


## Descriptive and normative ethical behavior appear to be functionally distinct

David J. Cox 

Behavioral Pharmacology Research Unit, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine

Many philosophers and scientists have described a scientific approach to ethical behavior. Historically, ethical behavior has been categorized as descriptive (i.e., what is right) or normative (i.e., why it is right). Whether this topographical distinction is functionally relevant is unknown. In 2 experiments, participants chose what behavior was correct and why. In Experiment 1, participants did not agree on either of these measures. Normative ethical behaviors were also well described by common Western theories of bioethics (i.e., consequentialism, deontology, and virtue theory). In Experiment 2, manipulating the ethical context led to within-subject changes in responses to what, why, or both. Importantly, change in what rarely coincided with change in why, suggesting descriptive and normative ethical behaviors are functionally distinct. A visual-descriptive model describing a functional approach to descriptive and normative ethical behavior is provided. Behavior analysts interested in observing, measuring, and changing ethical decision-making should consider collecting data on descriptive and normative ethical behaviors.

**Key words:** applied behavior analysis, choice, decision-making, ethical behavior, ethics, verbal behavior

Several recent publications have asked behavior analysts to reconsider how the current code of ethics for behavior analysts guides ethical decision-making (Brodhead, 2019; Graber & Graber, 2018; Rosenberg & Schwartz, 2019). The *Professional and Ethical Compliance Code for Behavior Analysts* (Behavior Analyst Certification Board [BACB], 2014; hereafter referred to as the Code) is currently a set of enforceable rules to which certified behavior analysts and behavior analyst applicants are obligated to adhere. However, contextual variables (Rosenberg & Schwartz, 2019) and the cultural background of clients sometimes make adherence to rules in the Code difficult (e.g., Fong et al., 2016; Fong & Tanaka, 2013; Rosenberg & Schwartz, 2019). Moreover, situations sometimes arise for which different guidelines in the Code suggest

incompatible responses (Brodhead et al., 2018; Rosenberg & Schwartz, 2019).

Behavior analysts take a scientific approach to understanding behavior. Thus, it makes sense that reconsidering how the Code is used would involve a scientific, behavioral analysis of ethical decision-making and ethical rules. Behavior analysis involves “breaking complex behavior down into its functional parts” (Catania, 2013; p. 430). Ethics involves determining what is the “right” thing to do (ethical decision-making) and emitting behaviors that track what is claimed as the right thing to do (ethical behavior; see Skinner, 1953 chapters on making a decision, group control, and Section V on controlling agencies). A behavioral analysis of ethics combines these two areas: 1) breaking ethical decision-making down into its functional parts and 2) breaking ethical behavior down into its functional parts.

A behavioral analysis of ethics could proceed in multiple ways. One way is to theoretically extend existing empirical research to situations and behavior labeled as “ethical” (e.g., Baum, 2005;

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Address correspondence to: David J. Cox, Behavioral Pharmacology Research Unit, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, 5510 Nathan Shock Drive, Baltimore, Maryland, 21224, USA. Email: david.cox@bcbsfsl.com  
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Skinner, 1953, 1971). Authors that have written on this topic have demonstrated how individual “ethical decisions” or “ethical behavior” can be theoretically interpreted using an operant framework (top panel, Figure 1). Specifically, ethics involve information specific to the decision being made (Bailey, 2013), rules about ethical behavior (e.g., the Code), past experiences with consequences (Baum, 2005; Skinner, 1953, 1971), and current contingencies surrounding ethical decisions and behavior (Baum, 2005; Skinner, 1953, 1971). Throughout this manuscript, functional ethics are defined as the description, prediction, and/or control of ethical behavior using the general behavior analytic framework published by the authors noted above (top panel, Figure 1).

A second way to conduct a behavioral analysis of functional ethics is through data-based analyses and research. Data collection and empirical support for functional ethics have not yet been realized. The BACB has published data summarizing ethics violations and code-enforcement activities (BACB, 2018, 2019). However, these published data are summary counts of the reported occurrences of different topographies of “wrong” behavior rather than the antecedent and consequence data allowing for a functional analysis of ethical behavior. The database associated with these published data may contain information about the antecedents and consequences of these behaviors. However, publishing detailed information about a potential ethics violation raises privacy concerns and it is unclear if such data should be made public. Moreover, ethics involves “right” and “wrong” behavior. Data allowing for functional analysis of “right” behavior has not been published.

Research has been published on specific topographies within a system of ethics. For example, researchers have taught compliance with rules (e.g., Baron et al., 1969; Wilder et al., 2010), maintained compliance with rules (e.g., Ayllon & Azrin, 1964; Baron & Galizio, 1983; Hackenberg & Joker, 1994), and have helped people emit behaviors labeled

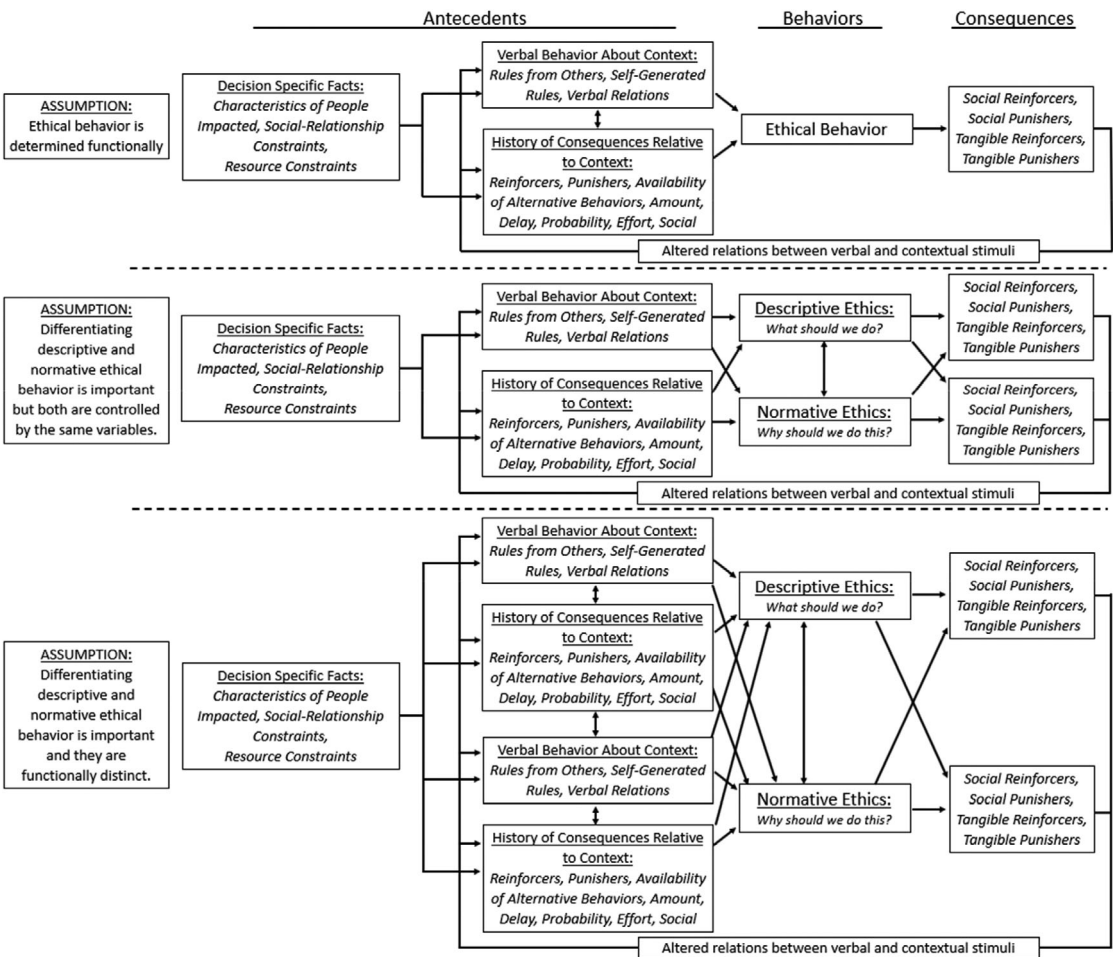
as “valuable” or “ethical” (e.g., Engle & Follette, 2018; Veage et al., 2014). But each of these areas of research began with pre-established rules, values, or ethics and focused on behavior consistent with those rules, values, or ethics. Researchers have yet to examine how ethical behavior is originally derived, altered or modified, or reduced. Succinctly, no known research has empirically demonstrated the function of ethical behavior.

### **Difficulties in Functionally Studying Ethical Behavior**

Empirically studying ethics involves significant challenges. One challenge is that ethics are complex. A functional analysis of behavior identifies the relevant antecedent and consequence events that evoke and alter responding over time. Methods to functionally analyze behavior have been published in several areas of behavior analysis such as with socially inappropriate behavior (e.g., Iwata et al., 1982), teaching others to accurately follow guidelines and procedures (e.g., Lavie & Sturmey, 2002; Sarakoff & Sturmey, 2004), optimizing intervention outcomes (e.g., Berg et al., 2016; Geiger et al., 2010), predicting and controlling verbal operants and related responding (e.g., Catania et al., 1982; Skinner, 1957), and larger cultural and social environments (e.g., Glenn, 1988). But ethics arguably includes all of these. Thus, functionally assessing ethics will likely include many different variables and involve the complex, multiple control of behavior.

A second challenge is controlling relevant independent variables. Many observable and measurable events may occur antecedent to ethical behavior or might be consequences that influence future ethical behavior. Research ideally controls for all but one (or perhaps a few) independent variables and examines the influence of the controlled independent variable(s) on a dependent variable. Verbally competent adults (e.g., certified behavior analysts) likely

**Figure 1**  
*Visual-Descriptive Models of Functional Ethics*



*Note.* The top panel assumes all ethical behavior is functionally determined. The middle panel assumes the topographical distinction between descriptive and normative ethical behavior is important but that they are functionally controlled by the same antecedent and consequent stimuli. The bottom panel assumes descriptive and normative ethical behaviors are functionally distinct though both might be influenced by variables that functionally control the other.

have a long history with many of the antecedents, behaviors, and consequences in Figure 1; controlling for all but one or two variables in Figure 1 is difficult.

A third challenge to empirically studying ethics involves external validity. To understand the conditions under which someone chooses one response over others, the person must be allowed to choose from all available response options. However, the number of response

options to any single ethical scenario might be difficult to capture in an experimental setting. Additionally, if the field of behavior analysis considers one response to be ethical and another response to be less ethical, then empirical research on ethics would have to allow the participant to choose the less ethical response, even if it causes harm to a client. Researchers studying ethics from other scientific domains have worked around this by presenting

hypothetical scenarios to participants in laboratory settings and asking them what they would do (e.g., vignettes; Christensen & Gomila, 2012; Greene et al., 2001, 2004; Thomson, 1976, 1985). However, verbal reports of what one would do in a hypothetical situation are not generally considered strong evidence of what one actually does without the requisite say–do correspondence research also having been conducted (e.g., delay discounting with monetary outcomes; e.g., Baker et al., 2003; Johnson & Bickel, 2002; Lagorio & Madden, 2005).

A fourth challenge is data collection. Without published examples, it is unclear exactly what the appropriate measures should be and how to define optimal outcomes. For example, guideline 2.15 from the Code discusses interrupting or discontinuing services (BACB, 2014). Identifying when 2.15 is violated highlights the difficulty in collecting data to study ethics functionally. What does an appropriate transition of services look like? How intermittent must sessions be to count as interruption or disruption of services? Exactly what counts as reasonable and timely efforts? What do appropriate and inappropriate suggestions of alternative providers look like? What data suggests the client, certified behavior analyst, and all relevant professionals are negatively impacted by transition-related behaviors?

A final challenge is data analysis. Published functional assessment technologies rely primarily on molecular behavior–consequence relations for responses that can be repeated within minutes or hours (e.g., Iwata et al., 1982; Pence et al., 2009; Vollmer et al., 2011). The consequences resulting from an ethical decision might be intermittent, unfold over longer periods, and specific ethical behaviors might be emitted much less frequently. No known functional analysis methods demonstrate how to derive behavioral function of responding in nonlaboratory contexts using variables that span molar timescales and larger temporal–spatial

relationships. To study ethical behavior empirically, this challenge will likely need to be solved.

Ethical decision-making is vital to the delivery of socially important, applied behavior analysis (ABA) services. Despite challenges to empirically examining ethical decision-making, the importance of ethical behavior in ABA service delivery suggests that researchers should attempt to collect data and experimentally manipulate variables to empirically understand what ethical decisions certified behavior analysts make and why. The studies reported here represent an initial foray into an empirical approach to understanding ethical decision-making in ABA service delivery settings using vignettes of commonly encountered ethical scenarios to circumvent issues of complexity and challenges to manipulating variables in real-world decision-making settings.

### Experiment 1

Ethical behavior is often separated into two topographies (Boone, 2017). However, this topographical distinction has been absent from past writings on ethical behavior in behavior analysis. In behavior analysis, ethics has historically been classified relative to right or wrong behavior (Freeman et al., 2020; Skinner, 1953, 1971). What is considered right or wrong is outlined in rules developed by a society or culture. Ethical behavior is adherence to those rules, and adherence and perpetuation of ethical rules occur through operant contingencies. Skinner's approach highlights how an operant framework can theoretically account for what is considered right or wrong behavior. In philosophy, the branch of ethics focused on what is considered right and wrong is called *descriptive ethics* (Boone, 2017).

The second branch of ethics is called *normative ethics* (Boone, 2017). Normative ethics focuses on why a specific behavior is considered right or wrong. Normative ethics have not been

formally discussed in behavior analysis as distinct from descriptive ethics. Nevertheless, an operant framework can also theoretically account for normative ethics. Normative ethical behavior is just verbal behavior, which each person's unique learning history has likely shaped. This can help explain why an individual thinks a specific behavior is right or wrong.

Three theoretical paradigms largely dominate normative ethics in Western academic literature (Jonsen, 1998). These paradigms are consequentialism, deontology, and virtue theory. Briefly, consequentialism argues that behavior is right if it leads to the greatest happiness for the greatest number of people<sup>1</sup>; deontology argues that behavior is right if it conforms to a socially derived rule defined by the context (e.g., a code of ethics; Alexander & Moore, 2016); and virtue theory argues that there are some behaviors that are right or good in and of themselves (e.g., honesty) regardless of consequences or rules (e.g., Hursthouse, 1999; Hursthouse & Pettigrove, 2016; Marino, 2010). Importantly, these three theoretical paradigms logically conflict and can suggest incompatible behaviors in the same context (see Chapter 1 from Brodhead et al., 2018 for a full discussion of these three paradigms, how they inform the Code, and how they can lead to incompatible responses).

Normative ethics are important because, traditionally, they are assumed to determine descriptive ethics (e.g., Gert & Gert, 2016; Skinner, 1953). The assumption is that an ethical analysis proceeds by first agreeing on the type of benchmark to use to determine what is right (e.g., the consequences that lead to the most happiness, the rules appropriate to the context, or the virtuous behaviors to engage

in). Then, using the chosen benchmark, it is determined what behavior best meets that benchmark (descriptive ethics), and the behavior that best meets that benchmark becomes the right thing to do. For example, consider a BCBA deciding whether to use punishment. Taking a consequentialist approach, the right choice is whatever maximizes contact with reinforcers and reduces contact with punishment. Taking a deontological approach, the right choice is whatever fulfills the most rules espoused from the Code.

A legitimate question is whether behavior analysts should care about normative ethics. To this point, the field has successfully advanced without explicitly including the topographical distinction between descriptive and normative ethics. Additionally, certified behavior analysts have a code of ethics they are obligated to follow (BACB, 2014). Perhaps concern over why those rules exist is relevant only to those who write and update that code of ethics. Otherwise stated, understanding why we should engage in ethical behavior is so far removed from the everyday life of behavior analysts, that adding the analysis of why we engage in ethical behavior might hinder, rather than aid, practical ethical decision-making.

There are at least two reasons the argument presented above is not convincing. First, the argument contains several logical fallacies. One is an appeal to authority. Here, the argument is, "The authoritative body called the BACB has created rules of ethics to follow, therefore those rules are right and we should follow them." However, just because someone said a particular behavior is right does not make it so.<sup>2</sup> There is no reason to expect that the rules in the Code do not lead to right behavior, but

<sup>1</sup>Technically, there are many different types of consequentialism. This phrasing refers to total hedonistic consequentialism. A nuanced discussion of the different types of consequentialism are beyond the scope of this paper but interested readers are referred to Sinnott-Armstrong (2015).

<sup>2</sup>This paper is not suggesting that readers disregard the Code. Certified behavior analysts willingly enter a contract in which they agree to follow the rules in the Code. Ethical contract theory would suggest it is wrong to break the contract that has been willingly entered.

it is also unknown if the rules do lead to right behavior. This is why research on functional ethics is needed.

The second logical fallacy occurs when one assumes that something true for a part of the whole is true for the whole (i.e., fallacy of composition). Here, the fallacy occurs via the assumption that all behavior analysts are obligated to follow the Code because some portion of behavior analysts are certified and obligated to follow the code. However, many behavior analysts who work outside of human services are not certified to practice and are not obligated to follow the Code (e.g., those who work in Organizational Behavior Management, animal training, behavioral pharmacology; BACB, n.d.). It seems fair that noncertified behavior analysts should be provided with a convincing reason why they should follow the rules in the Code.

The third logical fallacy consists of an appeal to tradition where someone claims something is true because that is how things have been done in the past. Here, the argument is, "Behavior analysts have not historically considered the distinction between descriptive and normative ethics in their daily practice; therefore, the distinction is not important." However, casual review of this journal highlights how far ABA has advanced. The daily practice of behavior analysts today probably involves many behaviors that did not occur in the daily practice of behavior analysts in the 1950s (e.g., functional analysis, preference assessments). Just because something has not been done in the past does not mean it should not be done in the future. Advances in scientific domains occur through variation and selection based on empirical evidence. Whether an approach is or is not practically helpful should be determined through experimentation—not *prima facie* decisions.

In addition to logical fallacies, the aforementioned argument is not convincing from a practical standpoint. Ethical decisions are not always black-and-white because ethical

guidelines might conflict or ambiguously apply to a situation (for a full discussion see Cox, 2020). Here is where normative ethics might help. Consider a hypothetical situation in which a behavior analyst must decide between two ethical behaviors. One behavior is supported by one ethical guideline and maximizes reinforcement but violates three guidelines. The alternative behavior is supported by three ethical guidelines, violates one guideline, and fails to maximize reinforcement. What is the right thing to do? A consequentialist approach suggests the first option would likely be right, whereas the deontological approach suggests the second option would likely be right. Adding normative ethics to daily ethical decision-making might help behavior analysts navigate difficult ethical decisions when advice to simply follow the Code does not provide clear guidance.

Nevertheless, as noted above, it is often assumed that descriptive ethics are determined by normative ethics. If there is agreement on normative ethics then, logically, the same descriptive ethical behavior should be derived. But functional ethics (Figure 1) suggest that contingencies determine ethical behavior—not necessarily logic. To take a functional approach to understanding ethical behavior in ABA settings, an important initial question is whether descriptive and normative ethical behaviors are, in fact, interrelated. That is, does what behavior people consider as right or wrong rest on why those same people think that behavior is right or wrong?

Practically, understanding whether descriptive and normative ethical behavior are interrelated allows ABA agencies and researchers to design more efficient data collection systems for tracking certified behavior analysts' ethical decision-making. If descriptive and normative ethical behaviors always change together, then collecting data on both becomes redundant. However, if descriptive and normative ethical behaviors do not always change together, then

data collection systems should include both. Thus, the purpose of Experiment 1 was to determine how descriptive and normative ethical behavior changes across five ethical scenarios common to ABA organizations.

## Method

### *Participants*

Twenty-seven participants were recruited from four different graduate courses in ABA Masters course sequences from four universities during the summer and fall of 2019. The average age of participants was 26 years (range, 21-33), 68% self-identified as female, and the average number of years with experience working in ABA settings was 1.15 (range, 0-4).

### *Procedures*

An announcement was posted in the online portal for each course indicating that participants could receive extra credit for completing a brief, online survey regarding ethical decision-making. A link was included in the announcement that led to a Qualtrics webpage that hosted all questions. Upon clicking the link, participants were taken to an informed consent page detailing the purpose and estimated duration of the experiment, and that exiting the survey at any point would communicate that they did not want their data included in the analysis. If a participant chose not to continue, they were redirected to a screen thanking them for their time and indicating they could close the browser window. If the participant chose to continue, they began the experimental tasks (i.e., vignettes).

**Vignettes.** Each participant responded to five ethics scenarios presented as vignettes (see Supporting Information for full descriptions). The topic of each vignette was selected and modified from scenarios published in Bailey and Burch (2016). Scenarios were selected to cover a range of situations likely encountered by practicing certified behavior analysts. The

first scenario involved parents who mixed-and-matched ABA services with interventions based on different theoretical perspectives (e.g., floor-time, Gluten-Free/Casein-Free diets, sensory integration) resulting in reduced overall time available for ABA services. The second scenario involved working as part of an interdisciplinary IEP team that chose to implement a non-evidenced-based intervention. The third scenario involved a certified behavior analyst colleague making false claims about their abilities and certification. The fourth scenario involved the parents of a client who failed to take the data necessary to implement an effective intervention. The fifth scenario involved learning that one's employer had engaged in billing fraud.

### *Response Scoring, Data Analysis, and Inter-coder Agreement*

Participants were instructed to provide two responses to each scenario. One response was the course of action they thought was best given the information presented in the scenario (descriptive ethical behavior). This response was recorded by having the participant choose between one of two options available on the screen (i.e., forced-choice procedure). Qualtrics software automatically recorded which option the participant selected; thus, these data were not subject to analysis of intercoder agreement.

The second response was an open-ended, free-response answer in which the participant was asked, "Why is the choice you made the best choice?" (normative ethical behavior). This response was recorded by having the participant enter text in a box below the question. The free-response text for each participant was hand-coded to determine which ethical theory (i.e., consequentialism, deontology, virtue theory; Brodhead et al., 2018) best described the rationale for why the response chosen was the best option. The second response was coded as: consequentialism if it appealed to maximizing benefits or minimizing harm; deontology if it

appealed to rules and duties to uphold the Code; virtue theory if it appealed to a virtue and the behavior simply being the right thing to do; or unjustified if the response reiterated the behavior the individual had selected in the forced-choice option.

Agreement was calculated for the free-text response by having a second coder code the ethical theory that best described all free-text response options. The second-coder labels were then compared to the first-coder labels. Coders agreed on 25 of the 27 (93%) free-text responses. The two disagreements came from participants who responded that the Code should be followed (deontology) because it results in maximizing benefit to the client (consequentialism). For these two responses, the final coding used for analysis was consequentialism.

## Results and Discussion

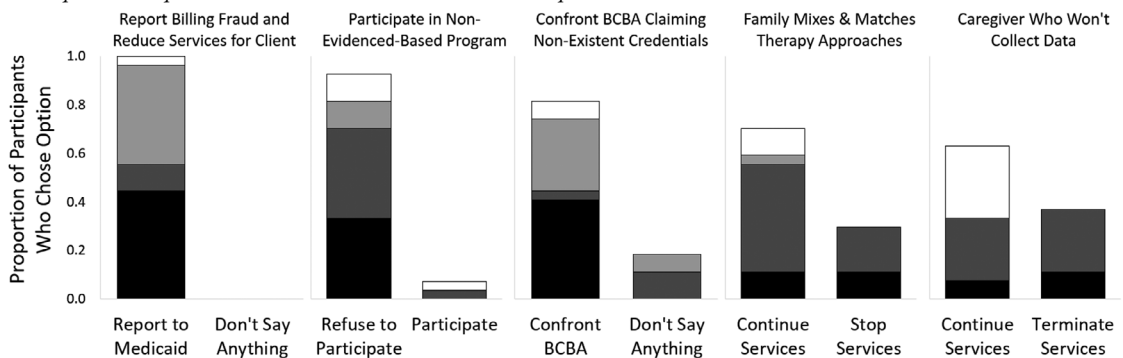
Figure 2 shows a breakdown of responding across both answers to all five ethical scenarios. The only ethical scenario on which all participants agreed about the right thing to do was the scenario involving billing fraud (far left panel, Figure 2). All participants indicated the right choice was to report the billing fraud to Medicaid. For the remaining scenarios, 93%

(25 of 27 participants) reported they would refuse to participate in a non-evidence-based program, 81% (22 of 27) reported they would confront the BCBA claiming nonexistent credentials, 70% (19 of 27) reported they would continue services with the family mixing-and-matching therapies, and 63% (17 of 27) reported they would continue services with the caregiver who was not collecting data. These data suggest there is likely to be variability in how people respond to common ethical scenarios encountered by certified behavior analysts—except for the illegal activity of billing fraud.

The participants were also variable in why they claimed the response they chose was best, which was observed in three different ways. First, for each response selected by participants, different ethical theories described the reason why that option was determined as best. For example, despite all participants agreeing that it was best to report billing fraud to Medicaid (left panel, Figure 2), 12 participants' free-text justifications were best described by deontology, 11 were best described by virtue theory, three were best described by consequentialism, and one was unjustified. These data suggest that people may agree on what is the best response to an ethical scenario, but agreement

**Figure 2**

*Participant Descriptive and Normative Ethical Behavior in Experiment 1*



*Note.* The proportion of participants (y-axis) who chose each response (x-axis) for each ethical scenario (panel titles). Different colors represent the different ethical theories that best described the justification that participants gave for why the response they chose was the best option.



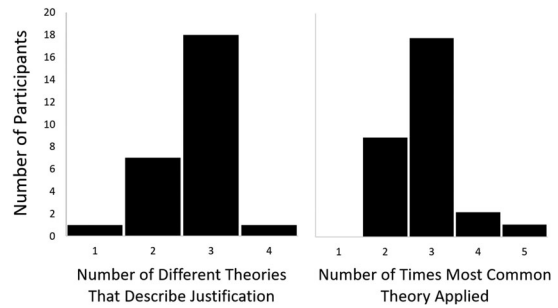
on what is best does not guarantee agreement on why a certain response is best.

The second type of observed variability related to how a single theory was distributed between response options. There were four scenarios for which people disagreed on what was the right thing to do. In all four scenarios, at least one ethical theory best described the justifications for both response options. For example, when asked about participating in a non-evidence-program as part of an interdisciplinary team (2<sup>nd</sup> from the left panel, Figure 2), consequentialism best described 10 participants' justifications of refusing to participate as well as one participant's justification to participate in a non-evidence-based program. As another example, for families who mix-and-match therapy approaches (2<sup>nd</sup> from the right, Figure 2), deontology best described three participants' justifications to continue services and three participants' justifications to stop services. And, in the same ethical scenario, consequentialism best described 12 and five participants' justifications to continue and stop services, respectively. In short, these data suggest that people may agree on why an ethical response is justified but disagree about what response best meets that justification.

A final type of variability was observed within subjects. There are two ways to examine within-subject variability in ethical justifications. First, each participant provided five justifications for their ethical responses. All five justifications provided by a participant could have been described by a single theory. Or, because there were four coding categories, all four different categories might have been used to describe different justifications provided by a participant. A count can be made for how many different ethical theories best describe the set of five justifications provided by a participant, and then a count can be made for the number of participants whose justifications were best described by one, two, three, or four ethical theories. The left panel in Figure 3 shows this count for the number of participants

**Figure 3**

*Within-Subject Variability of Normative Ethical Behavior in Experiment 1*



*Note.* Histograms showing within-subject variability of normative ethical behavior. The left panel shows how many participants' justifications (y-axis) were best described by 1, 2, 3, or 4 different ethical theories (x-axis). For each participant, one ethical theory described their justifications across more scenarios than other ethical theories. The right panel shows the number of participants (y-axis) for whom their most common ethical theory described their normative ethical behavior on 2, 3, 4, or all 5 ethical scenarios (x-axis).

(y-axis) whose justifications were best described by one to four different ethical theories (x-axis). The majority of participants' justifications were best described by two ( $n = 7$ ) or three ( $n = 18$ ) different ethical theories (left panel, Figure 3).

Knowing that multiple theories best describe a participant's response does not provide the entire picture of within-subject variability. It is possible that one theory best described a participant's justifications and that they deviated from this theory for only one decision. Alternatively, it is possible that any single theory was rarely used more than once, which could help describe within-subject variability. Thus, a second way to look at within-subject variability is to count how many times a participant's most commonly used theory applied to their justifications (which can range from two to five because there were five scenarios and four coding categories so one theory had to be used at least twice). Then, a count can be made for the number of participants whose most common theory applied for two, three, four, or five

justifications. The right panel in Figure 3 shows these data. The most common ethical theory that described each participant's free-text response most frequently occurred two ( $n = 8$ ) or three ( $n = 16$ ) times.

In total, the data in Figure 3 show that 26 of the 27 participants' justifications were best described by different ethical theories depending on the ethical scenario, and the ethical theory that best described their justification changed on at least 40% of the ethical choices made. All three ethical theories are logically inconsistent and incompatible (Brodhead et al., 2018). Thus, this within-subject variability suggests that people may justify the ethical decisions they make in everyday ABA service delivery settings based on their learning history with specific ethical situations rather than a consistent approach to ethical decision-making.

Certain limitations prevent us from concluding that the data from Experiment 1 represent how all certified behavior analysts would respond to these five ethical scenarios. On the contrary, the sample used for Experiment 1 was a convenience sample of graduate students completing ABA coursework at four different universities in the United States. It is possible that different patterns of responding would have been observed with practicing certified behavior analysts who had completed their graduate training. Nevertheless, Experiment 1 was not designed to describe ethical decisions that certified behavior analysts make. Experiment 1 was designed to determine whether descriptive (what) and normative (why) ethical behavior are interrelated.

A second limitation to Experiment 1 is that only two ethical behaviors were available to choose from. This approach was used to make data analysis easier in this initial attempt at empirically studying functional ethics. However, requiring a choice between two options differs from many applied situations where more than two courses of action are available. Nevertheless, that practicing certified behavior analysts may show greater variability in what

they choose as the right behavior further strengthens the findings in Experiment 1—agreement on why we consider a behavior right does not guarantee agreement on what behavior we consider right.

The data from Experiment 1 suggest that descriptive and normative ethical behavior do not appear to be interrelated at the group level. In total, Experiment 1 asked 27 people to respond to five ethical scenarios common to everyday ABA service delivery. The data suggest that people may agree on what is the ethically right thing to do but disagree on why it is the right thing to do, or people may agree on why a course of action is ethical but disagree on what the response should be. Finally, within-subject variability suggests that a changing perspective to justify why ethical behavior is considered right might be the norm rather than the exception.

The findings from Experiment 1 are practically important for certified behavior analysts for two reasons. The first is related to certified behavior analysts' conversations about ethical behavior. The top panel in Figure 1 shows how ethical behavior has been described in past behavior-analytic publications as controlled by scenario-specific facts, rules and consequences for past ethical behavior, and the consequences that follow each new instance of ethical behavior (e.g., Baum, 2005; Skinner, 1953, 1971). The data in Experiment 1 suggest that a functional approach to ethical behavior should likely separate ethical behavior into the two broad categories discussed in ethical philosophy—descriptive and normative ethical behavior. Thus, the model from the top panel in Figure 1 can be updated to incorporate these distinct categories (middle panel of Figure 1). Conversations about ethical decision-making by certified behavior analysts should likely include data on what the right thing to do is in a given situation as well as why it is the right thing to do.

The second reason these results are practically important pertains to organizations that provide ABA services and perhaps the field of ABA. The data in Experiment 1 suggest that

variability is likely to occur in responding to ethical scenarios common to ABA service delivery settings. As the adage goes, one bad apple can spoil the barrel. Unethical decisions made by a single employee may impact the reputation of an organization. Organizations that want to understand and improve the ethical decision-making of their employees could use the methods from Experiment 1 to collect data on how employees respond to ethical scenarios commonly encountered by employees in their organization. These data would allow the organization to determine how much variability in ethical decision-making currently exists, and to identify guidelines or policies that would help employees make ethical decisions consistent with the organization's mission, values, and relevant to the unique contexts their employees face (Cox, 2020).

A final limitation of Experiment 1 relates to the functional relatedness of descriptive and normative ethical behavior. The results suggest descriptive and normative ethical behavior is likely distinct. That is, knowing what response someone considers ethically right is not necessarily predictive of why they are likely to say it is right, and vice versa. Further, knowing that descriptive and normative ethical behavior are distinct does not mean these repertoires are functionally independent. It is possible that past antecedent contexts and consequences for ethical decisions shaped descriptive and normative ethical behavior, but each person's unique learning history shaped different topographies for different people. The methods used in Experiment 1 do not allow us to determine whether descriptive and normative ethical behavior are functionally independent. Experiment 2 was designed to test this more directly.

## Experiment 2

Analyzing the proportion of participants from a group that choose a specific response helps describe overall trends at the level of an

organization, region, or perhaps for a field as a whole. As noted by previous authors, ethical behavior is often defined by the rules outlined at the group level despite ethical behavior being established and maintained through contingencies operating on individual behavior (e.g., Baum, 2005; Skinner, 1953, 1971). Additionally, whereas most laboratory research on choice involves repeated decisions in an unchanging context, ethical decisions in applied contexts are likely to occur once or twice before the context changes through additional facts (e.g., a family responds negatively when a gift is refused and the social relationship is affected) or additional verbal behavior (e.g., an organizational policy related to an issue, or advice from a colleague). The one-shot decisions focused on group-level responding in Experiment 1 seem to be an ecologically valid method to understand ethical decision-making in applied contexts, and how such responding might translate to ethical rules. Nevertheless, establishing a robust science of functional ethics requires an understanding of whether descriptive and normative ethical behavior are functionally independent.

The best method to test functional relations between antecedents, choice, and consequences is to observe the effect of a within-subject manipulation of an independent variable on steady-state responding (Sidman, 1960). In laboratory research on ethical decision-making, this would involve repeatedly presenting the same vignette to research participants before manipulating an independent variable. However, this strategy seems unlikely to result in different responses and likely to reduce response quality through fatigue and boredom.

Another method to determine the influence of an independent variable manipulation is to conduct a parametric analysis (Perone & Hursh, 2013). Examples of parametric manipulations include changing-criterion designs (e.g., Klein et al., 2017), dose-response curves in behavioral pharmacology (e.g., Branch, 1984; Calabrese, 2008), varied combinations of concurrent variable-interval schedules of reinforcement

(e.g., Baum, 1974; Herrnstein, 1970), and changing delays or probabilities in discounting research (e.g., Mazur, 1987; Rachlin et al., 1991). Parametric analyses might help the study of ethical decision-making using a within-subject experimental framework. Specifically, an examination of the variables that control ethical decision-making can occur by systematically changing one aspect of the ethical decision-making context in a step-wise fashion until the participant switches from one ethical response to a different ethical response. Evidence that descriptive and normative ethical behaviors are functionally related is found if the choice of what is right and why it is right always change together within a single subject. In contrast, evidence that descriptive and normative ethical behaviors are functionally independent is found if the choice of what is right and why it is right do not change together within a single subject as an independent variable is parametrically manipulated.

Using a parametric analysis to study ethical decision-making with vignette analogs to ABA service delivery raises important first questions. What contexts should be examined with the vignettes and what contextual variables should be parametrically manipulated? Modern Western codes of clinical, medical, and educational ethics have their foundations in the Western principles of bioethics (i.e., beneficence, nonmaleficence, justice, and autonomy; Brodhead et al., 2018; Cox, 2012, 2019; The Commission, 1978). Thus, an examination of ethical decision-making in situations explicitly related to the four principles of Western bioethics may be a starting place. Experiment 2 asked participants to make ethical decisions across four contexts for which the benefit, harm, allocation of clinical resources (justice), and degree of client preference (autonomy) were parametrically manipulated.

Understanding whether descriptive and normative ethical behaviors are functionally independent has important applied implications. Clinics, organizations, ABA educational programs, and practicum sites are likely interested in the acquisition,

maintenance, or reduction of ethics-related behavior. Professors and supervisors must know whether descriptive and normative ethical behaviors are functionally independent when designing interventions and educational opportunities related to ethical behavior. If dependent, the efficacious use of training and educational resources might be directed at descriptive or normative ethical behavior because the other will change in step. If independent, the efficacious use of training and educational resources will involve a decision between descriptive or normative ethical behavior, or the design of interventions for both.

## Method

### *Participants*

Seventeen participants were recruited from two different graduate courses in ABA Masters course sequences across two universities during the fall of 2019. The average age of participants was 29 years (range, 22-45), 71% self-identified as female, and the average number of years with experience working in ABA settings was 1.00 (range, 0-4).

### *Procedures*

Participants were recruited and consented in the same manner as Experiment 1.

**Vignettes.** Each participant responded to four ethics scenarios presented as vignettes (see Supporting Information for full descriptions). For each scenario, five vignettes were created for which the framing changed with respect to just one aspect of the situation (i.e., beneficence, nonmaleficence, justice, or autonomy).

The first ethics scenario was similar to the Medicaid billing fraud vignette in Experiment 1. The manipulated variable was related to beneficence and nonmaleficence and involved the client's loss of a beneficial service because the respondent reported billing fraud. Specifically, some areas of the United States are relatively remote, and clients may only have access to a single ABA agency. By reporting billing

fraud, the agency might be temporarily or permanently closed and the clients left without services for some time. Across the five vignettes, the duration the client might be without services was systematically increased from several months up to 10+ years. In Experiment 1, all participants indicated they would report billing fraud. This vignette and manipulation were chosen to determine if the choice to report billing fraud would change if reporting caused an individual to be without beneficial services for increasingly longer durations.

The second ethics scenario was similar to mixing-and-matching different services from Experiment 1. The manipulated variable was explicitly related to beneficence and non-maleficence. In the vignette framing, the respondent was told that mixing-and-matching different types of services led the client's rate of progress to be "significantly better," "better," "the same," "less than," and "significantly less than" when the client was receiving 20 hr per week of ABA intervention.

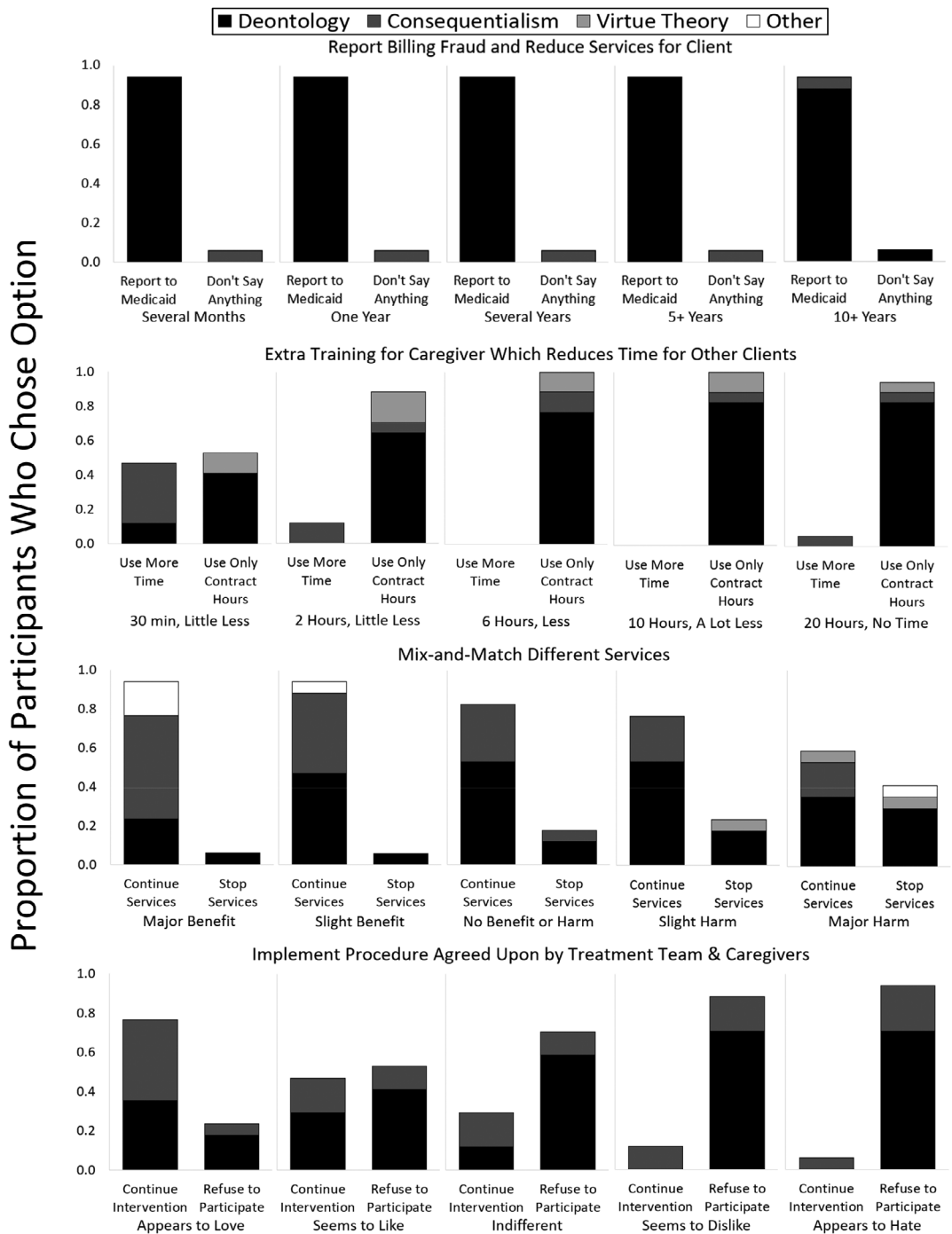
The third ethics scenario was an extension of the data collection scenario from Experiment 1. The manipulated variable was the time per week it would take to train the caregiver to collect accurate data and the related reduction in the time the behavior analyst would have for other clients on their caseload. Across the five vignettes in this scenario, time to train the caregiver ranged from 30 min to 20 hr per week. The associated reduction in time allocated to other clients over the next month was described as "a little less time," "less time," "a lot less time," and "no time for other clients." This scenario targeted the bioethical principle of just allocation of resources. Specifically, certified behavior analysts enter contracts with clients wherein they agree to provide a specific amount of their time (a limited resource) in exchange for a specific amount of money. This scenario targeted decisions to unfairly reduce the time spent on some clients' programs to benefit a single client.

The fourth ethics scenario was an extension of the interdisciplinary collaboration scenario from Experiment 1. The manipulated variable was client preference for an intervention agreed upon by a treatment team and the client's caregivers. The intervention was described as likely to lead to the best results for the client in all five vignettes. The client's preference for the intervention was parametrically changed to suggest the client "appears to love," "seems to like," "is indifferent," "seems to dislike," and "appears to hate" the intervention activities. This scenario was designed to target decisions about respecting the autonomy (choice) of the client relative to the intervention design and implementation. That is, this manipulation was meant to assess how the ethically right choice and its justification change when a client appears to dislike an effective intervention chosen by their caregivers and treatment team.

### ***Response Scoring and Data Analysis***

Participants were instructed to provide two responses to all five vignettes across all four ethical scenarios (40 total choices). One response was the course of action they thought was best given the information presented in the scenario (descriptive ethical behavior) and the same forced-choice procedure was used as in Experiment 1. Qualtrics software automatically recorded which option the participant selected; thus, these data were not subject to IOA analyses.

The second response participants provided was why they believed the course of action chosen was the ethically right choice (normative ethical behavior). In Experiment 1, it was unclear how well the three common ethical theories would describe participants' normative ethical behavior and, thus, open-ended text responses were collected. Because the hand-coded theories describing the open-ended responses fell within the three dominant Western ethical theories in Experiment 1, Experiment 2 used a forced-choice procedure to obtain responses regarding normative ethical behavior.

**Figure 4***Participant Descriptive and Normative Ethical Responses in Experiment 2*

*Note.* The proportion of participants (y-axis) who chose each response (x-axis) for each ethical scenario (panel titles). Different colors represent the different ethical theories that best described the justification that participants gave for *why* the response they chose was the best option.

Each forced choice for normative ethical behavior involved selecting from one of four options. One option was the deontological perspective and indicated the ethical behavior they selected was best because of the duties and obligations outlined in the Code (BACB, 2014). The second option was the consequentialist perspective and indicated the ethical behavior they selected was best because the choice lead to the greatest likelihood of benefit and the least likelihood of harm. The third option was the virtue theory perspective and indicated the ethical behavior they selected was best because it was simply the right thing to do. Finally, a fourth option indicated as “Other” provided a box into which participants could type an open-ended response. Qualtrics software automatically recorded which option the participant selected and these data were not subject to IOA analyses.

## Results and Discussion

### *Variability in What and Why*

Figure 4 shows a breakdown of responding across both answers to all four ethical scenarios and responding to each vignette within each ethical scenario. The top panel in Figure 4 shows responding to billing fraud targeting beneficence and nonmaleficence. Similar to Experiment 1, nearly all participants agreed that billing fraud should be reported. Increasing the time that the client would be without services did not change the proportion of participants who indicated they would report. In all but one vignette, the deontological option was chosen to justify reporting to Medicaid which differs from Experiment 1 in which all three ethical theories described the reason for a particular selection. In Experiment 2, this was likely because the vignette explicitly indicated the loss of a benefit by reporting so participants would have to justify why they would decrease the benefit a client is receiving from services. The influence of the explicit framing is further supported by the one participant who justified

their choice not to say anything with the consequentialist option.

The second panel in Figure 5 shows responding to the vignettes targeting the just allocation of resources. In this vignette, participants chose between allocating their time to improve data collection on a single case at varying cost to other clients. When training the caregiver required only 30 min of additional time and reduced the time available for other clients by only a little, 47% (8 of 17) chose to allocate training time beyond what was allowed by the funding contract. As the additional time required increased to 2 and 6 hr or more, the number of participants who chose to allocate time to training the caregiver reduced to 12% (2 of 17) and 0%, respectively. These data suggest that the descriptive ethical decision of what to do is controlled by the amount of resources that would be unfairly allocated across a caseload.

There was also variation in participants' selections of ethical theory to justify their response. Deontology and consequentialism were again the primary theories used to justify the ethical decision (72% and 16% of total choices, respectively). Similar to the previous ethical scenarios, deontology and consequentialism were used to justify both options across vignettes and, within any one vignette, multiple theories were used to justify the choice of what to do. In short, these data replicate the findings of Experiment 1 in that the what and why do not perfectly match for ethical scenarios involving the just allocation of resources.

The third panel in Figure 4 shows responding to mixing-and-matching services targeting beneficence and nonmaleficence. When mixing-and-matching services led to a “major benefit” or a “slight benefit” for the client, 94% (16 of 17) of the participants indicated they would continue to provide services. The proportion of participants who chose to continue services systematically decreased when mixing-and-matching services no longer offered

benefit. Specifically, 82% (14 of 17), 76% (13 of 17), and 59% (10 of 17) of the participants chose to continue services when mixing-and-matching services provided “no benefit or harm,” “slight harm,” and “major harm,” respectively. These data suggest that the descriptive ethical decision of what to do is controlled by the amount of benefit or harm the client experiences.

There was also variation in participants’ selection of ethical theories to justify both continuing and stopping services for the mixing-and-matching services vignettes. Participants who agreed to continue services in each vignette disagreed on whether one’s duties and obligations (deontology; 52% of choices to continue; 36 of 69) or benefits-and-harms (consequentialism; 41% of choices to continue; 28 of 69) best justified their choice. Participants who agreed to stop services also disagreed on whether deontology (75% of choices to stop; 12 of 16), consequentialism (6% of choices to stop; 1 of 16), or virtue theory (13% of choices to stop; 2 of 16) best justified their choice. Finally, deontology and consequentialism were primary justifications used across the five vignettes related to mixing-and-matching services with deontology selected in 56% (48 of 85) and consequentialism selected in 33% (28 of 85) of total opportunities. These data replicate the findings of Experiment 1 in that what participants claim is the right thing to do does not match perfectly with why they claim it is the right thing to do for ethical scenarios involving tradeoffs between benefits and harms.

The fourth panel in Figure 4 shows responding to the vignettes targeting respect for autonomy. In this vignette, participants chose between an intervention likely to result in the best outcomes while the child’s preference for the intervention ranged from “appears to love” to “appears to hate.” When the client appeared to love the intervention, 76% (13 of 17) chose to join the rest of the interdisciplinary team and continue to implement the intervention. As the child’s preference

for the intervention shifted along the continuum of “like,” “indifference,” “dislike,” and “hates,” the proportion of participants who chose to continue the intervention decreased to 47% (8 of 17), 29% (5 of 17), 12% (2 of 17), and 6% (1 of 17), respectively. These data suggest the descriptive ethical decision of to do is controlled by the preference a client demonstrates for an intervention—even when the intervention is likely to lead to the best results.

There was variation in participants’ selection of the ethical theory to justify their decision to respect client autonomy. Deontology and consequentialism were used to justify all responses across the vignettes in this ethical scenario, with deontology chosen in 67% (57 of 85) and consequentialism chosen in 33% (28 of 85) of opportunities. Similar to the previous scenarios, deontology and consequentialism were chosen to justify both continuing the intervention and refusing to participate in three of the vignettes. Consequentialism was the only theory used to justify continuing the intervention when the client disliked or appeared to hate the intervention, and both deontology and consequentialism were chosen to justify refusing to participate. These data replicate the findings from Experiment 1 in that the what and why do not perfectly match for ethical scenarios involving respecting client autonomy.

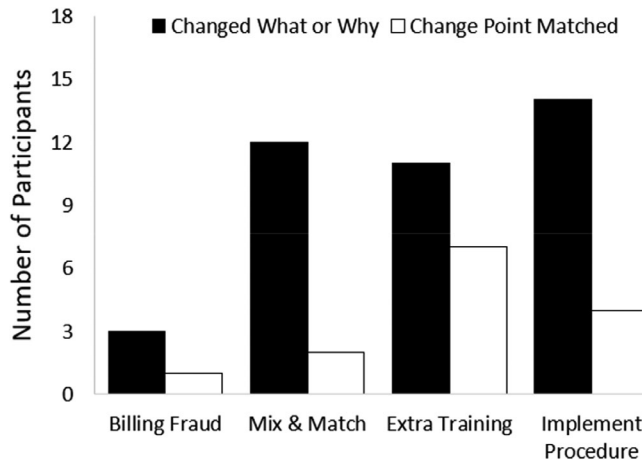
### ***The Functional Relation Between What and Why***

Within subject-analyses were conducted to determine the functional relatedness between descriptive (what) and normative (why) ethical behavior. To test functional independence within a participant, descriptive or normative ethical behavior had to change as a function of the parametrically manipulated variable across vignettes within an ethical scenario. Thus, participants were first identified who changed their descriptive or normative ethical behavior across vignettes within each ethical scenario. Once identified, the vignette for which their choices



**Figure 5**

*Correspondence Between Changes in Descriptive and Normative Ethical Behaviors*



*Note.* The black bars show the number of participants who changed what they said was the right response or why they said it was the right response in Experiment 2 (y-axis) for each ethical scenario (x-axis). The white bars show the number of those participants whose switch points for what and why matched (i.e., they changed what and why on the same choice trial).

switched was identified, and whether both ethical behaviors also switched was counted. Stated differently, the questions answered for each participant were “Did this participant’s ethical choices change across vignettes within a scenario?” and “If the what or why changed, did the other ethical behavior change at the same time?”

Figure 5 shows a bar plot of the functional relatedness of descriptive and normative ethical behavior. The black bars show the number of participants who changed either what they claimed was the right thing to do or why they claimed it was the right thing to do across vignettes within each ethical scenario. A total of three, 12, 11, and 14 out of 17 participants changed their behavior across vignettes within the scenarios of billing fraud, mixing-and-matching services, extra training, and client autonomy, respectively. These data suggest that, except for billing fraud, most participants’ choices changed for what or why a behavior was right (i.e., the experimental, parametric manipulation changed behavior for the majority of participants).

The white bars in Figure 5 show the number of participants who changed what they said was the right thing to do and why they said it was the right thing to do on the same choice trial. The percentage of participants whose behavior of what and why changed on the same trial was 33% (1 of 3), 17% (2 of 12), 64% (7 of 11), and 29% (4 of 14) for the ethical scenarios of billing fraud, mixing-and-matching services, extra training, and client autonomy, respectively. If descriptive (what) and normative (why) ethical behaviors were functionally dependent, then manipulating an independent variable to change one type of ethical behavior should change the other in all instances. This was not observed in Experiment 2. Though some overlap in change was observed in each ethical scenario, a simultaneous change of both what and why was not common. Overall, simultaneous changes occurred in only 14 of 40 opportunities. These data suggest that descriptive and normative ethical behavior appear to be functionally distinct.

Functional independence of descriptive and normative ethical behavior suggests that the

working model of ethical behavior should also change. The bottom panel in Figure 1 shows an updated model for functionally understanding ethical behavior based on the data from Experiment 2. The results from Experiment 1 left open the possibility that functionally controlling the antecedents and consequences for descriptive or normative ethical behavior might lead to changes in the other. However, the data from Experiment 2 suggest that manipulating the antecedents or consequences for one type of ethical behavior does not automatically lead to changes in the other. Conversations about ethical decision-making by certified behavior analysts should include antecedent, behavior, and consequence data for both what to do in a given situation as well as why it is the right thing to do.

Knowing that descriptive and normative ethical behavior are functionally distinct has important applied relevance for practicing behavior analysts. As ethical dilemmas occur, organizational leaders may want employees to make ethical decisions in line with the mission and values of the company. To do this, organizational leaders might provide employees with resources and training surrounding ethical decision-making and a hierarchy of organizational values (e.g., best interests of the client always come before duties to the code of ethics or vice versa). Assessing the effectiveness of ethical resources and training requires data collection on ethical behavior–environment relations, but measuring ethical behavior requires time and money and should, therefore, be as efficient as possible.

The data from Experiment 2 suggest that organizations should collect behavior–environment data for what their employees claim is the right thing to do in each situation and why it is the right thing to do. If descriptive and normative ethical behavior were functionally related, then data collection for one type of ethical behavior might be sufficient for measuring the effect of ethical decision-making aids, organizational

training, and policies on employee ethical behavior. However, the data from Experiment 2 suggest descriptive and normative ethical behavior are functionally independent. Thus, organizations interested in developing efficient systems to aid ethical decision-making should collect data on both what employees believe to be the right thing to do as well as why they think so.

Finally, Experiment 2 was limited in the same ways as Experiment 1. The data from Experiment 2 do not represent how all certified behavior analysts would respond to these four ethical scenarios. The sample used for Experiment 2 was again a convenience sample of graduate students completing ABA coursework at two different universities in the United States. Different patterns of responding may have been observed using practicing certified behavior analysts who had completed graduate training. Nevertheless, Experiment 2 was not designed to describe ethical decisions that certified behavior analysts make. Experiment 2 was designed to determine the functional dependence between descriptive (what) and normative (why) ethical behavior using scenarios common to ABA practice. Additionally, it seems unlikely this functional relation would change with the receipt of board certification but remains an open question to be explored in future research.

## General Discussion

Across two experiments and seven practice-related scenarios, participants chose what to do (descriptive ethical behavior) and why it was the right thing to do (normative ethical behavior). In Experiment 1, there was considerable variability in participants' choices about descriptive and normative ethical behavior—except when presented with a scenario about billing fraud. At the individual level, most participants' normative ethical behavior was best described by different ethical theories for different ethical scenarios. Experiment 2 replicated

group trends of variability from Experiment 1. Additionally, systematically changing each ethical scenario led to within-subject changes in choices of what or why, but on different trials. This suggests that descriptive and normative ethical behaviors are functionally distinct. The broad themes of variability, functional independence, and the implications for practice are discussed.

### **Variability in Ethical Decision-Making**

Variability in choosing what to do and why is unsurprising as each participant entered the experiment with a different history of antecedents and consequences surrounding ethical behavior (bottom panel, Figure 1). Practically, this means the same ethics-related situation likely leads to different responses by different people. This has significant practical importance because it suggests the public's experience with a certified behavior analyst in an ethical situation will likely differ across different countries, regions within a country, agencies within a state, and potentially different behavior analysts in the same organization.

Variability in ethical decision-making could present challenges for the field of ABA. Many behavior analysts provide services under the label of ABA and publicly refer to themselves as behavior analysts. The behavioral processes of association and generalization (e.g., Sigurðardóttir et al., 2012) suggest that the behavior of one individual in one location might influence public perception of all ABA services or behavior analysts. For example, residents of the Sunland Training Center in Miami, Florida were abused by staff implementing "behavior modification programs." In turn, investigation of the abuses led to strict oversight and regulatory systems for all people in the state of Florida who engaged in behavior modification, regardless of their relationship to the Sunland Training Center (Bailey & Burch, 2016). Variability in ethical decision-making across certified behavior analysts increases

the likelihood that someone somewhere will engage in behavior considered wrong by other behavior analysts and the larger field of ABA might be impacted.

Variability in ethical decision-making may present opportunities for ABA. It is unlikely that any single pattern of rule-based behavior will lead to optimal responding across all contexts and at all points in time (e.g., Hayes et al., 1986; Matthews et al., 1985; Shimoff et al., 1986). Variability increases the likelihood that novel, better solutions are found to existing ethical challenges. Variability also increases the likelihood that ethical behavior will adapt to changing contingencies over time (e.g., Hackenberg & Joker, 1994). Together, variability in ethical decision-making likely results in better solutions to existing ethical challenges and adaptation to novel environments and ethical challenges.

Managing variability in ethical decision-making involves a tradeoff between challenges and benefits. Too much variability could make moot the point of a code of ethics and increase the likelihood of behavior that harms public perception of the field. Too much restriction might reduce practitioners' ability to effectively and efficiently change how they respond to the contingencies they experience. Open questions for future research become how much variability is optimal; how should ethical variability be described, predicted, and controlled; and, who is best positioned to manage variability in ethical decision-making (e.g., individual BCBAs, organizational leaders, state licensing bodies)?

Managing variability in ethical decision-making also involves optimizing toward some goal. To observe, measure, and change ethical decision-making requires knowledge of the purpose of ethical decision-making. Is the purpose to optimize the quality of life of recipients of ABA services? Is the function to reduce the likelihood that violations of societal norms occur and to increase the ability to compete for clients? Is the purpose something else? Open

questions for future research include what is the purpose of ethical decisions where one works; are there outcomes of ethical decision-making one deems important; and, how can systems be created to optimize ethical decision-making toward those goals? Experiments 1 and 2 suggest that answers to these questions are likely to come at the individual and organizational levels.

### **Functional Independence of Normative and Descriptive Ethical Behavior**

Knowing whether descriptive and normative ethical behaviors are functionally distinct matters when creating practical systems for observing, measuring, intervening, and maintaining ethical behavior. If descriptive and normative ethical behaviors are functionally dependent, then intervening on one will change the other. An efficient system would focus on what to do in an ethical situation or why to do it, but focusing on both would be redundant and a waste of resources. For example, an ABA agency could focus on training employees to accurately calculate benefit and harm from their decisions (the normative approach of consequentialism). If normative and descriptive behaviors are functionally dependent, then training and contingencies around the use of consequentialism would lead to similar patterns of ethical decision-making by employees.

Alas, the data from Experiments 1 and 2 suggest normative and descriptive ethical behaviors are functionally independent. For practicing behavior analysts interested in ethical behavior, the functional independence of descriptive and normative ethical behavior indicates we should design data collection systems on both what and why. The functional independence of normative and descriptive ethical behavior also supports increased research on why people say that certain behaviors are right or wrong. Succinctly, why does an organization have the ethical rules and policies they do? Such research

may inform the everyday ethical decision-making of certified behavior analysts and how the current rules in the Code are justified.

### **Moving Forward**

The studies reported here had several limitations. These experiments used a convenience sample of graduate students in ABA programs and presented hypothetical ethical decisions as vignettes. The data are unlikely to represent how all certified behavior analysts would respond and it is unclear that what participants report they would do in each situation is what they actually would do (Israel, 1978). Interesting areas for future research would be to examine how years of experience in specific practice settings might lead to changes in descriptive and normative ethical behavior. However, as noted throughout, the purpose of these experiments was not to describe ethical decision-making. Rather, the purpose was to begin picking apart the functional relatedness of descriptive and normative ethical behavior.

There are many challenges to studying ethical decision-making in nonlaboratory contexts. These challenges include the complexity of interacting behavioral processes controlling ethical behavior (bottom panel, Figure 1); controlling ethically relevant independent variables in nonlaboratory contexts; ethical arguments against allowing research participants to choose unethical behaviors in nonlaboratory environments; collecting relevant data in complex, dynamic environments; and methods to analyze one-shot ethical decisions of lower frequency than traditional choice research. Vignettes are one way to mitigate challenges and to conduct laboratory research on ethical decision-making. But methodological advances will be needed to empirically study behavior in nonlaboratory settings where ethical decision-making occurs.

One way to jump-start a nonlaboratory-based approach to functional ethics is by documenting ethical decision-making in service

delivery settings. Several authors have outlined ethical decision-making processes (Bailey, 2013; Rhodes & Alfandre, 2007; Rosenberg & Schwartz, 2019). Each involves six to eight steps where people answer questions and determine which behavior seems ethical. Data could be collected on responses to the decision-making steps, the behavior chosen as most ethical, and the resulting impact to the client, the certified behavior analyst, and other stakeholders. Additionally, the research presented here suggests that ethical decision-making processes should include why a particular response was considered most ethical, not just what response was most ethical.

Many opportunities exist to collect data on ethical decision-making in ABA. Between 2016-2017, there was an average of 57,591 certified behavior analysts (BACB, n.d. b). Ethical decisions are likely made multiple times per day (e.g., use of reinforcement over punishment, appropriate assessment procedures, accurate collection and use of data). If each certified individual averaged only one ethical decision each day, there would have been 42,041,430 ethical decisions made during this same period. Over 42 million ethical decisions create a lot of opportunities for data collection. Many agencies might be hesitant to publish data on unethical conduct in their organization, but with a large enough dataset scrubbed to protect personal information, relevant trends in the functional control of ethical decisions may still emerge. Agencies hold the key to those data.

Once created, laboratory researchers could benefit from documented ethical decisions within a descriptive database. The bottom panel in Figure 1 highlights the broad categories that may be involved as antecedents and consequences to ethical behavior. A database of descriptive assessments of ethical decisions would likely contain specific instances of those broad categories. This may lead to laboratory analogs that shed light on the ethical decisions arising most frequently within the database.

Additionally, in time, laboratory work in this area may lead to methods that isolate specific variables to demonstrate functional control over ethical behavior.

A final and important area for future research involves the analysis of the function of existing ethical rules. This area can be summarized with a question: What is the function or purpose of each guideline in the Code? Answering this question will allow us, as a field, to empirically evaluate how the presence, absence, and framing of different rules lead to outcomes that match the function of having a code of ethics. The methods presented in this article are one, limited way to think about this question. But many challenges remain. Rigorous advances in empirical methodology along with field-wide collaboration are likely needed to develop an empirical understanding of ethical behavior. Critically, if ethics are defined by the rules and corresponding behavior generated by a social group (Baum, 2005; Skinner, 1953, 1971), then all behavior analysts should be involved in this conversation.

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