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The Empirical Status of the "New Wave" of CBT

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Synopsis

This paper reviews the current state of empirical research on the purported "new wave" of CBT. A particular emphasis is given to mindfulness-based treatments and Acceptance and Commitment Therapy (ACT). Mindfulness-based approaches and ACT are evaluated with regard to their efficacy and comparison to traditional CBT. Deviations from CBT are explained within the context of theory, specifically in terms of the role of cognitions. However, these differences are not irreconcilable in requiring a separate classification of "new wave" treatments. While subtle and important differences on the theoretical and procedural level might exist, available data do not favor one treatment over another, and do not suggest differential mechanisms of action that warrants a dramatic separation from the CBT family of approaches. Instead, the "new wave" treatments are consistent with the CBT approach, which refers to a family of interventions rather than a single treatment. Thus, the term "new wave" is potentially misleading because it is not an accurate reflection of the contemporary literature.

Keywords

New Wave; Third Wave; Mindfulness; CBT; ACT; Efficacy

In recent years, the terms "new wave", "third wave", "next generation", and "third generation" of behavior and cognitive behavioral therapy (CBT) have appeared with increasing frequency in the literature [e.g., 1–3]. Proponents of the "new wave" argue that this "third generation" of behavior therapies adopt a more contextualistic approach than traditional behavior therapy and CBT. Steven Hayes, one of the leading advocates of this perspective, argued that the advent of the "new wave" represents a dramatic change within the field of behavior therapy. For example, he wrote: "This is a time of upheaval in behavioral and cognitive therapy, particularly due to the rapid rise of acceptance and mindfulness-based interventions" [1]. Unlike traditional CBT, Hayes argues, the "third wave" behavioral therapies focus on changing the function of psychological events that people experience, rather than on changing or modifying the events

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themselves. This change in functionality is achieved through a variety of approaches including acceptance, cognitive defusion, and mindfulness [1]. Hayes considers a number of interventions to fall under the category of "new wave" treatments, including acceptance and commitment therapy (ACT) [1], dialectical behavior therapy (DBT) [4], mindfulness-based cognitive therapy (MBCT) [5], and metacognitive therapy (MCT) [6].

As discussed elsewhere [7], we differ from Hayes' perspective. We have argued that, despite sharing common therapeutic strategies, not all of these interventions can be considered "new wave" as defined by Hayes. Indeed, the researchers responsible for developing DBT and MCT posit that their treatments are not part of the "third wave" movement, but rather are firmly grounded in the traditional CBT approach. Adrian Wells (personal communication, August 23, 2007) considers his intervention, MCT, to be a direct extension of CBT because it specifically targets metacognitive content and other cognitive processes. Likewise, Marsha Linehan (personal communication, August 28, 2007) considers DBT to be an extension of CBT that integrates acceptance strategies.

Given the stance of these researchers, our discussion of the "new wave" of CBT will focus on ACT and mindfulness-based treatments. We include mindfulness-based interventions because of the similarities between the acceptance component of ACT and the non-judgmental awareness component of mindfulness practices. Limiting our discussion to these two forms of treatment is arbitrary and potentially misleading. We do not view CBT as a single treatment, but rather as a family of interventions based on the notion that modifying maladaptive cognitions can lead to a decrease in emotional distress and problematic behaviors. Therefore, because "new wave" treatments are fundamentally related to CBT and share a number of therapeutic principles, we do not see the need to adopt a separate classification for these interventions. In fact, we are in favor of abandoning the term "new wave" entirely (see [7–9] for a detailed discussion on this topic).

CBT: A Family of Approaches

Since the introduction of Beck's original CBT protocol for depression, CBT protocols have been developed to address a variety of emotional disorders. Although each of these protocols utilizes distinct therapeutic techniques, all CBT protocols share a number of important similarities [10,11]. Therefore, as noted above, CBT should be thought of as a family of interventions rather than as one single treatment.

Despite differences among specific CBT protocols, a major similarity across protocols is the assumption that maladaptive cognitions are causally linked to emotional distress, and therefore, by modifying cognitions emotional distress and maladaptive behaviors will decrease. Research has shown that modifying CBT therapeutic techniques and tailoring protocols to address specific types of psychopathology improves treatment efficacy for a variety of disorders including post-traumatic stress disorder [12], social anxiety disorder [13], generalized anxiety disorder [14], obsessive-compulsive disorder [15], panic disorder [16], and health anxiety [17].

Beck's content-specificity hypothesis states that each emotional disorder can be characterized by cognitive content specific to that disorder [18]. This is likely one of the main reasons why tailoring CBT techniques to different types of psychopathology has proven so effective. In the case of anxiety disorders, maladaptive cognitions are typically focused on the future possibility of danger or threat, and each disorder is characterized by specific cognitions about the uncontrollability of symptoms or situations. For example, the CBT model of panic disorder [19] assumes that patients with the disorder misinterpret the physical symptoms associated with anxiety as harmful. In contrast, social anxiety is characterized by self-focused cognitions and scrutiny coupled with a fear of embarrassment and humiliation [20], whereas generalized

anxiety disorder and obsessive-compulsive disorder are characterized by excessive obsessions [21] or worry about future undesirable events or the consequences of worry itself [6].

Modifying maladaptive cognitions is of paramount importance in treating emotional disorders, however, in recent years the validity of the cognitive behavioral model has been questioned. For example, a recent component analysis showed no significant difference between interventions that employed formal cognitive restructuring techniques and those that employed behavioral techniques alone (i.e., without directly challenging maladaptive cognitions) [22]. The authors concluded from these findings that changes in cognitions do not mediate changes in symptom severity. This conclusion, however, fails to acknowledge that a component analysis is insufficient to make such a determination [8]. As described by one of us [23], cognitive change can occur through means other than explicitly challenging maladaptive cognitions; cognitions can mediate treatment change even when cognitions are not explicitly addressed in treatment. Conducting cognitive mediation analyses is the more appropriate method to study the mechanism of treatment change. Numerous studies to date have provided support for this model in a variety of psychiatric disorders including panic disorder [24], social anxiety disorder [25,26], obsessive-compulsive disorder [27], depression [28,29], and pain [30]. Although these studies strongly suggest that changes in cognitions mediate treatment change, future studies that employ strict statistical tests are needed to conclusively demonstrate mediation.

Mindfulness-Based Treatments

Overview

Mindfulness-based treatments emphasize achieving a mental state characterized by present-moment focus and non-judgmental awareness [31–34]. A major aim of such interventions is to improve emotional well-being by increasing awareness of how automatic behavioral and cognitive reactions to thoughts, sensations, and emotions can cause emotional distress. Patients are encouraged to gently acknowledge and accept their thoughts, sensations, feelings, and surroundings with an open and curious mindset. Mindfulness has been defined as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” [32] (p. 145). By focusing on the present, rather than ruminating on the past or worrying about the future, patients can more effectively deal with life stressors that frequently lead to feelings of anxiety and depression [32].

Mindfulness-based interventions are believed to counter experiential avoidance strategies that maintain and exacerbate emotional disorders, in part by teaching patients to respond reflectively rather than reflexively to stressful situations and negative emotions [31]. Mindful meditation also decreases physical symptoms of distress by balancing sympathetic and parasympathetic responses through meditation exercises such as slow and deep breathing [32]. In the case of Mindfulness-Based Stress Reduction (MBSR) [35], alleviation of physical distress is achieved through techniques such as sitting meditation, Hatha Yoga, and body scan [32].

Efficacy

In recent years, a number of reviews have examined the efficacy of mindfulness-based interventions [36–39], especially for physical and psychosomatic problems in chronic diseases, such as chronic pain and fibromyalgia [37], and as a stress reduction method for cancer patients [38]. Two additional reviews examined the effect of mindfulness-based interventions on the reduction of symptoms of anxiety and depressive and arrived at disparate conclusions [36, 39].

To clarify whether mindfulness-based interventions are effective in alleviating symptoms of anxiety and depression, we conducted a quantitative meta-analysis of studies examining mindfulness-based interventions in psychiatric and medical populations [40]. A total of 39 studies (n = 1,140) were included in the meta-analysis, and effect size estimates suggested that mindfulness-based interventions were moderately effective at reducing symptoms of anxiety (Hedges's g = 0.63, 95% CI: 0.53 – 0.73) and depression (Hedges's g = 0.59, 95% CI: 0.51 – 0.66) in clinical samples. These effect sizes are significantly greater than the effect sizes of psychological placebo conditions in anxiety disorder trials (Hedges's g = 0.45, 95% CI: 0.35 – 0.46) as determined in a previous meta-analytic review [41]. Mindfulness-based interventions proved most effective for reducing anxiety symptoms among patients with anxiety disorders (Hedges's g = 0.97) and for reducing depressive symptoms among patients with mood disorders (Hedges's g = 0.5). In order to determine whether baseline symptom severity influenced our results, pre-treatment mean scores on measures of anxiety and depression were compared to clinical threshold cutoffs. Our results showed that studies including patients with elevated levels of anxiety at pre-treatment showed a comparable effect size (Hedges's g = 0.67, 95% CI: 0.47 – 0.87) to those studies including patients without elevated levels at pre-treatment (Hedges's g = 0.53, 95% CI: 0.42 – 0.64). These results suggest that mindfulness-based interventions are effective at reducing symptoms of anxiety and depression across a wide range of severity levels and patient populations.

Comparison to Traditional CBT

Mindfulness-Based Cognitive Therapy (MBCT) is a direct extension of traditional CBT. It was initially developed to prevent relapse among patients recovered from depression [5]. The premise behind using MBCT as a relapse prevention strategy is that by focusing more on the present moment patients with a history of depression are less likely to fall into the ruminative patterns of negative and hopeless thinking that characterized previous episodes of major depressive disorder. It is assumed that the main reason for relapse is that patients associate negative mood states with self-deprecating and hopeless cognitions. Therefore, patients react to dysphoria by reverting back to maladaptive thinking patterns, which in turn maintain and intensify their dysphoric mood state and subsequently increase the risk of future major depressive episodes [42]. By employing both mindfulness and cognitive techniques, MBCT encourages patients to increase their awareness of and break free from this self-perpetuating cycle. In addition to continued use as a relapse prevention strategy, mindfulness-based interventions have also been applied as an acute treatment for a variety of psychiatric disorders including generalized anxiety disorder [43,44], panic disorder [45–47], social anxiety disorder [48,49], and depression [50–53] (for a review, see [36,40,54,55).

Another therapy that extends from the CBT framework while integrating mindfulness-based techniques is DBT, a form of therapy that is typically used to treat borderline personality disorder [56]. The basis of DBT is the dialectical worldview, which refers to a perspective that reconciles both acceptance and change as an integral aspect of improving one's ability to regulate his or her own affect. Patients learn to change their behaviors to emotional stimuli by accepting their suffering, with the ultimate goal of adapting the dialectical worldview. In order to achieve this specific goal, DBT offers numerous mindfulness exercises which are traditionally taught in a weekly skills group [4]. These exercises encourage the development of "what" skills, which allow the patient to observe, describe, and participate, and "how" skills, which allow the patient to do this non-judgmentally, one-mindfully, and effectively [4]. In addition to mindfulness exercises, DBT offers therapeutic procedures that directly target cognitions, behaviors or emotions [36], thereby unifying mindfulness-based strategies to help the patient achieve acceptance, and traditional CBT procedures to help the patient improve dysfunctional behavior.

Although mindfulness-based treatments and CBT interventions are closely related, subtle and important differences exist. In MBCT, for example, the focus is less about changing the content of thoughts, but rather about teaching patients to adopt a broader "decentered" perspective of their thoughts as "mental events" that do not necessarily reflect the self or reality [34]. The concept of "decentering" is closely related to "distancing" in traditional CBT. As Beck has previously described, distancing refers to the process of gaining an objectivity toward thoughts [57]. Specifically, distancing involves learning to distinguish between thoughts and reality, and that simply thinking something does not necessarily mean that it is true. It is also generally believed to be a necessary step before the patient can successfully consider alternative explanations for having a particular thought. Gaining a decentered perspective of one's thoughts, rather than necessarily changing the content of one's thoughts, seems to be at the core of mindfulness-based treatments. Acceptance and Commitment Therapy

Approach

ACT derives its theoretical basis from Relational Frame Theory (RFT) [58], which is a framework for understanding the relationship between cognition and language. RFT extends from a philosophical view called functional contextualism [59,60], which uses a behavioral analytic model to integrate cognition and language. Therefore, ACT is not an extension of the CBT model, but is rather a reformulation of Skinnerian radical behaviorism [61], as it rejects the tripartite model and its basic premise of the causative interplay between cognitions, behaviors, and emotions.

Although ACT and CBT differ fundamentally in terms of their theoretical underpinnings, they share many similarities with regard to technique. For example, the set of techniques used in ACT (known as acceptance, cognitive defusion, being present, self as context, values, and committed action) are intended to target experiential avoidance, which is the reluctance to experience negative emotions, physical sensations, and thoughts [61]. These techniques are believed to work by increasing one's psychological flexibility, which refers to the ability to adopt an awareness of the present moment while concurrently adapting this awareness in light of meeting valued goals [1].

One major aspect of the ACT approach is the notion of acceptance. By encouraging patients to embrace negative thoughts and feelings, such as anxiety, pain, and guilt, rather than attempting to change and eliminate them, patients begin to learn that acceptance can be an important alternative to experiential avoidance. In order to gain acceptance, individuals become skilled at practicing cognitive defusion, which as mentioned above, is a strategy used to target experiential avoidance by relinquishing one's control over his or her thoughts and feelings. Cognitive defusion also enables patients to develop a more non-judgmental and mindful perspective of themselves as well as their external environments. Such strategies ultimately serve to facilitate one's commitment to the pursuit of important life goals.

Efficacy

Two major meta-analyses have examined the efficacy of ACT [3,62]. The first meta-analysis [3] included 29 randomized controlled trials (RCTs) in various third wave treatments: 13 in ACT, 13 in DBT, one in *Cognitive Behavioral Analysis System of Psychotherapy*, and two in *Integrative Behavioral Couple Therapy*. The results revealed a moderate effect size for the ACT trials ($d = 0.68$), with a fail-safe analysis indicating that 65 unpublished ACT studies would be required for results to reach an insignificant level. These findings, however, are tempered by additional results showing that the methodological rigor of the third-wave RCTs was significantly less stringent than the CBT studies, based on several sample, design, and therapist characteristics, such as representativeness of the sample, reliability of the diagnosis, therapist adherence and competence, and handling of attrition. This remained true even after

controlling for publication year and journal. Furthermore, the 13 ACT studies included in this review differed greatly with regard to the type of comparison group used—whether it was a control group (i.e., treatment as usual) or an active treatment (e.g., cognitive therapy). The studies also varied widely in the disorders that were treated, ranging from math anxiety and depression to epilepsy, diabetes, and psychosis. In addition, none of these therapies fulfilled the criteria for empirically supported treatments as defined by the APA Division 12 Task Force. The methodology of the meta-analysis was recently criticized [63] and rebutted [64].

Another meta-analysis [62] examined 18 RCTs (n = 917) of ACT for a range of mental and physical problems including anxiety, depression, psychosis, and smoking cessation. This analysis included 3 studies not included in the previous review [58]. Results indicated that ACT outperformed control conditions (Hedges's g = 0.42), but was not significantly more effective than established treatments (Hedges's g = 0.18, $p > 0.1$). Based on their analysis, Powers et al. cautioned the widespread application of ACT in routine clinical care before it is compared with empirically supported treatments for specific disorders.

Comparison to Traditional CBT

ACT and traditional CBT overlap to a large extent in shared techniques and strategies, particularly with respect to the use of behavioral interventions [7]. For example, both ACT and CBT utilize behavioral strategies, such as exposure exercises, problem solving skills, role playing, modelling, and homework, while setting clear and observable goals. In addition, both therapies encourage greater awareness of thoughts, feelings, and sensations without attempting to control or hold onto them. Finally, both approaches target specific concerns and fears, as well as broader improvements in overall quality of life. Consistent with this view, Hayes et al. observed that "ACT looks very much like traditional behavior therapy, and almost any behaviorally coherent behavior change method can be fitted into an ACT protocol, including exposure, skills acquisition, shaping methods, goal setting, and the like" [1, p. 9]. However, major theoretical differences exist between ACT and CBT regarding the role of cognitions. Specifically, ACT views cognitions as a form of behavior, which is "a term for all forms of psychological activity, both public and private, including cognition" [1, p. 2]. This results in a theoretical discrepancy between ACT and CBT, whereby the focus in ACT is to identify and alter the function of the cognition, rather than both the content and function as in CBT. As a result of this difference, ACT does not attempt to identify and refute maladaptive cognitions with the goal to change the emotional response associated with them. Instead, patients are taught in ACT to accept undesirable emotions in the same way that they accept any negative thoughts, whether these thoughts are adaptive or maladaptive. Therefore, ACT and CBT depart in their views of the appropriate types of emotion regulation strategies to foster. As we described elsewhere [7], some of these discrepancies can be conceptualized as differences in the emotion regulation strategies the two treatments primarily focus on and promote. More specifically, some models of emotions distinguish between antecedent-focused and response-focused emotion regulation strategies, based on the differential processing of internal and external emotional cues [65–68]. Whereas antecedent-focused strategies attempt to regulate emotions prior to the processing of emotional cues, response-focused strategies attempt to do so after emotional responses have already been activated and processed. This emphasizes the main difference between CBT and ACT in their respective approaches to developing beneficial emotion regulation strategies, as CBT tends to promote strong antecedent-focused emotion regulation skills and ACT primarily targets maladaptive response-focused strategies.

Conclusion and Future Research Directions

CBT is a family of interventions that attempts to modify maladaptive cognitions in order to improve a patient's emotion regulation, goal setting, and ability to make more adaptive

appraisals of social situations. These goals are achieved through the use of techniques that help the patient foster behavioral, experiential, and cognitive skills.

The basic premise of CBT is that cognitions play an important role in the maintenance of an emotional disorder, primarily through its causal influence on one's emotions and behaviors. In this way, the target of change in CBT is often (but not exclusively) the content of such cognitions. In contrast, mindfulness-based treatments and ACT focus on the function of thoughts and promote emotion regulation strategies that counter experiential avoidance.

Despite fundamental differences on the theoretical level concerning the definition and function of cognitions, treatment-specific techniques between mindfulness-based treatments, ACT, and CBT are not incompatible. However, before embracing these more novel strategies for routine clinical care, they will need to be subjected to empirical tests. Although it may be difficult to test entire treatment protocols against each other, it is certainly possible to isolate specific techniques under controlled laboratory environments and examine differences from a more technical perspective. As empirical data do not yet favor one treatment over another, further testing is needed. By testing the efficacy of a CBT treatment package that includes mindfulness-based and ACT-based techniques, evidence may become more available to help elucidate the necessary components to effect change. One particular avenue of research that warrants further exploration is whether different emotion regulation strategies have an additive beneficial effect and whether outcomes may be maximized by tailoring emotion regulation strategies on an individual or diagnostic basis. In order to answer the important questions about the mechanism of treatment changes, mediational analyses are essential because they cannot be replaced by efficacy studies or component analyses. We suggest that future research on mediation analyses should not be limited to treatment process research, but also include investigations to isolate and experimentally study adaptive and maladaptive emotion regulation strategies in a laboratory.

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