

Acceptance and Commitment Therapy as a Unified Model of Behavior Change Ψ

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Abstract

The present article summarizes the assumptions, model, techniques, evidence, and diversity/social justice commitments of Acceptance and Commitment Therapy (ACT). ACT focused on six processes (acceptance, defusion, self, now, values, and action) that bear on a single overall target (psychological flexibility). The ACT model of behavior change has been shown to have positive outcomes across a broad range of applied problems and areas of growth. Process and outcome evidence suggest that the psychological flexibility model underlying ACT provides a unified model of behavior change and personal development that fits well with the core assumptions of counseling psychology.

Keywords

Acceptance and Commitment Therapy, psychological flexibility, unified model

Counseling psychology has had a historical commitment to a developmental and skills-based model that seeks the empowerment of individuals in a social

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context. In this approach, issues of strength, health, diversity, and social justice are important, not merely clinical syndromes (e.g., Elliott & Johnson, 2008; Goodman et al., 2004; Smith, 2006; Sue, 1991). Issues such as empowerment, strength, health, and diversity have been overshadowed at times in health care delivery generally by the dominance of syndromal thinking, in which diagnostic entities based on topographically defined signs and symptoms are the focus of analysis. Since the rise of the *Diagnostic and Statistical Manual (DSM)* of the American Psychiatric Association, both empirically supported treatments and federal funding for applied science have largely been linked to this syndromal approach. Recently, however, there has been an important re-examination of the role of syndromal diagnosis that could move a developmental and skills-based model more toward the center of behavioral health issues generally.

The re-examination of syndromal thinking has been fostered by three important developments. First, it is now widely recognized that this system has failed to give rise to functional diagnostic entities, which is a major goal of syndromal diagnosis. When syndromes become diseases it means that their etiology, course, and response to treatment are known. The planning committee for the fifth version of the *DSM* (Kupfer, First, & Regier, 2002) reached the conclusion after reviewing 30 years of effort on syndromal classification that the entire enterprise is unlikely to lead to the identification of diseases:

All these limitations in the current diagnostic paradigm suggest that research exclusively focused on refining the DSM-defined syndromes may never be successful in uncovering their underlying etiologies. For that to happen, an as yet unknown paradigm shift may need to occur. (p. xix)

Second, there is a need for better theory and greater understanding of processes of change in clinical intervention (e.g., Kazdin, 2001). Validated manuals do not guarantee a progressive applied science because they need not be linked to adequate theory and thus alone provide no sure way to simplify a growing mountain of empirically validated techniques, to guide innovation, or to explain what specific methods to use with a specific individual (Kazdin, 2008).

Finally, a wide variety of syndromal presentations covary with a much smaller set of psychological processes, such as avoidant coping styles (e.g., Harvey, Watkins, Mansell, & Shafran, 2004). In part as a result of this realization, a number of models are emerging that target a small set of processes, creating more unified models that cut across two or more diagnostic categories (e.g., Barlow, Allen, & Choate, 2004).

Together these changes provide an opportunity for the broader implementation of empirical models that accord more with the developmental and

skills-based traditions of counseling psychology, not just within counseling psychology but across applied psychology more generally. The present article examines how it might be possible to build such a comprehensive approach on the foundation of broadly applicable or even “normal” psychological processes applied to the person in context, as is done in Acceptance and Commitment Therapy (ACT, said as a single word, not as initials; Hayes, Strosahl, & Wilson, 1999). ACT seeks a unified model of behavior change applicable to human beings in general, not just those fitting certain diagnostic criteria. In this article we will argue that as a model, it comports with a developmental and skills-based approach and that provides broad and useful guidance across a wide range of problem areas.

ACT is one of a number of new acceptance and mindfulness-oriented cognitive and behavioral therapies, such as Dialectical Behavior Therapy (DBT; Linehan, 1993) or Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2001). Rather than focusing on changing psychological events directly, these interventions seek to change the function of those events and the individual’s relationship to them. As we will describe below, ACT is linked to a research agenda (Hayes, Levin, Plumb, Boulanger, & Pistorello, in press), with a specific philosophy of science (Hayes, Hayes, Reese, & Sarbin, 1993), basic science program (Hayes, Barnes-Holmes, & Roche, 2001), applied model (Hayes, Luoma, Bond, Masuda, & Lillis, 2006), and set of clinical processes and methods (e.g., Hayes et al., 1999; Luoma, Hayes, & Walser, 2007). Together we believe that these provide the beginnings of a unified model of behavior change.

The need for a unified nonsyndromal model is felt within counseling psychology as well. Consider the pressures being felt within a setting heavily represented by counseling psychologists, the University Counseling Center (UCC; Gallagher, 2009). UCCs have become the frontline mental health service provider for many of the 19 million individuals currently in higher education in the country (U.S. Census Bureau, 2008). UCCs face the challenge of serving a widely diverse population in terms of severity of presentation. Although many cases encompass expected developmental issues, such as dealing with a relationship breakup or differentiating one’s career interest from that of one’s parents, a large proportion of cases now also involve major clinical issues, such as depression, suicidality, self-harm, substance abuse, or eating disorders (Gallagher, 2009). The typical number of sessions is in the single digits, but several centers also allow for considerably longer treatment if necessary (Gallagher, 2009). UCCs have typically shied away from diagnosing students using traditional *DSM* categories, but given the diversity of presentations and severity, an approach is needed that is applicable across the spectrum.

Philosophy and Assumptions

ACT is based on a holistic philosophy of science called functional contextualism. Contextualism (Pepper, 1942) is a name for pragmatism (Hayes et al., 1993; Rosnow & Georgoudi, 1986) in the tradition of William James (1907). In this perspective, the unit of analysis is the “act in context.” Unlike more typical mechanistic assumptions that are common in empirical science, from a contextualist perspective an act derives meaning from its context—its history, purpose, and current situation. That is true of scientific acts as well, and thus, “truth” is a matter of “successful working” or accomplishing an analytic purpose, not correspondence between models and ontological reality. Such a pragmatic truth criterion requires a goal to be applied (one has to answer “working toward what?”); in functional contextualism, that goal is the prediction-and-influence of psychological events.

Functional contextual assumptions are reflected in ACT in several ways. Clinically there is minimal interest in what is “true” in any ontological sense of the term (e.g., when clients struggle to determine whether their thoughts are correct) and a great interest in workability (e.g., how is it working for the individual to struggle to determine whether his or her thoughts are correct?).

The social and verbal context of psychological struggles is a particular aspect of the focus of ACT. Rather than trying to change the form of private experience, ACT therapists attempt to change the functions of private experiences by changing in therapy the social and verbal context in which some forms of activity (e.g., thoughts and feelings) are usually related to other forms (e.g., overt actions).

When workability is the ultimate criterion, it also becomes clearer that values and goals matter. What do we want to influence and in what direction? Clinically that is determined by clients’ values, which is a major focus of ACT interventions.

Major Theoretical Constructs and View of the Person

Basic Model. ACT is based on contextual behavioral principles (e.g., Törneke & Romero, 2008) as augmented and extended by a basic science account of language and cognition, Relational Frame Theory (RFT; Hayes et al., 2001). RFT is an active behavior analytic research program leading to major applied extensions beyond ACT per se, in such areas as development of sense of self and language training (Rehfeldt & Barnes-Holmes, 2009). RFT researchers have shown that language is based on the learned ability of human infants (Lipkens, Hayes, & Hayes, 1993; Luciano, Gómez, & Rodríguez, 2007) to derive arbitrary relations among events and to have the functions of events change as a result (Hayes et al., 2001).

A simple example might show the point. A nickel is quite a bit larger than a dime, and as a result very young children will prefer the nickel once they learn that coins can be used to buy things. Around age 4 they learn that a dime, despite its smaller size, is “larger” in value. Said in the language of RFT, comparative relations have become “arbitrarily applicable”—no longer bound by formal properties of the related events. RFT researchers have shown that this occurs due to specific training with small children (Barnes-Holmes, Barnes-Holmes, Smeets, Strand, & Friman, 2004; Berens & Hayes, 2007). Once this occurs, the psychological world of the verbal human becomes sensitive to the construction of relations among events. For example, researchers have shown that when adults learn a simple relational network among graphical symbols on a computer screen ($A < B < C$) and then are shocked in the presence of the “B” stimulus, they show more arousal to the C stimulus than the B stimulus, in the absence of any history of shocks in its presence (Dougher, Hamilton, Fink, & Harrington, 2007).

The number of clinically relevant generalizations that can be drawn from RFT is extensive (Törneke, 2010). There is little to prevent cognitive processes in human beings from being problematic. For example, in much the same way that a nickel is “smaller” than a dime, a highly successful student can be a “failure,” and a much loved person can be “unlovable” in their own minds. Because such cognitive relations are learned behavior, and psychology shows that no learned behavior ever is fully unlearned, once a particular relation occurs it never returns to zero strength. Even the most pathological thought will never be fully eliminated in that sense. Fortunately, the impact of thinking is argued to be contextually controlled and not causal in a mechanical way. Under some contexts, thoughts lead automatically to action; in other contexts, thoughts do not function that way.

Based on these ideas, ACT does not typically seek to train specific forms of thought. Rather, it attempts to untangle verbal knots by loosening the binds of language itself. For example, instead of exploring one’s successes as a way of creating a thought of “I can do it!”, in an insecure individual’s mind, ACT attempts to guide the person to notice that a thought is just a thought and to take needed actions regardless of the thoughts that might exist.

Applied Model. The ACT approach to psychological intervention can be defined in terms of six normal psychological processes that revolve around a single core concept. These are shown in Figure 1. In each case, the positive concept can be inverted to provide an ACT view of psychopathology (Hayes et al., 2006): we will do so below. By specifying parallel psychopathological and change processes, the ACT model provides both a functional dimensional model of diagnosis and a model of treatment components and

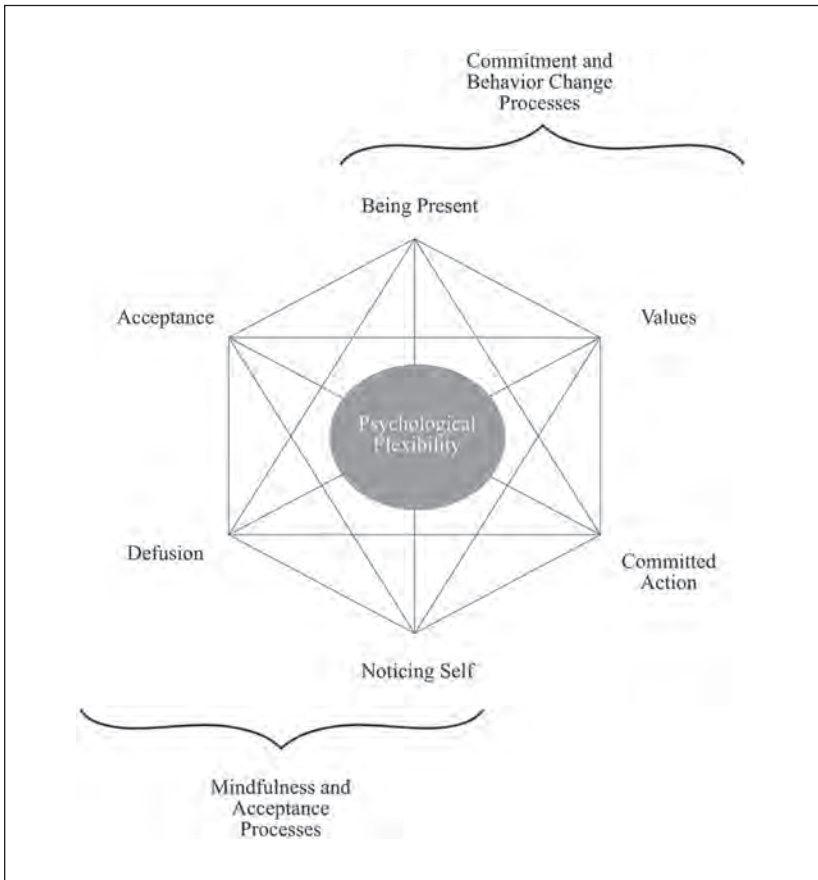


Figure 1. The ACT Model of Behavior Change

psychological change. In this section, the key processes will be described and some evidence of their importance provided. In a subsequent section, practical intervention examples will be described.

Experiential avoidance/acceptance. Experiential avoidance, which refers to efforts to alter the frequency or form of unwanted private events, including thoughts, memories, emotions, and bodily sensations, even when doing so causes personal harm (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance is associated with a wide variety of negative mental health outcomes, including high levels of anxiety, depression, and psychosocial dysfunction (Hayes et al., 2006). It is part of the functional pathway

between adult trauma and such antecedent events as childhood sexual abuse (Marx & Sloan, 2002; Rosenthal, Rasmussen-Hall, Palm, Batten, & Follette, 2005). Depression and anxiety as a result of exposure to multiple stressors are predicted by the level of experiential avoidance (Tull, Gratz, Salters, & Roemer, 2004). Experiential avoidance may account for relationships between psychosocial disability and temperamental factors such as high emotional responsiveness (Sloan, 2004) and psychosocial stressors such as the violence faced by inner-city youth (Dempsey, 2002; Dempsey, Overstreet, & Moely, 2000). Experiential avoidance also mediates the impact of maladaptive coping, cognitive reappraisal, and emotional suppression on psychological distress (Kashdan, Barrios, Forsyth, & Steger, 2006).

In ACT the counter to experiential avoidance is acceptance—the active and aware embrace of private experiences without unnecessary attempts to change their frequency or form. Acceptance in ACT is not an end in itself. Rather acceptance is fostered as a method of increasing values-based action. Acceptance is not passive in ACT—it is not a matter of tolerance or resignation. Rather, it involves a posture of active curiosity, interest, and deliberate exploration of feelings, memories, bodily sensations, and thoughts. The goal is not to reduce arousal but to increase the flexibility of responding in the presence of these previously repertoire-narrowing experiences. In other words, the goal is to increase the psychological freedom of the individual, regardless of the experiential echoes of his or her own history.

Cognitive fusion/defusion. There is often an excessive literal quality to human thought. In ACT this is termed *cognitive fusion*. Cognitive fusion is not always harmful—when hearing “watch out, a car!” it is probably helpful to leap as if a car is actually there and ask questions later. However, chronic patterns of fusion can make behavior narrow, rigid, and less guided by experience. For example, a person fusing with the thought “life is not worth living” might become depressed even in the presence of everything otherwise needed to live a vital life, such as a successful job, loving relationships, or respect from others.

Cognitive fusion has been shown to contribute negatively to such diverse problems as chronic pain (Wicksell, Renofalt, Olsson, Bond, & Melin, 2008), mental health problems in children and adolescents (Greco, Lambert, & Baer, 2008), and depression (Addis & Jacobson, 1996). For example, depressed clients who can give “good reasons” for their depressed behavior tend to be both more depressed and harder to treat than other depressed persons (Addis & Jacobson, 1996).

ACT attempts to undermine excessive fusion by changing the way one interacts with or relates to thoughts, feelings, and bodily sensations. In ACT, cognitive defusion and mindfulness techniques are used to attempt to create

more flexibility in the presence of difficult thoughts, in part by making the ongoing process of thinking much more evident. Defusion methods alter the functional context of cognitive events. Consider the thought, "I'm no good." Traditional cognitive-behavioral therapy (CBT) might attempt to reduce the frequency of the thought, challenge the validity of the thought, or ask for that thought to be tested in the real world. All of these approaches treat the thought itself as if it is important. An ACT therapist might instead have that person watch that thought drift by like a cloud in the sky; repeat it dozens of times out loud until only its sound remains; imagine it is an object and give it a shape, size, color, or speed; or any of scores of similar procedures. Magritte's famous painting provides a classic defusion example: He painted a picture of a pipe and underneath it wrote "Ceci n'est pas un pipe" ("This is not a pipe.").

The desired result of such methods and many others like these is a decrease in believability of, attachment to, or impact of private thoughts and experiences rather than an immediate change in their frequency. A recent study found a large increase in pain tolerance by having participants first read a statement aloud while walking around the room as a defusion exercise before going into the pain challenge. The statement? "I cannot walk around this room." (McMullen et al., 2008). Presumably when later experiencing pain, thoughts such as "I can't stand this" had less impact.

Attentional rigidity to the past and future/being present. Life occurs only in the "now," but attention is often deployed rigidly toward the past and future. This attentional pattern is known to exacerbate problems such as trauma (Holman & Silver, 1998), rumination (Davis & Nolen-Hoeksema, 2000), and pain (Schutze et al., 2010) among others. ACT uses mindfulness and attentional control exercises to promote focused, voluntary, and flexible contact with the present moment. Contemplative practices are examples of methods that train this general skill (e.g., Baer, 2003, 2006; Jha, Krompinger, & Baime, 2007). Following the breath, for example, provides multiple opportunities to focus and to bring attention back after it has wandered. Noncontemplative methods are also used in ACT, such as attending to emotional reactions as part of the therapeutic relationship (Wilson & Dufrene, 2009).

Conceptualized self / noticing self. When people are asked about themselves, they tend to describe the conceptualized self—their self-narrative (e.g., "I am someone who always tries hard"). The conceptualized self often reduces behavioral flexibility because the attempt to be right about such descriptions can lead to rejection of contradictory content. Events that threaten the conceptualized self can evoke strong emotions and lead to heightened experiential avoidance based on the need for consistency within the narrative (Mendolia & Baker, 2008). When a person overidentifies with a particular self-conceptualization, events outside the narrative can seem to invalidate life

itself, as illustrated by a string of recent suicides of extremely wealthy individuals who have lost their fortunes in the international economic downturn. Directly changing self-concepts can be difficult (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003), but an alternative is provided by a transcendent, noticing sense of self.

Because of relational frames such as “I vs. You,” “Now vs. Then,” and “Here vs. There” (termed in RFT *deictic relations*), human language leads to a sense of self as a locus or perspective. Conscious experience develops an “I / here / now” quality that integrates into a sense of a “noticing self” (Rehfeldt, Dillen, Ziomek, & Kowalchuk, 2007). The emergence of this sense of self is important in ACT for two reasons. First, we now know that the same cognitive processes that give rise to it also lead to understanding the perspective of others (McHugh, Barnes-Holmes, & Barnes-Holmes, 2004), caring about others (Villatte, Monestès, McHugh, Freixa i Baqué, & Loas, 2008), and thus functioning socially (Brune, 2005). Second, a noticing self provides a secure psychological space for facing painful emotions or thoughts (Hayes, 1984). In ACT, contact with this sense of self is fostered by mindfulness exercises, metaphors, and perspective-taking experiential processes.

Unclear, compliant, or avoidant motives/values. When behavior change is motivated by guilt or compliance, goal achievement is much less likely (e.g., Elliot, Sheldon, & Church, 1997; Sheldon & Elliot, 1999; Sheldon, Kasser, Smith, & Share, 2002). ACT seeks to link behavior to client values: chosen, verbally constructed, consequences of patterns of activity, for which the predominant reinforcer becomes intrinsic to the behavioral pattern itself. Values are lived out, moment to moment. For example, a person who values being a caring friend has myriad ways to manifest that value, but no matter how much it is shown there is always more to do through acts of kindness, caring, or encouragement. The actual consequences of importance for all of these behaviors are not off in some distant future—it is here and now and located in the very process of engaging in the behavior itself. In a sense, values are adverbs, not nouns.

ACT uses metaphors, experiential exercises, self-exploration, and writing processes as forms of values work. Even relatively short values exercises can have profound effects, for example, on academic performance (e.g., Cohen, Garcia, Apfel, & Master, 2006).

Inaction, impulsivity, or avoidant persistence / committed action. Finally, ACT encourages the continuous redirection of behavior so as to produce larger and larger patterns of effective action linked to chosen values. In this regard, ACT looks very much like traditional behavior therapy. ACT protocols almost always involve therapy work and homework linked to short, medium, and long-term behavior change goals fitted to the specific problem area, and done in the context of other ACT processes. If participants are struggling

with depression, behavioral activation goals might be emphasized; if anxiety is a problem, exposure might be emphasized; if the goal is smoking cessation, scheduled smoking and tapering might be used. ACT methods do seem to foster higher levels of committed actions such as willingness of anxiety patients to engage in exposure (Levitt, Brown, Orsillo, & Barlow, 2004) or of chronic pain patients to go to work (Dahl, Wilson, Luciano, & Hayes, 2005).

Psychological flexibility. Psychological flexibility can be defined as contacting the present moment as a conscious human being, fully and without defense, as it is and not as what it says it is, and persisting or changing in behavior in the service of chosen values. This is the core target of the ACT model, and all of the processes just described (acceptance, defusion, being present, a noticing self, values, and committed action) together contribute to creating psychological flexibility. The lines shown in Figure 1 depict conceptually important relationships that are also aspects of psychological flexibility. For example, acceptance and values are argued to be related in both directions: values are areas of importance and thus areas in which the person can be hurt. Experiential avoidance thus entails avoidance of values, while acceptance affords greater contact with values.

Mindfulness can be usefully understood as the convergence of the four processes on the left side of Figure 1: acceptance, defusion, contact with the present moment, and the noticing self. This provides a functional definition of mindfulness (Fletcher & Hayes, 2005) that is grounded in a testable theory and basic psychological processes (Hayes, 2002) and that complements other definitions of mindfulness (Bishop et al., 2004; Dimidjian & Linehan, 2003; Kabat-Zinn, 1994; Langer, 2000). In an ACT model, these mindfulness processes are all placed in the service of commitment and behavior change processes, including values and committed action. ACT can thus be defined as an intervention model that uses acceptance and mindfulness processes as well as commitment and behavior change processes to produce psychological flexibility.

View of the Person

ACT is not based on the psychology of abnormality, and it is not linked to syndromal classification. Thus, the same analysis applied to a client applies with equal force to the therapist, and therapy is viewed as a relationship between equals. The client is never viewed as broken, or damaged, or beyond hope. Instead, the perspective is always one of empowerment: that a rich, meaningful, values-based human life is available to all. Pain is taken to be part of life, not a foreign entity to be gotten rid of, and progress is not defined by an absolute level of achievement but rather by the incremental choice to embrace the present and to step forward toward a life worth living.

Psychological health is defined by that process of growth. There may be more courage and vitality in a person struggling with psychosis choosing to go to the store than there is in the highest paid CEO holding forth at a board meeting of a multinational corporation.

This concept of the “person” is neither active nor passive but rather interactive. At the psychological level of analysis, ACT is concerned with individuals interacting in and with a context considered historically and situationally. The psychological level of analysis blends into other levels of analysis. For example, it blends into the evolutionary biology of languaging organisms regulating their environment in accord with the survival of genes, individuals, and groups (Wilson, 2007). Similarly, language development is blended into processes of social/cognitive evolution, based on the survival of cultural practices across individuals and groups. The individual is an aspect of the whole and cannot be understood except by reference to context. Therapy itself is viewed as a special social/verbal context involving clients and therapists, each of whom is considered within the same ACT model (Pierson & Hayes, 2007; Wilson & DuFrene, 2009).

Overview of Intervention and Specific Techniques

ACT is based on a psychological flexibility model, not a specific technology. At the current time, there are already over 60 books on ACT in 10 languages—many of these are specific professional or self-help books in such areas as trauma (e.g., Follette & Pistorello, 2007), depression (e.g., Zettle, 2007), anxiety (e.g., Eifert & Forsyth, 2005), chronic pain (e.g., Dahl et al., 2005), anger (e.g., Eifert, McKay, & Forsyth, 2006), or the management of chronic disease (e.g., Gregg, Callaghan, & Hayes, 2007). Each of these ACT protocols differs some at the level of technique. What unites ACT methods is not what the techniques look like but rather what these techniques are for and what they in fact do. Nevertheless, it seems worthwhile to give brief examples of ACT methods in each of the core process areas in order to characterize the approach.

Acceptance. The ACT therapist will often orient clients to the importance of acceptance and willingness and will arrange for exercises to increase the client’s openness to experience. A well-known metaphor (Hayes et al., 1999, pp. 133-134) asks the person to think of two control knobs, one that sets the amount of emotional distress (e.g., anxiety high or low) and one that sets the degree of willingness to have that distress. The person comes into therapy focused on turning down the emotional distress knob, but problem is that as we try to regulate our difficult emotions we are simultaneously turning down our willingness. When anxiety is high and willingness is low, anxiety becomes something to be anxious about—it self-amplifies. This metaphor is

used to focus clinically on the costs of trying to turn the emotional distress knob as a way of creating progress and to instead focus on the possibility of experiencing emotions more fully, openly, and without needless defense.

A client who is feeling anxious about a test or going to a party or asking a professor a question might be encouraged in session to imagine the situation in detail and to notice specific reactions that occur. For example, bodily tension might be focused on, watching it rise and fall, noticing with curiosity precisely where it appears in the body or what its qualities are. Such exposure is not with the goal of reducing reactions but with the goal of increasing the ability to be flexible in their presence. Acceptance methods have been evaluated many times in component studies, with consistent positive results (e.g., Levitt et al., 2004).

Cognitive defusion. Suppose a client is struggling with a negative thought such as “Nobody will like me.” A client might be asked to imagine herself as a young child standing in front of herself now as an adult and then having that child say these words. This image often evokes compassion, not critical rejection, which can then be applied to the adult as well: Is it OK to have that thought, as a thought, and still move forward? The client might be asked to write out that thought and carry it in a back pocket, as if to say “this fearful part of me can come with me but I will choose where I go.” Sometimes in groups difficult self-judgments are written out as single words and worn as badges. The client may sing the thought, or repeat difficult thoughts in the form “I am having the thought that _____.”

Another defusion method might be to adopt language conventions designed to increase the psychological distance between the client and the client’s private events. An example has to do with our use of the words *but* and *and*. *But* literally means that what follows the word, and *but* contradicts what went before the word; *but that* means that there are two things that are inconsistent, that are literally at war with each other. In the ancient etymology of the word in English, one has to “be out” given the other. A convention might be established to say “and” instead of “but” whenever possible (e.g., “I feel sad *and* I’m going to go to the party”), which reduces the psychological sense that something is wrong and must be changed whenever literally contradictory reactions are noticed.

Component studies show very consistently positive outcomes for defusion methods. Even the fine-grained parameters of these methods have been explored in some cases. For example, turning difficult thoughts into a single word and rapidly saying that word aloud reduces believability and distress produced by negative thoughts, and research shows that the “sweet spot” for both impacts occurs when it goes on for at least 30 seconds (Masuda et al., 2009).

Being present. During ACT treatments, mindfulness exercises often begin sessions, as clients are asked to notice their breath or to note in detail where

their bodily sensations begin and end. When behavior becomes rigid in session, the therapist will often retreat to these methods, trying to encourage more flexible attentional contact with the present moment before returning to difficult material. For example, clients may unexpectedly be asked to note what they are feeling in their body right now.

Noticing self. It is not realistic to ask clients to become willing to expose themselves to their most feared emotions and thoughts until the clients can see directly that their survival will not be threatened by such exposure. There is one aspect of human experience that provides a fairly firm foundation for most clients: the continuity of consciousness provided by a noticing self. The chessboard metaphor is a central ACT metaphor (Hayes et al., 1999, pp. 190-192) for the distinction between self and avoided psychological content, in which the client is asked to think of his or her thoughts and feelings and beliefs as warring pieces on a chessboard that goes out infinitely in all directions. After noticing the war-like quality of the battle among “good” or desirable thoughts and feelings and “bad” or aversive thoughts and feelings within the metaphor, the therapist brings the client back to the possibility of thinking of oneself as the board itself, not these pieces.

Values. ACT uses exercises to help dig down to deeply held, freely chosen values in important domains. The college freshman who is feeling like an outsider for not liking to “party” as much as his other roommates may be invited to nonjudgmentally partial out his reactions in terms of what he values in life (e.g., interpersonal connection) and to what extent the partying is meeting those values. Values writing is commonly used. For example, clients may be asked to write about what they most deeply care about and how that has touched their lives or to write themselves a letter from a wiser future about what to hold dear in the present.

Committed action. The specific behavioral components of ACT protocols vary widely but include virtually all of the vast literature on skill-development, goal-setting, exposure, and other behavior change methods. What is different is the ACT context. Committed actions are designed to further values in the context of openness and awareness. The action one can commit to may be quite small—what is important is the process of staying open, aware, and connected to values. Commitments are self-selected and self-monitored, and the failure to meet them is viewed with curiosity and nonjudgment by the therapist, as a valuable source of information about barriers to value-based action.

Psychological flexibility. Metaphors and exercises are used to integrate these processes to focus on psychological flexibility as a whole. For example, in group work an ACT therapist might ask a person struggling with moving ahead in life to imagine that life is like driving a bus. Life “passengers,” such as fears and self-doubt, get on unpredictably and once on the bus, they tend not to leave. The person is asked to set the destination (values) and be the person (noticing

self) who looks around the room (being present) and decides how to drive to move in that direction (committed action), but all of that requires allowing cognitive and emotional passengers to come along for the ride (acceptance and defusion) without turning the driving over to them despite their threats (fusion and experiential avoidance). Other group members then verbally and physically play out the passengers (fears, self-doubts) and the person acts out what happens when trying to win arguments with the passengers, and what it would be like to move ahead with the passengers following, chattering away.

Research Support

There is a growing body of evidence for the efficacy of ACT across a sufficiently broad range of problems to suggest its utility as a unified model of behavior change. A meta-analysis of controlled studies (Hayes et al., 2006) reported on 21 randomized trials of ACT then available. The average between-group effect size (Cohen's d) was .66 at post-treatment ($N = 704$) and .65 ($N = 580$) at follow-up (on average 19.2 weeks later). In studies involving comparisons between ACT and active treatments, the effect size was .48 at post- ($N = 456$) and .62 at follow-up ($N = 404$). In comparisons with wait list, treatment as usual, or placebo treatments, the effect sizes were .99 at post- ($N = 248$) and .71 at follow-up ($N = 176$). More recent independent reviews have largely confirmed these effect sizes (Öst, 2008; Powers, Zum Vörde Sive Vörding, & Emmelkamp, 2009; Ruiz, 2010). Ruiz (2010) found 25 outcome studies in clinical psychology areas ($N = 605$; 18 randomized trials), 27 in health psychology ($N = 1,224$; 16 randomized studies), and 14 in other areas such as sports, stigma, organization, or learning ($N = 555$; 14 randomized studies). Many of these early studies were small and unfunded, which has led both to criticism (Öst, 2008) and defense (Gaudiano, 2009) of the work.

It is the breadth of impact that is perhaps the most surprising aspect of the ACT literature. ACT is recognized by Division 12 of the American Psychological Association as an evidence-based method for the treatment of depression (e.g., Zettle, Rains, & Hayes, 2011), chronic pain (e.g., Wicksell, Ahlqvist, Bring, Melin, & Olsson, 2008), coping with psychosis (Bach & Hayes, 2002), obsessive compulsive disorder (Twohig et al., 2010) and mixed anxiety disorders (Arch et al., in press). The Substance Abuse and Mental Health Services Administration has also recognized ACT as an evidence-based procedure (<http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=191>) citing the work on coping with psychotic symptoms (Bach & Hayes, 2002), treating obsessive compulsive disorder (Twohig et al., 2010), and reducing worksite stress (Bond & Bunce, 2000). ACT is known to be helpful in many other areas such as marijuana use (Twohig, Shoenberger, & Hayes, 2007), smoking

cessation (Gifford et al., 2004), managing diabetes (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007), and/or weight maintenance (Lillis, Hayes, Bunting, & Masuda, 2009) among many others. ACT workbooks are also known to be helpful. A recent study found that an ACT self-help book produced large psychological benefits for Japanese international students adjusting to college life in the United States (Muto, Hayes, & Jeffcoat, 2011).

Clinicians who were taught ACT appear to become somewhat more effective generally. For example, Lappalainen et al. (2007) found that beginning therapists given initial training in ACT and traditional CBT who then had clients randomly assigned to treatment in these models (based in each case on individual functional analysis) had better outcomes if they applied ACT, even though they were more confident in CBT. Other effectiveness studies have shown positive results (Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Juarascio, Forman, & Herbert, 2010; Strosahl, Hayes, Bergan, & Romano, 1998).

In terms of population, ACT is helpful with children and adolescents (e.g., Wicksell, Melin, Lekander, & Olsson, 2009) as well as with adults. It is helpful in groups (e.g., Lillis et al., 2009) as well as with individuals. It is helpful with therapists in that it reduces their stress and burnout (e.g., Hayes et al., 2004). It is useful in very short interventions even with severe clients, such as a 3-hour intervention for in-patients who are hallucinating or delusional (e.g., Bach & Hayes, 2002; Gaudiano & Herbert, 2006a).

Is ACT a Distinct Model?

Acceptance, mindfulness, and values seem to be powerful processes that have a broad impact on human functioning and that predict positive outcomes when they are moved in therapy. Although there are numerous technological innovations inside the ACT work (e.g., defusion methods, metaphors, exercises), each element considered separately is shared with other approaches. What ACT brings that is different is an integration of basic and applied analyses into a coherent model, with reliable components and processes of change that allow clinicians to focus on a relatively limited set of transdiagnostic processes.

Levin, Hildebrandt, Lillis, and Hayes (in press) found 66 studies on specific ACT components targeting the six points in the hexagon model shown in Figure 1, alone or in combination. ACT components had an average weighted effect size of $g = .68$ (95% CI: .50-.85) on targeted outcomes compared to inactive controls, and $g = .48$ (95% CI = .29, .67) when compared to theoretically distinct active comparisons.

Process evidence also exists in most major ACT outcome studies, and many have been collected in a fashion that allows mediation to be examined.

Mediation requires a significant “indirect path,” namely that treatment differentially alters processes of change, and the processes of change relate to outcome controlling for treatment (MacKinnon, 2008). Mediation is not causation, even in ideal conditions, but it shows that processes are functionally important to outcome.

In the published ACT literature, mediation has already been shown in a dozen studies covering the areas of depression, stress, burnout, anxiety, psychosis, pain, disease management, weight management, stigma, and smoking (see Hayes et al., 2006, for a recent review; newer studies were covered by Hayes et al., 2007). Successful mediators examined so far include acceptance (e.g., Gregg et al., 2007), defusion (e.g., Gaudiano & Herbert, 2006b), psychological flexibility (e.g., Gifford et al., 2004), and values (e.g., Lundgren, Dahl, & Hayes, 2008). Most of these mediators are measured via self-report, but objective behaviors that tap into ACT processes have also been used, such as the ability to hold one’s breath despite the distress that causes (e.g., Lillis et al., 2009) or clients’ in-session display of the degree of acceptance or defusion before outcomes improve (e.g., Hesser, Westin, Hayes, & Andersson, 2009).

Although ACT is part of CBT writ large as a tradition, the studies so far conducted (see Hayes et al., 2006, for a summary) that have pitted ACT and traditional CBT has shown that the two have different mediators and processes of change. These data also reflect on the idea that general therapy processes and the quality of the therapeutic relationship account for clinical change (Wampold, 2001). Knowing that the therapeutic relationship is important to outcomes is not of direct usefulness to therapists until it is known why that occurs and how to manipulate these processes successfully in therapy. Like the residents of Lake Wobegone, the majority of therapists seem to assume that their therapeutic relationships are above average, but that is statistically impossible. ACT researchers would argue that what is meant by a powerful therapeutic relationship is one that is accepting, active, values-based, aware, attentive, and nonjudgmental (Pierson & Hayes, 2007). ACT trains therapists experientially, inviting them to put themselves in the “client’s chair,” asking them to learn every metaphor and exercise as applied to their own lives. This training model itself tends to create a nonjudgmental stance, reminding therapists that we are “all on the same boat” in terms of the human tendency to get caught up in the literality of language. In accord with these ideas, in a recent ACT study, the working alliance mediated outcomes, but when ACT processes were allowed to compete in a multiple mediator model, the working alliance no longer contributed significantly to the outcome (Gifford et al., 2011). This suggests that the therapeutic relationship is important because it models, instigates, and supports a more open, aware, and engaged approach to life.

Cultural Diversity and Social Justice

The impact of ACT does not seem to be limited by region, education, ethnicity, or class. It has been shown to be useful with poor, largely minority clients in a public clinic (e.g., Gregg et al., 2007), with poor South African blacks (Lundgren, Dahl, Melin, & Kees, 2006), with jobless African American persons suffering from psychosis (Gaudio & Herbert, 2006a), or with poor persons in India suffering from epilepsy (Lundgren, Dahl, Yardi, & Melin, 2008). Part of that expansive impact might be due to the model itself. ACT is based more on metaphors and experiential exercises than intellectual argument, which greatly reduces the importance of formal education. It de-pathologizes the person and puts the therapist and client in the same context, without needless hierarchy. ACT does not take a position on the content of experience, whether that is an obsessive thought, a hallucination, or a strong emotion. Rather, the usefulness of different ways of relating to these experiences is emphasized. Utility is measured against the clients' own values, and values are viewed as choices the client makes, not judgments. This is an inherently collaborative, nonjudgmental, and equalizing approach. Values may differ from culture to culture, but the idea of therapy serving the client values in the client's social context does not.

In addition to these features that make an ACT model flexible in areas of cultural diversity and social justice, as the ACT model is scaled into organizations they themselves become more accepting of diversity, more open to multiple ways of thinking, and more values based. This is not merely an abstraction. It has been shown in organizational work applying an ACT model. For example, controlled research has shown that when ACT is applied in the workplace, workers are more likely to demand needed changes of their superiors in the work environment, even if these were never directly targeted in the intervention (Bond & Bunce, 2000). When ACT is applied to workers, burnout decreases and a sense of personal accomplishment increases (Hayes et al., 2004). When it is applied in school settings, teachers report that their relations with other staff become more flexible, collegial, and values-based (Biglan, Layton, Rusby, & Hankins, in press).

ACT is also increasingly being directly applied to issues of social justice with good initial outcomes. Controlled studies have shown that ACT can reduce prejudice toward ethnic minorities (Lillis & Hayes, 2007), toward people in recovery from substance abuse (Hayes et al., 2004), and toward people with psychological disorders (Masuda et al., 2007), for example. It also leads to higher behavioral commitments linked to social justice goals (Lillis & Hayes, 2007). The model has yielded good results on ameliorating the impact of enacted stigma on oppressed groups. For example, the internalized stigma suffered by the obese (Lillis et al., 2009), substance abusers in recovery

(Luoma, Kohlenberg, Hayes, & Fletcher, 2012), or gay, lesbian, and bi-sexual clients (Yadavaia & Hayes, 2012) have been shown to be ameliorated by ACT.

The major organization supporting the development of an ACT model and its associated basic science is the Association for Contextual Behavioral Science (www.contextualpsychology.org). ACBS shows these features as well. For example, trainers must commit to providing their protocols at low cost or no cost; there is a tradition of giving away measures and methods; even dues are “values-based” (that is, are freely chosen by the individual members). ACBS puts its own values front and center on its website and in its by-laws. This includes the “development of a community of scholars, researchers, educators, and practitioners who will work in a collegial, open, self-critical, non-discriminatory, and mutually supportive way that is effective in producing valued outcomes and that emphasizes open and low-cost methods of connecting with this work so as to keep the focus on benefit to others.” Perhaps in part because of that open approach, more than half of the nearly 3,700 current members of ACBS reside outside the United States, including scores in the developing world.

Summary

The ACT model is an easy fit with the values of counseling psychology, and there are myriad potential applications of ACT within counseling psychology arenas. Counseling psychology never fit comfortably inside the syndromal wave that took over empirical clinical science in the latter part of the last century with the rise of the *DSM* and federal funding linked to it. Settings typically managed by counseling psychologists, such as University Counseling Centers (UCCs), have shied away from diagnoses. However, a recent increase in severity of presentations among college students presenting to treatment at UCCs (e.g., Gallagher, 2009) has brought some criticism of this non-pathology-driven approach. The ACT model outlined in this article, however, presents an approach that could address typical concerns brought up by college students and yet fit well with counseling psychology values. ACT is not bound by level of severity, particular diagnostic presentations, or student demographics. The ACT approach is just as relevant to treating severe presentations such as depression and psychosis, as it is in helping an 18-year-old discern which career might be closer to his or her own values, and therefore fits well with the needs of UCCs.

The advantage of a more theoretically driven approach is that it turns clinicians loose to target processes of known importance. These processes of change are evident fairly quickly into treatment and reliably predict long-term benefits before outcomes per se can be a reliable guide. Given the range of problem areas to which ACT has been successfully applied and the consistency of the component and process evidence, the ACT model deserves

attention from the counseling psychology community to be targeted for treatment innovation and for therapeutic change efforts.

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References

- Addis, M. E., & Jacobson, N. S. (1996). Reason-giving and the process and outcome of cognitive-behavioral psychotherapies. *Journal of Consulting and Clinical Psychology, 64*, 1417-1424.
- Arch, J., Eifert, G. H., Davies, C., Plumb Vilardaga, J. P., Rose, R. D., & Craske, M. G. (in press). Randomized clinical trial of cognitive behavioral therapy (CBT) versus acceptance and commitment therapy (ACT) for mixed anxiety disorders. *Journal of Consulting and Clinical Psychology*.
- Bach, P., & Hayes, S. C. (2002). The use of Acceptance and Commitment Therapy to prevent the rehospitalization of psychotic patients: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 70*(5), 1129-1139.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology—Science and Practice, 10*, 125-143.
- Baer, R. A. (Ed.). (2006). *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications*. San Diego, CA: Elsevier.
- Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy, 35*, 205-230.
- Barnes-Holmes, Y., Barnes-Holmes, D., Smeets, P. M., Strand, P., & Friman, P. (2004). Establishing relational responding in accordance with more-than and less-than as generalized operant behavior in young children. *International Journal of Psychology and Psychological Therapy, 4*, 531-558.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest, 4*, 1-44.
- Berens, N. M., & Hayes, S. C. (2007). Arbitrarily applicable comparative relations: Experimental Evidence for relational operants. *Journal of Applied Behavior Analysis, 40*, 45-71.
- Biglan, A., Layton, G., Rusby, J. C., & Hankins, M. (in press). The value of workshops on acceptance and commitment for preschool teachers and family child care providers. *Early Education and Development*.

- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D. Carmody, J., ... Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*, 230-241.
- Bond, F. W., & Bunce, D. (2000). Mediators of change in emotion-focused and problem-focused worksite stress management interventions. *Journal of Occupational Health Psychology, 5*, 156-163.
- Brune, M. (2005). Emotion recognition, "theory of mind," and social behavior in schizophrenia. *Psychiatry Research, 133*, 135-147.
- Cohen, G. L., Garcia, J., Apfel, N., & Master, A. (2006). Reducing the racial achievement gap: A social-psychological intervention. *Science, 313*, 1307-1310.
- Dahl, J., Wilson, K. G., Luciano, C., & Hayes, S. C. (2005). *Acceptance and Commitment Therapy for chronic pain*. Reno, NV: Context Press.
- Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive Therapy and Research, 24*, 699-711.
- Dempsey, M. (2002). Negative coping as mediator in the relation between violence and outcomes: Inner-city African American youth. *American Journal of Orthopsychiatry, 72*, 102-109.
- Dempsey, M., Overstreet, S., & Moely, B. (2000). "Approach" and "avoidance" coping and PTSD symptoms in inner-city youth. *Current Psychology, 19*, 28-45.
- Dimidjian, S. D., & Linehan, M. M. (2003). Mindfulness practice. In W. O'Donohue, J. Fisher, & S. Hayes (Eds.), *Cognitive behavior therapy: Applying empirically supported techniques in your practice* (pp. 229-237). New York: Wiley.
- Dougher, M. J., Hamilton, D., Fink, B., & Harrington, J. (2007). Transformation of the discriminative and eliciting functions of generalized relational stimuli. *Journal of the Experimental Analysis of Behavior, 88*, 179-197.
- Eifert, G., & Forsyth, J. (2005). *Acceptance and Commitment Therapy for anxiety disorders*. Oakland, CA: New Harbinger.
- Eifert, G. H., McKay, M., & Forsyth, J. P. (2006). *ACT on life not on anger: The new Acceptance and Commitment Therapy guide to problem anger*. Oakland, CA: New Harbinger.
- Elliott, T. R., & Johnson, M. O. (2008). Counseling psychology and chronic health conditions: A call for action. *Counseling Psychologist, 36*, 118-126.
- Elliot, A. J., Sheldon, K. M., & Church, M. A. (1997). Avoidance personal goals and subjective well-being. *Personality and Social Psychology Bulletin, 23*, 915-927.
- Fletcher, L., & Hayes, S. C. (2005). Relational frame theory, acceptance and commitment therapy, and a functional analytic definition of mindfulness. *Journal of Rational Emotive and Cognitive Behavioral Therapy, 23*, 315-336.
- Follette, C., & Pistorello, J. (2007). *Finding life beyond trauma: Using acceptance and commitment therapy to heal from post-traumatic stress and trauma-related problems*. Oakland, CA: New Harbinger.

- Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D., & Geller, P. A. (2007). A randomized controlled effectiveness trial of Acceptance and Commitment Therapy and Cognitive Therapy for anxiety and depression. *Behavior Modification, 31*(6), 772-799.
- Gallagher, R. P. (2009). *National survey of counseling center directors*. Alexandria, VA: International Association of Counseling Services.
- Gaudiano, B. A. (2009). Öst's (2008) methodological comparison of clinical trials of acceptance and commitment therapy versus cognitive behavior therapy: Matching apples with oranges? *Behaviour Research and Therapy, 47*, 1066-1070.
- Gaudiano, B. A., & Herbert, J. D. (2006a). Acute treatment of inpatients with psychotic symptoms using Acceptance and Commitment Therapy. *Behaviour Research and Therapy, 44*, 415-437.
- Gaudiano, B. A., & Herbert, J. D. (2006b). Believability of hallucinations as a potential mediator of their frequency and associated distress in psychotic inpatients. *Behavioural and Cognitive Psychotherapy, 34*, 497-502.
- Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasecki, M. M., Rasmussen-Hall, M. L., & Palm, K. M. (2004). Acceptance theory-based treatment for smoking cessation: An initial trial of Acceptance and Commitment Therapy. *Behavior Therapy, 35*, 689-705.
- Gifford, E. V., Kohlenberg, B., Hayes, S. C., Pierson, H., Piasecki, M., Antonuccio, D., & Palm, K. (2011). Does acceptance and relationship-focused behavior therapy contribute to bupropion outcomes? A randomized controlled trial of FAP and ACT for smoking cessation. *Behavior Therapy, 42*, 700-715.
- Goodman, L. A., Liang, B., Helms, J. E., Latta, R. E., Sparks, E., & Weintraub, S. R. (2004). Training counseling psychologists as social justice agents: Feminist and multicultural principles in action. *Counseling Psychologist, 32*, 793-837.
- Greco, L. A., Lambert, W., & Baer, R. A. (2008). Psychological inflexibility in childhood and adolescence: Development and evaluation of the Avoidance and Fusion Questionnaire for Youth. *Psychological Assessment, 20*(2), 93-102.
- Gregg, J., Callaghan, G., & Hayes, S. C. (2007). *The diabetes lifestyle book: Facing your fears and making changes for a long and healthy life*. Oakland, CA: New Harbinger.
- Gregg, J. A., Callaghan, G. M., Hayes, S. C., & Glenn-Lawson, J. L. (2007). Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 75*, 336-343.
- Harvey, A. G., Watkins, E., Mansell, W., & Shafran, R. (2004). *Cognitive behavioural processes across psychological disorders: A transdiagnostic approach to research and treatment*. New York: Oxford University Press.
- Hayes, S. C. (1984). Making sense of spirituality. *Behaviorism, 12*, 99-110.
- Hayes, S. C. (2002). Acceptance, mindfulness, and science. *Clinical Psychology: Science and Practice, 9*, 101-106.

- Hayes, S. C., Barnes-Holmes, D., & Roche, B. (Eds.). (2001). *Relational Frame Theory: A Post-Skinnerian account of human language and cognition*. New York: Plenum Press.
- Hayes, S. C., Bissett, R., Rogent, N., Padilla, M., Kohlenberg, B. S., Fisher, G., Masuda, A., ... Niccolls, R. (2004). The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors. *Behavior Therapy, 35*, 821-835.
- Hayes, S. C., Hayes, L. J., Reese, H. W., & Sarbin, T. R. (Eds.). (1993). *Varieties of scientific contextualism*. Reno, NV: Context Press.
- Hayes, S. C., Levin, M., Plumb, J., Boulanger, J., & Pistorello, J. (in press). Acceptance and Commitment Therapy and contextual behavioral science: Examining the progress of a distinctive model of behavioral and cognitive therapy. *Behavior Therapy*.
- Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes, and outcomes. *Behaviour Research and Therapy, 44*, 1-25.
- Hayes, S. C., Masuda, A., Shenk, C., Yadavaia, J. E., Boulanger, J., Vilardaga, R., Plumb, J., Fletcher, L., Bunting, K., Levin, M., Hildebrandt, M., & Waltz, T. (2007). Applied extensions of behavior principles: Applied behavioral concepts and behavioral theories. In D. Woods & J. Kantor (Eds.), *Understanding behavior disorders: A contemporary behavior analytic perspective* (pp. 47-88). Oakland, CA: Context Press / New Harbinger.
- Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Hayes, S. C., Wilson, K. W., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*, 1152-1168.
- Hesser, H., Westin, V., Hayes, S. C., & Andersson, G. (2009). Clients' in-session acceptance and cognitive defusion behaviors in acceptance-based treatment of tinnitus distress. *Behaviour Research and Therapy, 47*, 523-528.
- Holman, E. A., & Silver, R. C. (1998). Getting "stuck" in the past: Temporal orientation and coping with trauma. *Journal of Personality and Social Psychology, 74*, 1146-1163.
- James, W. (1907). *Pragmatism*. Indianapolis, IN: Hackett. (Reprinted in 1981)
- Jha, A. P., Krompinger, J., & Baime, M. J. (2007). Mindfulness training modifies sub-systems of attention. *Cognitive Affective and Behavioral Neuroscience, 7*, 109-119.
- Juarascio, A. S., Forman, E. M., & Herbert, J. D. (2010). Acceptance and Commitment Therapy versus Cognitive Therapy for the treatment of comorbid eating pathology. *Behavior Modification, 34*, 175-190.
- Kabat-Zinn, J. 1994. *Wherever you go there you are: Mindfulness meditations in everyday life*. New York: Hyperion.

- Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential avoidance as a generalized psychological vulnerability: Comparisons with coping and emotion regulation strategies. *Behaviour Research and Therapy, 44*, 1301-1320.
- Kazdin, A. E. (2001). Progression of therapy research and clinical application of treatment require better understanding of the change process. *Clinical Psychology: Science Practice, 8*, 143-151.
- Kazdin, A. E. (2008). Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist, 63*, 146-159.
- Kupfer, D. J., First, M. B., & Regier, D. A. (2002). *A research agenda for DSM-V*. Washington, DC: American Psychiatric Association.
- Langer, E. J. (2000). Mindful learning. *Current Directions in Psychological Science, 9*, 220-223.
- Lappalainen, R., Lehtonen, T., Skarp, E., Taubert, E., Ojanen, M., & Hayes, S. C. (2007). The impact of CBT and ACT models using psychology trainee therapists: A preliminary controlled effectiveness trial. *Behavior Modification, 31*, 488-511.
- Levin, M. E., Hildebrandt, M. J., Lillis, J., & Hayes, S. C. (in press). *The impact of treatment components in Acceptance and Commitment Therapy: A meta-analysis of micro-component studies*. Manuscript under review.
- Levitt, J. T., Brown, T. A., Orsillo, S. M., & Barlow, D. H. (2004). The effects of acceptance versus suppression of emotion on subjective and psychophysiological response to carbon dioxide challenge in patients with panic disorder. *Behavior Therapy, 35*, 747-766.
- Lillis, J., & Hayes, S. C. (2007). Applying acceptance, mindfulness, and values to the reduction of prejudice: A pilot study. *Behavior Modification, 31*, 389-411.
- Lillis, J., Hayes, S. C., Bunting, K., & Masuda, A. (2009). Teaching acceptance and mindfulness to augment weight control: Preliminary test of a theoretical model. *Annals of Behavioral Medicine, 37*, 58-69.
- Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.
- Lipkens, R., Hayes, S. C., & Hayes, L. J. (1993). Longitudinal study of the development of derived relations in an infant. *Journal of Experimental Child Psychology, 56*, 201-239.
- Luciano, M. C., Gómez, I., & Rodríguez, M. (2007). The role of multiple-exemplar training and naming in establishing derived equivalence in an infant. *Journal of the Experimental Analysis of Behavior, 87*, 349-365.
- Lundgren, T., Dahl, J., & Hayes, S. C. (2008). Evaluation of mediators of change in the treatment of epilepsy with Acceptance and Commitment Therapy. *Journal of Behavioral Medicine, 31*, 221-235.
- Lundgren, A. T., Dahl, J., Melin, L., & Kees, B. (2006). Evaluation of Acceptance and Commitment Therapy for drug refractory epilepsy: A randomized controlled trial in South Africa. *Epilepsia, 47*, 2173-2179.

- Lundgren, T., Dahl, J., Yardi, N., & Melin, L. (2008). Acceptance and Commitment Therapy and yoga for drug-refractory epilepsy: A randomized controlled trial. *Epilepsy & Behavior, 13*, 102-108.
- Luoma, J., Hayes, S. C., & Walser, R. (2007). *Learning ACT*. Oakland, CA: New Harbinger.
- Luoma, J. B., Kohlenberg, B. S., Hayes, S. C., & Fletcher, L. (2012). Slow and steady wins the race: A randomized clinical trial of Acceptance and Commitment Therapy targeting shame in substance use disorders. *Journal of Consulting and Clinical Psychology, 80*, 43-53. DOI: 10.1037/a0026070
- MacKinnon, D. P. (2008). *Introduction of statistical mediation analysis*. New York: Erlbaum.
- Marx, B. P., & Sloan, D. M. (2002). The role of emotion in the psychological functioning of adult survivors of childhood sexual abuse. *Behavior Therapy, 33*, 563-577.
- Masuda, A., Hayes, S. C., Fletcher, L. B., Seignourel, P. J., Bunting, K., Herbst, S. A., Twohig, M. P., & Lillis, J. (2007). The impact of Acceptance and Commitment Therapy versus education on stigma toward people with psychological disorders. *Behaviour Research and Therapy, 45*(11), 2764-2772.
- Masuda, A., Hayes, S. C., Twohig, M. P., Drossel, C., Lillis, J., & Washio, Y. (2009). A parametric study of cognitive defusion and the believability and discomfort of negative self-relevant thoughts. *Behavior Modification, 33*, 250-262.
- McHugh, L., Barnes-Holmes, Y., & Barnes-Holmes, D. (2004). Perspective-taking as relational responding: A developmental profile. *The Psychological Record, 54*, 115-144.
- McMullen, J., Barnes-Holmes, D., Barnes-Holmes, Y., Stewart, I., Luciano, C., & Cochrane, A. (2008). Acceptance versus distraction: Brief instructions, metaphors, and exercises in increasing tolerance for self-delivered electric shocks. *Behaviour Research and Therapy, 46*, 122-129.
- Mendolia, M., & Baker, G. A. (2008). Attentional mechanisms associated with repressive distancing. *Journal of Research in Personality, 42*, 546-563.
- Muto, T., Hayes, S. C., & Jeffcoat, T. (2011). The effectiveness of Acceptance and Commitment Therapy bibliotherapy for enhancing the psychological health of Japanese college students living abroad. *Behavior Therapy, 42*, 323-335.
- Öst, L. G. (2008). Efficacy of the third wave of behavioral therapies: A systematic review and meta-analysis. *Behaviour Research and Therapy, 46*, 296-321.
- Pepper, S. C. (1942). *World hypotheses: A study in evidence*. Berkeley: University of California Press.
- Pierson, H., & Hayes, S. C. (2007). Using Acceptance and Commitment Therapy to empower the therapeutic relationship. In P. Gilbert & R. Leahy (Eds.), *The therapeutic relationship in cognitive behavior therapy* (pp. 205-228). London: Routledge.

- Powers, M. B., Zum Vörde Sive Vörding, M. B., & Emmelkamp, P. M. G. (2009). Acceptance and Commitment Therapy: A meta-analytic review. *Psychotherapy and Psychosomatics, 78*, 73-80.
- Rehfeldt, R. A., & Barnes-Holmes, Y. (Eds.). (2009). *Applied programs for derived relational responding*. Oakland, CA: New Harbinger.
- Rehfeldt, R. A., Dillen, J. E., Ziomek, M. M., & Kowalchuk, R. K. (2007). Assessing relational learning deficits in perspective-taking in children with high-functioning autism spectrum disorder. *Psychological Record, 57*, 23-47.
- Rosenthal, M. Z., Rasmussen-Hall, M. L., Palm, K. M., Batten, S. V., & Follette, V. M. (2005). Chronic avoidance helps explain the relationship between severity of childhood sexual abuse and psychological distress in adulthood. *Journal of Child Sexual Abuse, 14*, 25-41.
- Rosnow, R. L., & Georgoudi, M. (Eds.). (1986). *Contextualism and understanding in behavioral science: Implications for research and theory*. New York: Praeger Publishers.
- Ruiz, F. J. (2010). A review of Acceptance and Commitment Therapy (ACT) empirical evidence: Correlational, experimental psychopathology, component and outcome studies. *International Journal of Psychology and Psychological Therapy, 10*, 125-162.
- Schutze, R., Rees, C., Preece, M., & Schutze, M. (2010). Low mindfulness predicts pain catastrophizing in a fear-avoidance model of chronic pain. *Pain, 148*, 120-127.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. T. (2001). *Mindfulness-Based Cognitive Therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*, 482-497.
- Sheldon, K. M., Kasser, T., Smith, K., & Share, T. (2002). Personal goals and psychological growth: Testing an intervention to enhance goal attainment and personality integration. *Journal of Personality, 70*, 5-31.
- Sloan, D. M. (2004). Emotion regulation in action: Emotional reactivity in experiential avoidance. *Behaviour Research and Therapy, 42*, 1257-1270.
- Smith, E. J. (2006). The strength-based counseling model. *The Counseling Psychologist, 34*, 13-79.
- Strosahl, K. D., Hayes, S. C., Bergan, J., & Romano, P. (1998). Does field based training in behavior therapy improve clinical effectiveness? Evidence from the Acceptance and Commitment Therapy training project. *Behavior Therapy, 29*, 35-64.
- Substance Abuse and Mental Health Services Administration National Registry of Evidence-Based Programs and Practices. Acceptance and Commitment Therapy. Retrieved May 26, 2011, from <http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=191>

- Sue, D. W. (1991). A model for cultural-diversity training. *Journal of Counseling and Development, 70*, 99-105.
- Törneke, N. (2010). *Learning RFT*. Oakland, CA: New Harbinger.
- Törneke, N., & Romero, J. (2008). *The ABC's of behavior*. Oakland, CA: New Harbinger.
- Tull, M. T., Gratz, K. L., Salters, K., & Roemer, L. (2004). The role of experiential avoidance in posttraumatic stress symptoms and symptoms of depression, anxiety, and somatization. *Journal of Nervous & Mental Disease, 192*(11), 754-761.
- Twohig, M. P., Hayes, S. C., Plumb, J. C., Pruitt, L. D., Collins, A. B., Hazlett-Stevens, H., & Woidneck, M. R. (2010). A randomized clinical trial of Acceptance and Commitment Therapy vs. Progressive Relaxation Training for obsessive compulsive disorder. *Journal of Consulting and Clinical Psychology, 78*, 705-716.
- Twohig, M. P., Shoenberger, D., & Hayes, S. C. (2007). A preliminary investigation of Acceptance and Commitment Therapy as a treatment for marijuana dependence in adults. *Journal of Applied Behavior Analysis, 40*, 619-632.
- U.S. Census Bureau. (2008). *Back to school: 2009–2010*. Retrieved March 23, 2010 from http://www.census.gov/Press-Release/www/releases/archives/facts_for_features_specialeditions/013847.html
- Villatte, M., Monestes, J. L., McHugh, L., Freixa i Baqué, E., & Loas, G. (2008). Assessing deictic relational responding in social anhedonia: A functional approach to the development of Theory of Mind impairments. *International Journal of Behavioral Consultation and Therapy, 4*, 360-373.
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. Mahwah, NJ: Lawrence Erlbaum.
- Wicksell, R. K., Ahlqvist, J., Bring, A., Melin, L., & Olsson, G. L. (2008). Can exposure and acceptance strategies improve functioning and quality of life in people with chronic pain and whiplash associated disorders (WAD)? A randomized controlled trial. *Cognitive Behaviour Therapy, 37*, 1-14.
- Wicksell, R. K., Melin, L., Lekander, M., & Olsson, G. L. (2009). Evaluating the effectiveness of exposure and acceptance strategies to improve functioning and quality of life in longstanding pediatric pain—A randomized controlled trial. *Pain, 141*, 248-257.
- Wicksell, R. K., Renofalt, J., Olsson, G. L., Bond, F. W., & Melin, L. (2008). Avoidance and cognitive fusion—central components in pain related disability? Development and preliminary validation of the Psychological Inflexibility in Pain Scale (PIPS). *European Journal of Pain, 12*(4), 491-500.
- Wilson, D. S. (2007). *Evolution for everyone: How Darwin's theory can change the way we think about our lives*. New York: Delta.
- Wilson, K. G., & Dufrene, T. (2009). *Mindfulness for two: An Acceptance and Commitment Therapy approach to mindfulness in psychotherapy*. Oakland, CA: New Harbinger.

- Yadavaia, J., & Hayes, S. C. (2012). Acceptance and Commitment Therapy for self-stigma around sexual orientation: A multiple baseline evaluation. *Cognitive and Behavioral Practice, 19*, 545-559. DOI: 10.1016/j.cbpra.2011.09.00
- Zettle, R. (2007). *ACT for depression: A clinician's guide to using Acceptance & Commitment Therapy in treating depression*. Oakland, CA: New Harbinger.
- Zettle, R. D., Rains, J. C., & Hayes, S. C. (2011). Processes of change in Acceptance and Commitment Therapy and Cognitive Therapy for depression: A mediational reanalysis of Zettle and Rains (1989). *Behavior Modification, 35*, 265-283. DOI: 10.1177/0145445511398344

Bios

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