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Examination of the Core Cognitive Components of Cognitive Behavioral Therapy and Acceptance and Commitment Therapy: An Analogue Investigation

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We aimed to examine the core elements of cognitive behavioral therapy and acceptance and commitment therapy that target distressing negative cognitions, cognitive restructuring (CR) and cognitive defusion (CD), respectively. Participants (N = 142) recalled a saddening autobiographical event, identified a distressing thought it triggered, and completed a task that induced rumination on these cognitions. They then completed one of four brief interventions that targeted these emotionally charged cognitions: analogue versions of CR and CD, and two control interventions. The personal negative cognitions were then reactivated to examine the protective effects of these interventions. CR and CD were similarly efficacious in alleviating distress, compared to a control intervention that focused on participants' negative thoughts. Mood improvement was associated with state levels of reappraisal and not with acceptance in CR, whereas the reverse was observed in CD. Improvement was associated with perceived efficacy of the intervention in CR but not in CD. The present findings suggest that although CR and CD effectively promote different types of cognitive strategies, they may share important features that set them both apart from maladaptive forms of coping.

Keywords: negative thinking; cognitive restructuring; cognitive defusion; cognitive behavioral therapy; acceptance and commitment therapy

DISTRESSING THOUGHTS ARE FOUND across a wide range of psychiatric syndromes that are characterized by negative affect, including depression, anxiety disorders, eating disorders, psychosis, and insomnia (e.g., Ehring & Watkins, 2008; Watkins, 2008). These cognitions are often persistent and remain active even following successful treatment, posing a risk for relapse (Riso et al., 2003). However, negative thinking is not restricted to clinical populations, but rather, it is part of everyday life (Mor et al., 2010). Given the pervasiveness of negative thoughts in psychopathology, it is not surprising that many therapy approaches target them. Two well-established forms of therapy, cognitive behavioral therapy (CBT; A. T. Beck, 1976) and acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), include core treatment components that specifically focus on negative thinking. CBT and ACT overlap to a great extent, mainly in the behavioral techniques they employ (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hofmann, Sawyer, & Fang, 2010). However, the philosophies guiding the treatment of negative thinking and the cognitive procedures suggested by the two approaches differ significantly (Arch & Craske, 2008; Forman et al., 2012). The aim of the current research is to examine in a controlled laboratory setting the core components of CBT and ACT that target negative cognitions.

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The Core Cognitive Components of CBT and ACT

In A. T. Beck's (1976) CBT it is assumed that negative thoughts often represent a distorted perception of reality. Therefore, treatment aims to reduce the emotional impact of unpleasant cognitions by replacing them with more accurate and adaptive ones. Clients are first taught to identify negative thoughts that affect their mood. To facilitate the elicitation of "hot" or emotionally laden cognitions, they are often asked to recall the relevant context and their emotional reaction to the situation. These thoughts are then subjected to *cognitive restructuring (CR)*, a relatively structured reappraisal process that is a core element in Beckian CBT. Clients rate the degree to which they believe each thought is correct and the emotional intensity associated with the thought. They then challenge the validity of the thought by examining evidence for and against the assumptions on which it is based, with the aim of replacing it with a more accurate and adaptive thought. Finally, clients reevaluate the degree to which they now believe the original thought and rate again the intensity of their emotions. It is assumed in CBT that repeating this process in different situations leads to a more rational and adaptive and less negative perception of reality (Hofmann & Asmundson, 2008).

ACT (Hayes et al., 1999) emphasizes active acceptance of distressing thoughts, with the aim of lessening their regulatory power over behavior. As in CBT, ACT encourages the recognition of such negative internal events. However, in contrast to CBT, it then advocates for "*cognitive defusion*" (CD), a separation of thoughts from the self and from what they refer to, without a direct attempt to modify their content. There are many cognitive defusion techniques, and they are all geared toward creating contexts that enable clients to distance themselves from their thoughts and to experience them in ways that weaken their meaning. For example, clients may be asked to repeat their distressing thoughts many times or to write them in unusual ways (e.g., with their nondominant hand), label the process of thinking (e.g., "I am having the thought that…") or use mindfulness exercises in which they imagine seeing their negative thoughts written on various objects (e.g., on leaves floating on a water stream). It is assumed in ACT that experiencing unwanted thoughts in such contexts deemphasizes their content and therefore helps to perceive them as internal events that can simply be observed (Hayes et al., 2006). According to this approach, treating negative thoughts as mental occurrences that do not need to be controlled, changed, or acted upon is beneficial because it is incompatible with maladaptive cognitive strategies (e.g., rumination, suppression) and behavioral tendencies (e.g., situational avoidance). Thus, decreasing the frequency of negative thoughts or changing their content is not emphasized in ACT, and instead treatment aims to change the ways in which people relate to the distressing cognitions they experience.

A number of innovative therapy outcome studies used a therapy dismantling approach, whereby the relative efficacy of core treatment components (as opposed to studying a full treatment protocol) is examined by testing them as stand-alone treatments or by comparing treatment packages that did or did not include specific components (Jacobson et al., 1996). Such studies may greatly improve existing therapies because they can suggest whether or not a given component (e.g., CR) has additional value over and above other ingredients of the treatment (e.g., exposure; Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998). However, the experimental control in these studies is limited, and they do not afford a systematic examination of fine-grained issues associated with specific interventions.

Compared with large-scale investigations of treatment protocols, laboratory-based studies are characterized by higher levels of experimental clarity and precision because they enable the establishment of relatively straightforward causal relationships among variables (Levin, Hildebrandt, Lillis, & Hayes, 2012). In the past two decades, much research has focused on coping with negative thinking (Watkins, 2008). Many studies have examined the cognitive strategies that CR and CD are said to foster, namely reappraisal and acceptance (respectively). In these experiments, participants are typically asked to use one of several strategies during or shortly after a negative mood induction. This work shows that cognitive reappraisal is an effective strategy for coping with negative thoughts, compared to maladaptive strategies such as thought suppression or rumination (e.g., Grisham, Flower, Williams, & Moulds, 2011; Gross, 1998; Szasz, Szentagotai, & Hofmann, 2011). Findings regarding acceptance have been less consistent. Acceptance instructions showed efficacy in alleviating distress associated with negative thinking in some studies (Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Huffziger & Kuehner, 2009; Low, Stanton, & Bower, 2008; Singer & Dobson, 2007; Wade, George, & Atkinson, 2009), but not in others (Dunn, Billotti, Murphy, & Dalgleish, 2009; Kuehner, Huffziger, & Liebsch, 2009; Rood, Roelofs, Bögels, & Arntz, 2012; Szasz et al., 2011). The effectiveness of acceptance was demonstrated indirectly in studies that examined techniques that promote acceptance, such as word repetition (Masuda, Hayes, Sackett, &