

# What Is Second Wave Behavior Therapy?



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Cognitive therapy (CT) and cognitive behavioral therapy (CBT) are the treatments that make up what has been called the second wave of behavior therapy. These interventions are among the most well-supported and widely practiced psychosocial interventions available today (Hollon & Beck, 2013). The major distinction between these forms of therapy and first-wave behavioral approaches is their emphasis on cognitive processes, particularly the content of conscious cognitions. The distinction between CT and CBT is one of emphasis, with CT more strongly emphasizing a conceptualization that focuses on the importance of cognition in the etiology and maintenance of psychological disorders and identifying cognitive change as a primary therapeutic target. However, both CT and CBT include cognitive and behavioral strategies. Perhaps because the distinction was not ultimately believed to be important enough to justify the difference in names, in recent years organizations and researchers with expertise in CT have been using the term CBT to refer to both CT and CBT (Beck Institute, 2021). In this chapter, we provide an overview of CBT, highlighting its historical development and theoretical basis as well as the specific therapeutic procedures used in these therapies. We also briefly comment on the empirical status of these treatments and their larger impact on mental health problems.

## Essentials of CBT

What makes a treatment CBT? CBT involves the use of therapeutic interventions intended to elicit cognitive and behavioral changes that in turn reduce psychopathology. In more cognitively oriented variations of CBT there is a greater emphasis

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on the meaning of conscious thoughts and their contribution to mental health problems. A central idea in CBT is that how people interpret a situation (and its implications) determines their emotional responses and any efforts they make to cope with that situation (Hollon, 2021). Cognitively oriented forms of CBT often include an emphasis on testing the truth or accuracy of thoughts and beliefs. In these treatments, a substantial portion of the behavioral procedures take the form of efforts to test the clients' beliefs. More behaviorally oriented forms of CBT place a greater emphasis on behavioral learning theories and conceptualize change in terms of instrumental or classical conditioning. Thus, both more cognitively oriented and more behaviorally oriented variations of CBT use cognitive and behavioral interventions. The key difference is in the conceptualization of the mechanisms of change of these treatments.

## The Origins of CBT

Sigmund Freud's psychoanalysis was the dominant mode of treatment for psychological problems for a substantial portion of the twentieth century (Wolitzky, 2011). Both of the most widely recognized seminal figures in the origin of CBT, Dr. Albert Ellis and Dr. Aaron Beck, had psychoanalytic training. The development of their approaches can be understood partly as a reaction to psychoanalytic ideas.

Ellis (a clinical psychologist) founded rationale emotive behavior therapy (REBT), initially called Rational Psychotherapy, in 1950s (Ellis, 1995). In his first book on this therapy, Ellis (1962) described difficulties treating patients with classical psychoanalysis despite extensive training and experience in its clinical practice. He observed that many patients resisted or struggled to grasp psychoanalytic methods. Even among responders, Ellis found that treatment was often lengthy, taking many months to years, and inadequate in achieving symptom remission. As a result, he grew skeptical of psychoanalytic principles such as the reliance on insight and unconscious processes.

In the 1960s, Beck (a psychiatrist) introduced another form of CBT, which he called CT. Beck's early work included efforts to test Freud's anger turned inward model of depression (DeRubeis et al., 2019). Initially, he considered psychoanalysis to have promise and sought to validate the model through empirical research. He conducted studies aimed at testing the psychoanalytic theory of depression, which posited that depression was characterized by retroflected hostility. The idea of retroflected hostility was that symptoms of depression resulted from anger turned inward and those with depression would therefore be expected to exhibit self-punishing characteristics. Despite some efforts to validate this model, he found the evidence unsatisfying and ultimately grew dissatisfied with the approach. He focused instead on the content of the conscious thinking among those with depression.

Although Beck and Ellis were each trained in psychoanalysis and were reacting to what they believed were problems with that approach, there were a number of other important influences on their work. Ellis was influenced by Karen Horney,

who had described the “tyranny of the should,” an idea closely related to Ellis’ own ideas about rigidly held, dogmatic beliefs including “musts” and “shoulds” (Dryden et al., 2019). Alfred Adler (1958) appears to have had an important influence on both Ellis and Beck. Adler suggested that a person’s behavior is influenced by their ideas (i.e., their own conscious experiences). His ideas of self-perceived inferiority to others have similarities to the negative self-views that both Beck and Ellis discussed (in somewhat different ways). He even introduced a cognitive-persuasive form of therapy.

Another important influence was George Kelly, who developed personal construct therapy (Kelly, 1955). Although quite non-directive compared to CBT, this therapy focused on working to identify the clients’ beliefs or personal constructs. Part of the approach included approaching the world based on assumptions not consistent with one’s usual beliefs (having some similarity to what today is often called a behavioral experiment).

Both Beck and Ellis also acknowledged important philosophical traditions that influenced them. There is a particularly strong connection to some of the ideas of the Stoic philosophers, who held that emotions arise from false judgements. Epictetus wrote in *The Enchiridion*: “Men are disturbed not by things but by the views which they take of them” (Epictetus & Higginson, 1955). Both Ellis and Beck made the re-evaluation of one’s views a central task in their respective therapies. Although both pursued very similar goals using similar methods, Ellis emphasized reasoning in bringing about cognitive change, whereas Beck tended to place more emphasis on empirical evidence (Hollon, 2021). Ellis (1962) suggested that a goal of REBT therapists is to ensure patients leave therapy with a rational “philosophy of life” and Beck suggested that a goal of CT is to help clients to be their own therapists.

## Overcoming the Limits of First Wave Behavior Therapy

While Beck and Ellis framed their therapeutic approaches as reactions to psychoanalysis, they were also well aware of the work of behaviorists, who advocated for focusing on publicly observable behaviors and avoiding what they regarded as unscientific explanations that appealed to cognitive processes. Nonetheless, Beck et al. (1979) acknowledged a substantial contribution of behavior therapy to the development of cognitive therapy partly reflected by their shared emphasis on goal setting and achievement. Dozois et al. (2019) noted that the emergence of behavioral therapy bolstered acceptance of REBT, which was originally scrutinized for deviating so strongly from traditional (i.e., psychoanalytic) psychotherapy, but shared commonalities with the behavioral approach.

Part of the motivation to develop CBT appears to have come from an assessment of the limitations of a strict behavioral approach. Learning theory, with its focus on observable behaviors, was seen as too simplistic to account for all human behavior. Particularly, the strict behaviorism first articulated by John B. Watson (1914) was criticized for ignoring *internal* processes (Eysenck, 1970). Behavioral therapists

generally focused on addressing observable behaviors, such as exaggerated fear responses, but not all psychological problems manifest externally. Those problems not expressed as overt behaviors, such as uncontrollable worry, were arguably being inadequately treated by behavioral therapies (Dozois et al., 2019). Critics argued that behavioral therapy was limited in the scope of the problems it could adequately address and required an extension to capture the full scope of psychological problems.

Watson (1914) and Skinner (1957) argued for a non-mediational approach to human behavior (i.e., making no inferences about internal experiences). Over time, such an approach was increasingly seen as inadequate (Mahoney, 1974). For example, Breger and McGaugh (1965) asserted that behaviorists were having to rely on the mediating role of cognition to explain behavior, as the stimulus-response relationship was simply inadequate. Moreover, the evidence for behavior therapy was often seen as less than compelling. Much of the early evidence consisted of uncontrolled studies not conducted with clinical populations. Ferster (1973) had proposed a model of depression as characterized by reductions in the frequency of positively reinforced activities, which highlighted the ways in which avoidance might serve to perpetuate depression. Nonetheless, clinical trials testing such approaches would not be conducted until many years later, after Neil Jacobson et al.'s (1996) study investigating the components of Beck's CT renewed enthusiasm for purely behavioral approaches.

The 1950s was also the time of the cognitive revolution, which involved psychology as well as several other disciplines redefining themselves in such a way that the study of cognition was seen as more scientifically respectable and important (Miller, 2003). Researchers began to work to understand thinking processes in a new way, with a focus on what was called information processing psychology or cognitive science. These changes led to a greater interest in integrating cognitive and behavioral interventions in psychotherapy (Mahoney, 1977). Treatment developers varied in the degree of emphasis they placed on each, but interventions that offered some integration of cognitive and behavioral approaches became influential. A number of cognitive behavioral treatment developers were more directly influenced by behavioral therapy, as they were originally trained in behavior modification procedures. They included: Donald Meichenbaum, Marvin Goldfried, and Michael Mahoney (Dozois et al., 2019).

One important way that interventions differed was in their approach to cognition. Meichenbaum (1972) developed cognitive-behavioral modification, a form of CBT in which thoughts are treated more as behaviors. In contrast, REBT called for the therapists to focus on the meaning of thoughts and make inferences about patients' thinking errors, staying a "step ahead" of the patient. Beck's CT called for an evaluation of the meaning of thoughts but approached these meaning systems as highly individualized and therefore requiring careful examination with the patient. Clients were regarded as the experts on their experiences, including their thoughts and their meaning.

## REBT and CT

### *Albert Ellis' Rational Emotive Behavior Therapy*

Albert Ellis introduced what came to be called rational emotive behavior therapy (REBT). He was the first to articulate a cognitive behavioral treatment approach that is still practiced today. In the 1950s, he began teaching his approach to others and founded the Institute for Rational Living in New York City. In the 1960s, he began what became a long running weekly public demonstration of his treatment. He outlined the theory and application of his treatment in his first major book, *Reason and Emotion in Psychotherapy* (1962). By rational, Ellis meant that which is true, logical, or aids people in achieving their goals. REBT takes the view that people are rational in satisfying some short-term goals, but can better achieve their basic goals when they adopt a philosophy of “long-range hedonism”. REBT is based on Ellis’ view that emotional disturbances are caused by irrational belief systems. These beliefs are often dogmatic and absolutistic (e.g., using words such as must or should). The tendency for people to hold rigid evaluative beliefs is a major target of REBT. Ellis devised the highly influential “ABC” model, which posits that activating events (A) lead to beliefs (B) which cause emotional and behavioral consequences (C). This framework provides a very important basis for clinical interventions in REBT. Ellis also acknowledged more complex relationships, such as reciprocal effects of action and emotions on one’s beliefs. Finally, Ellis identified a list of cognitive distortions, which he posited are derived from rigid beliefs.

In practice, REBT relies heavily on the use of Socratic questioning as well as “disputes” between therapist and patient on the validity and usefulness of irrational beliefs (Ellis & MacLaren, 1998). Compared to others forms of CBT, REBT can involve the therapists using a more confrontational style. Cognitive (e.g., reframing, thought monitoring), behavioral (e.g., skill training, in vivo desensitization), and emotive (e.g., humor, role playing) techniques are all part of REBT (Ellis & MacLaren, 1998).

There have been a number of different forms of CBT developed (Hollon & Beck, 2013). REBT has the distinction of having the longest history of any of these treatments. REBT remains a well-respected form of therapy that is promoted by ongoing training efforts (The Albert Ellis Institute, 2021). Although there have been clinical trials evaluating REBT, Ellis appears to have been less successful in encouraging empirical evaluation of his approach than Beck was in encouraging research on CT (Hollon, 2021).

## *Aaron Beck's Cognitive Behavior Therapy*

Cognitive therapy (now also called CBT) was developed by Aaron Beck in the 1960s. Beck had observed in his early work with patients with depression that they often reported negative thoughts (Beck, 1967). He proposed that those with depression tended to have distorted information processing that led them to hold overly negative views of themselves, the world, and the future (the cognitive triad). Beck used the term “automatic thoughts” to describe the reasonably easily accessed conscious cognitions that patients can (or can be trained to) report. Beck suggested that even emotional experiences that seem mysterious or difficult to explain can be understood when one considers the thoughts one is having at the time. Although the specific thoughts and beliefs patients reported varied considerably, Beck’s model proposed that those with depression tend to report overly negative, inaccurate views that served to perpetuate their depressive symptoms. Moreover, although much of his early work focused on depression, his conceptualization was quite transdiagnostic (Beck, 1979).

Beck and his colleagues worked to apply a similar cognitive approach to other conditions. Cognitive models have now been developed for all major forms of psychopathology, with cognitive models of these disorders specifying the nature of the inaccuracies in thoughts and beliefs that patients with these conditions tend to report (Hofman et al., 2012; Wenzel, 2021). This understanding has informed the selection of various intervention strategies intended to bring about cognitive changes that are posited to reduce the symptoms of various psychological disorders. As an initial step, patients are encouraged to identify their thoughts and see them as hypotheses or statements that may or may be true (called distancing; Beck & Dozois, 2011). Therapists and clients work together to evaluate the accuracy of these thoughts. As described more fully below, a thought record can be used to organize the process of carefully considering the accuracy of one’s thoughts and beliefs.

An overarching goal of Beck’s CT is to identify thoughts and beliefs, subject them to careful evaluation, and correct the biases or inaccuracies that are identified (Beck & Dozois, 2011). A primary way this is achieved is through cognitive techniques, such as Socratic questioning to facilitate skepticism about one’s own negative views and an openness to considering alternatives. A key tool in CT is the thought record, which helps patients identify negative cognitions and systematically evaluate their accuracy. Beck’s treatment has always incorporated behavioral techniques as well. Given the emphasis on cognition in his treatment, behavioral interventions are often conceptualized as a method of producing cognitive change, with this conceptualization informing the use of these strategies as much as possible (Beck et al., 1979). For example, in the treatment of depression, therapists are to look for opportunities to use behavioral strategies as a method for testing patients’ negative views rather than simply encouraging activities to promote positive moods.

Drawing the idea of schemas (i.e., basic cognitive structures that organize information about our environment) from cognitive psychology, Beck proposed that these schemas also play a key role in the emotional disorders. When combined with

congruent life stressors, such as negative thinking patterns (schemas) are thought to contribute to the development of emotional disorders (Beck, 1979, 2008). Negative thoughts and beliefs are maintained through faulty information processing, such as the overgeneralization of negative information and the minimization of positive information that might otherwise disconfirm one's belief (Beck et al., 1979). Therapists also help patients identify underlying assumptions or beliefs associated with their experience of negative emotions. By recognizing and working to modify these negative views, therapists can work to help clients achieve even greater, presumably deeper forms of cognitive change.

Beck's work has had a truly transformative impact on the treatment of psychological disorders (Hollon, 2021). Following the introduction of CT, Beck worked with Augustus John Rush to conduct the first clinical trial testing CT versus antidepressant medication (Rush et al., 1977). As Beck moved on to other clinical problems, researchers including Steve Hollon (Hollon et al., 2020) and Rob DeRubeis (DeRubeis et al., 2020) further evaluated CT for depression. Even today, Beck's CT of depression remains among the most effective treatments available and is the most thoroughly studied of all psychosocial treatments for depression (Cuijpers et al., 2013). Through a series of extended visits in the late 1970s (Hollon, 2021), Beck also had a strong influence on psychologists at Oxford University, including John Teasdale (Teasdale et al., 2001), David Clark (1986, 2001), and Paul Salkovskis (1985). These researchers went on to develop cognitive models and treatments for panic disorder, health anxiety, social anxiety, obsessive-compulsive disorder, and posttraumatic stress disorder (the last of these with Anke Ehlers; Ehlers & Clark, 2000). Chris Fairburn (Fairburn et al., 1993) developed a form of CBT for eating disorders that was strongly influenced by Beck's work. In recent years, Beck has conducted impressive work on the treatment of patients at high risk of suicide (Brown et al., 2005) and those with schizophrenia (Grant et al., 2012). Forms of CBT that Beck developed or helped to inspire feature prominently on lists of empirically supported psychosocial treatments (APA Division 12, 2021). Organizations around the world are increasingly taking steps to make these treatments more readily available (Layard & Clark, 2014).

### *The Relationship Between Second and Third Wave Therapies*

As discussed earlier, CBT or second wave treatments can be understood more fully by appreciating the historical influences on its developers. CBT itself had a central influence on third wave therapies. Unlike second wave CBT, third wave treatments generally do not try to bring about therapeutic change by eliciting changes in the content of one's thinking. Although second and third wave treatments share a willingness to engage with conscious cognition, their interventions approaches differ considerably. Third wave treatments place a strong emphasis on function over form (Hayes et al., 2006). Rather than re-evaluating the validity of one's thoughts, they promote distancing from one's negative views without re-evaluation. An ACT

patient might be taught to use cognitive defusion to recognize a thought as just a thought, recognizing that it has no inherent meaning. The theory underlying ACT is called relational frame theory (Hayes et al., 2001). According to this theory, the goal of ACT is to promote psychological flexibility to allow patients live a valued life in spite of their symptoms.

Rather than relying on change strategies exclusively, third wave treatments tend to emphasize acceptance of one's experience for what it is. As such, mindfulness is also an important goal of many third wave treatments. Kabat-Zinn (1990) defined mindfulness as "paying attention in a particular way: on purpose, in the present moment, nonjudgmentally" (p. 4). Mindfulness based cognitive therapy (MBCT; Segal et al., 2018) is a third wave intervention that integrates cognitive strategies from CBT with mindfulness training experiences. Dialectical behavior therapy (DBT), another third wave treatment, incorporates a wide range of acceptance and change strategies and has emerged as a first-line treatment for borderline personality disorder (Robins et al., 2010). There have been only a limited number of comparisons of second and third wave treatments. Basic questions about the differences between second and third wave treatments have been raised, including whether referring the term third wave is well-suited (Hofmann, 2008). There has been some controversy about the evidence supporting these treatments, with some suggesting that the quality of the research lags that of second wave treatments (Öst, 2008). There have been a limited number of adequately powered comparisons, but the available evidence does not suggest that third wave treatments are more effective than second wave treatments (Arch et al., 2012; Craske et al., 2014a, b; Forman et al., 2007, 2012; Herbert et al., 2018). Even if the evidence does not suggest third wave treatments are more effective and should supersede CBT, they have certainly highlighted a wider variety of therapeutic approaches. A more informed understanding of the utility of different strategies for different patients in different contexts may allow us to draw on this wider variety of intervention options to provide more personalized and therefore more effective intervention options (Cheavens et al., 2012; Cohen & DeRubeis, 2018; Hofmann & Hayes, 2019).

## CBT Strategies

Ellis and Beck were key figures in the development of CBT, but obviously a large number of researchers and clinicians have played important roles in its development and success. CBT includes a number of different treatments, those developed by Ellis and Beck as well as a number of other clinical innovators. With the considerable variability in conceptualization as well as in the specific interventions used in these treatments (Barlow, 2021), the overall description of these interventions we have provided may seem a bit abstract. To illustrate the kinds of strategies used in CBT, in this section we highlight some cognitive and behavioral strategies, drawing primarily from strategies in the Beckian tradition. We then discuss what it is that patients are thought to gain from the use of these strategies. Although various



possibilities have been explored, basic questions about what patients learn in CBT have yet to be answered fully.

Different forms of CBT all share a reliance on cognitive behavioral models of the clinical problems they treat. Prior to describing specific intervention strategies, it is important to consider other key features of the approaches commonly taken in CBT. Different forms of CBT can vary from one another considerably. Nevertheless, in all forms of CBT, therapists are to be attentive to providing basic therapeutic elements, such as warmth and empathy (Beck et al., 1979; Beck, 2020). CBT is to be practiced in a collaborative style, with therapist and client working together closely. The therapist is the expert on the treatment model; the client is the expert on his or her experience. To help clients foster new perspectives, therapists can make use of Socratic questioning to encourage clients to consider alternative views and try out new behaviors (Newman, 2013).

One important dimension on which CBT protocols differ is the extent to which the treatment is provided in a highly structured manner or in a much more individualized manner as informed by a case conceptualization (Kendall, 2021). More flexible versions of CBT appear to be more frequently practiced outside of research contexts (Gibbons et al., 2010). In using these more flexible approaches, therapists and patients work together to plan the focus of sessions and treatment is focused on the specific treatment goals they identify (Beck, 2020). Sessions can begin with a brief review of the client's current symptoms (aided by the use of appropriate measures) and a mood check (Beck, 2020). To allow for adequate discussion of key topics, an agenda is set collaboratively at the beginning of each session. The agenda provides a plan for how session time will be spent. To facilitate learning, sessions include a review of previous homework as well as the planning for new homework assignments (Beck, 2020). In such individualized approaches to CBT, conceptualization plays a more pivotal role in helping to select specific interventions (Kuyken et al., 2011). CBT therapists generally focus on the client's current problems, although therapists can attend to past events or the therapeutic relationship when indicated (Hollon & Beck, 2013).

**Behavioral Strategies** A variety of behavioral strategies are used in different forms of CBT. One of the most common behavioral strategies is self-monitoring (Barlow, 2021). Self-monitoring involves regularly recording one's activities and experiences, typically capturing experiences relevant to the goals of treatment. For example, in the treatment of depression, patients may be asked to record their activities each hour, along with a rating of their mood (DeRubeis et al., 2019). They may also be asked to note occasions when they feel a sense of accomplishment or pleasure. Data gathered from self-monitoring provide a rich source of information to inform the selection of behavioral interventions. For example, a review of self-monitoring data can bolster the case for leveraging certain activities to boost one's mood and engaging less in unnecessary activities that are not as helpful in this regard. Self-monitoring can also be used to help patients test beliefs they hold, such as that there are no activities that they would enjoy (Beck et al., 1979). Furthermore, the client and therapist can collaboratively schedule activities for the patient to

engage in to increase the patient's sense of pleasure and mastery or otherwise aid them in reaching their treatment goals (Beck et al., 1979).

CBT developers vary in the extent to which they view behavioral strategies as drivers of cognitive or behavioral change (Dozois et al., 2019; Hollon & Beck, 2013). In cognitively oriented treatments, it is not uncommon for patients to indicate that they know that their negative beliefs are inaccurate when they think about it carefully, but those beliefs still "feel true." Therapists can respond to this by working with clients to plan ways that they can gather experiential evidence to corroborate their new view (Beck et al., 1979; Beck, 2020). For example, patients might predict that others will reject them if they invite them to socialize. Rather than merely reviewing past evidence, clients might plan to take the risk of inviting others on a series of occasions and obtaining evidence that might serve to bolster their new view.

Exposure interventions are another important behavioral strategy (Abramowitz et al., 2019). There are different models of the learning that takes place during exposure, with some emphasizing basic learning mechanisms (i.e., exposure to inhibit old learning and form new associations) and others taking a more cognitive approach (i.e., exposure to test beliefs). As an example of the latter, Adrian Wells, David Clark, and their colleagues (Clark, 1999; Wells et al., 1995) found that those with social anxiety often engage in safety behaviors (i.e., behaviors used to prevent or minimize an undesirable outcome). For example, a patient may avoid eye contact to avoid unwanted social evaluation. With these behaviors in mind, Clark developed a safety behavior experiment, which involves patients engaging in an activity with and without safety behaviors and then reviewing the outcome of the experiment with the aid of a video recording allowing them to compare their predictions of what would occur with and without safety behaviors to what actually occurs. Remarkably, Clark found that the overwhelming majority of patients with social anxiety predict a more positive outcome will occur with safety behaviors, but after the experiment they conclude that the outcomes were actually more positive without these behaviors (Clark, 2001). Although the framework of belief testing appears to be quite useful in some contexts, Craske and colleagues (2014a, b) have provided some compelling illustrations of ways in which an inhibitory learning approach might better guide the use of exposure to maximize the learning achieved through these activities. Drawing from learning models emphasizing the importance of surprise (i.e., a difference between what is predicted and what occurs; Rescorla & Wagner, 1972), Craske et al. (2014a, b) describe a number of ways that exposure exercises might be informed by this understanding to increase their impact. For example, they propose continuing exposure until one's expectation of a negative outcome is very low rather than until their anxiety is reduced. They suggest that re-evaluation of one's view of the probability of an anticipated aversive outcome prior to exposure may have the undesirable effect of reducing the expectancy violation involved in exposure and therefore the learning that takes place. In addition, they suggest the use of occasional reinforced extinction (e.g., social rejection following some exposures for social anxiety). These experiences are thought to help the patient achieve learning that will be more resilient in the event of negative outcomes in the future. Their

work highlights the importance of developing an accurate account of the learning that takes place during exposure, even though there are also ways that different accounts (e.g., belief disconfirmation vs. expectancy violation) suggest similar intervention strategies.

**Cognitive Strategies** Cognitive strategies involve efforts to identify, evaluate, and respond to negative thoughts and beliefs (Strunk et al., 2017). In working with their clients, cognitive behavioral therapists start with explaining the role of cognitive factors in maintaining relevant clinical problems and illustrate the process of identifying and reevaluating one's thoughts. A common starting point is to identify a recent occasion when one experienced negative emotion (Beck, 2020). Clients are taught to identify their automatic thoughts by asking themselves, "What is going through my mind right now?" when they experience a negative shift in their mood. Perhaps a patient with depression reports feeling particularly sad when he checked his social media feed earlier in the day. He noticed that some of his friends have more followers than he does (situation) and has the thought, "I'm a loser" (automatic thought). He reports feeling sad (emotion) and decides not to go out as he had planned earlier (compensatory behavior).

The cognitive behavioral therapist would help the client to appreciate the connection between these experiences, particularly how his emotional experiences make sense in light of his thought that he is a loser. To help this patient consider the accuracy of his thought, the therapist may use Socratic questioning (Beck et al., 1979; Beck, 2020) to collaboratively consider the evidence for and against his thought. For example, the patient might be prompted to consider whether the number of followers one has on social media is a reasonable indicator of one's worth. He might consider how such information would influence his evaluation of a friend and whether he would take a more limited number of followers as a clear indication that his friend is a loser. The patient might be further prompted to try to identify any evidence that might be inconsistent with the idea that he is a loser. Together, the therapist and client might work to develop a specific list of evidence relevant to the clients' worth. The therapist might work with the client to develop a rational response that summarizes the alternative views they considered. Identifying such alternative views is intended to help undercut the clients' negative emotions and any maladaptive compensatory behaviors.

A key tool for helping patients to master these cognitive strategies is the thought record (Beck, 2020; Greenberger & Padesky, 2015). Although various versions of these records exist, the basic elements include three columns, one each for recording the "situation," "emotions," and "automatic thoughts." Following the first three columns, two additional columns are labeled "alternative responses" and "Outcomes." Then, through cognitive restructuring (Strunk et al., 2017), the client learns to evaluate automatic thoughts to determine whether they are accurate. Several questions are useful in guiding clients through this process:

1. What is the evidence that the automatic thought is true? What is the evidence that it is not true?

2. Are there alternative explanations for that event, or alternative ways to view the situation?
3. What are the implications if the thought is true? What is most upsetting about it? What is the most realistic view? What can I do about it?
4. What would I tell a friend in this situation?

In working with clients to answer such questions, the therapist and client work toward developing an alternative, more accurate response that is recorded in the alternative response column. In the outcome column, clients reevaluate the intensity of their emotions following consideration of the alternative responses. Although there are variations in the thought records used, some version of a thought record is an important part of the cognitive strategies of a number of CBT protocols.

Another approach to reevaluating one's automatic thoughts is to identify cognitive errors (DeRubeis et al., 2019). These errors characterize faulty information processing that leads clients to think in ways that are "extreme, negative, categorical, absolute, and judgmental" (Beck et al., 1979, p. 14). Two examples of cognitive errors are all-or-none thinking and overgeneralizing (Beck et al., 1979). All-or-none thinking is an error that involves classifying something as being one extreme or another (e.g., either I am perfect or I am a failure) without recognizing the intermediate positions between these extremes. Overgeneralizing involves drawing conclusions based on isolated incidents and applying these conclusions to unrelated situations (Beck et al., 1979).

Following some practice with thought records, CBT may shift focus to patterns in a clients' thinking, working to identify clients' schemas or core beliefs (Beck, 2020). A client's schema or core beliefs represent basic maladaptive views the client holds that influence the specific thoughts he or she experiences. Life experiences sometimes as early as childhood are thought to shape these belief systems. To help clients identify core beliefs, therapists can begin by exploring the personal meaning of one's thoughts (also referred to as the downward-arrow technique), an approach that involves asking questions such as, "If that thought is true, what does that mean about you?" For example, a patient's concerns about social media, friendships, and romantic relationships may revolve around the core belief "I am not likable." Early experiences with being excluded as a child might be cited as factors that could have played a role in the development of this belief. Evidence for or against this core belief can be considered more fully as part of the effort to evaluate its accuracy.

Core beliefs are believed to be more resistant to change than automatic thoughts (Beck, 2020). Considerable evidence and experiential learning may be required to help a patient move from a maladaptive core belief to a more adaptive belief. Aaron Beck's daughter Judith Beck (2020) has made suggestions for working with such beliefs, including the use of a Core Belief Worksheet, which summarizes evidence relevant to the evaluation of a core belief. The client in our example might be encouraged to utilize behavioral experiments to test the validity of his core belief on a series of occasions. As the patient identifies core beliefs and continues to collect evidence against their validity, those become weaker, and may be replaced by more adaptive views.

## What Do Patients Learn in CBT?

What distinguishes the second wave from the first wave is its focus on cognition, particularly efforts to understand and modify conscious thoughts and beliefs as a means to alleviate psychopathology. The development of CBT largely coincided with the introduction of treatment manuals and the use of randomized clinical trials to evaluate the therapeutic benefits of psychosocial treatments (Wilson, 1996). These methods allow us to be quite confident about the benefits of CBT as compared with alternative treatments (Hofman et al., 2012). However, they have left important questions unanswered about what patients learn in CBT and whether these treatments work through the mechanisms that treatment developers suggested.

In our view, the evidence is largely consistent with the possibility that at least some forms of CBT for some clinical problems achieve their effects in a manner consistent with cognitive change playing an important role (Lorenzo-Luaces et al., 2015). In our own research on CT of depression, we have found evidence consistent with the view that cognitive change procedures may produce cognitive change (see Stone & Strunk, 2020) and that cognitive change predicts symptom change (Schmidt et al., 2019).

Nonetheless, it is important to acknowledge that there is disagreement in the field, with some experts suggesting the evidence indicates cognitive change does not play an important role (Kazdin, 2007; Longmore & Worrell, 2007). Some have taken the evidence of comparable levels of cognitive change in behavioral and cognitive behavioral treatments for depression to suggest that cognitive change is likely a consequence of another mechanism, such as behavioral activation or the therapeutic alliance, operating in both purely behavioral as well as cognitive behavioral treatments (Jacobson et al., 1996; Dimidjian et al., 2006). Furthermore, it is possible that the role of cognitive change in bringing about symptom reductions varies across treatments or that cognitive change is a mechanism even in treatments that do not explicitly target cognitive change (Lorenzo-Luaces et al., 2016).

Our understanding of the role of cognitive change has been limited by multiple factors. One factor is that clinical trials have tended to focus on evaluating the relative benefits of different treatment approaches, with questions about the mechanisms of treatment being only a secondary consideration (Cuijpers et al., 2019). In this context, researchers have struggled to conduct investigations that use the kinds of careful research methods that are likely to be most informative (Pfeifer & Strunk, 2015). In addition, the role of cognitive change may depend on other contextual factors, perhaps including the clinical problem, the treatment used, and various patient characteristics (Fitzpatrick et al., 2020). This is an area where additional research is needed.

## Conclusion

In summary, cognitive behavioral treatments for various forms of psychopathology emerged in reaction to the psychodynamic and behavioral traditions. The developers of CBT drew from several important historical and contemporaneous influences in generating cognitive behavioral models of psychological disorders. The hallmark characteristics of these treatments are their integration of cognitive and behavioral clinical strategies. Different forms of CBT vary with regard to the emphasis they place on cognitive versus behavioral strategies. As a group, CBT researchers led the way in the careful evaluation of their treatment packages using randomized clinical trials. The resulting evidence base has established cognitive behavioral therapies as among the most well studied and effective psychosocial interventions available. Questions remain about the mechanisms of these treatments and whether they might be made more effective when personalized through an improved understanding how and in what contexts they work best. These questions may prove particularly important to efforts to develop more effective psychosocial interventions. Given the state of knowledge, many researchers today are focusing on how to facilitate CBT more effectively reaching those who could benefit from it.

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