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Ongoing, Explicit, and Direct Functional Assessment is a Necessary Component of ACT as Behavior Analysis: A Response to Tarbox et al. (2020)

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Abstract

Tarbox et al. (2020) offered preliminary functional analyses and practical guidelines for incorporating acceptance and commitment therapy (ACT) within the scope of practice of applied behavior analysis (ABA). Although we agree that this is a needed goal, the approach taken by the authors gives rise to important conceptual, ethical, and practical concerns that warrant further discussion. In particular, we propose that explicit functional assessment of behavior (FA) is necessary in any intervention said to be ABA, and we wonder about the apparent omission of explicit FA throughout the article. We question what we read as the authors' tacit assertion that the functions of verbal stimuli can be inferred based on behavioral topography, that the function of verbal behavior can likewise be inferred based on form, and that behavior–behavior relations are both causal and predictive of behavior, irrespective of context. Furthermore, we consider whether a number of procedures for functional assessment presented in the article under consideration are consistent with established ABA best practices. Finally, we discuss the extent to which ACT interventions absent explicit FA in ABA interventions introduces the possibility that the interventions may do harm, arguing that further discussion around competence and scope of ethical practice for behavior analysts who wish to incorporate ACT into their work is needed.

Keywords Applied behavior analysis · ABA · Acceptance and commitment therapy · ACT · Functional assessment · Behavior–behavior relations · Ethics

It was perhaps inevitable that acceptance and commitment therapy (ACT), which has been all but synonymous with clinical behavior analysis for the past 20 years, would eventually return to its intellectual roots by coming to the attention of professional behavior analysts. ACT was originally rooted in behavioral theory, but for the past two decades, ACT's focus on mid-level terminology and on training formulations designed for nonbehavior-analytic psychotherapists has perhaps left the model feeling unfamiliar to the very people who should understand it best. Today we see a growing number of behavior analysts eager to integrate ACT into their work—but how and why? One possible answer to these questions was proposed by Tarbox et al. (2020) in "Acceptance and Commitment Training within the Scope of Practice of Applied Behavior Analysis." This ambitious article sets forth some ideas about how ACT (rechristened as acceptance and commitment "training" rather than "therapy" in order to deemphasize the much-promoted psychotherapeutic aspects of ACT) might be properly applied within the accepted scope of practice of behavior analysts.

We agree that these questions are important both to the future of applied behavior analysis (ABA) and to the ongoing fidelity of ACT (as a model of psychotherapy) to its behavior-analytic roots. We salute the work done by Tarbox et al. (2020) in preparing this sweeping vision for the scientific literature. Yet upon review of the article, we find ourselves

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wondering about the fidelity of their proposal to the basic philosophical, theoretical, and practical assumptions of the field of behavior analysis. We hope that the commentary that follows will help fuel further conversation about the role ACT can (and should) play in the future of behavior-analytic practice. At the outset we should make clear that we strongly agree that ACT *can and should* be included in the work of behavior analysts (and, on the other hand, that behavior analysis can and should play an important and corrective role in the practice of contemporary psychotherapy). Our views, though, diverge somewhat from Tarbox et al.'s as to how this interaction should proceed.

The primary divergences pertain to the role of cognition, rules, and/or verbal stimuli in the analysis of problematic behavior; conceptualizations of psychological flexibility as a clinical target; and the descriptions of examples of ACT interventions. Tarbox et al.'s (2020) presented vision raises for us several conceptual, practical, and ethical issues about the use of ACT in the context of ABA practice. Hereafter, though, we will focus mainly on key issues of conceptual fidelity, because these underpin many of the other questions we have regarding the article in question (though we do briefly address some ethical and practical issues toward the end of this response).

Much of our response to Tarbox et al. (2020) arises from a single question: Does the analysis proposed by the authors adequately contextualize observed stimuli, behaviors, and relations thereof in a way that allows for or suggests explicit, direct functional assessment? As we read the article, their analysis does not, in particular given the central role of functional assessment in behavior analysis.

The account Tarbox et al. (2020) offer of ACT for behavior analysts appears to include minimal explicit reference to functional assessment. When functional assessment is explicitly mentioned, the authors emphasize *indirect* functional assessment, apparently interpreting words spoken by clients (i.e., during interviews) as accurate descriptions of contingencies occurring in some other time and space. We agree with Tarbox et al. that the behavior analyst should avail themselves of every possible source of observation when conducting a functional assessment, and we acknowledge that professional behavior analysts have long used indirect observation methods effectively when conducting functional assessment. However we also propose that direct observation of behavior is *always* an option for behavior analysts (and psychotherapists) when engaging in functional assessment, given that a behaving organism is invariably present and observable in any treatment scenario. Indirect assessment, although valuable and historically precedented, is clinically important to the extent it informs and/or supports a *direct* functional assessment of the behaviors observed, the relations among them, and the impact of the intervention (Cooper et al., 2019; Fryling & Baires, 2016; Hanley, 2012). For example, *if* an interview—an indirect assessment method often referenced by the authors—can

be a useful component of a functional assessment, the speaking behavior observed during the interview should not only be considered in terms of its content (i.e., words spoken), but also its function (i.e., the antecedent and consequential conditions, and the learning history inherent therein) and its relationship with other directly observed behaviors.

In the response that follows, we explore whether Tarbox et al. (2020) have successfully formulated ACT in terms acceptable to well-trained behavior analysts. Our doubt arises in large part because the authors appear to assume (1) that the function of verbal stimuli can be inferred based on form, (2) that the function of verbal behavior can likewise be inferred based on form, and (3) that behavior–behavior relations are both causal and predictable irrespective of context. We argue to the contrary, that explicit direct functional assessment of particular behaviors, of particular organisms, in particular contexts, is *indispensable* in any intervention that is to be called ABA. Tarbox et al. do note that a "functional approach to changing behavior has been considered a best practice for at least a few decades" (p. 10), citing Iwata et al. (1982) to support that claim. We do not believe their article to be consistent with a predominately functional approach and are concerned that it presents ACT to professional behavior analysts in a way that is likely to call into question its usefulness.

Below we elaborate on our concerns and their implications. We offer an alternative approach that employs ACT as a functional approach within ABA, focusing on direct, iterative functional assessment and intervention. Of particular note is what we *will not* be offering in the following comments: first, we intentionally avoid proposing specific topographically defined interventions or even target behaviors based on the examples provided. In doing so, we would have to make assumptions about the functions of the contexts and behaviors described in the examples, far beyond what the authors provide, which we believe would contribute further to the deemphasizing of functional assessment in ACT as ABA. In the service of emphasizing language-based intervention (and training thereof) from a predominantly functional perspective, when illustrating our approach, we intentionally avoid offering samples of practitioner language or decontextualized scripts as alternatives to those presented by Tarbox et al. (2020). Though we write this commentary assuming a shared functional vocabulary consistent with a background in behavior analysis, we cannot assume how particular words would function for either readers or their clients, nor is it possible to provide the extensive multiple exemplars that would be required to support functional discriminations over topographical ones. That is, our position is that scripts are, in and of themselves, problematic when orienting interventionists to functional dimensions of language-based interventions.

Instead, we propose a purely functional approach to direct functional assessment in ACT, where intervention and assessment are conducted simultaneously and iteratively. It may be

possible that a standardized approach to direct functional assessment could be developed. However, the approach illustrated throughout this article assumes both direct functional assessment and intervention as occurring in the form of natural conversation, consistent with most language-based interventions. As explicated below, *direct* functional assessment here implies flexible, functionally defined procedures, the form of which are selected due to their being particularly appropriate for the functional relations being observed. We argue that this makes use of the most important concepts in a behavior-analytic approach—a contextual understanding of behavior. We refer the reader to Fig. 1, where we have summarized the approach we propose (and illustrate throughout the article) for ongoing direct functional assessment in ACT. It is our hope that our comments will stimulate further discourse on the role and importance of functional assessment in ACT.

The Functions of Verbal Stimuli Must Be Directly Observed in Relation to Behavior

As we read it, Tarbox et al.'s (2020) article appears to treat verbal stimuli, rules, and the stimulus products of cognition (i.e., thoughts) as if their function can be assumed from their topography. This is apparent when the authors consistently offer analyses of verbal stimuli produced by clients, parents, or staff. For example, the article suggests building an intervention based on observation of a child "having difficulty with losing a board game and [saying], 'I can't lose this game!'" (p. 6) and goes on to describe the target behavior of the intervention as varying the topography of the statement (i.e., saying "Lose the game, I can't" in a Yoda voice), intending to foster behavioral variability in the presence of rules that evoke avoidant behavior. We note that the analysis supporting this intervention includes no assessment of the function of the utterance to confirm that it is a verbal stimulus at all, that it is functioning as a rule, or that it is a proxy for a response class of problematic cognitions. Any of these may be true, but none of them need be. Without an adequate contextual analysis extending outside of the behavioral stream, we can only conclude that these have all been assumed. We are also concerned that because of these assumptions, traditional ABA strategies that might have been sufficient or even more effective or efficient to build behavioral flexibility may be ignored.

The problem here is that, from a behavioral perspective, verbal stimuli, like any stimuli, will have functions consistent with the learning history of the listener. The behavior analyst can only assume the functions of specific words uttered by a client to the extent that they share the client's learning history. This does not present a terrible challenge, however, because behavior analysts are well-positioned to supplement and modify our standing assumptions by observing and manipulating stimuli in systematic ways. We propose that no less should be

true with regards to apparent verbal stimuli, rules, or the stimulus products of cognitions emitted by the people upon whose behavior we are intervening. We further propose that in the context of ACT, and indeed any language-based intervention, it is explicitly the job of the behavior analyst to analyze the functions of apparent verbal stimuli, both easily observable and "private" (or "subtle"; Hayes & Fryling, 2009). In short, with regard to this example, we would propose that no stimulus can be understood outside of its functional relationship with a particular behavior of a behaving organism.

From our perspective, when analyzing the function of verbal stimuli, we would observe these stimuli in the broader context outside of the behavioral stream and in relation to other behaviors we are attempting to affect. In the example above pertaining to the child playing board games, we would attend closely not only to the statement, "I can't lose this game," but also to the behaviors that co-occur, comprising a functional response class specific to this exact context (e.g., changes in the child's facial expression, tone and pitch of voice, body language, eye contact, gestures, or other behaviors). We would also observe the contexts preceding and following these behaviors, making note of the antecedent and consequating conditions for this class of behaviors, as well as the learning history inherent therein. For example, we might observe that particular contexts (e.g., certain games, activities, people, or other setting factors) reliably precede his difficulty losing. We might also observe that this class of behaviors reliably precedes certain responses from peers or caregivers (e.g., reassurance-giving or cajoling, getting to go first, changing or ending the game) and/or other responses from the child (e.g., crying, going silent and putting their head in their hands, leaving the room, yelling "It's not fair!"). We might observe other contexts that also reliably predict similar patterns of behavior such as a test or novel worksheet being presented at school. Perhaps we also identify contexts that are rarely associated with this class of behaviors (e.g., video games, reading books, and playing games with a younger sibling at home).

If we determined at this point that a language-based intervention focused on building flexibility in the contexts that evoke "I can't lose" was appropriate, we would first evoke the behaviors involved with "difficulty" (verbal and otherwise). Then, using language (e.g., asking questions, making comments or statements, using directives, and presenting metaphors, specifically designed to evoke and reinforce target repertoires), we would prompt and reinforce new, more effective behaviors (e.g., flexible perspective-taking, observing and tacting private events, developing context-sensitive repertoires of rule-following) in this context. Here again, we would be in the position to both assess the impact of our intervention directly and adapt it as necessary to expand flexibility of the repertoire in contexts that evoke "difficulty." We would continue to assess and intervene at both a micro level (moment-to-

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                      ┌─────────────────────────────┐        No        ┌──────────┐
                      │ Is there a need for          │─────────────────▶│ Reassess │
                      │ intervention?                │                  └──────────┘
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                                   │
                                 Yes
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            ┌──────────────────────────────────────────────────────────┐
            │ Identify behavior(s) of interest (for which function is   │
            │ to be assessed)                                           │
            │  • Establish operational definition of the behavior(s)    │
            │    of interest                                            │
            │  • Establish hypothesis regarding relations among         │
            │    behavior(s) of interest                                │
            └──────────────────────────────────────────────────────────┘
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     ┌─────▶│ Observe behavior(s) targeted for intervention            │
     │      │  • Observe behavior(s) across shifts in context           │
     │      │  • Observe behavior-behavior relations across shifts in   │
     │      │    context                                                │
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     │      │ Form functional hypotheses and manipulate context to      │
     │      │ assess function                                           │
     │      │  • Identify relevant contextual variables antecedent to   │
     │      │    the behavior(s)                                        │
     │      │    • History, culture, setting, persons, other MOs        │
     │      │  • Include practitioner's identified role in treatment,   │
     │      │    treatment goals and priorities, the treatment setting  │
     │      │    as parts of the functional hypothesis                  │
     │      │  • Identify contextual shifts that can be functionally     │
     │      │    implemented using language                             │
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     │                             ▼
     │      ┌──────────────────────────────────────────────────────────┐
     │      │ Evoke the behavior(s) of interest using language (with    │◀──┐
     │      │ sensitivity to context of treatment, client profile,      │   │
     │      │ etc.) based on hypothesized function                      │   │
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     │                             │                                        │
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     │      ┌──────────────────────────────────────────────────────────┐   │
     │      │ Intervene to evoke new, adaptive behaviors in contexts    │   │
     │      │ that evoke behaviors of interest                          │   │
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     │                             │                                        │
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     │      │ Observe effects of intervention                           │   │
     │      │  • Observe effects of intervention on behavior(s)         │   │
     │      │  • Observe effects of intervention on behavior-behavior   │   │
     │      │    relations                                              │   │
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     │                             │                                        │
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     │      │ Continue to use language (e.g., ask questions, make       │   │
     │      │ comments or statements, use directives, present           │   │   ┌────────┐
     └──────│ metaphors, etc., ) designed to evoke and reinforce target │───┼──▶│ Repeat │
Ineffective│ repertoires (i.e. repertories that increase psychological  │   │   └────────┘
            │ flexibility)                                              │ Effective
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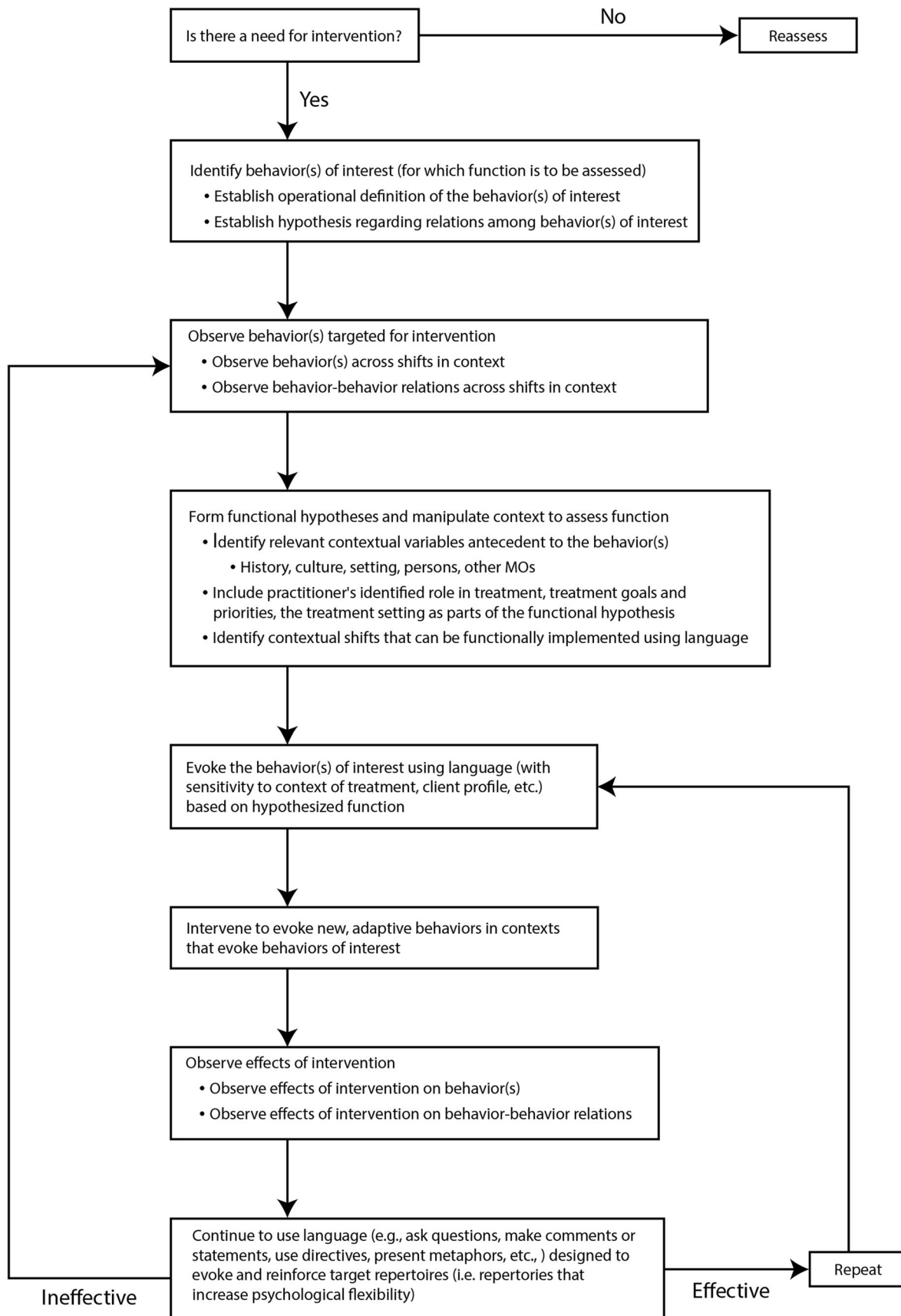
Fig. 1 Proposed steps for ongoing, direct functional assessment in ACT

moment) and macro level (developing a treatment plan and treatment goals), with sensitivity to the child's chronological age, developmental profile, broader learning history, cultural context, and so on. We would also consider our identified role in treatment, treatment goals and priorities, the treatment setting, etc., and continue to incorporate other ABA strategies as needed to further support behavioral flexibility (e.g., token economy, visual aids, video modeling, peer-mediated interventions, caregiver training).

The Functions of Verbal Behavior Must Be Directly Observed in Relation to Context

In their article, Tarbox et al. (2020) appear to treat verbal behavior, rule-governed behavior (see Kissi et al., 2017, for a review), and derived relational responding as if their function can be assumed from topography (i.e., the words or content of what is being said). This is apparent each time the authors' hypothetical practitioners ascribe meaning to client responses in the absence of explicit reasons for doing so. For example, consider the father who "resists a behavior intervention plan and says something like 'I'm just a softy; I can't be strict like that. . . .'" The authors propose a response from a BCBA that includes, "'. . . when we are so focused on being a particular way, like being a softy and not being too strict, we might find ourselves trapped'" (p. 6). The clear assumption here is that "I'm just a softy" constitutes a rule about the self, and moreover, a problematic one. This *might* be the case, but it need not be, especially if the father's self rules were to be evaluated in multiple contexts. For example, "I'm just a softy" could be a learned avoidance response, perhaps one negatively reinforced by another caregiver who assumes control of the crying child when the father makes this utterance. It could also be part of a response class of hesitation responses that have been socially positively reinforced with encouragement and praise. In fact, it cannot be inferred from the limited contextual details presented by the authors that "I'm just a softy" is a verbal behavior, has derived functions, or is associated with rigid, rule-governed behavior at all. The man could well be very "tough-minded" at work, when playing sports, when raising his other children, or even when raising his verbally delayed child under circumstances other than a difficult ABA intervention. Only the practitioner's functional assessment of the statement and analysis of the broader context for this behavior could clarify and support the decision to treat it as verbal behavior limiting flexibility and values-directed behavior.

As we noted in the case of verbal stimuli, for verbal behavior, rule-governed behavior, and derived relational responding, behavior analysts are well-positioned to observe behavior and its various functions in systematic ways. In the context of ACT (or any other language-based intervention), it is the job of the practitioner to analyze the functions of verbal behavior, both easily observable and more subtle (Hayes & Fryling, 2009). Although this cannot be done, as the authors appear to suggest, by inferring function from the form of a response, we can easily evoke some verbal behavior, systematically shift the stimulating context by presenting different stimuli (including using particular words we hope will function in a particular way), and directly observe the corresponding shifts in behavior.

Reimagining the above example to provide an explicit functional assessment of the "softy" statement, would first involve taking account of many more specific details: Under what circumstances did the father's description of himself as a "softy" occur? Are there significant antecedents that seem to occasion the statement? What is the observed effect of the statement—on both the practitioner and the father? Are there other contexts where "being a softy" is possibly reinforced or has been reinforced in the past? Are there other conditions, antecedent and consequential, under which the father has engaged in behaviors that might be labeled as "strict," (i.e., "not soft") or is this resistance a pattern in many situations?

If we determined, upon careful observation and analysis, that the statement was a member of a rigid response class consistent with engagement in values-inconsistent or "unworkable" parenting behavior, we could use language to first evoke the response class (e.g., engage the father in a conversation about a new intervention plan) and then build flexibility into the father's repertoire by prompting and reinforcing new behaviors (e.g., tacting thoughts, feelings, or physiological experiences that are arising, engaging in flexible perspective taking, or tracking the consequences of his behaviors in terms of values). In doing so, we would be directly expanding the functions of the conditions that evoke this rigid response class with each novel response that the father emits, increasing the likelihood that we will observe a more flexible, values-consistent pattern of parenting behavior over time. Once again, we would incorporate traditional ABA strategies as needed, and would continue to assess and intervene at both the micro and macro level, with sensitivity to factors such as our role and relationship to the father, treatment goals and priorities, child and family context, cultural considerations, and so on.

The Functions of Behavior–Behavior Relations Must Be Directly Observed in Relation to Context

Our last question is, we believe, our most significant: Do Tarbox et al. (2020) intend, as we read in the article, to treat behavior–behavior relations as if they are causal and predictable, as if a presumed private behavior will always correspond to a specific overt behavior or behaviors? As with individual

behaviors, we argue that relations among behaviors also vary functionally with the context, specific to the learning history of the behaving organism.

The authors appear to disagree. They propose an example of a client who "... is continuously distracted from attending to school activities by thoughts that she is going to fail or 'is dumb. . . .'" To address this, their hypothetical practitioner teaches the child to "verbally 'catch herself from dropping farther into the hole'" or to "physicalize [the] metaphor" and train the client "to respond to her own negative self-talk by literally spreading her arms out to 'stop' herself" (p. 5). The authors describe the intended function of such metaphorical responses as creating more variable behavior. However, we do not read the authors to provide any account of how they determined the relationships among thoughts of failing, self-evaluations of low intelligence, and a lack of attention to school activities. For example, the behavior analyst, upon conducting their assessment, might determine the student in question to have *actual* serious deficits or delays in her understanding of the material that *are* likely to cause her to fail should they persist. Although "dumb" is a harsh description, she could be tacting important contingencies or aspects of her learning history. Perhaps she has deficits in attention she is tacting in her self-evaluation of herself as "dumb." She could also be tacting a long history of real and significant experiences of "failure." Regardless of her actual performance or attention capacities, it could also be that anticipating failure and blaming herself has been heavily reinforced by adults and/or peers (in a variety of ways) so that this behavior has become more probable in this setting than engaging with the material. There are many important contextual factors that might need to be considered when determining whether to move forward in the manner outlined by Tarbox et al. (2020) in the article. Not only can behavior–behavior relationships not be assumed from the co-occurrence of the observed behaviors, but assuming that thoughts of failing or negative self-evaluations emerge first and necessarily result in being "distracted" (p. 5) simply because they co-occur is (ironically) consistent with a mentalist position.

Behavior analysts are well-positioned to observe the behavioral stream in context, across multiple levels, from apparent behaviors to those more subtle. We observe the relations among the co-occurring behaviors that comprise a specific response class and the contexts associated with those relations in systematic ways. In an ACT intervention, it is the job of the practitioner to assess the function of behavior–behavior relations by evoking some verbal behavior, observing the behaviors that accompany it, systematically shifting the stimulating context by presenting different stimuli, and directly observing the corresponding shifts in behavior–behavior relations. No behavior–behavior relation can be understood outside of its functional relationship with particular contexts specific to the learning history of the behaving organism.

When analyzing the relations observed among the lack of attention, thoughts of failing, and negative self-evaluations in the example above, we would first take note of the contexts in which these behaviors occur, both separately and in conjunction. In other words, we would note the antecedent and consequential contexts in which the response class holds together and is exhibited at a problematic rate and those contexts in which they are exhibited individually or at low frequency.

If we determined that these behaviors held together in multiple contexts, comprising a rigid and problematic response class, this observation would allow us not only to determine the function of the class but also the range of behaviors involved in the class (e.g., other operant behaviors inconsistent with effective academic performance, physiological responses, emotions). Just as in previous examples, once we can reliably observe and create the conditions under which the class is exhibited, we can begin expanding the functions of the contexts that evoke it. *If* it is determined, for example, that labeling the self as "dumb" is consistently present when this class is dominating behavior, the goal of the intervention would be to first use language to manipulate the context to evoke the "dumb" self-evaluation and the correlated behaviors (e.g., fidgeting with materials, shifting about in seat, putting face in hands, crumpling up worksheets, whispering "I can't do this"), then to evoke and reinforce behaviors likely to be more effective in contexts where that self-evaluation occurs (e.g., observing and labeling thoughts, emotions, and behaviors, attention shifting, flexible perspective-taking/self-compassion, tracking with respect to values). We would also pay close attention again to factors such as the child's chronological age and developmental profile, our role, the treatment setting and goals, cultural context, and so on, when designing an appropriate intervention. Further, in contexts such as this, it is highly likely that the behavior analyst would again be employing other traditional ABA strategies to support the expansion, generalization and maintenance of a new, more flexible repertoire more broadly (e.g., visual supports, differential reinforcement, task analysis, token economy, fluency training, self-management procedures).

The Functions of Programmed Verbal Stimuli Can Always Be Directly Observed in Relation to Target Behaviors

Finally, and extending from previous points, we argue that the conceptualization and description of ACT interventions will differ based on divergent analyses. Here, we find Tarbox et al.'s (2020) article inconsistent. Some conceptual descriptions of how psychological flexibility is trained are largely consistent with one of the authors' (ES) conceptual work on ACT (Sandoz et al., 2020). Descriptions of specific

interventions within the article, however, are often inconsistent with the article's conceptual descriptions.

In general, interventions within Tarbox et al.'s (2020) article are presented as samples of practitioner speech or scripts assumed to build skills that comprise behavioral flexibility. However, none of the intervention examples provided include any implications of a complete functional assessment (i.e., one that specifies behaviors, stimulating conditions, and functional relations thereof) that might allow the reader to extrapolate and generalize about when and how they might be effectively employed. Instead, the interventions are largely decontextualized, with little description of what behaviors and relations among behaviors were observed, what contexts seem to influence them, and how the intervention affected observable behavior–behavior relations. This is apparent throughout the article each time the authors describe what the practitioner "might say" (pp. 5, 6, 11, 12, 13, 15). For example, the authors describe a practitioner "making use of an augmental with an athlete whose preparation is waning a few weeks before a competition" [by saying,] 'Can you imagine how good it will feel to be at your best during the comp?' thereby increasing the salience of the remote outcomes of participating in athletic drills" (p. 13). The description of the context in which waning preparation is observed is quite limited (i.e., "a few weeks before competition"), making the function of this shift in preparation behavior entirely unclear. The authors appear to assume in this case that the athlete's decline in pre-event preparation is due to a decrease in reinforcement for this response. But is this necessarily the case? The original level of preparation could have just as easily been attributable to aversive control (e.g., from a demanding partner or coach) now lessening, or the current decline could be associated with the emergence of aversive consequences (e.g., an injury or conflict with a teammate making training uncomfortable), or competition from novel, more accessible or potent sources of reinforcement (e.g., a new hobby or romantic relationship). It is unclear in general as to whether ACT would be necessary or sufficient to address the issue of "waning preparation" in this situation.

When analyzing the function of language-based interventions, we suggest that practitioners present verbal stimuli iteratively, directly observing the behaviors that follow, and shifting the intervention as needed to achieve behavior change that works for the client. In the athlete example above, our first step would be to assess what functions are controlling the observable behavior. *If* observations supported the hypothesis that the same reinforcers, previously maintaining race preparation, were now available but not functioning as such, we would probe, carefully and with curiosity, the impact of different verbal stimuli that *might* share appetitive functions with those reinforcers (i.e., ensure that any intervention we implement actually functions as an appetitive with respect to the target behavior). In this way, we could both assess the impact of our intervention directly (at a micro and macro level) and adapt it as necessary to expand flexibility of the repertoire in the preparation relevant context.

Applying ACT without an Explicit and Direct Functional Assessment Could Cause Harm

We understand that Tarbox et al.'s (2020) article was not intended to serve as a clinical manual. It is obvious that if ACT is to be integrated into the professional practice of ABA, more comprehensive and diverse training materials are needed. Yet this article, as we have mentioned, is ambitious in scope, and we are forced to wonder about its practical impact on a profession hungry to learn how behavior analysts can "do ACT." Throughout the article, the authors offer the aforementioned samples of practitioner speech or scripts as examples of "common practices" that purport to be "procedures for functional analysis inside of ACT" (p. 11). We read little if any support for the assertion that their examples are in fact procedures (based on behavioral principles), nor do they support the claim that these approaches are often used by ACT practitioners, whether behavior analysts or not. The authors do note that "procedures for functional analysis inside of ACT [are] still in substantial need of empirical research" (p. 11), and we agree with this statement. Yet if the examples they offer were indeed ACT common practices, we would worry about them being advanced as best ABA practices: none of them, to our reading, includes the components that comprise adequate functional assessment as understood by most behavior analysts. In particular, the treatment of behavior–behavior relations as causal does not provide the conceptual foundation for explicit, ongoing functional assessment of target behaviors and relations among them. This is particularly concerning where the behavior analyst may be ignoring important aspects of a person's history or context, and the behaviors targeted and/or interventions applied appear potentially harmful or problematic, and/or bizarre or socially unacceptable.

First, the lack of explicit, ongoing functional assessment makes it more likely that a practitioner will limit interventions to teaching new rules and behavior consistent with those rules based on their assumptions, not observations, about the functions of the other person's behavior. In this circumstance, the practitioner ends up doing ACT *to* people, as opposed to *with* them. We believe that the commitment to explicit, ongoing functional assessment of our interventions, observed behaviors, and behavior–behavior relations *necessarily* involves a collaborative, ongoing, iterative assessment and intervention process and the creation of a context that fosters client choice, flexibility, and self-directed verbal behavior.

This kind of iterative approach to functional assessment and intervention requires much more than psychoeducation and training of ACT "processes" as competencies without

sensitivity to an individual's learning history (including historical and cultural context). Behavior analysts design interventions targeting behaviors that have been shaped by an individual's learning history. If the person we are working with has a history of aversive conditioning experiences that would be classified as trauma, their current contexts have functions, in part, due to that trauma. If the person has another mental-health issue, lives in poverty, experiences marital conflict, or is in recovery from addiction, we are observing and intervening on behavior that has been shaped by those contextual factors. Even if ABA practitioners are not undertaking to treat those specific issues, they are part of the context of treatment, and ignoring these potentially important aspects of a person's learning history could result in ineffective and even potentially harmful ACT interventions. Further, BCBAs have an ethical obligation to avoid the use of aversive control unless absolutely necessary and justified, and, when employed, must be accompanied by an "increased level of training, supervision, and oversight" (Behavior Analysis Certification Board [BACB], 2014; code 4.08d). If we ignore important aspects of a person's context and how particular stimuli might function for that person, we risk inadvertently employing aversive control without adequate assessment, clinical justification, and supervision.

Second, the lack of explicit, ongoing functional assessment may be counterproductive with respect to building overall behavioral flexibility, as interventions interpreted as successful due to increases in decontextualized and topographically defined outcomes (e.g., implementing an extinction protocol, arriving on time) may actually be demonstrating ongoing behavioral inflexibility. For example, the new behaviors could be functioning as pliance (e.g., parents telling the practitioner "what they want to hear" or trying to "please" the practitioner; Zettle & Hayes, 1982) or avoidance (e.g., parent agrees with a recommendation or follows a procedure to avoid perceived disapproval or disappointment, or feelings of shame or guilt around not doing or saying the "right thing"). We believe that the commitment to explicit, ongoing functional assessment of our interventions, observed behaviors, and behavior–behavior relations *necessarily* involves fostering flexible, context-sensitive rule-following (i.e., tracking; Hayes et al., 1986) consequated by outcomes augmented by their consistency with values.

In addition to limiting the ABA practitioner's sensitivity and flexibility with respect to adapting to individual client presentations, the approach presented in Tarbox et al. (2020) limits clinician generativity and flexibility in terms of designing and implementing ACT interventions. When interventions are decontextualized and disconnected from functional assessment, they are often obviously "canned" or rote, putting the behavior analyst at risk of sounding inauthentic, insensitive, dismissive, patronizing, or invalidating. Clients may also be inadvertently blamed or shamed if they are unable to meet or respond in a way that deviates from the behavior analyst's expectations regarding what constitutes a flexible or "values-directed" response. Overall, we worry that the approach outlined by Tarbox et al., by virtue of the assumptions we have described above, may disincline practitioners from the compassion and self-awareness that should attend naturally to idiographic interventions. Taken to the worst extremes, this "one-size fits all," nonfunctional approach may manifest in the treatment room as coercive or manipulative.

We also fear that the lack of explicit, ongoing functional assessment may limit practitioners' ability to integrate ACT into their ABA practice in a way that is consistent with their specific scope of competence and ethical practice in general. The ability to deliver effective and contextually sensitive ACT-based interventions will require more than the basic technical skills and standard applications of ABA in which most BCBAs have received training. The ability to make this discrimination will also require more specific and evidence-based standards than those proposed by Tarbox et al. (2020) for distinguishing between ACT as psychotherapy and ACT as ABA. For example, the authors would seem to propose that the magnitude or dimension of an emotional response should determine whether the BCBA is practicing within their scope or not (p. 16). But how exactly would this be measured? What would the possible guidelines and cutoffs be for making this determination?

Tarbox et al. (2020) emphasize that "ABA practitioners must seek out specialized training and mentorship from competent trainers in order to use any ABA procedure, including ACT" (p. 18). We argue that what constitutes adequate training and mentorship in ACT for the practitioner should be determined by factors specific to the case, practitioner, and relationship. These factors include the repertoire, presentation, and learning history of the person whose behavior we are targeting. They also include the practitioner's competency with assessing and analyzing such behavior, selecting and planning an intervention and assessment strategy, and applying ACT with a particular person in a particular setting, format, and time. The practitioner should also consider the role and relationship with that person, including any inherent power differentials, any biases they bring to that relationship, and any dual relationships that might be relevant. Finally, the practitioner should make note of the resources they have to support the intervention needed, including specific supervision, training, and referral sources. None of this degree of ongoing analysis of specific competence is possible without ongoing functional assessment as described above. In addition, we refer readers BACB's (2014; 2020a) codes of professional ethics for behavior analysts, recent respecialization guidelines provided by the BACB (2020b), and to other leaders in the field (e.g., LeBlanc et al., 2012) providing guidelines for expanding competency and scope of practice.

Toward a Conceptually Systematic Integration of ACT into ABA

Many involved with ACT for some time have expressed concerns regarding both the dissemination value of the mid-level terms (i.e., acceptance, defusion, mindfulness, self-as-context, valuing, and committed action) and the tendency they have had to support a mentalistic understanding of ACT, often far removed from its behaviorist roots. Tarbox et al.'s (2020) article is strongly organized around the ACT (Hexaflex) mid-level terms, and when disconnected from explicit functional assessment, the article's overarching vision may prove inadequate for behavior analysts attempting to integrate ACT philosophically, conceptually, and logistically into their ABA practice. This is unfortunate, because we agree with the overall premise of the article: that ACT can and should be a part of ABA interventions. We also believe, however, that ACT should be integrated into ABA treatment settings only when appropriate for the client's repertoire—that is, only when relations among client behaviors are unnecessarily narrow and rigid and under primarily verbal control. Making the recommended discriminations, however, would require an approach markedly different from the one that appears to be presented by Tarbox et al. Although the article explicitly denies a mentalist perspective (see pp. 5, 17) where the mind (i.e., thoughts and feelings) are seen as causing behavior, this failure to contextualize behavior–behavior relations makes it indistinguishable thereof.

Taken together, our concerns build on broader conversations within the field of ABA regarding the training and supervision needs of behavior analysts and how to meet the diverse needs of consumers and stakeholders (Callahan et al., 2019; Leaf et al., 2016; LeBlanc et al., 2020a, b; Taylor et al., 2019) as well as how we expand the reach of our science. In particular, we see the need for more conversations around scope of competence and scope of practice, ethical decision making, issues of consent (and asset), and professional boundaries. It is our belief that we, the ABA community, can foster client care that is collaborative, compassionate, context-sensitive, and responsive. These issues become an even greater concern given that a significant majority of BCBAs are relatively novice (certified fewer than 2 years) and approximately half have been certified within the past 5 years (BACB, n.d.). When practitioners are already struggling to access the training and supervision they need, beyond basic technical skills and standard applications (LeBlanc et al., 2020, b), how do we ensure that they receive the support they need to effectively and ethically integrate ACT into their practice?

Although the Association for Contextual Behavioral Science (ACBS) offers vast resources on ACT to its members, most are geared towards professionals practicing outside of ABA (e.g., clinical psychologists, social workers, nurses) In addition, members are left to sift through a vast sea of largely disorganized and scattered material in order to locate and then determine what is relevant to their needs and how to apply it in their particular setting. ACBS currently produces but one official training activity per year, the World Conference. And although submissions to that conference specifically for behavior analysts are increasing year after year, they still represent a minority of the conference's content. Likewise, the Association for Behavior Analysis International (ABAI) annual convention continues to add more ACT-related content to its program, but this remains limited, largely didactic and exploratory in nature. Neither of the annual events represents a comprehensive training approach for behavior analysts intent on using ACT in their applied work. Some communities within the two organizations show promise for promoting this discussion: the ACBS Clinical Behavior Analysis Special Interest Group (CBA SIG) and the ABAI ACT Special Interest Group are examples. Several private, for-profit organizations have also attempted to produce training materials, but absent a robust discussion among leaders in the profession about training priorities and competencies—such as that initiated by Tarbox et al. (2020) and continued by this response—such attempts are provisional at best and may come to be seen as premature.

Our hope is that this commentary goes some way to clarify ACT as an approach that is firmly grounded in behavior analysis and has the potential to enhance and complement the professional practice of behavior analysts in a variety of ways. Given the ABA community's philosophical, theoretical, and technical orientation, it is perhaps uniquely and advantageously positioned to embrace the ACT approach. Yet we need not abandon ongoing functional assessment, and all that our traditional ABA toolbox offers to accomplish it, when emotion, verbal behavior (however subtle), and inflexibility are present. Indeed, skillfully and ethically delivered ACT-consistent interventions, couched in traditional ABA strategies for assessment and intervention, have the potential to produce powerful, socially significant outcomes for consumers and practitioners alike.

Declarations

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Research involving Human Participants and/or Animals   N/A; There were no data collected for the publication of this manuscript.

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