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Comparing paths to quality of life: Contributions of ACT and cognitive therapy intervention targets in two highly anxious samples

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ABSTRACT

Anxiety disorders are associated with numerous costs and poor quality of life (QOL), and yet are highly treatable. The present study evaluated the relations between putative change processes, anxiety symptom severity, and QOL by employing path analysis to compare two theoretically-derived models of anxious psychopathology in an examination of pre-intervention data from two self-help effectiveness studies. Consistent with expectation, symptom severity predicted QOL in a model derived from cognitive therapy principles, though the model did not provide a good fit to the data. A model derived from Acceptance and Commitment Therapy principles suggested that the impact of experiential avoidance (EA) on QOL was independent of symptom severity and provided a better fit to the data. In fact, the path from anxious symptomatology to QOL became non-significant when EA was allowed to relate to QOL directly. Cognitive fusion strongly predicted anxiety sensitivity which, in turn, significantly predicted symptoms. Theoretical and practical implications of the findings are discussed in the context of improving available treatments for anxiety-related disorders.

1. Introduction

Anxiety disorders are common, chronic, debilitating, and associated with a range of functional impairments and poor quality of life (QOL; i.e., the subjective well-being of an individual across multiple domains of life; Frisch, Cornell, Villaneuva, & Relatzaff, 1992; Mendlowicz & Stein, 2000). Yet, anxiety disorders respond well to traditional Cognitive Behavioral Therapies (tCBT), including cognitive therapy (CT), that employ a range of evidence-based intervention strategies (see Olatunji, Cisler, & Deacon, 2010 for a recent meta-analytic review). Generally, cognitive-based interventions aim to ameliorate anxious suffering by directly altering problematic psychological and emotional content (i.e., symptomatology) as a means to reduce functional impairments and increase QOL (Hofmannn & Asmundson, 2008). This line of work has yielded an impressive array of time-limited and efficacious interventions for a broad range of problems (e.g., anxiety disorders, see Clark et al., 2003; mood disorders, see DeRubeis et al., 2005; and psychosis, see Drury, Birchwood, Cochrane, & Macmillan, 1996).

Though behavior-change techniques are utilized in tCBT, the central aim of CT is to identify, challenge, and correct negative or distorted cognitions, maladaptive beliefs, and assumptions (Beck, 1995; Clark, 1995; Dobson & Dozois, 2010; Hofmann, Asmundson, & Beck, 2013; Leahy, 2003; McGinn & Sanderson, 2001). For instance, cognitive constructs such as anxiety sensitivity (AS; i.e., fear of fear; Reiss, Peterson, Gursky, & McNally, 1986) emphasize catastrophic misappraisals and beliefs and, in turn, have been proposed to explain why some individuals develop anxiety disorders while others do not (e.g., Benítez et al., 2009; McNally, 2002; Naragon-Gainey, 2010). Based upon the premise that cognitions play a causal role in moderating and influencing the behavior-outcome (i.e., psychological symptoms) relations (Hofmannn & Asmundson, 2008), treatment manuals detail how to identify automatic thoughts, challenge distorted thinking patterns, and alter dysfunctional schemas (e.g., Beck, 1995; Clark & Beck, 2010). Thus, a primary goal of effective treatment is modification of "dysfunctional cognitions that are causally related to symptom interpretation and related psychological distress" (Hofmannn & Asmundson, 2008, p. 7). In other words, CT postulates that altering the *content* (i.e., the form or frequency) of cognitions is a means to reduce symptomology.

In line with this approach, virtually all CT efficacy trials utilize measures of symptom severity or frequency as primary outcome variables (e.g., panic disorder, see Arntz, 2002; generalized anxiety disorder, see Hanrahan, Field, Jones, & Davey, 2013; social anxiety disorder, see Stangier, Schramm, Heidenreich, Berger, & Clark, 2011; obsessive-compulsive disorder, see Wilhelm et al., 2009). Yet, evidence is mixed in supporting the view that change in the content of cognitions is a causal mechanism responsible for

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symptom change. While evidence suggests that some cognitive constructs mediate outcomes in specific studies that target anxiety disorders (e.g., catastrophic cognitions: Hofmann et al., 2007; perceived control: Meuret, Rosenfield, Seidel, Bhaskara, & Hofmannn, 2010; negative evaluations and views of the self: Rapee, Gaston, & Abbott, 2009), a recent review suggests that little evidence supports cognitive change as a mediator of symptom improvement (Longmore & Worrell, 2007).

Moreover, virtually all forms of CT are guided by the view that symptom reduction leads to enhanced life satisfaction, of which QOL is a part (Hofmann & Asmundson, 2008). Indeed, QOL is now routinely evaluated as one possible treatment outcome in tCBT and CT research (e.g. Bechdolf et al., 2010; Costa, Cheniaux, Rangé, Versiani, & Nardi, 2012; Diefenbach, Abramowitz, Norberg, & Tolin, 2007; Mortberg, Clark, Sundin, & Wistedt, 2007). This work suggests that individuals suffering with anxiety are at risk for significantly lower QOL than non-anxiety control groups (Olatunji, Cisler, & Tolin, 2007) and that tCBT can have a significant positive impact on QOL (e.g., Mendlowicz & Stein, 2000; Mortberg et al., 2007). Yet, to the best of our knowledge, no studies have identified significant relations between putative change mechanisms in CT on QOL. Thus, it remains unclear as to whether cognitive change is related to symptom reduction, and whether such relations impact QOL.

Other recent developments within behavior therapy suggest that targeting symptoms directly, including the content or frequency of cognitions, is neither necessary nor sufficient to improve broader indices of functioning, of which QOL is a part. For instance, Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2012), which shares several fundamental, intellectual, and practical commitments with tCBTs generally (e.g., evidence-based practice, direct behavior change technologies, foundation in basic learning principles; Hayes, 2004, 2008), departs from CT in several important ways. Most notably, ACT offers a functional, process-oriented account of human suffering and its alleviation that builds upon a behavioral account of human language and cognition (see Eifert & Forsyth, 2005; Hayes, 2004; Hayes, Levin, Plumb-Vilardaga, Villatte, & Pistorello, 2013; Hayes et al., 2012). As an alternative to cognitive-content change and symptom reduction, ACT suggests that altering contexts that support several unhealthy processes, preeminently experiential avoidance (EA) and cognitive fusion, is critical to more effective action and improved QOL (Hayes et al., 2012).

EA is defined as rigid and inflexible efforts to change the form or frequency of unwanted internal experiences, and the inability to effectively alter behavioral patterns that impede value-directed living (Hayes et al., 2004, 2012). EA appears to be a toxic process in the development and maintenance of anxiety disorders. For example, EA is associated with anxiety-related distress and other forms of psychopathology (Hayes, Luoma, Bond, Masuda, & Lillis, 2006) and appears to mediate meaning in life, personal growth, and general QOL outcomes following exposure to traumatic events (Kashdan & Kane, 2010; Kashdan, Morina, & Priebe, 2008). Moreover, in non-clinical samples, EA is related to social anxiety symptoms (Kashdan, Breen, Afram, & Terhar, 2010), worry (Santanello & Gardner, 2007), and panic attacks (Tull & Roemer, 2008). This evidence suggests that the behavioral reaction to unpleasant thoughts and feelings, and not necessarily the presence or specific content of such private events, may be important when accounting for QOL.

Likewise, the theoretically related construct cognitive fusion (i.e., the tendency for cognitive language processes, such as reason giving, problem-solving, and evaluating, to regulate behavior beyond the influence of other contextual variables) can become problematic when it serves to organize behavior in unhelpful ways (Eifert & Forsyth, 2005; Forsyth, Eifert, & Barrios, 2006; Hayes et al., 2012, 2013). When fusion controls behavior, individuals 'buy into' aversive cognitive content (e.g., the thought "I can't handle my panic") and believe the content as a literal truth. This often leads to EA and various forms of avoidant behavior in an effort to change the form or frequency of private experiences. When fused, panic-inducing contexts may be avoided, substances may be used as an escape from internal content, and an individual may become insensitive to immediate, environmental contextual cues (Eifert & Forsyth, 2005). Collectively, research suggests that cognitive fusion is an important psychological process in the conceptualization and treatment of various anxiety problems (e.g., Arch, Eifert et al., 2012; math anxiety: Zettle, 2003; OCD: Twohig, Hayes, & Masuda, 2006; Twohig et al., 2010; PTSD: Twohig, 2009; and social anxiety: Dalrymple & Herbert, 2007).

Moreover, ACT processes demonstrate relations with traditional symptom measures in expected directions (see Hayes et al., 2006; Ruiz, 2010, for recent reviews) and consistently mediate outcomes in clinical trials for a number of mental health problems spanning syndromal diagnostic categories (Hayes et al., 2006), including anxiety disorders (e.g., Arch, Wolitzky-Taylor, Eifert, & Craske, 2012; Dalrymple & Herbert, 2007; Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Twohig et al., 2010). Although not principally targeted, improvements in psychological and emotional distress can and often do accompany effective ACT treatment for individuals suffering with anxiety (e.g., see Twohig, 2009; Twohig et al., 2010). Such outcomes suggest that directly addressing the content of private experiences by identifying, challenging, and restructuring cognitions may be unnecessary if the aim is to positively affect psychological health, behavioral functioning, or QOL (e.g., Arch, Eifert et al., 2012). Indeed, the focus of ACT is on altering the way one *relates* to aversive cognitions (i.e., increasing defusion by fostering awareness of the process of thinking) in the service of increasing flexible and less avoidant behaviors (i.e., fostering increased experiential acceptance and psychological flexibility) in response to aversive content (Hayes et al., 2013).

Research suggests that both CT and ACT impact symptoms of anxiety pathology, distress, and QOL, although they do so using different models of psychopathology and intervention approaches. Thus, each leads to testable predictions regarding how putative change processes and symptomatology may be related to QOL. CT principles suggest that behavioral processes should be mediated by cognitive constructs that are directly related to anxious symptomatology, and consequently QOL (Hofmann & Asmundson, 2008). By contrast, ACT principles suggest that behavioral processes such as EA and cognitive fusion ought to be directly related to QOL, while also possibly affecting other predispositions and symptomology more generally (e.g., Arch, Eifert et al., 2012; Eifert & Forsyth, 2005). Path analysis is well suited to evaluate hypotheses arising from both models, and was used herein to examine pre-intervention data from two randomized clinical trials investigating the effectiveness of ACT and tCBT self-help books in international community samples of anxiety sufferers. Specifically, we investigated if behavioral processes proposed by ACT (EA and cognitive fusion) have a direct relation to QOL, or if such processes are statistically mediated by cognitive processes (i.e., AS), thereby affecting anxious symptom severity and QOL indirectly.

1.1. Study 1

Data utilized in Study 1 was collected as part of the pre-treatment assessment battery of a randomized wait-list controlled trial evaluating the effectiveness of an ACT-based self-help workbook titled *The mindfulness & acceptance workbook for anxiety: A guide to breaking free from anxiety, phobias, and worry using Acceptance and Commitment Therapy* (MAWA; Forsyth & Eifert,