk for the client, adhering to the principles of science and behavior analysis, and remaining respectful of all members of the interdisciplinary team. That is, we can maintain the scientific tenets of philosophic doubt, empiricism, and experimentation while remaining humble and ensuring our clients access the most effective interventions available.

Footnotes

[1]The terms diagnosed with autism/ASD, on the autism spectrum, individual with autism/ASD, and autistic are used throughout this paper. The authors recognize that there are varied preferences and conventions related to person- and identify-first language among the academic and autistic communities. The terminology selected for use in this paper is to be inclusive of varying preferences as well as grammar and stylistic needs and does not reflect a terminological intent.

Conflict of Interest: This paper was submitted as part of a special issue that the first and second authors were asked to develop, solicit papers, and serve as editors. The paper was sent to a different editor and was sent for blind review. All authors currently or have provided behavioral intervention for autistics/individuals diagnosed with autism. All authors have commercially available products related to applied behavior analysis and individuals diagnosed with autism. The first and fifth author own a company that provides behavioral intervention for individuals diagnosed with autism.

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