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Original Article

Acceptance, mindfulness, and cognitive reappraisal as longitudinal predictors of depression and quality of life in educators

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ABSTRACT

This longitudinal study used psychological process measures derived from Acceptance and Commitment Therapy (ACT) and Cognitive Therapy (CT) models to prospectively predict depression and quality of life. Participants included 93 K-12 education employees who repeatedly completed surveys over the course of 4 months. Both the ACT and CT regression models were predictive of depressive symptoms after controlling for baseline depression. These models differed in their success at predicting life quality over time. In the CT models, only automatic thought frequency had predictive value while dysfunctional attitudes and cognitive reappraisal did not make unique contributions. In the ACT models, both psychological flexibility and present moment awareness made unique contributions while thought believability did not contribute. The role of awareness was moderated by psychological flexibility, suggesting that present moment sensitivity can either be a strength or a weakness depending upon one's level of openness to experience. Strengths and weaknesses of both the ACT and CT models are noted, as areas for future research.

1. Introduction

Investigation of the intricate relationship between cognition and mental health has long been important for the advancement of cognitive behavioral therapies (CBTs). While CBTs have established effectiveness for a variety of disorders, attention has shifted to the processes by which psychological health is impacted (Hofmann, 2008). This is in part due to concerns about the progressivity of technology-focused research (Wilson, 1997), as well as the underutilization of complete CBT packages (Shafran et al., 2009). By better understanding the processes involved in the maintenance of psychological suffering and well-being, the efficiency of interventions may be improved through more specific targeting (Kazdin, 2007). Furthermore, this may expand psychology's public health impact by empowering transdiagnostic interventions outside of the traditional therapy setting (Kazdin & Blase, 2011). The models underlying Cognitive Therapy (CT; Beck, Rush, Shaw, & Emery, 1979) and Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) are demonstrable of these trends since both theories offer well-articulated accounts of broadly applicable psychological processes.

The CT model emerged as an extension of a medical diagnostic model in which health is identifiable as an absence of signs and symptoms of underlying abnormalities. In the area of depression, for example, CT aims "to relieve emotional distress and other symptoms of depression," (Beck et al., 1979, p. 35). It does so through a variety of means such as empirical hypothesis testing and cognitive reappraisal to restructure dysfunctional schemas. As negative automatic thoughts and distorted interpretations of events decline in frequency, depressive emotional and behavioral symptoms are expected to be ameliorated.

In contrast, the ACT model is a variant of a behavioral developmental approach and is based on the idea that "the psychological pain that is inherent in difficult life situations can be accepted for what it is and learned from; attention can then be shifted toward life enhancing behaviors." (Hayes, Strosahl, & Wilson, 2011, p. 24). The ACT model focuses on how emotional, attentional, and behavioral flexibility can be reduced by the over-extension of adaptive cognitive processes. The target of ACT in areas such as depression is not merely the reduction of psychopathology but the enhancement of quality of life. By promoting acceptance of emotions and bodily sensations, and defusion from habitual thoughts – even those that are traditionally treated as undesirable symptoms – ACT seeks to create a situation in which thoughts need neither to be believed nor challenged but can be noticed as objects of awareness, learned from, and attention can then shift to engagement with valued activities.

In addition to demonstrating utility through psychosocial interventions across a variety of disorders (Butler, Chapman, Forman, & Beck, 2006; Hayes, Luoma, Bond, Masuda, & Lillis, 2006), both the ACT and CT models have been influential through

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the development of measures intended to assess their distinctive component processes (Hayes et al., 2004; Segal & Swallow, 1994). For example, the CT model's emphasis on the form and frequency of cognitions as primary factors sustaining depression guided the development of the Automatic Thoughts Questionnaire (ATQ), which assesses depressive thought frequency (Hollon & Kendall, 1980). By contrast, the ACT model views one's degree of attachment to cognition as being more fundamentally important than thought content itself, and this guided a modification of the ATQ whereby depressive thought "believability" was assessed (Zettle & Hayes, 1986).

The development of such theoretically distinct measures has been important as it allows for more clear differentiation between interventions (O'Donohue & Yeater, 2003). ACT's focus upon the ability to relate to cognition more flexibly and CT's focus upon the ability to rationally modify cognitive content has been highlighted as a key difference between ACT and CT (Hayes, 2004). Mediation analyses using theory-guided measures in preliminary randomized controlled trials comparing ACT and CT have suggested that these interventions work through different processes that are broadly consistent with their respective models (Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Zettle & Hayes, 1986; Zettle, Rains, & Hayes, 2011). Though quite useful, randomized control trials are costly to perform and require quality process measures that meet a variety of criteria. For example, in order to be maximally useful, process measures must predict future outcomes of interest and yet not be so strongly associated with outcomes or other processes so as to be indistinguishable from them (Kazdin, 2007).

Since treatment evaluation requires high-quality measures, and since predictive power can be valuable in its own right, longitudinal studies have been employed as a means of refining ACT and CT measurement models. CT process measures of dysfunctional attitudes and automatic negative thoughts have been successful in prospective predictions of depressive symptoms and disorders (Alloy, Abramson, Whitehouse, & Hogan, 2006; Chioqueta & Stiles, 2007). Likewise, ACT process measures of psychological flexibility have successfully predicted depression, mental health, and life functioning in various areas such as job satisfaction or quality of life (Bond & Bunce, 2003; Landstra, Ciarrochi, Deane, & Hillman, 2013; McCracken & Eccleston, 2003).

While longitudinal studies have been conducted with measures of cognitive reappraisal and acceptance as general coping strategies (e.g., Kraaij, Pruymboom, & Garnefski, 2002), more research is needed that uses theory-specific predictions to compare the relative strengths of ACT and CT longitudinal assessment models. ACT and CT have specified different primary outcomes of interest, as well as multiple processes that may interact in different ways. Thus, studies of ACT and CT measurement models will ideally be conducted in a manner that allows for the predictive utility of this conceptual precision to be evaluated. For example, a recent study using experience sampling methods in a group of individuals struggling with psychosis found acceptance to be more strongly predictive of quality of life relative to cognitive reappraisal (Vilardaga, Hayes, Atkins, Bresee, & Kambiz, 2013). This is consistent with the ACT model's emphasis on experiential acceptance as a coping strategy with particular relevance to quality of life outcomes.

The present study applied ACT and CT process measures to longitudinal prediction of depression and quality of life data from a sample of K-12 education staff. It is known that public education employees are vulnerable to the effects of job stress (Watts & Short, 1990) and can benefit from cognitive behavioral interventions such as ACT (Jeffcoat & Hayes, 2012). Evidence of model distinctiveness is examined in the present study by looking for differential performance of ACT and CT process measures in predicting depression and quality of life. The precision and breadth of each model is examined by considering whether theoretically distinct process measures make unique predictive contributions and whether expected interactions between model processes are obtained.

2. Method

2.1. Recruitment and procedures

This longitudinal assessment study was conducted as part of a correspondence in-service course for Nevada K-12 education employees titled, "Working and Living Resiliently Under Stress," (WALRUS). The program aimed to, "promote healthier living and working under stressful conditions by teaching emotional intelligence skills to faculty and staff" via exposure to a workbook. Recruitment was conducted through a combination of emails by school administrators, flyers, and newsletter articles that advertised continuing education credits, financial lotteries, and free emotional intelligence workbooks as incentives. Participation required that individuals be over 18 years old, be able to read English, have regular internet access.

Participants were informed that they may be randomly assigned to waiting period wherein they would complete a series of baseline assessments over 4 months before receiving the workbook. Thus, the in-service program as a whole operated as a randomized controlled trial with a total of 93 participants randomized to the 4-month waiting period arm. These participants make up the sample used in the current analyses; they had no exposure to the workbooks in the time-period of interest. Online assessments containing outcome and process measures were delivered three times – once at the beginning of the study, once 2 months later, and then again following an additional 2 months. All surveys were administered online using Survey Monkey (www.surveymonkey.com) and were distributed through individualized emails containing coded links.

2.2. Outcome measures

Depression was measured using the seven-item depression subscale of the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995; depression α in the current study = .90). The DASS consists of a series of self-report items scored on a four-point Likert scale with regard to the participant's experiences over the last week. The DASS has been used in many studies involving general populations and has demonstrated good psychometric characteristics across settings (Crawford & Henry, 2003). The depression subscale focuses on depressive symptoms with items such as, "I felt down-hearted and blue" and "I felt that I had nothing to look forward to." Scores range from zero to 42 with higher scores indicating greater distress. This scale was treated as the primary outcome of interest from a CT point of view as it emphasizes symptoms of depression.

Psychological quality of life was measured with the six-item psychological subscale from the World Health Organization Quality of Life scale (WHOQOL-P; Harper & Power, 1998; α in the current study = .84). In the WHOQOL-P, participants rate their quality of life over the past 4 weeks in a variety of areas of life engagement using a five-point Likert scale and items such as, "To what extent do you feel your life to be meaningful" and "How much do you enjoy life?" Scores on this WHOQOL-P subscale range from five to 30 with higher scores indicating better psychological quality of life. This scale was treated as the primary outcome of interest from the ACT point of view as it tends to focus on a sense of satisfaction and meaningful engagement with life.