

Acceptance and Mindfulness-Based Interventions

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Abstract

Acceptance and mindfulness-based interventions are part of the most recent generation of cognitive-behavioral therapies (Hayes, 2004). Among these approaches, acceptance and commitment therapy (ACT) and mindfulness-based cognitive (MBCT) therapy enjoy the greatest empirical support in the treatment and prevention of depression. Despite some similarities in their development as alternatives to traditional cognitive therapy and shared use of mindfulness practices, ACT and MBCT nonetheless differ from each other on philosophical, methodological, and strategic dimensions. The outcome literature is more extensive for MBCT than ACT, whereas empirical support for putative therapeutic processes specific to each appears to be somewhat stronger for ACT. Increasingly both approaches have been extended into clinical areas previously occupied by the other, with ACT being used for prevention of depression among those at risk for it and MBCT for treatment of acute depressive symptoms. These developments have made it possible to indirectly compare their relative therapeutic impact and suggest shared versus unique mechanisms of action. Randomized clinical trials in which ACT and MBCT are directly evaluated on common outcome and process variables are recommended to more fully explicate these comparisons.

Keywords: depression, acceptance, mindfulness, acceptance and commitment therapy (ACT), mindfulness-based cognitive therapy (MBCT)

Acceptance and Mindfulness-Based Interventions

During the latter part of the twentieth century, a number of psychotherapeutic approaches that represented an evolution of the conventions of traditional behavioral and cognitive-behavioral therapies (CBT) began to emerge (Hayes, Follette, & Linehan, 2004). These approaches include acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 2012), dialectical behavior therapy (Linehan, 1993), integrative behavioral couples therapy (Jacobson & Christensen, 1998), metacognitive therapy (Wells, 2000), mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale 2002); and mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990), among others (see Hayes, Villatte, Levin, & Hildebrandt, 2011 for a comprehensive discussion). Collectively they share a focus on issues and interventions that have traditionally been excluded from or received little emphasis in CBT, including those involving acceptance and mindfulness (Hayes et al., 2011).

For the purposes of this chapter, we limit our discussion to two of these acceptance and mindfulness-based approaches, ACT and MBCT, which also have been recognized as “research-supported” by Division 12 of the American Psychological Association (aka Society of Clinical Psychology). More specifically, ACT’s empirical support for treatment of unipolar depression is judged to be “modest,” and that of MBCT to be “strong” in its ability to prevent relapse.

Defining and Distinguishing Characteristics of Acceptance and Mindfulness-Based Interventions

While there are varying perspectives offered on what mindfulness is and how to best practice it (Chiesa & Malinowski, 2011), both ACT and MBCT largely subscribe to Kabat-Zinn’s (1990) definition of “paying attention in a particular way: on purpose, in the present moment, nonjudgmentally” (p. 4). Mindfulness, in turn, can be seen in both therapeutic

approaches as one way to promote acceptance. It should be emphasized that acceptance is not merely the opposite of attempting to run away from or an indirect way to control unpleasant thoughts and other private events. Acceptance also is not viewed as an act of resignation or tolerance. Rather, acceptance is most usefully construed as a proactive effort to nonjudgmentally receive all of what is experienced from moment to moment, including otherwise unpleasant psychological events (Hayes et al., 2012).

Acceptance and mindfulness-based interventions (AMBI) are characteristic of what Hayes (2004) termed the “third wave” or generation of CBT in distinguishing them from their therapeutic predecessors. The so-called “first wave” or generation of behavior therapy emerged in the mid-twentieth century, and represented a paradigmatic shift away from the then-dominant psychoanalytic and humanistic treatment approaches. Based on classical and operant learning theory, early behavior therapy focused on applying the rigorous body of laboratory-based learning principles to effect changes in the form or content of behavioral problems (e.g., decreasing anxiety, reducing tantruming, etc.) (Hayes et al., 2011).

The emergence of cognitive science led, in the 1970s, to an emphasis on dysfunctional thinking (e.g., information processing, beliefs, etc.) as a putative major determinant of the development of sundry psychopathologies. Thus, the “second wave” or generation of the now cognitively-oriented behavior therapy largely subsumed the “first wave,” and clinical treatment efforts shifted from effecting change in overt behavior to correcting dysfunctional cognitive processes (Hayes, 2004). While Hayes and colleagues (2011) have more recently rechristened the group of psychotherapeutic approaches, of which AMBI are a part, as “contextual cognitive behavioral therapies,” this “third wave” categorization more broadly describes models that focus

treatment efforts on changing a client's relationship to problematic internal events, such as depressing thoughts, rather than changing the content or form of these events.

As Hayes (2004) discusses, one of the defining characteristics of AMBI and other contextual CBT is an alteration of clinical focus. At the heart of both the first-wave behavior therapies and the ensuing cognitively-based second-wave therapies was a focus on first-order change; that is, directly changing the content or form (i.e., the topography) of problematic behaviors. While the target for modification shifted between the first and second generations of CBT, from problematic classically conditioned emotional reactions or overt operant behavior to maladaptive thinking, the two approaches shared a common emphasis on a first-order change strategy of replacing dysfunctional thoughts, feelings, and actions with more adaptive ones.

While not abandoning first-order change strategies completely, AMBI seek instead to alter the function of problematic thoughts and emotions behaviors by teaching clients new ways of relating to them. To do so, AMBI rely heavily on experiential in-session exercises and related homework assignments to develop and strengthen the "relationship skills" of acceptance and mindfulness. For example, the acquisition of alternative and more flexible ways of responding to depressing thoughts and affective states, in turn, ostensibly enables clients to engage in valued and vitalizing activities by surmounting such psychological barriers (Hayes, 2004).

ACT vs. MBCT Comparisons

Because of space limitations, we are precluded from considering all but the most salient of the multiple dimensions across which ACT and MBCT could be compared and contrasted.

How ACT and MBCT Are Alike

In our view, the most meaningful similarities between the two approaches are in their developmental histories and in the incorporation of mindfulness practices and exercises within each.

Parallel developmental histories. Although ACT's developmental history preceded that of MBCT by at least 10 years, both have "come of age" over the past decade as reactive alternatives to traditional cognitive therapy (CT) of depression (Beck, Rush, Shaw, & Emery, 1979). Because ACT is grounded in functional contextualism (to be discussed in greater detail below), its development occurred in large measure in reaction to philosophical and theoretical misgivings about the causal status afforded private events more generally, and thinking in particular, within the second generation of CBT.

Unlike the conceptual and theoretical framework from which CT is derived (Beck, 1976), the contextualistic model of human functioning on which ACT is based does not regard thinking as a causal influence over emotional responding and overt activities (Hayes et al., 2012; Zettle, 1990). From a behavior analytic/contextualistic perspective, "causes" are reserved for environmental variables that at least in principle can be directly manipulated (Hayes & Brownstein, 1986; Skinner, 1974) in order to meet the scientific goals of both predicting and influencing behavior with sufficient precision, scope, and depth (Vilardaga, Hayes, Levin, & Muto, 2009). Thinking, like any other behavior, cannot be directly manipulated, but only influenced by altering the contextual variables of which it is a function. Thinking, however, is recognized within ACT as exerting considerable influence, in turn, over other behavior for at least two reasons, only one of which will be addressed at this juncture. Ruminating about why one is depressed, for example, may produce a coherent, socially-expressed narrative and set of reasons that helps maintain it. In short, a convincing story about why one is depressed that is

shared socially may be a factor that functions to support continued depression (Zettle, 2007). We will address another reason why proponents of ACT see thinking as important, despite its noncausal status, a bit later in discussing relational frame theory.

Unlike the philosophical disputes that served as the impetus for the development of ACT, the development and elaboration of MBCT, based upon two converging factors, was more strategic and pragmatic (Segal et al., 2002). The first was the suggestion that CT's key mechanism of change had less to do with altering the content of depressive thoughts and more with fostering a decentering process through which clients adopt a new relationship with them (Ingram & Hollon, 1986). With the understanding that the mere occurrence of a thought is not evidence of its veracity, negative thoughts can be seen as transient cognitive phenomena that may or may not be "true," rather than as valid reflections of external reality. The implication is that adjustments can be made to CT-as-usual to place more emphasis on decentering and less on cognitive restructuring.

The second factor that contributed to the development of MBCT was an accumulating body of research highlighting the need to develop a maintenance form of CT as a means of relapse prevention (Segal et al., 2002, Ch. 2). Although a recent meta-analysis (Cuijpers et al., 2013) has further substantiated earlier findings (e.g., Simons, Murphy, Levine, & Wetzel, 1986) that CT clients are significantly less likely to relapse following treatment termination than those who have received pharmacotherapy, their relapse rates may still be as high as 30% during the following year (Hollon et al., 2005).

Insofar as ACT originated as a transdiagnostic approach, the degree to which its development constituted a reaction against the limitations of cognitive therapy of depression in particular, as opposed to CBT viewed more broadly, would perhaps appear to be more muted

than is the case with MBCT. This assessment, however, is tempered by a closer consideration of ACT's history (Zettle, 2005). It is not by mere happenstance that for roughly the first 10 years following its inception in the early 1980s, what is today known as ACT was often referred to as "comprehensive distancing" (Zettle, 2005). "Distancing," or what is now more commonly termed as "decentering" within MBCT (Segal et al, 2002) and as "defusion" within ACT, had originally been regarded by Beck (1970) as "the first, critical step within cognitive therapy" (Hollon & Beck, 1979, p. 189) that enables clients to respond to their negative thoughts as beliefs-to-be-evaluated rather than as factual reflections of external reality. As such, the process of clients seeing their own thinking as consisting of "just thoughts" that may or may not be "true" was seen as preliminary to the more important work of cognitive restructuring. Because cognitive restructuring and disputational techniques are primarily in the service of altering the content of specific thoughts, rather than targeting the function of thinking more broadly, they at best have a limited and secondary place within ACT. However, such is not the case with "distancing," which from a behavior analytic perspective can be conceptualized as responding to what we say to ourselves as an outside listener might (Zettle & Hayes, 1982) or, stated somewhat differently, seeing our thoughts for what they are rather than what they say they are. To summarize, ACT as "comprehensive distancing" began as an attempt to extend and expand the process of distancing à la CT in a behavior analytic direction consistent with a functional contextualistic account of human language and cognition (Hayes, Barnes-Holmes, & Roche, 2001).

In some sense, distancing or defusion within comprehensive distancing/ACT also serves as a means to an end. However, the immediate end is not cognitive restructuring as is the case within traditional CT, but the fostering of psychological flexibility, and defusion is not the only

process thought to contribute to it. Psychological flexibility, or the ability to make on-going behavioral adjustments in order to pursue one's values (e.g., being a caring partner), is in turn seen as essential for living a meaningful and fulfilled life (Hayes et al., 2012). Defusion is one of six interrelated processes thought to contribute to psychological flexibility with the others being: (a) acceptance, (b) present-moment awareness, (c) self-as-context, (d) chosen values, and (e) committed action. (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Further elaboration on what is meant by acceptance and present-moment awareness will be provided in the next section. Self-as-context within the model of psychological flexibility refers to being able to observe one's psychological experiences from a transcendent and invariant perspective (i.e., noticing who is "paying attention in a particular way" during mindfulness exercises). The last two processes refer to clarifying one's values as chosen ongoing, life directions (e.g., being a loving parent) and engaging in behavior consistent with them (e.g., reading a bedtime story to one's children).

Incorporation of mindfulness practices. Perhaps the most striking similarity between ACT and MBCT is that each, as already mentioned, has incorporated the approach to mindfulness popularized by Jon Kabat-Zinn (1990) and which has formed the basis for related programs for stress reduction (Kabat-Zinn et al., 1992; Miller, Fletcher, & Kabat-Zinn, 1995) and pain management (Kabat-Zinn, Lipworth, & Burney, 1985). While structured meditation plays a larger role in MBCT than ACT, mindfulness exercises and practices, regardless of the form they might take, presumably serve two shared purposes within both approaches. The first of these is the decentering or distancing/defusion function that enables clients to see their thoughts as mental events rather than a reflection of objective reality. As already discussed, this minimizes the likelihood that clients will get "caught up" in ruminating over the meaning and the truthfulness of depressive thoughts. Findings from psychological (e.g., Raes & Williams, 2010)

as well as neuroscience research (e.g., Berkovich-Ohana, Glicksohn, & Goldstein, 2012; Keune, Bostanov, Hautzinger, & Kotchoubey, 2013) suggest that mindfulness and rumination are opposing processes, such that strengthening one weakens the other.

Excessive brooding over especially “sticky” negative self-referential thoughts (e.g., “I’m unlovable”) is likely to be accompanied understandably by efforts to suppress or otherwise escape from such psychological experiences. These efforts can have the paradoxical effect of increasing the emotional grip of such cognitive activity (Wegner, 1994; Wenzlaff, Wegner, & Roper, 1988). As briefly mentioned earlier, the second purpose that mindfulness shares in both ACT and MBCT (Segal et al., 2002, Ch. 10) is to promote acceptance. Defusion or decentering may be necessary, but not sufficient for acceptance. One could see an unwanted thought as merely a thought, but still seek to push it away. In any event, it should be emphasized again that acceptance is viewed in MBCT and ACT not as merely the opposite of attempting to move away from unpleasant thoughts and other private events, nor as an indirect way to control them, nor as an act of resignation or tolerance. In addition to the shared purposes of increasing defusion/decentering and acceptance, Kabat-Zinn’s approach to mindfulness within ACT also strengthens present-moment awareness as a third process that contributes to psychological flexibility.

How ACT and MBCT Are Different

Philosophical/conceptual differences. ACT is distinguishable from other cognitive-behavioral approaches, including MBCT, in its explicit reliance on functional contextualism as its philosophical foundation and on a related account of human language and cognition, relational frame theory (RFT), as its conceptual basis (Hayes et al., 2012, Ch. 2). Here we offer a brief overview of functional contextualism and RFT. Interested readers will find more

comprehensive discussions of each in Biglan and Hayes (1996) and Hayes et al. (2001), respectively.

Functional contextualism has emerged as an elaboration of contextualism as one of the four philosophies of science originally explicated by Stephen C. Pepper (1942). It regards all behavior, including thinking and feeling, as acts of the entire organism that are embedded as whole events within historical and situational contexts (Hayes, 1993). All behavior, as well as talk and analyses of it whether by clients, therapists, or psychologists, is viewed through a pragmatic “truth criterion.” That is, “truth” is determined by whether or not a specific action is “successful” in attaining some verbally-stated goal. This process even extends to the automatic thoughts of clients in ACT. The more critical therapeutic question is not if a given thought reflects external reality, but if it instead is “useful” in moving their life in a valued direction. Evaluating thoughts from this perspective is not unique to ACT, but is emphasized to a greater degree than by other approaches such as CT.

RFT regards relational framing, or our ability to arbitrarily relate events to each other, as providing the basis for language and cognition as well as human suffering. As alluded to earlier, RFT also underscores why thinking is an important focus within ACT. According to RFT, one of the properties of language is its bidirectional nature. Because, loosely speaking, words stand for things and things can be described by words, we can, for example, think about and talk to ourselves about the loss of a loved one long after its occurrence. According to RFT, merely thinking about the death of a loved one can be just as emotionally painful as the loss itself was at the time of its occurrence because of another defining property of relational framing and language. Through the transformation of stimulus functions, the grief attached to the death is now transferred to the words used in thinking about it. Efforts to minimize such suffering by

deliberately not thinking about it may be one factor that exacerbates normal grief into clinical depression (Zettle, 2007).

MBCT is less clearly tied to a given philosophical approach, such that its basis in any of Pepper's (1942) world hypotheses is difficult to specify. Others have suggested that the philosophical foundation of MBCT reflects the broader assumption of "second wave" CBT "that the way we perceive events largely determines how we feel about them and, in turn, how we behave" (Chiesa & Malinowski, 2011, p. 409). A world view that is often framed in opposition to functional contextualism (Hayes & Brownstein, 1986) and is dominant in modern psychology is that of mechanism (Pepper, 1942), or "elemental realism" (Hayes et al., 2012, p. 29). As we see it, MBCT appears to fit best within this world view.

In CBT, for example, a model of depression may be proposed that specifies the relationship among thoughts, feelings, and overt behavior. According to Pepper, such models are to be understood in much the same way as machines, such as car engines, are. In doing so, differing models of the machine (i.e., of depression and the engine) may be hypothesized and proposed before it is disassembled. The "truthfulness" of each model can then be evaluated by the degree to which its predictions map on to what is actually found. Is the car engine indeed constructed in the way we expected when we literally take it apart, and does research on depression suggest that thoughts, feelings, and overt behavior relate to each other in the manner predicted by our model of it? To the extent that MBCT adheres to this correspondence-based truth criterion, it is much closer philosophically to Beckian cognitive therapy than it is to ACT.

Support for the inference that MBCT employs a mechanistic world view is provided by Segal et al. (2002, Ch. 4) who describe the "modes of mind" model on which it is based. A given mode of mind, when activated, determines information processing and leads the client who

experiences recurrent depressive episodes to experience a disproportionate onslaught of negative automatic thoughts in response to slight increases in dysphoric mood. This recurrent activation of negative thinking patterns in response to stressors, referred to as “cognitive reactivity,” is seen as a putative common diathesis among individuals susceptible to the development and recurrence of depression (Scher, Ingram, & Segal, 2005). As Segal et al. explain: “In this way, we could see the activity of the mind as continually shifting, recurring, or evolving patterns of interaction among its components – a little like a car driven through a busy city undergoes a continuous sequence of gear shifts.” From this vantage point, the goal of MBCT is to educate and familiarize clients with the various modes their minds can assume and provide them with mindfulness skills as a way of “shifting” between “doing” and “being” modes.

Technical/methodological differences. ACT and MBCT differ in the degree to which they emphasize a structured and meditative approach to mindfulness practices, as well as in the format in which they are delivered. In ACT, mindfulness practices are seen as one way of supporting open and centered response styles more generally and the process of present-moment awareness in particular. Other techniques that may serve the same purpose involve those used to activate the processes of acceptance and defusion, as well as other procedures that may strengthen moment-to-moment awareness, such as attentional training adapted from metacognitive therapy (Wells, 2000). Although ACT for depression has been evaluated in a group format (e.g., Zettle & Rains, 1989), it has more commonly been applied individually (e.g., Petersen & Zettle, 2009; Zettle & Hayes, 1986). For this reason, and because ACT adopts a case conceptualization approach, mindfulness practices with any depressed client are used on an “as-appropriate” basis. In some cases, therefore, no formal meditation training will be involved.

With other clients, the amount of such training could approach, or even exceed, the standard dose provided within MBCT.

The format and role that mindfulness exercises and practices play within MBCT are an extension of a protocol originally developed by Kabat-Zinn and his colleagues (Kabat-Zinn et al., 1992; Miller et al., 1995) in their MBSR program. MBCT includes a structured series of classes in which group members are introduced to a sequence of mindfulness meditations practiced during eight weekly sessions, as well as in between-session homework assignments.

Strategic/clinical differences. ACT originated as a transdiagnostic approach for alleviating acute forms of human suffering. Until recently, most of the applications and research in the area of depression have focused primarily, albeit not exclusively, on working with currently depressed clients, rather than on seeking to prevent initial and or recurrent episodes of the disorder. By contrast, MBCT was expressly designed as a variant of CT to prevent depression relapse or recurrence among remitted clients and not as an intervention for those experiencing an active, acute episode.

Overview, Summary, and Critique of Empirical Support

Due to the rate at which research on depression in general is being published, an exhaustive review of the literature on treating and preventing unipolar depression with ACT and MBCT would likely be obsolete by the time of its appearance in print as well as exceed the space limitations of this chapter. For these reasons, we have opted to supplement a summary of the latest meta-analyses with more recent treatment studies appearing since those publications in providing an overview of outcome research for ACT and MBCT. Insofar as ACT and MBCT claim somewhat distinct mechanisms of action, we will also briefly summarize and critique process research pertaining to each.

ACT

Outcome research. The two most recent meta-analyses of ACT reported a moderate to large effect size (Powers, Zum Vorde Sive Vording, & Emmelkamp, 2009) favorable to ACT over various control conditions, including treatment-as-usual (TAU) interventions, and a small positive effect size (Ruiz, 2012) over more traditional forms of CBT, including CT, in reducing depressive symptoms. Since the Ruiz (2012) meta-analysis, more recent research targeting depression with ACT has largely taken three forms. The first has focused on evaluating an ACT-based program delivered in either small groups (Bohlmeijer, Fledderus, Rokx, & Pieterse, 2011) or in a self-help format (Fledderus, Bohlmeijer, Pieterse, & Schreurs, 2012) to community samples at risk for clinical depression based on the presence of mild to moderate symptomatology. This early intervention has been shown to be superior to waiting list control conditions in attaining significant reductions in depressive symptoms that are sustained through 3-months posttreatment. Given the absence of an attention-placebo control group or other active treatment conditions, as well as a more extended follow-up period, it is unclear whether such improvements can be attributed to the active ingredients of the ACT-based program and whether they are instrumental in preventing clinical depression in the long term. Further research addressing these issues is necessary to more thoroughly evaluate the potential of the program to serve a secondary preventive function.

Another recent approach involving ACT has centered on the development of internet-based programs combined with elements from other research-supported therapies for depression. Lappalainen and colleagues (2013) reported that a Finnish telehealth program that combines aspects of more traditional CBT with ACT was more efficacious than a waiting list control group in reducing depressive symptoms among a community sample of stressed men. It is unclear to

what degree ACT contributed to the program's success, and if the findings could be extended to a clinically depressed sample. The latter issue was addressed to some degree by a recent internet-based program combining behavioral activation (BA) and ACT offered to a Swedish community sample meeting diagnostic criteria for a major depressive episode (Carlbring et al., 2013). While a large between-group effect size on self-reported depression was obtained, it was in comparison to another waiting-list control condition, thus precluding the identification of what active components, if any, from either BA or ACT, accounted for the program's impact.

The third research approach taken most recently extending ACT in the treatment of depression has examined the impact of adding it to other services already being received by depressed subgroups. Folke, Parling, and Melin (2012), for example, reported that supplementing public health care and assistance Swedish workers receive during sick leave due to depression with one individual and five group sessions of ACT resulted in significant reductions in depressive symptoms and enhanced general health and quality of life. There were, however, no corresponding improvements in sick leave status or employment, at least over 18-month follow-up, suggesting the advisability of evaluating the impact of a larger "dose" of ACT over a longer period of time.

More recently, a preliminary open trial additionally suggests promise in combining pharmacotherapy with an ACT-based program that also includes elements of BA in treatment of major depression with psychotic features (Gaudio, Nowlan, Brown, Epstein-Lubow, & Miller, 2013). Specifically, a small treated group ($N = 14$) primarily of inpatients achieved clinically significant reductions in depressive and psychotic symptoms that were maintained through 3-month follow-up. Further research is necessary to determine the specific contribution that the

ACT-based program may have made to the combined treatment's success by comparing it to both pharmacotherapy alone as well as the combination of the two with a larger clinical sample. While the three most recent approaches investigating ACT for depression have extended and adapted it as an intervention to serve both secondary and tertiary functions with a wider array of subclinical and clinical populations, this aggregate work, unfortunately, does little to add further to the "modest" empirical support that ACT already enjoys in treating outpatient unipolar depression (Society of Clinical Psychology).

Process research. From its inception, proponents of ACT have demonstrated a commitment to identify and further understand its mechanisms of action. Findings from studies of the processes of change support the view that therapeutic improvement in ACT is mediated by changes in processes distinct and specific to the model of psychological flexibility on which it is based. For example, a reanalysis (Hayes et al., 2006) of the first randomized clinical trial favoring a version of individual ACT over CT (Zettle & Hayes, 1986) showed that defusion, as assessed by reductions in the believability of negative automatic thoughts, fully mediated differential treatment outcomes, according to MacKinnon's (2003) criteria.

Similar findings from a recent mediational reanalysis (Zettle, Rains, & Hayes, 2011) of another early clinical trial showing better outcomes for group ACT than CT (Zettle & Rains, 1989), provide further convergent support that defusion from otherwise depressogenic thoughts serves as at least one of ACT's mechanisms of action, despite some suggestive evidence that defusion may also be implicated in CT of depression (Forman, Chapman, et al., 2012) and anxiety disorders (Arch, Wolitzky-Taylor, Eifert, & Craske, 2012). Other research comparing ACT to CT in treating depression and/or anxiety has also suggested that decreases in experiential avoidance and use of related therapeutic strategies play a relatively greater role in accounting for

therapeutic change in ACT than in CT (Forman, Chapman, et al., 2012). Particularly noteworthy given the focus of this chapter are additional findings that improvement in ACT is correlated with increases in the “accepting without judgment” and “acting with awareness” dimensions of mindfulness, as assessed by the Kentucky Inventory of Mindfulness Skills (KIMS, Baer, Smith, & Allen, 2004), whereas changes in CT are mediated instead by increases in observing and describing skills (Forman, Shaw, et al., 2012). Although research on ACT’s mechanisms of action has yielded interesting and impressive preliminary findings, the accumulation of a body of coherent work in this area has been limited by the failure of researchers to use common process measures with similar depressed samples, consequently making it challenging to integrate findings across individual studies [see Hayes et al. (2006) and Ruiz (2012) for more detailed reviews].

MBCT

Outcome research. As previously discussed, one of the driving factors in the development of MBCT was the growing awareness of a need for a maintenance form of CT. Because MBCT has focused primarily on those with a history of three or more depressive episodes, based on initial research findings that its prophylactic impact was greatest with this population (Teasdale et al., 2000), meta-analyses of MBCT have appropriately focused on its impact in reducing depressive relapse among this subgroup. Galante, Iribarren, and Pearce (2013) reported that only 38% of currently-remitted clients with three or more prior depressive episodes who received MBCT + TAU experienced relapse at 1-year posttreatment, compared to 62% for TAU participants. Chiesa and Serretti (2011) reported similar findings: comparable rates of depressive relapse at 1-year follow-up (i.e., MBCT & TAU = 32% vs. TAU = 60%). In both meta-analytic reviews less depressive symptomatology was estimated at 1-year postintervention

in the MBCT+TAU groups, relative to TAU alone. While these relapse rates are slightly higher than those reported by Hollon et al. (2005) for clients treated with traditional CT, it should be recognized that differing client characteristics may account for these discrepant findings. There was a greater degree of variability in the number of prior depressive episodes ($M = 2.4$, $SD = 2.6$) for participants in the Hollon et al. study compared to the participants in the studies reviewed in the meta-analyses discussed above, all of whom had histories of three or more prior episodes.

As empirical support for MBCT as a depressive relapse-prevention intervention has accrued, investigations applying MBCT to other clinical issues and populations have begun to emerge. For example, in a meta-analysis by Hofmann, Sawyer, Witt, and Oh (2010), the effect of MBCT on secondary symptoms of depression in individuals with primary psychiatric (e.g., anxiety) or medical (e.g., hypothyroidism) diagnoses was examined, while another by Piet, Würtzen, and Zachariae (2012) examined the effect of mindfulness-based therapies, including MBCT, on depressive symptoms in adult cancer patients. These meta-analyses reported within-condition (pretreatment vs. posttreatment) effect sizes ranging from low to high for MBCT in reducing symptoms of depression.

MBCT has also been examined as a relapse-prevention approach for those with fewer than three prior major depressive episodes. To evaluate limitations on the preventive effects of MBCT, Geschwind, Peeters, Huibers, van Os, and Wichers (2012) compared adults with residual (i.e., subclinical) depressive symptoms and fewer than three prior depressive episodes with similar participants with a history of three or more depressive episodes. Both groups experienced significant and equivalent reductions in depressive symptoms from baseline to postintervention, with benefits maintained at 6-month and 1-year follow-up. These findings, taken together with

other MBCT research, suggest that three or more previous depressive episodes may only function as a moderating variable for those who are in remission. Further research is necessary to verify if the number of prior episodes is not related to responsivity to MBCT for individuals currently experiencing residual depressive symptoms.

Chiesa and Serretti (2011) proposed that MBCT may also benefit individuals who, while not necessarily meeting diagnostic criteria for an acute major depressive episode, are nonetheless experiencing clinically-relevant levels of depression. Green and Bieling (2012) conducted a group MBCT treatment program for a small sample of psychiatric outpatients with a variety of primary and comorbid psychiatric (including major depression) and medical diagnoses. Both the number and severity of self-reported depressive symptoms decreased significantly over the course of treatment, suggesting that individuals who are not in a remission stage (i.e., who are currently experiencing mood disruptions) may also benefit from MBCT. Although this broadening of the MBCT protocol suggests a promising direction, studies of MBCT that have included long-term follow-ups or randomized comparisons have yet to be conducted with samples of acutely depressed patients.

Process research. In their 2011 review, Fjorback, Arendt, Ørnbøl, Fink, and Walach made note of the dearth of research addressing the mechanisms by which MBCT exerts its impact. These authors noted that, although mindfulness appears to have a favorable effect on outcomes, the available literature is not clear as to the nature of this relationship. Although individual studies have reported changes in mindfulness skills as assessed by self-report measures, Chiesa and Serretti (2011) concluded that “. . . it is not possible to determine whether mindfulness itself is the ‘active ingredient’ of MBCT or not.” (p. 451). On this point, only Piet et al. (2012) have published a meta-analytic review of changes in self-reported levels of

mindfulness following treatment. While moderate effect sizes were reported for both the nonrandomized and randomized studies, the pooling of MBCT with MBSR protocols, the selected focus on cancer patients and survivors, and the variety of different measures used to assess mindfulness, limit the generality of conclusions that can be drawn.

In a small uncontrolled study of MBCT for currently-remitted adult outpatients with a history of major depression, Michalak, Heidenreich, Meibert, and Schulte (2008) found that self-reported mindfulness increased over the course of treatment and that posttreatment mindfulness reliably predicted relapse at 12-month follow-up, even when controlling for quantity of prior depressive episodes and self-reported posttreatment symptoms of depression. Likewise, Green and Bieling (2012) reported a reliable increase in “decentering,” as assessed by the Toronto Mindfulness Scale (Lau et al., 2006), between baseline and posttreatment.

In a study by Kuyken et al. (2010), currently-remitted individuals with a history of three or more depressive episodes receiving maintenance antidepressant medication were either continued on it (control group) or gradually withdrawn from the medication while participating in MBCT (experimental group). Self-reported mindfulness and self-compassion were both found to mediate changes in depressive symptoms at post-MBCT intervention as well as at 15-month follow-up. Consistent with prior research, a higher degree of cognitive reactivity (reactivation of negative thinking patterns in response to negative mood) predicted relapse and depressive symptoms among the medication group during follow-up; however, this relationship was not evident in the MBCT group. Self-compassion, but not mindfulness, moderated the relationship between cognitive reactivity and depressive symptoms at follow-up. Unlike the findings of Segal et al. (2006) that documented the ameliorative effects of traditional CT on cognitive reactivity, Kuyken et al.’s MBCT participants demonstrated higher rather than lower cognitive

reactivity than those in the maintenance medication condition. The authors suggested that MBCT's focus on awareness of thoughts, as well as the discontinuation of medication, may explain this discrepancy.

As previously discussed, cognitive reactivity is a theoretical diathesis for the recurrence of depressive symptoms and is thus a focus of MBCT (Segal et al, 2002). Van Rijsbergen and colleagues (2013) found support for a link between mood reactivity (i.e., a negative emotional response to stressors), rather than cognitive reactivity, and depressive symptoms and relapse. This study utilized a traditional CT protocol, in a preventative context, and thus cannot be directly compared to MBCT protocols. However, Britton, Shahar, Szepsenwol, and Jacobs (2012) found that participants with partially or fully remitted depression who participated in an MBCT program evidenced a quicker decrease in emotional reactivity relative to a wait-list control group, and that treatment impact on depressive symptoms was partially mediated by improved management of anxiety. As was noted in regard to the literature on the processes of change in ACT, inconsistencies in the methods used to assess the presence and severity of depressive symptoms, as well as mindfulness as a mediating or moderating variable, and the relative lack of methodological consistency between studies, have limited our ability to characterize the mechanisms of change associated with MBCT.

Future Directions

Until now, as far as we know, there has been no research directly comparing ACT and MBCT perhaps related to their focus on different clinical populations and objectives. However, as both increasingly expand beyond their original bases of operation, it appears that there is a growing likelihood that they may eventually meet on some common clinical ground. This could occur in two ways. The possible preventive reach of ACT could be extended to the recurrence of

major depressive episodes within the same clinical populations for whom MBCT was developed. Alternatively, MBCT might be further developed and explored as another acceptance and mindfulness-based option, along with ACT, for treatment of active, acute episodes of depression.

Being able to evaluate the application of ACT and MBCT in randomized trials with a shared clinical purpose, whether it be treating a current depressive episode or preventing relapse, would appear to be an especially exciting and promising future research opportunity. However, from our perspective, the primary purpose of directly comparing the therapeutic impact of the two approaches should not be to declare a “winner” vs. “loser” between ACT and MBCT. Rather, a more desirable outcome would be if ACT and MBCT were shown to be equally efficacious in impacting both current and recurrent episodes of depression, thereby making those who struggle with depression the ultimate winners.

Perhaps of even greater importance than addressing the comparative outcome question between ACT and MBCT would be the opportunity for process and mediational analyses. For example, insofar as both interventions incorporate mindfulness practices, the use of a measure, such as the KIMS, that assesses the multiple dimensions of increased present-moment awareness, might help elucidate the degree to which ACT and MBCT have shared versus distinctive mechanisms of action. A better understanding of their respective mechanisms of action, even if differing, may be useful in enhancing them further, thereby potentially increasing the clinical impact of both ACT and MBCT. A finding of shared mechanisms of action would suggest that these two acceptance and mindfulness-based interventions for depression have much more in common than previously thought.

References

- Arch, J. A., Wolitzky-Taylor, K. B., Eifert, G. H., & Craske, M. (2012). Longitudinal treatment mediation of traditional cognitive behavioral therapy and acceptance and commitment therapy for anxiety disorders. *Behaviour Research and Therapy, 50*, 469-478.
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*, 191-206.
- Beck, A.T. (1970). Cognitive therapy: Nature and relation to behavior therapy. *Behavior Therapy, 1*, 184-200.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford.
- Berkovich-Ohana, A., Glicksohn, J., & Goldstein, A. (2012). Mindfulness-based changes in gamma band activity: Implications for the default mode network, self-reference and attention. *Clinical Neurophysiology, 123*, 700-710.
- Biglan, A., & Hayes, S. C. (1996). Should the behavioral sciences become more pragmatic? The case for functional contextualism in research on human behavior. *Applied and Preventive Psychology: Current Scientific Perspectives, 5*, 45-57.
- Bohlmeijer, E. T., Fledderus, M., Rokx, T. A. J. J., & Pieterse, M. E. (2011). Efficacy of an early intervention based on acceptance and commitment therapy for adults with depressive symptomatology: Evaluation in a randomized controlled trial. *Behaviour Research and Therapy, 49*, 62-67.

- Britton, W. B., Shahar, B., Szepsenwol, O., & Jacobs, W. J. (2012). Mindfulness-based cognitive therapy improves emotional reactivity to social stress: Results from a randomized controlled trial. *Behavior Therapy, 43*, 365-380.
- Carlbring, P., Hagglund, M., Luthstrom, A., Dahlin, M., Kadowaki, A., Verbmark, K., & Andersson, G. (2013). Internet-based behavioral activation and acceptance-based treatment for depression: A randomized controlled trial. *Journal of Affective Disorders, 148*, 331-337.
- Chiesa, A., & Malinowski, P. (2011). Mindfulness-based approaches: Are they all the same? *Journal of Clinical Psychology, 67*, 404-424.
- Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research, 187*, 441-453.
- Cuijpers, P., Hollon, S. D., van Straten, A., Bockting, C., Berking, M., & Andersson, G. (2013). Does cognitive behaviour therapy have an enduring effect that is superior to keeping patients on continuation pharmacotherapy? A meta-analysis. *BMJ Open, 3*(4), e002542.
- Fjorback, L. O., Arent, M., Ørnbøl, E., Fink, P., & Walach, H. (2011). Mindfulness-based stress reduction and mindfulness-based cognitive therapy — a systematic review of randomized controlled trials. *Acta Psychiatrica Scandinavica, 124*, 102-119.
- Fledderus, M., Bohlmeijer, E. T., Pieterse, M. E., & Schreurs, K. M. G. (2012). Acceptance and commitment therapy as guided self-help for psychological distress and positive mental health: A randomized controlled trial. *Psychological Medicine, 42*, 485-495.
- Folke, F., Parling, T., & Melin, L. (2012). Acceptance and commitment therapy for depression: A preliminary clinical trial for unemployed on long-term sick leave. *Cognitive and Behavioral Practice, 19*, 538-594.

- Forman, E. M., Chapman, J. E., Herbert, J. D., Goetter, E. M., Yuen, E. K., & Moitra, E. (2012). Using session-by-session measurement to compare mechanisms of action for acceptance and commitment therapy and cognitive therapy. *Behavior Therapy, 43*, 341-354.
- Forman, E. M., Shaw, J. A., Goetter, E. M., Herbert, J. D., Park, J. A., & Yuen, E. K. (2012). Long-term follow-up of a randomized controlled trial comparing acceptance and commitment therapy and standard cognitive behavior therapy for anxiety and depression. *Behavior Therapy, 43*, 801-811.
- Galante, J., Iribarran, S. J., & Pearce, P.F. (2013). Effects of mindfulness-based cognitive therapy on mental disorders: a systematic review and meta-analysis of randomised controlled trials. *Journal of Research in Nursing, 18*, 133-155.
- Gaudiano, B. A., Nowlan, K., Brown, L. A., Epstein-Lubow, G., & Miller, I. W. (2013). An open trial of a new acceptance-based behavioral treatment for major depression with psychotic features. *Behavior Modification, 37*, 324-355.
- Geschwind, N., Peeters, F., Huibers, M., van Os, J., & Wichers, M. (2012). Efficacy of mindfulness-based cognitive therapy in relation to prior history of depression: randomised controlled trial. *The British Journal of Psychiatry, 201*, 320–325.
- Green, S. M., & Bieling, P. J. (2012). Expanding the scope of mindfulness-based cognitive therapy: evidence for effectiveness in a heterogeneous psychiatric sample. *Cognitive and Behavioral Practice, 19*, 174-180.
- Hayes, S. C. (1993). Analytic goals and the varieties of scientific contextualism. In S. C. Hayes, L. J. Hayes, H. W. Reese, & T. R. Sarbin (Eds.), *Varieties of scientific contextualism* (pp. 11-27). Reno, NV: Context Press.

- Hayes, S. C. (2004). Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies. *Behavior Therapy, 35*, 639-665.
- 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.
- Hayes, S. C., & Brownstein, A. J. (1986). Mentalism, behavior-behavior relations, and a behavior analytic view of the purposes of science. *The Behavior Analyst, 9*, 175-190.
- Hayes, S. C., Follette, V. M., & Linehan, M. M. (Eds.). (2004). *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition*. New York: Guilford.
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44*, 1-25.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change*. New York: Guilford.
- Hayes, S. C., Villatte, M., Levin, M., & Hildebrandt, M. (2011). Open, aware, and active: Contextual approaches as an emerging trend in the behavioral and cognitive therapies. *Annual Review of Clinical Psychology, 7*, 141-168.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*, 169-183.
- Hollon, S. D., & Beck, A. T. (1979). Cognitive therapy of depression. In P. C. Kendall & S. D. Hollon (Eds.), *Cognitive-behavioral interventions: Theory, research, and procedures* (pp. 153-203). New York: Academic Press.

- Hollon, S. D., DeRubeis, R. J., Shelton, R. C., Amsterdam, J. D., Salomon, R. M., O'Reardon, J. P., . . . Gallop, R. (2005). Prevention of relapse following cognitive therapy vs. medications in moderate to severe depression. *Archives of General Psychiatry*, *62*, 417-422.
- Ingram, R. E., & Hollon, S. D. (1986). Cognitive therapy for depression from an information processing perspective. In R. E. Ingram (Ed.), *Information processing approaches to clinical psychology* (pp. 261-284). Orlando, FL: Academic Press.
- Jacobson, N. S., & Christensen, A. (1998). *Acceptance and change in couple therapy: A therapist's guide to transforming relationships*. New York: Norton.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. New York: Delacorte.
- Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine*, *8*, 163-190.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., Pbert, L., . . . Santorelli, S. F. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *The American Journal of Psychiatry*, *149*, 936-943.
- Keune, P. M., Bostanov, V., Hautzinger, M., & Kotchoubey, B. (2013). Approaching dysphoric mood: State-effects of mindfulness training on frontal brain asymmetry. *Biological Psychology*, *93*, 105-113.
- Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R. S. Byford, S., . . . Dalgleish, T. (2010). How does mindfulness-based cognitive therapy work? *Behavior Research and Therapy*, *48*, 1105-1112.

- Lappalainen, P., Kaipainen, K., Lappalainen, R., Hoffren, H., Myllymaki, T., Kinnuuen, M-L, . . . Korhonen, I. (2013). Feasibility of a personal health technology-based psychological intervention for men with stress and mood problems: Randomized controlled pilot trial. *Journal of Medical Internet Research*, 2(1),e1.
- Lau, M. A., Bishop, S. R., Segal, Z.V., Buis, T., Anderson, N. D., Carlson, L., . . . Devins, G. (2006). The Toronto Mindfulness Scale: Development and validation. *Journal of Clinical Psychology*, 62, 1445-1467.
- Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford.
- MacKinnon, D. P. (2003, November). *Mediator and moderator methods*. Presented at the meeting of the Association for the Advancement of Behavior Therapy, Boston, MA.
- Michalak, J., Heidenreich, T., Meibert, P., & Schulte, D. (2008). Mindfulness predicts relapse/recurrence in major depressive disorder after mindfulness-based cognitive therapy. *Journal of Nervous and Mental Disease*, 196, 630-633.
- Miller, J. J., Fletcher, K., & Kabat-Zinn, J. (1995). Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders. *General Hospital Psychiatry*, 17, 192-200.
- Pepper, S. C. (1942). *World hypotheses: A study in evidence*. Berkeley, CA: University of California Press.
- Petersen, C. L., & Zettle, R. D. (2009). Treating inpatients with comorbid depression and alcohol use disorders: A comparison of acceptance and commitment therapy versus treatment as usual. *The Psychological Record*, 59, 521-536.

- Piet, J., Würtzen, H., & Zachariae, R. (2012). The effect of mindfulness-based therapy on symptoms of anxiety and depression in adult cancer patients and survivors: A systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology, 80*, 1007-1020.
- Powers, M. B., Zum Vorde Sive Vording, M. B., & Emmelkamp, P. M. G. (2009). Acceptance and commitment therapy: A meta-analytic review. *Psychotherapy and Psychosomatics, 78*, 73-80.
- Raes, F., & Williams, J. M. G. (2010). The relationship between mindfulness and uncontrollability of ruminative thinking. *Mindfulness, 1*, 199-203.
- Ruiz, F. J. (2012). Acceptance and commitment therapy versus traditional cognitive behavioral therapy: A systematic review and meta-analysis of current empirical evidence. *International Journal of Psychology and Psychological Therapy, 12*, 333-357.
- Scher, C. D., Ingram, R. E., & Segal, Z. V. (2005). Cognitive reactivity and vulnerability: Empirical evaluation of construct activation and cognitive diatheses in unipolar depression. *Clinical Psychology Review, 25*, 487-510
- Segal, Z. V., Kennedy, S., Gemar, M., Hood, K., Pedersen, R., & Buis, T. (2006). Cognitive reactivity to sad mood and provocation and the prediction of depressive relapse. *Archives of General Psychiatry, 63*, 749-755.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford.
- Simons, A., Murphy, G., Levine, J., & Wetzel, R. (1986). Cognitive therapy and pharmacotherapy for depression: Sustained improvement over one year. *Archives of General Psychiatry, 43*, 43-50.

- Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V., Soulsby, J., & Lau, M. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology, 68*, 615-623.
- van Rijsbergen, G. D., Bockting, C. L. H., Burger, H., Spinhoven, P., Koeter, M. W. J., Ruhé, H. G., . . . Schene, A. H. (2013). Mood reactivity rather than cognitive reactivity is predictive of depressive relapse: A randomized study with 5.5-year follow-up. *Journal of Consulting and Clinical Psychology, 81*, 508-517.
- Vilardaga, R., Hayes, S. C., Levin, M. E., & Muto, T. (2009). Creating a strategy for progress: A contextual behavioral science approach. *The Behavior Analyst, 32*, 105-133.
- Wegner, D. M. (1994). *White bears and other unwanted thoughts: Suppression, obsession, and the psychology of mental control*. New York: Guilford.
- Wells, A. (2000). *Emotional disorders and metacognition: Innovative cognitive therapy*. Chichester, UK: Wiley.
- Wenzlaff, R. M., Wegner, D. M., & Roper, D. W. (1988). Depression and mental control: The resurgence of unwanted thoughts. *Journal of Personality and Social Psychology, 55*, 882-892.
- Zettle, R. D. (1990). Rule-governed behavior: A radical behavioral answer to the cognitive challenge. *The Psychological Record, 40*, 41-49.
- Zettle, R. D. (2005). The evolution of a contextual approach to therapy: From comprehensive distancing to ACT. *International Journal of Behavioral Consultation and Therapy, 1*, 77-89.

- Zettle, R. D. (2007). *ACT for depression: A clinician's guide to using acceptance and commitment therapy in treating depression*. Oakland, CA: New Harbinger.
- Zettle, R. D., & Hayes, S. C. (1982). Rule-governed behavior: A potential theoretical framework for cognitive-behavioral therapy. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 1, pp. 73-118). New York: Academic Press.
- Zettle, R. D., & Hayes, S. C. (1986). Dysfunctional control by client verbal behavior: The context of reason-giving. *The Analysis of Verbal Behavior*, 4, 30-38.
- Zettle, R. D., & Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology*, 45, 438-445.
- Zettle, R. D., Rains, J. C., & Hayes, S. C. (2011). Process of change in acceptance and commitment therapy and cognitive therapy for depression: A mediation reanalysis of Zettle and Rains. *Behavior Modification*, 35, 265-283.