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Cognitive-Behavioral Therapy: Nature and Relation to Non-Cognitive Behavioral Therapy

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Since the introduction of Beck's cognitive theory of emotional disorders, and their treatment with psychotherapy, cognitive-behavioral approaches have become the most extensively researched psychological treatment for a wide variety of disorders. Despite this, the relative contribution of cognitive to behavioral approaches to treatment are poorly understood and the mechanistic role of cognitive change in therapy is widely debated. We critically review this literature, focusing on the mechanistic role of cognitive change across cognitive and behavioral therapies for depressive and anxiety disorders.

Keywords: cognitive-behavioral therapy; cognitive theory; psychotherapy processes; depression; anxiety

THE ORIGIN OF COGNITIVE-BEHAVIORAL THERAPIES (CBTs) as a family of interventions can be traced to the advent of behavioral treatments for psychopathology in the 1950s and, later, the so-called "cognitive revolution" of the 1950–1960s (Dobson, 2009). Consequently, CBTs blend techniques that are emphasized in behavioral therapies (BTs) and cognitive therapies (CTs). However, there remains skepticism regarding the relative contributions of CT strategies to BT strategies in promoting symptom change within the CBTs (Longmore & Worrell, 2007). Additionally, critics have asserted that changes in thinking are not mechanisms of change in CBTs (e.g., Kazdin, 2007), calling into question whether there is any kind of contribution of the "cognitive" in cognitive-behavioral therapy.

Despite debate regarding their active treatment components as well as working mechanisms, CBTs continue to be the most widely studied forms of therapy (Hofmann, Asmundson, & Beck, 2013). A uniquely appealing aspect of CBTs is that their theories of therapeutic change comport well with most modern conceptualizations of psychopathology. In this review, we attempt to reconcile skepticism regarding the relative contribution of CT strategies to BT, as well as the mechanisms that account for their efficacy. First, we provide a very brief historical overview of the origins of CBT and discuss the support for the cognitive vulnerability models to depression and anxiety disorders. We discuss methodological challenges in psychotherapy research that have impeded a more thorough understanding of the relative contributions of cognitive to behavioral techniques. We then focus most of our discussion on research on the cognitive mechanisms of change in CT, BT, and CBTs for depression and anxiety disorders.

We use the terms *cognitive therapy* (CT) and cognitive techniques to refer to behaviors therapists engage in that are targeted towards changing the content or process of thoughts, inferences, interpretations, cognitive biases, and cognitive schemas.[1]

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[1] The terms "cognitive therapy" (CT) and "cognitive-behavioral therapy" (CBT) are often used interchangeably. We believe this is somewhat unfortunate in that it might be informative to reserve the term CT to a set of interventions within the broader family of CBTs that are more "purely" cognitive in nature. However, throughout the article, when we refer to findings in studies of CT or CBT, we are adhering to the label the study authors use. Additionally, we use CBTs, in plural, to refer to the family of cognitive-behavioral therapies.

These interventions can include Socratic questioning, examining the evidence for and against beliefs, cognitive restructuring, and adopting alternative core beliefs. We use the terms *behavior therapy* (BT) and behavioral techniques to refer to behaviors therapists engage in that are targeted towards a change in observable behavior, including *in vivo* exposure, imaginal exposure, and activity scheduling. We use cognitive-behavioral therapies in the plural (CBTs) to refer to the family of interventions to which CT and BT belong, and in the singular, CBT, to refer to a treatment package that combines cognitive and behavioral techniques. By *cognitive change*, we refer to changes in the content of thoughts, inferences, interpretations, and cognitive biases. By *behavioral change*, we refer to changes in behavior, such as increasing the frequency of selected behaviors (e.g., approaching feared stimuli, engaging with pleasurable activities) or decreasing the frequency of other behaviors (e.g., safety behaviors). We include in our paper a discussion of issues related to the conceptualization and measurement of cognitive vs. behavioral interventions as well as cognitive vs. behavioral mechanisms of change and conclude with a summary and with recommendations for future research.

Cognitive Therapy: Nature and Relation to Behavioral Therapy

Behavioral therapies emerged in the 1950s–1960s (O'Donohue & Noll, 1995). The behavioral models emphasized maladaptive learning and self-sustaining behaviors as key to the maintenance of psychopathology. This made behavioral change the obvious target of treatment, an approach that was in stark contrast to the previously dominant psychoanalytic models. Under psychoanalysis, pathological behavior was seen to reflect dysfunction in underlying psychic structures. Behavioral change was thus seen as surface-level "symptom reduction" that did not address underlying problems. BTs proved very effective, particularly in the treatment of phobias and more circumscribed states of anxiety. Principles of associative learning were used to account for the efficacy of these interventions. To the behaviorists, learning had a specific meaning: an overt change in behavior (e.g., approaching a previously avoided stimulus) in the absence of symptoms (e.g., without displaying the fear reaction). This definition avoided "mentalistic" terms. Although early behavioral models featured theoretical accounts focused on associative learning, nonassociative learning, including habituation, was also seen as important. Newer behavioral models also focus on inhibitory learning (Craske et al., 2008).

CT emerged in the context of the so-called cognitive revolution (Beck, 1991; O'Donohue, Ferguson, & Naugle, 2003) from the writings of Ellis (1962), who described a form of therapy known as rational-emotive therapy, and Beck (1963). The cognitive models of Ellis and Beck focused on inferential errors leading to maladaptive views of one's self, world, and the future. According to Beck, cognitive biases and maladaptive cognitive content are the product of the activation of cognitive schemas that typically develop early in life. Unlike BTs, which were initially successful in specific phobias and circumscribed anxieties, CTs were focused on depressotypic presentations and more generalized anxiety. Early in his writing, Beck recognized that his cognitive theory of psychopathology, which gave a central role to cognition in the etiology of disorder, contrasted with behavioral theories of psychopathology. In his highly cited article, "Cognitive Therapy: Nature and Relation to Behavioral Therapy," Beck (1970) described important differences between the *theories* that underlie BT and CT while recognizing areas of overlap in the performance of the *therapies*. Similarities include that both therapies deal with issues in the present, are symptom-focused, and require active therapist contribution.

Beck (1970) recognized differences between behavioral and cognitive approaches. He applied the principles of his then nascent cognitive theory to account for the mechanisms of action of systematic desensitization, a BT. He concluded that the cognitive model "provides a greater range of concepts for explaining psychopathology as well as the mode of action of therapy." That is, Beck made a distinction between the nature of the therapeutic interventions (i.e., cognitive vs. behavioral) and their working mechanisms in providing a cognitive account of the effects of a behavioral intervention. Beck's paper would become one of the early reflections on the relative contributions of cognitive to behavioral strategies and the relevant mechanisms of change. Although Beck has provided two updates to his cognitive model (Beck, 1996; Beck & Haigh, 2014), its basic tenets remain largely intact: that the distinction between different forms of psychopathology can be traced to differences in the locus of the cognitive pathology and that cognitive change, regardless of how this change is achieved, is integral to symptom change.

Cognitive Vulnerability to Depression and Anxiety

Basic research supports the notion that cognitive vulnerabilities confer risk to the onset and maintenance of psychopathology (see Mathews & MacLeod, 2005). Attentional biases to threatening