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You're Reading a Free Preview Pages 7 to 13 are not shown in this preview. You're Reading a Free Preview Pages 18 to 34 are not shown in this preview. You're Reading a Free Preview Pages 38 to 39 are not shown in this preview. You're Reading a Free Preview Pages 46 to 51 are not shown in this preview. You're Reading a Free Preview Pages 55 to 65 are not shown in this preview. You're Reading a Free Preview Pages 72 to 87 are not shown in this preview. You're Reading a Free Preview Pages 91 to 94 are not shown in this preview. A number of recent authors have compared acceptance and commitment therapy (ACT) and traditional cognitive behavior therapy (CBT). The present article describes ACT as a distinct and unified model of behavior change, linked to a specific strategy of scientific development, which we term "contextual behavioral science." We outline the empirical progress of ACT and describe its distinctive development strategy. A contextual behavioral science approach is an inductive attempt to build more adequate psychological systems based on philosophical clarity; the development of basic principles and theories; the development of applied theories linked to basic ones; techniques and components linked to these processes and principles; measurement of theoretically key processes; an emphasis on mediation and moderation in the analysis of applied impact; an interest in effectiveness, dissemination, and training; empirical testing of the research program across a broad range of areas and levels of analysis; and the creation of a more effective scientific and clinical community. We argue that this is a reasonable approach, focused on long-term progress, and that in broad terms it seems to be working. ACT is not hostile to traditional CBT, and is not directly buoyed by whatever weaknesses traditional CBT may have. ACT should be measured at least in part against its own goals as specified by its own developmental strategy. Keywords: acceptance and commitment therapy, contextual behavioral science, functional contextualism, relational frame theory, scientific development strategy. All scientific theories are ultimately shown to be incorrect. Thus, the point of the scientific journey is not to generate correct ideas but to develop more useful half-truths whose limitations can be more quickly and certainly known. A progressive scientific field builds on useful ideas, continuously weeding out those that are not. It is impossible to know whether a more progressive field has been accomplished by focusing only on the present. Progressivity unfolds over time, sometimes slowly. There is a tension between an urge for immediate progress and the willingness to take the careful steps that might create progress in the long run. That tension is felt especially strongly in applied areas because human suffering is present now but the generation of scientific knowledge often takes an unpredictable amount of time. In comparison to their most art-focused colleagues, empirical clinicians are used to arguing for the ultimately greater progressivity of an empirical approach, but in the cognitive behavior therapy (CBT) tradition relatively little has been written about how to produce greater progress within an empirical approach. There, too, what seems to be fastest now could be much slower later and what seems slower now might ultimately go farther. Acceptance and commitment therapy (ACT), said as one word, not initials; Hayes, Strosahl, & Wilson, 1999) is sometimes placed outside of or opposed to CBT (e.g., Hofmann & Asmundson, 2008), but ACT is part of the larger family of behavioral and cognitive therapies (Forman & Herbert, 2009) and has always been said to be so (e.g., Hayes, Strosahl, et al., 1999, p. 79). ACT is an overarching model of key intervention and change processes, linked to a research program on the nature of language and cognition, to a pragmatic philosophy of science, and to a model of how to speed scientific development that we call here a contextual behavioral science (CBS) approach. Describing that approach is a primary purpose of the present paper. The similarities and differences between ACT and the CBT mainstream needs to be seen in the context of respective views about how to create scientific progress. ACT researchers are skeptical of the idea that CBT needs to apply "the cognitive model of a particular disorder with the use of a variety of techniques designed to modify the dysfunctional beliefs and faulty information processing characteristic of each disorder" (Beck, 1993, p. 194) or that its core is to "identify distorted cognitions" and then to subject these distortions "to logical analysis and empirical hypothesis-testing which leads individuals to realign their thinking with reality" (Clark, 1995, p. 155), but that skepticism is a reflection of its process-focused development program. In the 1980s we conducted more than a dozen studies in the theories behind common CBT procedures, and found little or no support for these models (see Rosenfarb & Hayes, 1984, on cognitive reappraisal/self-statements for an example of these). We made early theoretical attempts to analyze cognitive therapy using behavioral principles (e.g., Zettle & Hayes, 1980, 1982) but our long-term interest was in extending a process-based behavioral approach and its underlying development strategy (see Zettle, 2004, for a history of ACT). CBS is a principle-focused, inductive strategy of psychological system building that emphasizes developing interventions based on theoretical models tightly linked to basic principles that are themselves constantly upgraded and evaluated. The strategy has been abstracted and extended from traditional behavior analysis. Only an outline can be presented here because the issues it raises (e.g., induction vs. deduction, pragmatic vs. correspondence theories of truth, the nature of theory) are complex and controversial. It involves the integration and simultaneous development of multiple levels of a research program including philosophical assumptions, basic science, basic and applied theory, intervention development, treatment testing, and dissemination, all done dynamically and "horizontally." While a more detailed breakdown would be welcome, we describe the approach in terms of nine characteristics (see Table 1), considering each in an abstract way and briefly describing the results so far inside ACT and relational frame theory (RFT). Some Key Features of a Contextual Behavioral Science Approach to Scientific System Development Explicate philosophical assumptions Develop a basic account of complex human behavior with manipulable contextual principles organized into theoriesDevelop a model of pathology, intervention, and health tied to basic behavioral principles and their relationships to pathology and healthEmphasize mediation and moderation in the analysis of applied impactEarly and continuous tests of effectiveness, dissemination, and training strategiesTest the research program across a broad range of areas and levels of analysisCreate an open, diverse, and nonhierarchical development communityPhilosophy of science is the process of clarifying and taking responsibility for the assumptions necessary to do complex intellectual work. ACT is grounded in functional contextualism, a type of psychological pragmatism that extends Skinner's radical behaviorism (Hayes, Hayes, Reese, & Sarbin, 1993) by adopting a functional approach to truth and meaning linked to the prediction and influence, with precision, scope, and depth, of whole organisms interacting in and with a context considered historically and situationally (Hayes, 1993). The core unit of analysis adopted is the act in context: the ongoing situated purposive action (Hayes, 1993; Pepper, 1942). All actions are considered to be whole events, having meaning only with reference to their context. The truth criterion of contextualism is "successful working" toward one's analytic goals (Hayes, 1993). Functional contextualists are disinterested in ontological claims (truth with a capital "T") because that claim is always also an "act in context" (Skinner, 1974, p. 234), thus "ontology" always ultimately dissolves into pragmatic epistemology. While functional contextualists assume the one ("real") world, there may be many ways of successfully differentiating the world, depending on one's goals. "Causality" is not taken to be in the world but is a way of speaking about how to behave effectively, in given contexts for given purposes. Scientifically, this explains the environmentalism of contextualist behavior analysts who seek the prediction and influence of behavior. "Influence" requires the specification of manipulable events, as only contextual variables can be manipulated directly (Hayes & Brownstein, 1986). Thus models that specify the relation of one psychological action to another (including thought-behavior or emotion-behavior relations) are viewed as inherently incomplete until they identify the contextual variables that would allow a principle to the goal of "influence" to be met (Biglan & Hayes, 1996). Thoughts may be related to particular emotional and overt behavioral events, but only in historical and situational contexts that give rise both to these thoughts and to their relation to subsequent emotions and actions. It is the italicized portion of that sentence that is most often missed in traditional cognitive models and it is a key clinical focus of ACT. Manipulable contextual factors are specified by behavioral principles that apply in a specific way to a given event (precision), are broadly applicable (scope), and that maintain coherence across levels of analysis such as psychology and neurobiology (depth). A CBS approach goes beyond traditional behavior analysis by asking clinicians to help develop the basic work needed to support application, and by organizing principles into models and theories of domains relevant to application. This addresses two key flaws in the original model of behavior theory development: what to do when basic principles are not adequate and how to scale them into functional analytic theories. The change from behavior therapy to CBT reflected the right problem but not the best solution. An urge to move ahead quickly on the problem of cognition caused the search for more adequate basic behavioral principles in this area to be abandoned in favor of clinical models of cognition. We thought this was ultimately likely to slow progress. Conversely, our early theoretical focus was on basic behavioral research on rule governance (e.g., Hayes, Brownstein, Haas, & Greenway, 1986; see Hayes, 1989, for a book-length treatment), but the lack of a clear understanding of verbal rules soon led to an even more basic focus on the nature of human language and cognition itself. RFT (Hayes, Barnes-Holmes, & Roche, 2001) was the eventual result. RFT researchers have discovered that the core of human language and cognition is learning to relate events mutually and in combination not simply on the basis of their formal properties (e.g., size, shape) but also on the basis of arbitrary cues. For example, whereas a young child who prefers a nickel over a dime because it is bigger, he or she later will prefer a dime over a nickel "because it is bigger." Evidence suggests these relational skills are operant (e.g., Berens & Hayes, 2007), that they interact all other behavioral processes with general and classical. For example, children who are afraid of a stimulus will show this will be aroused by a neutral stimulus related to the original stimulus. The presence of a "larger than" cue (Dougherty, Hamilton, & Hartigan, 2000; Spiegel, 2000) speeds up fear extinction (see Hayes, et al., 2001; Rehfeldt & Barnes-Holmes, 2009). For example, with treatment through RFT researchers have found that these "trivial" relational frames been in infrequent, but when children do not display relational weaknesses, they are more likely to learn. Cognitive deficits some clients disorders have specific frame details, and traditional relational framings can increase language acquisition and higher-order skills such as perspective taking and empathy. Many complex cognitive phenomena such as metaphorical reasoning, sense of self, lexical recognition, and implicit cognition can now be modeled and researched, both behaviorally and neurobiologically, in the RFT laboratory. RFT in turn is leading to applied programs in many areas. Although ACT is the focus on this article, ACT is only one of the areas. A key RFT insight of clinical importance is that relational framing is regulated by two distinguishable features: the relational context and the functional context. The relational context determines how and when events are related, the functional context determines what functions will be transformed in terms of a relational network. Stated more clinically, the relational context determines the psychological impact of what you think. Because relational frames are learned and arbitrarily applicable it is impossible to control the relational context so thoroughly so as to entirely keep unhelpful relations from being derived. For example, myriad arbitrary cues can lead children to derive that they are not as attractive, lovable, intelligent, or worthwhile as they should be. As with all learning, once relating occurs, it can be inhibited but will never be fully unlearned. Once a child derives "I am unlovable," that behavior will always be at some strength. This is part of why it is hard to restructure cognitive networks and schemas fully, efficiently, and permanently. It is the functional context that determines the impact of relational responding—an observation that is put to good use in ACT. In imagination, one can taste an orange, or notice that the word contains "range." The impact of these will be very different. Relational context interventions can also be functional context interventions and the two can easily conflict. For example, challenging the rationality of a thought can easily diminishes automatic and unhelpful cognitive control (it is also designed to be a helpful functional context intervention). Clinical readers exposed to RFT will initially find little such guidance. Eyes glaze over, understanding lags, or what is understood seems obvious. That is not unlike the experience of clinicians reading unfamiliar basic behavior research of any kind. Solving that problem is dependent on the next element of a CBS approach. Behavioral principles are difficult to scale directly into clinical work, and early bold attempts to do (Kanfer & Saslow, 1969) were long ago put aside. An inadequate analysis of cognition was one source of the difficulty but the other was complexity. To all but a few, basic behavioral principles are too technical and abstract to give ready clinical guidance in many situations—it would be like asking people wanting to use a computer operating system to first understand the programming language used to build it. The CBS solution to this conundrum is to develop clinically useful models of pathology and treatment based on middle-level terms that are not behavioral principles but are based on them. The ACT model is meant to be a kind of user-friendly interface—an operating system if you will—that stands atop a far more extensive enterprise. Terms like "defusion" are based on RFT concepts but do not demand that the clinician immediately understand basic principles in order to make applied use of them. Six key middle-level processes have been identified and organized into the model of pathology, intervention, and health shown in Figures 1 and 2. We will briefly consider each process. An ACT/RFT model of psychopathology. Cognitive Fusion Cognitive fusion refers to verbal dominance over behavioral regulation to the exclusion of other sources of stimulus control ("verbal" is meant technically here, i.e., "via relational frames"). Cognitive fusion is argued in RFT to be due to the pervasiveness of literal, reason-giving, problem-solving, and evaluative contexts sustained by natural language cultures. Although fusion is not necessarily harmful, it becomes so when over-extended. People begin to take their thoughts literally, without noticing the process of thinking itself. 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Experimental Avoidance Experimental avoidance is the attempt to alter the form, frequency, or intensity of private experiences such as thoughts, feelings, bodily sensations, or memories, even when doing so is costly, ineffective, or unnecessary (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). According to RFT, humans target aversive private events for change in the same ways that external events are targeted due to an overextension of the problem-solving and evaluative functions of cognition. Some emotions or other private events are evaluated negatively over behavioral regulation to the exclusion of other sources of stimulus control ("verbal" is meant technically here, i.e., "via relational frames"). Cognitive fusion is argued in RFT to be due to the pervasiveness of literal, reason-giving, problem-solving, and evaluative contexts sustained by natural language cultures. Although fusion is not necessarily harmful, it becomes so when over-extended. People begin to take their thoughts literally, without noticing the process of thinking itself. Common examples of cognitive fusion include the excessive reliance on rules about what is possible for one's life that are targeted by most forms of CBT. Because learning is additive, not subtractive, RFT suggests that it is often safer to create more flexible responding by diminishing the excessive impact of cognitive events than trying to correct their content. Psychoeducation can be helpful when there is an absence of information

mindfulness and acceptance-based approaches and their core assumptions that differ so from traditional CBT assumptions. This is not an issue of label or school. The statement "unlike CBT, there is little emphasis in MBCT [mindfulness-based cognitive therapy] on changing the content of thoughts; rather, the emphasis is on changing awareness of and relationship to thoughts" (Segal, Teasdale, & Williams, 2004, p. 54) could have been stated by an ACT theorist without altering a single word other than the name of the therapy. Generational changes within a field provide opportunities for advancement and renewal. These may be wasted, however, unless we think seriously about the scientific development strategies that are most likely to produce long-term progress. It will make little long-term difference to the field if we take our existing protocols, add a dash of mindfulness here, and a dollop of values there, test them, and gather them into a loose pile all under the tribal label of CBT. Both advocates of traditional CBT and of newer forms alike need to be much more clear about their own scientific development strategy and how it can best be evaluated. As we have tried to describe, ACT and RFT researchers have done so. The contextual behavioral science approach seems coherent, reasonable, and distinctive, and it has now yielded a body of work that is substantial enough for it to deserve to be considered on its own terms. It would be unusual to evaluate an empirical clinical approach by examining the clarity of its philosophical assumptions; by the adequacy, progressivity, and coherence of its basic behavioral principles; by the integrity of its processes of change; by the coherence and general utility of its theory; and by the consistency of the link between all of these and successful outcomes. Nevertheless, from our perspective these issues seem far more important than the technological, informal, tribal, or brute-force empirical questions that seem to dominate in the dialogue so far. In this paper we have pointed to signs that the ACT/RFT development strategy is succeeding in areas where success has not been common in applied psychology. But whether it succeeds or fails depends not one bit on the success or failure of traditional CBT or any other area of empirical clinical science and practice. ACT and traditional CBT are distinct models but they are part of the same family and they share the same opponent: the human suffering that exists because of scientific ignorance. Long-term scientific progress is the key to defeating such a difficult opponent, but that will take more than effort. It requires a strategy that works. This calculation was left out of the text of the published manuscript but it can be computed from the included table.

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