GENERAL PRINCIPLES AND EMPIRICALLY SUPPORTED TECHNIQUES OF COGNITIVE BEHAVIOR THERAPY

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5 NEW DIRECTIONS IN COGNITIVE BEHAVIOR THERAPY: ACCEPTANCE-BASED THERAPIES

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A new breed of cognitive behavior therapy (CBT), sometimes referred to as "acceptance-based" or "mindfulness-based" therapies, has gained increasing notoriety in recent years. The term *acceptance* refers to psychological acceptance of aversive internal experiences, that is, an openness to experiencing distressing thoughts, images, feelings and sensations without attempts to diminish or avoid them (Cordova, 2001; Hayes, Bissett et al., 1999). Hayes, the developer of one such therapy known as acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), has argued that these approaches are qualitatively distinct from other, more standard forms of CBT such that they form a new generation of therapies (Hayes, 2004b). A number of scholars associated with both acceptance-based therapies (e.g., Marsha Linehan and Adrienne Wells) and more traditional CBT (e.g., A T. Beck, Michelle Craske, Albert Ellis, Stefan Hofmann) disagree with Hayes's assessment (Arch & Craske, in press; Ellis, 2000, 2005; Hofmann & Asmundson, 2008; Linehan, personal communication, April 16, 2008), and view these new developments as, at most, natural evolutions of traditional CBT rather than something fundamentally new. The rise in profile of acceptance-based therapies, Hayes's conceptualization of these as representing a distinctively new epoch in CBT, and the considerable contention surrounding this assertion raise questions about how acceptance-based models of CBT are different from and similar to traditional CBT. Exploration of these questions, in turn, sheds light on important unresolved issues in the field and points toward needed research efforts.

HISTORY OF THE BEHAVIOR THERAPY MOVEMENT

The notion that acceptance-based approaches to CBT represent a new and distinct phenomenon is born from the view that the history of behavior therapy over the past half century can be divided into three semi-distinct eras (Hayes, 2004b). The first generation of behavior therapy, which crested in the late 1950s and into the 1960s, sought to take an empirical, objective, scientific approach to the understanding and treatment of psychological problems, and developed largely in reaction to the perceived shortcomings of psychoanalytic theory and therapy. The focus was on modifying problematic behavior, broadly defined to include not only overt motor behavior but cognitive and even affective responses, through classical (Wolpe, 1958) and operant (Skinner, 1953) learning principles. The late 1960s through the 1990s represented a second generation of behavior therapy, in which cognitive factors assumed greater importance in both theory and practice. Cognitions were viewed as playing a critical role in individuals' interpretation of, and thus emotional and behavioral responses to, environmental stimuli (Bandura, 1969). Several related psychotherapies combining cognitive and behavioral change strategies were developed, including rational emotive behavior therapy (Ellis, 1962) and cognitive therapy (A. T. Beck, Rush, Shaw, & Emery, 1979). These approaches hold that maladaptive thoughts, schemas, or information-processing styles are responsible for undesirable affect and behavior, and, through psychotherapy, can be modified or eliminated.

Acceptance-based models of CBT generally rose to prominence during and since the 1990s. These approaches span full-fledged models such as mindfulness-based stress reduction, mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002), dialectical behavior therapy (Linehan, 1993), metacognitive therapy (Wells, 2007), and ACT (Hayes, Strosahl et al., 1999); specific applications such as acceptance-based behavior therapy for generalized anxiety disorder (GAD) (Roemer & Orsillo, 2005) and distress tolerance training for smoking cessation (Brown, Lejuez, Kahler, Strong, & Zvolensky, 2005; Brown et al., 2008); and acceptance-influenced modifications of traditional cognitive and behavioral therapies such as behavioral activation (Jacobson, Martell, & Dimidjian, 2001) and panic control treatment (Levitt & Karekla, 2005). Hayes and others (Eifert & Forsyth, 2005; Hayes, 2004b) have argued that these approaches represent a third generation of CBTs because they share a number of features that distinguish them from earlier behavioral therapies. Perhaps the most noteworthy is a shift from the assumption that distressing symptoms, including unwanted thoughts and feelings, must be changed in content or frequency in order to increase overall psychological well-being. Whereas CBT has traditionally focused on reducing or eliminating unwanted symptoms, acceptance-based approaches focus less on symptom reduction per se and more on promoting behavior change and increasing overall quality of life. Instead of attempting to alter the content or frequency of cognitions, ACT, for example, seeks to alter the individual's *psychological relationship* with his or her thoughts, feelings, and sensations (Hayes, Jacobson, Follette, & Dougher, 1994).

COGNITIVE BEHAVIOR THERAPIES

As noted earlier, in terms of its widespread applicability, acceleration of use and training, empirical support, and acceptance by the scientist–practitioner community, CBT has emerged as the predominant model of psychotherapy in North America (Prochaska & Norcross, 1994). Hundreds of controlled clinical trials of the larger family of CBT have been undertaken in recent years (Dobson, 2001; Hollon & Beck, 1994), and a recent review of meta-analyses found multistudy support for the effectiveness of CBT to treat a plethora of psychological conditions, including unipolar and bipolar depression, panic disorder, obsessive–compulsive disorder (OCD), social anxiety disorder, GAD, schizophrenia-linked psychotic symptoms, and bulimia nervosa (Butler, Chapman, Forman, & Beck, 2006). Furthermore, most treatments on lists of empirically supported therapies for specific disorders (Chambless & Hollon, 1998) are CBT in nature. Additionally, CBT is quickly becoming the majority orientation among clinical psychologists, particularly faculty in scientist–practitioner programs (Norcross, Karpiak, & Santoro, 2005; Norcross, Sayette, Mayne, Karg, & Turkson, 1998). Moreover, all residency training programs in psychiatry now offer specific training in CBT (Accreditation Council for Graduate Medical Education, 2004).

CBT, broadly writ, can be described as an active, collaborative, current problem–oriented and relatively short-term treatment that takes its name from the use of both cognitive and behavioral strategies to alleviate distress and reduce clinical symptomatology. It is based on the notion that affect and behavior (and thus psychopathology) are largely determined by in-the-moment cognitive phenomena (e.g., thoughts, images, interpretations, attributions), which, in turn, are influenced by historically developed core beliefs or cognitive schemas (Dobson & Shaw, 1995). Although CBT incorporates some traditional behavioral principles and technologies, what distinguishes it from the larger family of behavioral therapies is the emphasis on cognitive factors as presumed mediators of change, as well as the focus on direct attempts to modify cognitive processes (A. T. Beck, 1993).

A wide array of therapeutic approaches can be considered to fit within the realm of "standard" CBTs. These include models such as rational emotive behavior therapy (Ellis, 1962), stress inoculation training (Meichenbaum & Deffenbacher, 1988) and cognitive therapy (A. T. Beck, 1976). Beck's cognitive therapy

(CT) is the most widely known and practiced model of CBT. The central feature of CT is that problems are conceptualized within a framework of dysfunctional belief systems, and intervention efforts target these beliefs for modification. There are also a number of CBT programs that have been developed for specific psychological problems, including panic control treatment (Barlow, Craske, & Meadows, 2000), exposure with response prevention (Foa & Goldstein, 1978), cognitive processing therapy (Resick & Schnicke, 1993), prolonged exposure (Foa, Hembree, & Rothbaum, 2007), schema therapy (Young & Klosko, 2005), and prevention and relationship enhancement program (Stanley, Blumberg, & Markman, 1999), among others. All of these approaches share an emphasis on identifying and correcting problematic cognitions and behaviors through cognitive change strategies and learning-based behavioral interventions.

ACCEPTANCE-BASED THERAPIES

Mindfulness-Based Stress Reduction

A number of acceptance-based therapies have emerged and taken root in recent years. The development has been spurred, variously, by a recognition that the traditional CBT approaches were not effective with certain types of problems, a skepticism for some of the theoretical underpinnings of CBT, new metacognitive theoretical frameworks, and/or an appreciation of ancient Eastern religious and philosophical practices. One of the acceptance-based approaches to be developed was mindfulness-based stress reduction (MBSR; Kabat-Zinn et al., 1992). MBSR was developed by Jon Kabat-Zinn as a treatment for chronic pain and stress-related medical conditions (Kabat-Zinn, 1982). MBSR emphasizes that all individuals continuously experience a stream of internal experiences and that our reactivity and stress related to these experiences will be markedly decreased through the practice of mindfulness. Mindfulness is a state of moment-by-moment awareness of one's internal experiences that is a skill that will be gradually acquired through training. MBSR involves a variety of exercises to train people to increase mindfulness, including an exercise involving eating a raisin with full attention of moment-by-moment sensory experience, a body scan with systematic attention to sensations coming from each part of the body, and mindfulness while engaging in everyday tasks. MBSR has been used, to good effect, to treat anxiety disorders and medical conditions linked to anxiety, including chronic pain, cancer, and heart disease (Brantley, 2005; Kabat-Zinn, 1982, 2005; Kabat-Zinn et al., 1992).

Mindfulness-Based Cognitive Therapy

Zindel Segal, J. Mark Williams, and John Teasdale created mindfulness-based cognitive therapy (MCBT) in large part by adapting MBSR to serve the purpose of preventing relapse in those who had had previous episodes of major depression (Segal et al., 2002). A central aim of MBCT is to enhance awareness of the present moment such that it is possible to mindfully experience thoughts and feelings without judgment. A premise is that underlying beliefs that make one vulnerable to relapse in depression are neither directly accessible to conscious introspection nor directly modifiable through direct cognitive restructuring techniques such as logical analysis or disputation (Teasdale et al., 2001). Thus, unlike traditional CBT, patients are not instructed to attempt to modify dysfunctional cognitions or emotional reactions; instead, they are taught how to become aware of their internal experiences such that they will not be drawn into automatic reactions such as ruminative spirals.

Dialectical Behavior Therapy

Marsha Linehan developed dialectical behavior therapy (DBT) out of her frustration with the failure of standard CBT protocols for chronically suicidal patients (Linehan & Dimeff, 2001). DBT integrates standard CBT with eastern mindfulness practices. The term *dialectic* is meant to convey, among other things, a tension between the therapist's need to provide validation of the patient's extraordinarily painful internal experience, and also to facilitate changes in attitude and behavior (Linehan, 1993). Therapists encourage the change agenda through psychoeducation, skills training, exposure strategies, direct confrontation, and implicit and explicit contingency

management. DBT also teaches core mindfulness skills, including those related to paying attention to the present moment and assuming a nonjudgmental stance. The program is typically delivered across both individual and group modalities.

Metacognitive Therapy

Adrienne Wells developed the self-regulatory executive function theory, which proposes that psychological disorders are linked to the activation of a dysfunctional pattern of cognition called cognitive attentional syndrome (CAS; Wells & Matthews, 1996). This pattern of thinking is characterized by inflexible self-focused attention and perseverative ruminative thinking styles. Beliefs tend to center around metacognitive notions about the usefulness of certain worry-based thinking styles such as "paying attention to every danger will avoid harm." Metacognitive therapy (MT) was developed as a way to counter the CAS and has been applied to GAD, posttraumatic stress disorder (PTSD), OCD, and social anxiety disorder (Fisher & Wells, 2008; Wells, 2005a, 2007; Wells & King, 2006; Wells & Sembi, 2004). Rather than attempting to modify cognitions related to the content of anxious thoughts (which Wells contends are not amenable to conscious cognitive change efforts), MT helps patients to appreciate and modify their higher-level beliefs about the utility and necessity of worrying and other anxious thinking. In addition, the therapy teaches "detached mindfulness," which includes the development of meta-awareness (consciousness of one's thoughts) and cognitive "decentering" (realization that thoughts are mental events and not facts).

Acceptance and Commitment Therapy

Like other third-generation behavior therapies, ACT evolved in part from traditional CBT. In fact, its earliest incarnation was called "comprehensive distancing" because it elaborated and expanded on Beck's notion that patients should be taught to "distance" themselves from their cognitions early in the process of CT (Zettle, 2005b; Zettle & Rains, 1989). Over time, a central unifying goal of ACT was developed and termed *psychological flexibility*, referring to one's ability to choose one's actions from a range of options in order to behave more consistently with personally held values and aspirations rather than having one's behavior constrained by the avoidance of distressing "private events" (thoughts, feelings, sensations, memories, urges, etc.).

ACT makes use of a number of therapeutic strategies—many borrowed and developed from earlier approaches—to promote psychological flexibility. First, the therapy aims to increase psychological acceptance of subjective experiences (e.g., thoughts and feelings) and to decrease unhelpful experiential avoidance. The patient is taught that attempts to control unwanted experiences (e.g., social anxiety, panic sensations, traumatic memories, obsessive thoughts) are likely to be ineffective or even counterproductive, and that these aversive experiences should be accepted fully (without internal or external attempts to eliminate them). Second, ACT works to increase psychological awareness of the present moment, including both external and internal events as they unfold in real time. Third, the treatment teaches patients to "defuse" from subjective experiences, particularly thoughts. Cognitive defusion refers to the ability to step back from or distance oneself from one's thoughts in a manner enabling one to behave independently of the thoughts. These first three aspects of ACT are, in part, borrowed from and implemented through the practice of mindfulness. Fourth, ACT works to decrease excessive focus on and attachment to the "conceptualized self," or personal narrative (e.g., a rape survivor's self-identification as a victim). Fifth, the therapy utilizes "values clarification" to help the patient identify and crystallize key personal values and to translate these values into specific behavioral goals. Finally, ACT promotes the concept of "committed action" to increase action towards goals and values in the context of experiential acceptance.

According to its founders, ACT therapeutic processes emerge from a comprehensive behavioral theory of human language and cognition known as relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001). RFT argues that human language and cognition, and by extension most psychopathology, is

dependent on the human ability to arbitrarily relate events, that these relationships are made up of cognitive networks that can be elaborated but not extinguished, and that direct attempts to change such networks only lead to further elaboration of the network while increasing its functional importance (Hayes, 2004a).

Among the new generation of behavior therapies, ACT in particular has shown signs of rapid growth in the fields of psychotherapy theory and practice. For instance, as of mid-2008, 220 articles and chapters were listed in *PsychLit* with "acceptance and commitment therapy" as a keyword. Moreover, over 20 self-help and clinician-oriented ACT books have been published; one of these, *Get Out of Your Mind and Into Your Life* (Hayes & Smith, 2005), spent time on the *New York Times* and *Amazon.com* bestseller lists. Additionally, there have been several dozen paper presentations, posters, workshops, and panel discussions related to ACT presented at each of the most recent meetings of the Association of Behavioral and Cognitive Therapies (ABCT), more than any other specific therapy. The popularity of the approach does not, of course, necessarily imply that it is effective or that its model is fundamentally correct.

SPECIFIC APPLICATIONS OF ACCEPTANCE-BASED APPROACHES

Several examples exist of applying acceptance-based approaches to the treatment of specific psychological problems. For instance, Brown and colleagues (Brown et al., 2005; Brown et al., 2008) have developed a distress tolerance approach to smoking cessation. In this approach, smokers are helped to enhance their ability to tolerate unpleasant sensations, feelings, and thoughts related to urges to smoke. In addition, several widely used variants of behavior activation for depression can be considered to be acceptance-based approaches as they stress acceptance, rather than change, strategies in relation to internal experiences in the service of behavioral goals (Jacobson et al., 2001; Martell, Addis, & Dimidjian, 2004). Orsillo and Roemer (Roemer & Orsillo, 2007; Roemer, Salters-Pedneault, & Orsillo, 2006) have combined the approaches of Hayes, Borkovec, and others into an acceptance-based CBT program for GAD. Acceptance-based approaches have also been developed for social anxiety disorder (Dalrymple & Herbert, 2007; Herbert & Cardaciotto, 2005), panic (Levitt & Karekla, 2005), binge eating (Kristeller, Baer, & Quillian-Wolever, 2006), and weight loss (Forman, Butryn, Hoffman, & Herbert, under review). Integrative behavior couples therapy is an acceptance-based approach to couple discord that has shown promising results (Jacobson, Christensen, Prince, Cordova, & Eldridge, 2000).

As described above, there has been a sharp increase over the past decade in acceptance-based applications of CBT. As such, psychological acceptance–linked constructs and techniques are being increasingly incorporated into treatment protocols and descriptions. Whether this trend represents a simple evolution in clinical strategies or a fundamentally new "wave" of CBT continues to be hotly debated (Arch & Craske, in press; Hayes, 2004b, in press; Hofmann & Asmundson, 2008).

COMPARISON OF TWO REPRESENTATIVE APPROACHES

Choice of Specific Approaches to Compare

As is clear from the preceding discussion, there exist a large number of both "standard" CBTs and acceptance-based models of CBTs, and these models themselves differ from one another. As such, comparing the two approaches holistically becomes difficult and not especially informative. A more useful strategy for comparing the two approaches is to pick a representative of each that can serve as a prototype for the sake of comparison. We propose that Beck's cognitive therapy (Beck, 2005) and Hayes and colleagues' acceptance and commitment therapy (Hayes et al., 1999) represent the most prototypical examples of their respective approaches. In addition, these treatments arguably have the best-developed theoretical models, most articulated clinical descriptions, deepest databases of empirical research, and the largest followings among both researchers and practitioners. Moreover, the developers of ACT have stressed its

distinctiveness from CT on theoretical, technological, and empirical grounds (Hayes, in press; Hayes, Masuda, & De Mey, 2003). As mentioned, ACT evolved in part directly from CT (Zettle, 2005b). Nevertheless, ACT and CT may differ on key theoretical and technological grounds.

We are fully aware that no model is completely representative of the larger class, and there are ways that both CT and ACT differ from other treatments in their categories. For instance, CT places more emphasis on cognitive change strategies *relative* to behavioral ones compared to some of the other standard CBT approaches, and conversely ACT is a more behaviorally oriented treatment than some other acceptance-based approaches. Also, ACT holds a more purist view that, as a general (but not absolute) rule, direct attempts to modify cognitions are unhelpful, whereas other acceptance-based strategies such as metacognitive therapy and dialectical behavior therapy do incorporate cognitive modification strategies. Similarly, ACT consistently frames the goals of treatment without specifically focusing on symptom reduction, but this is not the case with all other acceptance-based approaches. In a related vein, compared to other acceptance-based treatments, ACT has much greater emphasis on the clarification of, and motivating forces behind, life values. Nevertheless, we believe that CT and ACT share a large number of features with their respective broader approaches to therapy, and certainly enough to justify a comparison of their theoretical models, treatment approaches, and strategies. It is important to clarify that our goal is not to provide a definitive conclusion to the global questions of whether ACT is genuinely distinct from CT or whether acceptance-based approaches represent a new generation of behavior therapies. Rather, by comparing and contrasting the two approaches, we hope to elucidate how the models relate to one another and how they reflect larger issues in the field. Moreover, we also hope that this comparison will point to fruitful research directions.

Basis of Comparison

Our review is based on a sample of representative and descriptive books, chapters, and journal articles describing CT (e.g., Beck, 1976; Beck, Emery, & Greenberg, 1985; Beck, Freeman, & Davis, 2004; Beck et al., 1979; J. S. Beck, 1995, 2005; Dobson, 2001; Dobson & Shaw, 1995; Hollon, Haman, & Brown, 2002; Leahy, 2003a, 2003b; Ledley, Marx, & Heimberg, 2005) and ACT (e.g., Dahl, Wilson, Luciano Soriano, & Hayes, 2005; Dahl, Wilson, & Nilsson, 2004; Eifert & Forsyth, 2005; Gifford et al., 2004; Hayes, 2004a, 2004b; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes, Strosahl et al., 1999; Hayes & Strosahl, 2005; Herbert & Cardaciotto, 2005; McCracken, Vowles, & Eccleston, 2005; Wilson & Murrell, 2004). The descriptions of the two approaches are based on an integration of these various sources. Thus, specific citations are not provided for every point of comparison between the two approaches. Additionally, given space limitations, our treatment of each approach will necessarily be incomplete.

Comparison of Models

At its most basic level, a psychotherapy model specifies a theory of etiology (i.e., an explanation of how problem behaviors and psychopathology develop and are maintained), intervention technologies (the therapeutic strategies designed to effect change), mechanisms of action (an account of how interventions produce change), and optimal health/functioning (the end goal of the intervention). Each of these model components is considered later in this chapter. In addition, a simplified depiction of the two models is presented in Figure 5.1. The figure depicts the CT view of psychopathology (faulty information processing) as guiding intervention (cognitive restructuring), which enables changes (in cognition) that result in health (symptom reduction). In contrast, the ACT theory of psychopathology (psychological inflexibility) inspires the interventions (e.g., defusion, psychological acceptance) that purportedly work through specific mechanisms (acceptance of and defusion from internal experiences, decreased experiential avoidance) to enable health (living a valued life).

Etiology

Both ACT and CT are members of the larger family of behavior therapies, and thus share

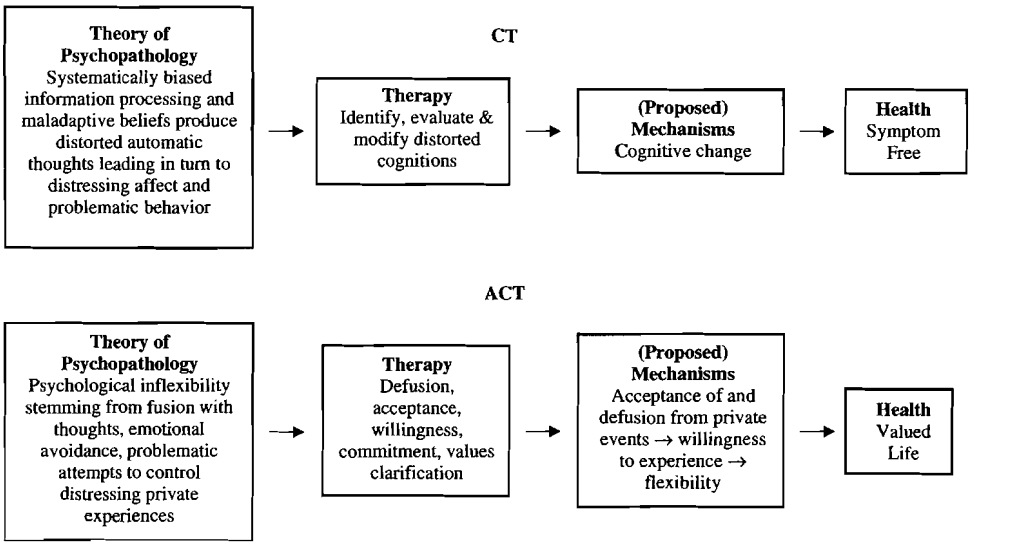

FIGURE 5.1 Simplified Models of Cognitive Therapy (CT) and Acceptance and Commitment (ACT).

several core principles of behavior theory. For instance, both acknowledge the major role played by operant and classical conditioning in learning and strengthening affective and behavioral response tendencies (Beck et al., 1979; Beck, 1995; Hayes, 2004b). Both models would view learning as a core explanation for why someone with battlefield trauma develops intense anxiety and avoidance of situations in which loud sounds are present. Furthermore, both models would view brief exposure to a feared stimulus followed by immediate escape as negatively reinforcing. In the case of CT, emphasis is placed on the role of cognitions in mediating the impact of specific situations. More generally, CT views psychopathology as a result of systematically biased information processing, characterized by maladaptive beliefs and automatic thoughts (J. S. Beck, 1995, 2005; Clark, Beck, & Brown, 1989; Ledley et al., 2005). Thus, the battlefield trauma patient would be theorized to have specific anxiety- and avoidance-provoking cognitions such as "I am not safe" that produce fear and avoidance in relevant situations. ACT, in contrast, views psychopathology as resulting from psychological inflexibility stemming from "fusion" with (overconnection to and literal belief in) thoughts (such as "I am not safe") and other internal experiences; problematic attempts to control, explain, or even dispute such private events rather than merely experiencing them; emotional avoidance (e.g., attempts to avoid the feeling of anxiety); a lack of clarity about one's core values (e.g., being a good father); and the resulting inability to behave in accordance with those values.

Core Interventions

Core CT strategies include the identification of basic beliefs and associated automatic thoughts, and the restructuring of problematic cognitions so that they are more adaptive and accurate (Beck, 1995; Ledley et al., 2005). Given the popularity and widespread dissemination of cognitive restructuring, the reader is assumed to be familiar with these techniques and we will therefore not pursue them in detail (Table 5.1). For its part, ACT makes use of a number of therapeutic strategies—many borrowed and elaborated from earlier approaches—to promote *psychological flexibility*, which is defined as the ability to select behavior that, in one's current context, will enable movement towards chosen life values (Eifert & Forsyth, 2005; Hayes, Strosahl et al., 1999; Hayes & Strosahl, 2005).

TABLE 5.1 Core Interventions

Shared	• Relationship-building interventions such as empathy, validation, and reflections • Didactic instruction of skills • Experiential learning • Summary statements • Behavioral interventions, especially exposure to feared stimuli, behavioral activation, problem solving, role playing, modeling • Homework
Cognitive therapy	• Presentation of cognitive model (situation → cognitions → affective and behavioral consequences) • Identification of automatic thoughts • Labeling thought errors • Identification of core beliefs, schemas and attributional styles • Cognitive conceptualization recognizing that early experiences shape core beliefs which, in turn, determine conditional assumptions, beliefs and rules, automatic thoughts, and compensatory strategies • Modification of dysfunctional cognitions; generation of alternative responses • Behavioral experiments to test thoughts/beliefs
Acceptance and commitment therapy	• Presentation of model including the idea that attempts to control internal experiences is more of a problem than a solution; induce a necessary state of hopelessness toward doing "more of the same" (i.e., attempts to control). • Increase acceptance of internal experiences (thoughts, feelings, images, sensations, urges) • Increase awareness of present moment experiences • Increase *defusion*, that is, ability to step back from thoughts and other internal experiences in a way that allows seeing them as "just thoughts" that aren't necessarily true • Decrease attachment to *conceptualized self* (i.e., one's personal narrative) • Clarification of core life values • Increased commitment toward values-consistent behavior and a willingness to have difficult internal experiences for the sake of moving toward life values

First, the therapy aims to increase acceptance of distressing subjective experiences (e.g., negative thoughts and feelings) and to decrease unhelpful experiential avoidance. The patient is helped to carefully examine her past attempts to control unwanted experiences and to use her experience to come to a shared view with the therapist that these control attempts have always been, and are likely to continue to be, ineffective or even counterproductive. Thus, a patient with social anxiety would be asked to reflect on the extent to which strategies to reduce or control internal experiences (e.g., thoughts about and fear of negative evaluation, anxiety, blushing) have been successful. This learning exercise is consistent with ACT's emphasis on drawing conclusions on the basis of one's own experiences rather than what other people say or a set of rules. Consistent with ACT's emphasis on experiential learning, the patient would also be asked to attempt, during the session, to prevent herself from having any thoughts/images/memories of a particular subject (e.g., chocolate cake) for the next 60 seconds. Through this exercise the patient comes to appreciate that we have limited control over internal experiences and, paradoxically, that this is especially true when we are highly motivated to control these experiences. Furthermore, the lack of control over our experiences is less of a problem than our ineffective, resource-wasting, and suffering-inducing attempts to exert control. Helping the patient come to the position that experiential control attempts have not and likely never will result in successful living is sometimes referred to as *creative hopelessness*. ACT relies heavily on metaphors to convey its ideas. For example, a quicksand metaphor is used to communicate the idea that struggles to control internal experiences are usually doomed to fail and only make the problem worse. Someone who has fallen in quicksand and struggles to get out will only sink deeper and deeper into the quicksand, whereas laying back and making

full contact with the quicksand, although counterintuitive, enables one to gently slide across the surface to its edge. The purpose of these related sets of teachings is to jolt the patient out of her assumptions about the nature of her problems and how best to address them, and to help her open up to a new way of addressing her problems.

As an alternative to a control orientation, patients are presented with the construct of psychological *acceptance*, which, as described above, refers to the idea that distressing internal experiences can be accepted fully and without defense (Hayes, Strosahl et al., 1999). The idea is to help patients fully embrace all thoughts, no matter how distasteful, all feelings, no matter how painful, and so on. The goal becomes not to feel "better" in the usual sense, but rather to experience the full range of one's thoughts and feelings without struggle. As discussed below, acceptance, or *willingness*, as it is also termed, is not viewed as an end in itself, but as the best means to an end, in the sense that one is willing to have difficult internal experiences in the service of living a valued life. Thus, a patient with social anxiety is helped to become more willing to have subjective feelings of anxiety (including thoughts about humiliation, worry, sweaty palms, and flushed face) in the service of forming social relationships, having a fulfilling job, earning a living, and becoming more autonomous (Herbert & Cardaciotto, 2005).

Acceptance also implies, in part, the need for a sharpened sense of awareness of the present moment, including of both external and internal events, as they unfold in real time. Together, awareness and acceptance are promoted through exercises such as mindful meditation. For instance, patients are trained in an exercise in which they imagine that each of their thoughts, feelings, and sensations are leaves floating down a stream (Hayes, Strosahl et al., 1999). Patients practice becoming aware of each of these experiences, while also accepting each "leaf" no matter whether it is beautiful or ugly and no matter whether it lingers or rushes by quickly; no efforts are made to speed certain leaves along or slow others down.

A critical component of ACT is helping patient to *defuse* from subjective experiences, particularly problematic thoughts (Hayes, 2004a; Wilson & Roberts, 2002). *Cognitive defusion* thus refers to the ability to step back from or distance oneself from one's thoughts in a manner that enables patients to see that their thoughts are "just thoughts" that need not be believed nor disbelieved. Cognitive defusion, when implemented with a perspective of nonjudgmental acceptance, permits one to behave independently of distressing thoughts and feelings. A patient who sees his thought, "she won't want to talk to me; she thinks I'm a loser," as merely a collection of words supplied by his anxious brain is less likely to buy into this thought and more likely to be able to approach another person and initiate a conversation, even while simultaneously having the thought. This process is similar to the notion of challenging the believability of the thought in CT. However, unlike CT, ACT makes no effort to *change* the thought itself or to replace it with some other thought. The metaphor of colored sunglasses is used to help patients understand the concept of defusion. Wearing yellow sunglasses means that the world is experienced as yellow but without a conscious awareness of this fact. In contrast, holding the sunglasses away from the face reveals the process through which the world is being yellowed. A number of ACT exercises exist to help patients learn to defuse from distressing experiences, such as encouraging description of thoughts and feelings in real time and in language that emphasizes the fact that the patient is a person having thoughts and feelings as opposed to simply being immersed in/fused with the experience (e.g., "right now I am having the thought 'she is laughing at me' ").

ACT also works to decrease excessive focus on and attachment to the *conceptualized self*. The conceptualized self is the verbally based narrative that we form about ourselves, including what we are, who we are, and how we came to be that way (Hayes, 2004a; Hayes & Gregg, 2001; Strosahl, 2005). From the perspective of ACT, such stories are viewed as limiting and self-fulfilling. For instance, a story such as "I was treated very badly by other children when I was little, and so now I can't deal well with people" is likely to lead to behavior that is isolating, further strengthening attachment to beliefs of social incompetence.

ACT utilizes *values clarification* to help the patient identify and crystallize key personal values and to translate these values into specific behavioral goals (Hayes, Strosahl et al., 1999; Wilson & Murrell, 2004). Goals are seen as attainable mileposts (e.g., applying for a job), whereas values are directional aspirations (having a fulfilling career). Finally, ACT promotes the concept of "committed action" to increase action towards goal and values in the context of experiential acceptance.

Relationship of ACT/CT Theory with Lay Theory/Folk Culture

A cornerstone of CT is the "cognitive model," which essentially posits that one's cognitive appraisal in a given situation leads directly to affective and behavioral responses (Beck et al., 1979). In this sense, CT theory builds on Western society's generally accepted sequential model of how situations lead to thoughts, and how thoughts, in turn, produce feelings and behavior. CT also implicitly supports the folk culture view that affect itself directly influences behavior (J. S. Beck, 1995, 2005). The notion that behavior is determined by cognition and affect is reflected in CT's emphasis on decreasing problematic thoughts and emotions (e.g., anxiety) in order to reduce problematic behavior (e.g., avoidance; Beck, 1993).

ACT, however, directly challenges the culturally sanctioned view on the relationship between private experiences and overt behavior. Although it views behavior as influenced by cognition and affect, ACT theory emphasizes the possibility of independence between overt behavior on the one hand, and thoughts, feelings, and the like, on the other (Hayes, Strosahl, Bunting, Twohig, & Wilson, 2005). Thus, cognitive or affective change is viewed as unnecessary for behavioral change. ACT, therefore, makes no direct attempt to modify the content or frequency of thoughts or feelings. Where ACT and CT come together is that both posit that verbally mediated cognitive processes play a critical role in the development and maintenance of psychological problems. In the case of ACT, the emphasis is on the problematic role of language in enabling "cognitive fusion" with thoughts and feelings, whereas in CT it is on the negatively directed cognitive biases generating maladaptive and distorted self-talk.

Comparison of Therapeutic Goals

Specification of Goals

Both CT and ACT are goal-oriented therapies that aim to articulate, actively pursue, and measure progress toward specific goals (Table 5.2). In the case of CT, goals, though individualized, generally stem directly from presenting problems (J. S. Beck, 1995). Presenting complaints often take the form of the experience of distressing affect (anxiety, depression, anger), and stated goals largely focus on the converse (reductions in the frequency and/or intensity of this affect). In contrast, ACT is skeptical of the value of directly targeting symptom reduction per se, and instead places a heavy emphasis on helping individuals discover and clarify their core life values. Goals then become mileposts in the lifelong effort to live consistently with one's values. In this way, there is often less relationship between a patient's initial presenting complaints and therapeutically established goals than is the case in CT. Thus, ACT and CT are at odds with respect to the degree to which they explicitly focus on the reduction of unwanted symptoms. An overt goal of CT is the reduction of unwanted thoughts and negative affect, such as depression and anxiety, and treatment success is in large part determined by the degree to which thought and mood changes occur. In contrast, a fundamental ACT principle is that the very desire to do away with distressing feelings or thoughts is often itself problematic and, furthermore, that it is possible to engage in desired behaviors even while having highly unpleasant subjective experiences (Eifert & Forsyth, 2005; Hayes, 2004b; Hayes et al., 2006; Zettle, 2005a). Therapy, therefore, aims to replace the goal of symptom reduction with one of "living a valued life," which is defined as making one's behavior maximally consistent with one's chosen values. It is worth noting that although ACT and CT do differ in this regard, the difference is really one of degree of emphasis. For example, many CT therapists help their patients identify important personal values

TABLE 5.2 A Comparison of ACT and CT Therapeutic Goals

Issue	Shared	ACT	CT
Specification of goals	Both emphasize clear articulation of goals	Goals are derived from values, which are highly individualistic and not always obvious from presenting symptoms. Hence, values clarification is emphasized.	Goals are logically related to presenting symptoms (e.g., reduction of anxiety, depression), and are individualized based on the patient's specific circumstances.
Symptom reduction	Both allow for symptom reduction when it can be achieved without undue costs	Symptom reduction per se is not an explicit aim; sometimes reduction of symptoms is possible, but often it is not. Instead the goal is to live a valued life.	Symptom reduction is an explicit aim.
Quality of life	Both target improvements in quality of life, which will include success in major life domains	Quality of life is a product of the degree to which someone is living a life consistent with his/her values.	Freedom from bothersome thoughts, feelings, and other symptoms is an important component of quality of life.

and associated goals, and to accept especially intransient thoughts. In the case of ACT, the concern with experiential control is pragmatic rather than philosophical or absolute. ACT's pragmatic focus allows, even advocates, methods of reducing unwanted internal experiences (e.g., exercising, taking medication, progressive muscle relaxation) when they are effective and do not pose undue costs. Nevertheless, the ACT therapist is skeptical of the long-term viability of most direct experiential change efforts, and therefore emphasizes psychological acceptance in the context of behavior change, rather than cognitive change as a necessary precursor to behavioral change.

Quality of Life

Both ACT and CT target quality of life, at least indirectly. However, the two approaches vary in their conceptualization of this construct. ACT views quality of life as primarily reflecting the degree to which someone lives a life consistent with his or her values (Eifert & Forsyth, 2005; Hayes, Follette, & Linehan, 2004; Hayes & Smith, 2005). CT, however, is more likely to conceptualize quality of life as freedom from bothersome thoughts, feelings, and other symptoms (DeRubeis et al., 1990). Yet, CT does recognize that quality of life is tied to success at important life domains (Dobson, 2001).

Comparison of Clinical Strategies

In order to examine further the key similarities and differences between ACT and CT, we now turn to several aspects of the strategies employed by each model. A summary of this discussion is presented in Table 5.3.

Emphasis on the Past versus the Current/Future

Whereas traditional psychodynamic perspectives emphasize past, unresolved conflicts and historical relationships, both ACT and CT tend to focus on the present and future. Both treatments emphasize assessing and improving current functioning, and also encourage patients to try out new ways of behaving in the future. CT views underlying cognitive structures as historically derived, and often a certain degree of insight into these historical origins is believed to be helpful (A. T. Beck, 2005; Beck, 1995). Such insight is not generally viewed as sufficient for change, but may be necessary. ACT also holds that the processes underlying psychopathology are historically determined. However, insight into such processes is not emphasized for several reasons (Eifert & Forsyth, 2005). ACT therapists are skeptical of the accuracy of historical accounts, and question the utility of retrospective reconstructions of etiology. ACT therapists also seek to undermine attachment to a "conceptualized" sense of self, and fear that an historical focus would reinforce precisely such a sense. Most importantly, the ACT model

TABLE 5.3 A Comparison of ACT and CT Strategies

Issue	Shared	ACT	CT
Role of disputation	Both are averse to attempts to directly "control" thoughts.	Skeptical of disputation strategies, and generally avoid.	Disputation is a core strategy of CT.
Characteristic treatment techniques	Both focus on the present and future relative to traditional models of psychotherapy.	Liberal use of metaphors and experiential exercises.	Socratic questioning, cognitive disputation, empirical tests.
Therapeutic focus on private events as related to behavior change	Both emphasize the importance of private experiences (thoughts, feelings, memories, etc.).	Focus on disentangling private experience from behavior, and increasing willingness to experience distressing thoughts/feelings.	Focus on changing content of private experience as precursor to behavior change.
Role of defusion	Both view cognitions as observable by the self.	Defusion is a core strategy to enhance willingness and promote action.	Defusion is a byproduct of cognitive restructuring.
Role of awareness	Both focus on increasing awareness of thoughts, feelings and physiological sensations.	Awareness is a key component of mindfulness training.	Awareness is a key component of recognizing automatic thoughts.
Emphasis on affective expression	Both seek to facilitate emotional expression as a means to an end.	Therapy encourages the expression of difficult affect as part of the goal of reduction of experiential avoidance, leading to greater psychological flexibility.	The depth and permanence of cognitive restructuring is theorized to be enhanced when performed in the context of heightened affect.
Behavioral strategies (exposure, behavioral activation)	Both utilize behavioral strategies.	Behavioral strategies utilized to promote psychological flexibility in the context of increased willingness to experience distressing private experiences	Behavioral strategies utilized in the service of reducing negative affect (e.g., anxiety reduction through exposure) and/or increasing positive affect
Therapeutic relationship	Both emphasize a collaborative relationship.	Greater emphasis on principles applying to therapist & patient alike	Therapist as a benevolent coach, gently leading toward cognitive change

does not hold that historical insight is either necessary or sufficient for behavioral change (Hayes, 2004b; Hayes, 2006).

Therapeutic Focus on Subjective Experiences and Their Relation to Behavior Change

Both ACT and CT interventions are designed to help clients cope with distressing subjective experiences (thoughts, feelings, memories, etc.). The focus of ACT interventions is to increase the degree of acceptance of difficult internal experiences, disentangle such experience from behavior, and increase willingness to experience distressing thoughts and feelings in the service of behavior change (Eifert & Forsyth, 2005; Hayes, 2004b; Hayes et al., 2003; Hayes & Smith, 2005). CT interventions, in contrast, focus on changing the content and frequency of private experience in order to reduce distress and as a precursor to behavior change (Beck et al., 1985; Beck, 1995; DeRubeis et al., 1990; Dobson & Shaw, 1995).

Role of Disputation

As Beck (1993) has noted, CT "is best viewed as the application of the cognitive model of a particular disorder with the use of a variety of techniques designed to modify dysfunctional beliefs and faulty information processing characteristic of each disorder" (p. 194). Similarly, Clark, in separating CT from other approaches, specified that the goal of the therapy is to "identify distorted cognitions" that are "subjected to logical analysis and empirical hypothesis testing" (D. A. Clark, 1995; p. 155; cited in Longmore

& Worrell, 2007). Thus, CT is fundamentally about disputing, testing, and modifying cognitions. In contrast, ACT takes the position that cognitive disputation is often an inert or even harmful intervention (Hayes, in press). Reasons for this position include the following interrelated assertions: (1) disputation, rather than eliminating unhelpful cognitions, tends, in fact, to elaborate them; (2) patients will only become further "entangled" in the verbal quagmire of their belief systems; and (3) restructuring can act as an attempt at thought control, which, like other forms of experiential control, is likely to fail, especially when the "stakes" are highest (Ciarrochi & Robb, 2005; Hayes, 2005; Hayes et al., 1999). Yet the distinction between ACT and CT lessens when one considers that CT "avoids direct attempts to 'control' thoughts, since such attempts often result in effects opposite to the ones intended" (Alford & Beck, 1997, p. 30). Moreover, ACT formally embraces an explicit "pragmatism" that would call for direct efforts to control cognitions or other private events when there is evidence (presumably rare) that this produces desirable outcomes without undue cost.

Role of Defusion

Inherent in each of the two treatments is the notion that cognitions are observable by and distinguishable from the self, a concept that has been variously termed *metacognitive awareness, distancing*, and *cognitive defusion* (Eifert & Forsyth, 2005; Hayes, Strosahl et al., 1999; Teasdale et al., 2002; Zettle, 2005b). In fact, the enhancement of cognitive defusion is a core strategy within ACT, and a number of exercises and metaphors are employed to help patients grasp and develop this skill (Hayes & Strosahl, 2005). Generally speaking, defusion is more of a by-product of cognitive restructuring (and, in particular, cognitive self-monitoring) rather than an explicit focus in CT, although, as discussed later, some evidence suggests that the positive effects of CT may be largely attributable to defusion (Teasdale et al., 2002). Whereas neither the concept of defusion nor the strategies employed to enhance defusion are central to traditional CT, directly challenging of the believability of specific thoughts is a common CT intervention. In fact, CT patients are often asked "how much do you believe that thought" (both orally and in written "thought records"), and an oft-repeated reminder from the therapist is "just because you have a thought doesn't make it true" (Beck, 1995). Still, whereas CT has little to say about thoughts that are "true" and functional, ACT takes the position that it is important to recognize that even these thoughts are just a "bunch of words" (Ciarrochi, Robb, & Godsell, 2005).

Role of Awareness

CT and ACT focus on increasing awareness of thoughts, feelings, and physiological sensations. Awareness is a key component of mindfulness training, which is a core therapeutic strategy within ACT (Eifert & Forsyth, 2005; Hayes, 2004a; Hayes et al., 2003). In CT, the development of awareness is viewed as a necessary step in the recognition and eventual restructuring of automatic thoughts (Beck, 1976; Beck et al., 1985).

Role of Psychological Acceptance

It has been argued that mindfulness consists of two core components: awareness and acceptance (Cardaciotto, Herbert, Forman, Moitra, & Farrow, in press; Herbert & Cardaciotto, 2005; Kabat-Zinn, 2005). Within ACT, acceptance refers to the psychological readiness to willingly receive (without "defense") any thoughts, feelings, urges, images, and the like that happen to arise. Whereas awareness is an explicit focus of both treatments, psychological acceptance is a much more central concern of ACT than of CT. Thus, in ACT, there is an explicit and heavy emphasis on the problems inherent in lack of acceptance (i.e., avoidance) of internal experiences, on the advantages of acquiring an accepting stance, and on strategies to enhance psychological acceptance (Eifert & Forsyth, 2005; Hayes & Smith, 2005).

Emphasis on Affective Expression

Given that ACT conceives of experiential avoidance as a critical component of psychopathology and psychological inflexibility, a great deal of emphasis is placed on helping patients experience their affective reactions, especially those that they may habitually avoid, such as anxiety, sadness, and anger (Eifert & Forsyth, 2005; Hayes, 2004a; Hayes & Smith,

2005). This is accomplished through a variety of means, including facilitative, empathic exchanges with a therapist who has worked to create a deep connection with his or her patient, and experiential exercises that evoke strong affect (e.g., vividly role-playing a feared confrontation with a spouse). Although some have stereotyped CT as an emotionless exercise in logical reasoning, this is not accurate. In fact, CT writers have long maintained the importance of emotions in the therapeutic work (Beck et al., 1979), and particularly of facilitating "hot cognitions," that is, "important automatic thoughts and images that arise in the therapy session itself and are associated with a change or increase in emotion" (Beck, 1995, p. 80). According to A.T. Beck, "emotional arousal is a key part of what [cognitive therapists] do" (Beck, 2002, p. 2). In part, this is because cognitive modification is predicted to take place more fundamentally to the extent that it occurs within an affective context. Thus, one recommended experiential exercise for facilitating modification of recalcitrant maladaptive core beliefs is to have clients vividly recall, affectively respond to, and then cognitively reprocess memories of early life in which the core belief was invoked with great intensity (Beck, 1995). Importantly, neither ACT nor CT advocate "cathartic" expression of emotion for its own sake, but rather it is sometimes encouraged as a means to an end. In the case of ACT, the end is psychological flexibility, whereas in the case of CT the end is cognitive modification and symptom reduction.

Behavioral Strategies

ACT and CT are both behavioral therapies, and both utilize behavioral strategies such as exposure to feared stimuli, skills training, and behavioral activation (Beck et al., 1985; Beck, 1995; Hayes, 2004b; Ledley et al., 2005). An interesting difference exists, however, in the context within which the behavioral strategies are employed. Within ACT, behavioral strategies are utilized to promote psychological flexibility in the context of increased willingness to experience distressing private experiences while engaging in value-directed behavior. Within CT, behavioral strategies are utilized primarily in the service of changing dysfunctional beliefs (e.g., through behavioral experiments) and reducing negative affect (e.g., anxiety reduction through exposure).

Therapeutic Relationship

Both treatment models emphasize a collaborative therapist–patient relationship. ACT, more than CT, emphasizes that principles taught and explored within the therapy apply equally to both patient and therapist (i.e., "we're all in the same soup") (Hayes, Strosahl et al., 1999; Wilson & Murrell, 2004). Consistent with other acceptance-based therapies, many ACT clinicians also emphasize the importance of experiential components to training in ACT (Hayes, Strosahl et al., 1999; Hayes & Strosahl, 2005). For its part, the CT therapist is conceived of as a helpful coach, gently leading the patient toward cognitive change (Beck, 1995).

Empirical Support

Effectiveness

A comprehensive review and critique of the empirical support of CT and ACT is beyond the scope of this chapter. Instead, we briefly summarize the status of research on each approach and refer the reader to recent reviews as a way to gauge the base of empirical support for each model. Hundreds of controlled clinical trials of CT have been conducted in recent years (Dobson, 2001; Hollon & Beck, 1994), enough to form the basis of a number of meta-analyses, nearly all of which have strongly supported the efficacy of CT. In fact, a recent systematic review of 16 meta-analyses (Butler et al., 2006) concluded that the effectiveness of CT has been firmly established to treat a plethora of psychological conditions, including unipolar and bipolar depression, panic disorder, OCD, social anxiety disorder, GAD, schizophrenia-linked psychotic symptoms, and bulimia nervosa. Comprehensive reviews of hundreds of tightly controlled efficacy studies have also been conducted by a task force of the Division of Clinical Psychology of the American Psychological Association. On the basis of these reviews, variants of CT have been labeled as "well established" or "empirically supported" for panic disorder, GAD, OCD, social anxiety disorder, depression, and bulimia (Chambless & Hollon, 1998).

In terms of empirical support, ACT lags far behind CT; evidence for the effectiveness of ACT comes from a relatively small set of studies. In fact, some have criticized the movement behind ACT for "getting ahead of the data" (Corrigan, 2001; but see also Herbert, 2002, for a counterargument). A comprehensive review of ACT outcome studies was conducted by Hayes and colleagues (2006). The authors identified 11 studies comparing ACT to an "active, well-specified" treatment; comparison treatments could generally be identified as psychoeducation, a variant of CT, or psychopharmaceutical (nicotine patch, methadone). The treatment foci were also heterogeneous and consisted of depression, anxiety (social anxiety, work stress, agoraphobia, and math anxiety), distress from cancer, job burnout, substance use (polysubstance abuse, smoking), and diabetes management. Weighted, averaged effect sizes comparing treatment conditions were 0.48 at post and 0.63 at a later follow-up period, in favor of ACT. The authors also computed effect sizes of 0.73 (post) and 0.83 (follow-up) for the four studies that compared ACT to variants of CT. The review cited an additional nine studies demonstrating the effectiveness of ACT (for the treatment of social anxiety, agoraphobia, work stress, trichotillomania, psychosis, borderline personality disorder, chronic pain, and even epilepsy) when compared to wait list, placebo, or treatment as usual (weighted, mean effect size = 0.99 at post and 0.71 at follow-up).

A number of limitations of the Hayes et al. (2006) review are noteworthy. First, the number of comparative trials and participants remains too small to draw definitive conclusions. Second, only a handful of studies compared ACT to a "gold standard" treatment, and these studies had relatively small samples. Of these studies, two (Zettle & Hayes, 1987; Zettle & Rains, 1989) were conducted prior to the full development of ACT. Third, the studies were generally of lower methodological rigor than comparable studies of CT (Öst, 2008), although as discussed later, this is not an entirely fair comparison because research on ACT is at a much younger point and has not yet reached the stage of large, well-funded, multisite trials. Fourth, there have been no dismantling or other component control studies to demonstrate that the distinctive features of ACT contribute to efficacy beyond well-established core behavioral principles. In fact, in the one study comparing ACT to (noncognitive) behavior therapy (Zettle, 2003), outcomes favored behavior therapy (though this advantage disappeared by follow-up). Of course, CT has also not generally fared well against purely behavior therapy across a number of dismantling studies (Longmore & Worrell, 2007). Another limitation of the extant ACT outcome literature is that the majority of studies were conducted by people with an expressed interest in ACT, thus raising the possibility of unintentional experimenter bias.

A more recent meta-analysis, carried out by an independent investigator, examined 13 randomized controlled trials in which ACT was compared to a control group (Öst, 2008). Öst concluded that the research methodology used by ACT studies was less stringent than that used by studies of standard CBT. The calculated mean effect size was 0.68 (i.e., moderate in size) and equivalent to that of Hayes et al. meta-analysis. Öst concluded that the extant empirical support for ACT is sufficient to judge it to be an effective treatment, but called for better-controlled studies. Despite the limitations noted, both the Hayes et al. (2006) and Öst 2008 analyses suggest that ACT is an effective treatment. Moreover, the weaker methodological rigor of many ACT studies relative to those of CT must be understood in the context of ACT's being a much more recent arrival on the therapeutic scene. It takes time for sufficient evidence to accrue to justify the resources to support large-scale efficacy and effectiveness trials. Fortunately, there are signs that these are coming. For instance, both Lappalainen and colleagues (2007) and Forman, Herbert, and colleagues (2007) recently conducted trials comparing ACT and CT for a mixed sample of outpatients, and a larger-scale trial of ACT and CT for anxiety is underway at UCLA.

Postulated Mechanisms of Action

According to cognitive theory, CT operates on outcome variables (e.g., depression, anxiety, avoidance behavior) primarily by modifying distorted thinking and dysfunctional attitudes.

Traditional learning mechanisms are hypothesized as well, although we do not elaborate on these because (1) they are common to both ACT and CT, and (2) traditional CT postulates that behavioral interventions ultimately exert their impact through *cognitive* changes (A. T. Beck, 2005).

Several hypotheses emerge from the cognitive framework, including that change in dysfunctional attitudes should mediate change in outcome variables (e.g., depression, anxiety), and that cognitive change should be more pronounced among patients who receive CT than among those who receive alternative treatments such as psychiatric medication. However, as was discussed in Longmore and Worrell's (2007) recent review, the evidence to date does not strongly support the proposed mechanisms of action of CT.

One way to test the assumption that CT effects are mediated by cognitive change is to measure changes in dysfunctional thinking and then attempt to determine whether they mediate outcome. Only a small minority of CT outcome studies have conducted these mediational analyses. Of those that have, many have failed to find evidence of cognitive mediation, especially in the case of CT for depression (e.g., Barber & DeRubeis, 1989; Burns & Spangler, 2001; Clark et al., 1989; DeRubeis et al., 1990; Rush, Kovacs, Beck, Weissenburger, & Hollon, 1981; Simons, Garfield, & Murphy, 1984; Teasdale et al., 2001). In the largest of these studies (Burns & Spangler), structural equation modeling revealed no relationship between changes in dysfunctional attitudes and decreases in anxiety or depression over a 12-week period among 521 outpatients. However, cognitive changes have been associated with later sudden decreases in depression (Tang, DeRubeis, Beberman, & Pham, 2005). Results from several studies of CT for panic (Casey, Newcombe, & Oei, 2005; D. M. Clark et al., 1994; Hofmann et al., 2007; Kendall & Treadwell, 2007; Michelson, Marchione, Greenwald, Testa, & Marchione, 1996; Prins & Ollendick, 2003; Smits, Powers, Cho, & Telch, 2004; Treadwell & Kendall, 1996) and social anxiety (Foa, Franklin, Perry, & Herbert, 1996; Hofmann, 2004; Hofmann, 2005; Smits, Rosenfield, McDonald, & Telch, 2006) have supported a mediating role for cognitive change. In two cases, the choices of mediator, that is, fear of fear (Smits et al., 2004) and perception of control over anxiety (Hofmann, 2005), are noteworthy for their potential interpretation as acceptance-linked constructs. Also, many studies that reported cognitive mediation measured cognitive and outcome change contemporaneously and/or did not otherwise meet criteria for formal mediation (Hofmann, 2008; Longmore & Worrell, 2007).

A number of randomized controlled trials comparing CT to medication for depression have tested mediation hypotheses. For the most part, findings suggest that CT produces no more change in maladaptive thoughts than does psychopharmacological intervention (Barber & DeRubeis, 1989; Clark et al., 1989; DeRubeis et al., 1990; Longmore & Worrell, 2007; Rush et al., 1981; Simons et al., 1984; Teasdale et al., 2001). Thus, these findings fail to support the postulated mechanisms of action of CT. However, some findings are explainable within a modified CT theory. For instance, it could be argued that equivalent changes observed in dysfunctional attitudes between CT and medication simply reflect the fact that cognition is a component of the psychobiological system (A. T. Beck, 1984), and also that cognitive variables can be mediators in one treatment and consequences of change in outcome in another (DeRubeis et al., 1990).

An additional challenge to the cognitive mediation hypothesis comes from dismantling studies that have compared behavior therapy with and without a cognitive component. For instance, a series of studies have found that exposure-only therapy was at least as effective as an exposure plus cognitive therapy in the treatment of social anxiety disorder (Emmelkamp, Mersch, Vissia, & Van der Helm, 1985; Gelernter, Uhde, Cimbolic, Arnkoff, & et al., 1991; Hope, Heimberg, & Bruch, 1995; Mattick, Peters, & Clarke, 1989; Scholing & Emmelkamp, 1993) and PTSD (Foa et al., 1999; Foa et al., 2005; Lovell, Marks, Noshirvani, Thrasher, & Livanou, 2001; Paunovic & Öst, 2001), and that behavioral activation alone was as effective as activation plus cognitive therapy in the treatment of depression (Dimidjian et al., 2006; Jacobson et al., 1996). Similarly, meta-analyses have suggested that exposure plus

cognitive interventions offer no advantage over exposure-only treatments for GAD (Gould, Otto, Pollack, & Yap, 1997) and OCD (Feske & Chambless, 1995). Hofmann and Admundson (2008) have pointed out that cognitions would logically change from a behavioral intervention (e.g., exposure to a frightening stimulus would change beliefs about the danger of that stimulus). Thus, cognitive change could possibly be a mediator of change in both cognitive and behavioral interventions. Nevertheless, the necessity and efficacy of direct cognitive change strategies are called into question by the extant dismantling research.

The lack of consistent support for postulated mediating mechanisms of CT has led researchers in several related directions. Teasdale and colleagues have presented theoretical and empirical support for the notion that CT "although explicitly focused on changing belief in the *content* of negative thoughts, leads, implicitly, to changes in *relationships* to negative thoughts and feelings, and in particular, to increased metacognitive awareness" (Teasdale et al., 2002, p. 285). Metacognitive awareness, or decentering, "describes a cognitive set in which negative thoughts and feelings are seen as passing events in the mind rather than as inherent aspects of self or as necessarily valid reflections of reality" (Teasdale et al., 2002, p. 285). A related idea was proposed by Barber and DeRubeis (1989, 2001), who have provided evidence that CT operates less by directly impacting troublesome affect or cognition, and more by helping patients develop "compensatory skills" (e.g., generation of alternative explanations or problem solving), many of which are metacognitive in nature, to cope with difficult affect and cognition.

These emerging accounts of the mechanism of action of CT, especially as related to metacognitive awareness, are closely related to theoretical accounts of core ACT processes, especially cognitive defusion. Thus, it is possible that ACT and CT share at least some common mechanisms of action. However, in two studies of depression, evidence across multiple time points was found that early changes in cognitive defusion mediated later decreases in depression for ACT, but not for CT (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004; Zettle & Hayes, 1986; Zettle & Rains, 1989). Further, though less specific, evidence for the mediating role of cognitive defusion was found in a pair of studies of ACT for psychosis (Bach & Hayes, 2002; Gaudiano & Herbert, 2006). In each of these studies, ACT was compared to treatment as usual and cognitive defusion was operationalized as the extent to which patients reported that they believed their delusions to be true (which was contrasted to the report of *frequency*). In both cases, findings supported defusion from delusions as a mediator in ACT's superiority, relative to treatment as usual, in decreasing rehospitalization.

ACT is also postulated to influence outcomes by decreasing experiential avoidance (and thereby increasing experiential acceptance). Several outcome studies support this mechanism. Trials of ACT for mathematics and test anxiety (Zettle, 2003), trichotillomania (Woods, Wetterneck, & Flessner, 2006), worksite stress (Bond & Bunce, 2000), chronic pain (McCracken et al., 2005), nicotine addiction (Gifford et al., 2004), and obesity (Forman, Butryn, Hoffman, & Herbert, 2007) have all concluded that experiential avoidance partially mediates the observed treatment effects of ACT. The Zettle (2003) study is noteworthy in that it found that both systematic desensitization and ACT produced substantial decreases in anxiety but that experiential avoidance was a mediator only in the ACT condition. Two randomized controlled trials comparing ACT and CT also produced evidence that experiential avoidance/acceptance is a stronger mediator for ACT (Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Lappalainen et al., 2007). In a unique approach, Hayes, Levin, Yadavaia, and Vilardaga (2007) conducted a meta-analysis of mediational findings in 12 outcome studies of ACT for a variety of conditions. Overall, ACT-consistent variables (e.g., cognitive defusion, experiential avoidance, mindfulness) significantly mediated treatment effects, accounting for a substantial amount of the variance in outcome measures. In addition to clinical trials, a growing number of analog laboratory studies lend support to the mediational role of decreased experiential avoidance in coping with pain (e.g., Hayes, Bissett et al., 1999), panic attacks (e.g., Levitt,

Brown, Orsillo, & Barlow, 2004), anxiety-related distress (e.g., Kashdan, Barrios, Forsyth, & Steger, 2006), and food cravings (Forman, Hoffman et al., 2007).

Except as specifically noted, mediators in the ACT studies cited were assessed at the same time point as outcomes, limiting conclusions about causality. In addition, many of the treatment outcome studies lacked an active comparison condition, so the specificity of mediation remains in question. Even so, the tests of the mechanisms postulated to underlie ACT have thus far been largely supported.

CONCLUSIONS

Over the past four decades CBT, and a particular model of CBT known as cognitive therapy (CT) has been gradually replacing psychoanalysis/psychodynamic psychotherapy as the prevailing model of psychotherapy in clinical practice (A. T. Beck, 2005; Norcross, Hedges, & Castle, 2002; Norcross, Hedges, & Prochaska, 2002). Standard CBT now dominates the psychotherapy landscape in terms of demonstrated efficacy, acceleration of usage, and prominence in academic and medical centers. However, a new generation of acceptance-based behavior therapies has emerged and raised challenges to some of the key assumptions behind traditional perspectives on CBT. Our review of CT and ACT, as prototypical representatives of standard CBTs and acceptance-based therapies, respectively, concluded that ACT shares a large number of features with CT, but that the two therapies also differ substantially on both theoretical and technological grounds. There appear to be some important dimensions that distinguish ACT from CT, including the lack of emphasis on symptom reduction, a skepticism of most attempts to directly alter dysfunctional cognitions or other internal experiences, and an emphasis on values clarification. Most fundamentally, and most in concert with other acceptance-based approaches, a bedrock goal of ACT is to facilitate increased acceptance of, and an altered (e.g., metacognitive) relationship with, one's own distressing internal experiences.

In terms of empirical support, CT maintains a distinct advantage on the basis of the sheer number, size, and breadth of clinical trials. The existing ACT outcome literature suggests preliminarily, though not yet convincingly, that ACT is a highly efficacious treatment. Research findings are equivocal in relation to the theoretically predicted mediating mechanisms of CT. Some findings suggest that CT's positive effects may in fact be largely attributable to the treatment's ability to develop patients' metacogntive awareness. Thus far, tests of ACT's mechanisms of action have fared somewhat better, with preliminary evidence supporting the mediational role of cognitive defusion and decreased experiential avoidance, although much more work is needed to replicate these findings.

It is still too early to predict the ultimate trajectory of acceptance-based behavior therapies in relation to traditional CBT. Certainly, traditional CBT will continue to maintain its preeminent status for some time to come, which appears warranted given its vast empirical base. At the same time, data are rapidly accumulating on outcomes and mechanisms of various acceptance-based models of behavior therapy, and ACT in particular. As other commentators have observed (e.g., Arch & Craske, in press), a great deal more research is needed, especially by those without a strong allegiance to these acceptance-based models, to determine if the current promise of these approaches holds up to further scrutiny. Dismantling studies that help to tease apart the active ingredients of both therapies are needed, as are more sophisticated tests of causal mediation. If more compelling data supporting the efficacy and especially the proposed mechanisms of acceptance-based interventions emerge in the coming years, these approaches will increasingly present a challenge to traditional CBT.

Already, there are signs that acceptance-based theory, outcome, and mediational data are beginning to influence the practice of traditional CBT. Prime among these is the evolution of standard cognitive and behavioral paradigms to incorporate acceptance-based strategies and theory. Examples include acceptance-based behavioral therapy for GAD (Roemer & Orsillo, 2007; Roemer et al., 2006) and MBCT for preventing depression relapse (Ma & Teasdale,

2004; Teasdale et al., 2000), as well as the theoretical work of leading figures in CBT such as Wells (2005a, 2005b), Barlow (Barlow, 2002; Levitt et al., 2004; Orsillo, Roemer, & Barlow, 2003), Craske (Craske & Barlow, in press; Craske & Mystkowski, 2006) and Borkovec (Borkovec, Alcaine, & Behar, 2004; Borkovec, Ray, & Stober, 1998). Overall, then, irrespective of whether acceptance-based approaches are labeled as a new generation of behavior therapy, aspects of acceptance-based theory appear destined to play an increasing role in cognitive behavioral treatments.

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