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Mindfulness-based therapy and behavioral activation: A randomized controlled trial with depressed college students

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ABSTRACT

Major Depressive Disorder (MDD) manifests in 20–30% of college students, with increased incidence in recent decades. Very limited research has assessed the efficacy of evidence-based interventions for MDD in college students. Mindfulness-Based Therapy (MBT) and Behavioral Activation (BA) are two interventions with significant potential to meet demands of college counseling clinics and effectively treat college students with MDD. This study utilized a randomized controlled research design ($n = 50$) to examine the efficacy of four-sessions of abbreviated MBT and BA relative to a wait-list control condition with depressed college students. Intent-to-treat data analyses on depression outcome measures suggested both treatments were superior to the control group. There were significant pre-post treatment improvements across measures of depression, rumination, stress, and mindfulness, gains largely maintained at 1-month follow-up. Neither active treatment effectively reduced somatic anxiety. Both treatments generally had moderate-strong effect sizes relative to the control group, and based on depression response and remission criteria, 56–79% of patients exhibited clinically significant improvement. Based on reliable change indices, 75–85% experienced clinically significant reductions in depression. There was strong therapist competence and adherence to treatment protocols and high patient satisfaction with both interventions. Study limitations and implications for the assessment and treatment of depressed college students are discussed.

Consistent with community samples, major depressive disorder (MDD) is found in 20–30% of college students, with increased incidence in the past two decades (American College Health Association, 2013; Benton, Robertson, Tseng, Newton, & Benton, 2003; Gallagher, 2010; Ibrahim, Kelly, Adams, & Glazebrook, 2013). Approximately 30% of college students report "feeling so depressed it is difficult to function" (ACHA, 2013), and depressed college students report significant academic problems, including lower grade point average, inability to concentrate, missed classes, lower academic productivity, and interpersonal difficulties (Califano, 2003; Fazio & Palm, 1998; Pritchard & Wilson, 2003).

Depression in college also is linked to increased risk of suicide, self-injurious behaviors, physical illness, decreased physical activity, risky sexual behavior, increased cigarette smoking, alcohol and drug dependency, and poorer quality of life (Califano, 2003; Hopko & Mullane, 2008; Lenz, 2004; Saules et al., 2004; Serras, Saules, Cranford, & Eisenberg, 2010). Early detection and intervention of depression during college can reduce the incidence, severity, and duration of future mental health problems, including MDD, anxiety disorders, and substance abuse (Cuijpers & van Straten, 2007; Cuijpers, van Straten, Smit, Mihalopoulos, & Beekman, 2008; Kupfer, Frank, & Perel, 1989). It also is evident that effectively treating MDD in college attenuates depression, improves quality of life (Eisenberg, Golberstein, & Hunt, 2009), reduces stress and anxiety (Deckro et al., 2002), increases health and fitness behaviors (Deckro et al., 2002; Gawrysiak, Nicholas, & Hopko, 2009), and positively impacts academic performance (Eisenberg et al., 2009). Although such potential benefits have been highlighted in the very few and largely outdated clinical trials conducted, the efficacy of psychosocial treatments for MDD in college students is highly understudied, there is a pressing need to develop feasible evidence-based interventions (Gawrysiak et al., 2009; Lee, 2005), and there is a paucity of research examining the efficacy of contemporary interventions for depressed college students. The primary aim of this study was to address these gaps in the literature by conducting a preliminary evaluation of the efficacy of abbreviated behavioral

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activation (BA) and mindfulness-based therapy (MBT) for depressed college students.

Significant research supports the efficacy of psychosocial interventions for MDD (Chambless & Hollon, 1998; DeRubeis & Crits-Christoph, 1998; Hollon & Ponniah, 2010). Problematically, however, there is limited empirical support for psychotherapeutic interventions for depressed college students in university settings (Gawrysiak et al., 2009; Lee, 2005). In the few and largely dated efficacy studies conducted, cognitive-behavioral and interpersonal therapies were more effective than wait-list conditions, and generally comparable in reducing depression (Hodgson, 1981; Hogg & Deffenbacher, 1988; Pace & Dixon, 1993; Shaw, 1977; Taylor & Marshall, 1977). More recent research demonstrated that brief BA for moderately depressed college students was superior to a wait-list control group (Gawrysiak et al., 2009) and supportive psychotherapy (Armento, McNulty, & Hopko, 2012). Although these studies yield encouraging support for standardized treatments for depressed students, important limitations are evident. First, all but two studies are decades old, so the efficacy of contemporary behavioral interventions for depressed college students largely is unknown. Second, core outcome assessment traditionally has involved only self-reported depression, with no measure of transfer effects of treatment to coexistent problems (e.g., anxiety, stress, rumination). Third, traditional longer-term cognitive-behavioral therapy may not be optimal in many college counseling clinics. For example, counseling centers are experiencing increased student demands being met with limited resources and extensive waiting lists, and students are presenting with more severe symptom presentations (ACHA, 2013; Gallagher, 2010; Kitzrow, 2003; Voelker, 2003). When these issues are compounded by budget reductions and constraints on allowable therapy sessions, parsimonious and effective treatment options in academic settings is essential (Gallagher, 2010; Gawrysiak et al., 2009; Mowbray et al., 2006).

In the context of these limitations, there is some reason to speculate that the efficacy of cognitive-behavior therapy observed in the general adult population may not generalize to college students. For example, college students experience a number of unique stressors and may be particularly vulnerable to depression because of a lifestyle inherent to the college experience, including moving away from home and adapting to a new environment, academic stressors, a changing and potentially unstable social support system, economic problems, increased substance use, and chronic sleep deprivation (Lee, 2005; Voelker, 2004). Second, the process of identity development, or increased opportunities and freedom to explore various careers, lifestyles, relationships, and worldviews accelerates during college. This process has been shown to increase self-doubt, social withdrawal, and depression (Lewinsohn, Rohde, & Seeley, 1998; Michael, Huelsman, Gerard, Gilligan, & Gustafson, 2006). Accordingly, given highly limited and dated treatment outcome research and unique stresses and experiences of college students, effective psychological treatments for the general population might not generalize well to students treated in a college setting (Gawrysiak et al., 2009; Lee, 2005). Moreover, although not a contemporary BA intervention per se, there is some evidence that increasing activities based on a pleasant events schedule assessment is an ineffective treatment for depressed college students (Hammen & Glass, 1975).

Brief behavioral interventions may represent time efficient and effective strategies to treat MDD in college students (Armento et al., 2012; Gawrysiak et al., 2009; Hopko, Lejuez, Ruggiero, & Eifert, 2003) and may be more pragmatic then traditional interventions toward meeting demands of college counseling clinics. The efficacy of brief behavioral activation (BA: Lejuez, Hopko, & Hopko, 2001; Lejuez, Hopko, Acierno, Daughters, & Pagoto, 2011) is well established, and BA is considered an empirically validated treatment for depression (Cuijpers & van Straten, 2007; Ekers, Richards, & Gilbody, 2008). BA is based on behavior theory and the premise that depression is alleviated by increasing response-contingent positive reinforcement (Lewinsohn, 1974). Although most often used as a depression intervention, BA may be useful in treating coexistent anxiety symptoms (Hopko, Armento, et al., 2011; Hopko, Robertson, & Lejuez, 2006; Jakupcak et al., 2006). Indeed, considerable data support the pervasiveness of altered contingencies of reinforcement and avoidance behaviors in individuals with anxiety and depressive disorders (Barlow, 2002). In line with this unified model of avoidance behavior as a pathognomonic feature of emotional disorders, facilitating approach behaviors to expedite the extinction process and increase response-contingent positive reinforcement have been highly effective means of treating emotional problems (Barlow, 2002; Cuijpers et al., 2007). As few as two sessions of BA have been shown to effectively reduce depression and anxiety in college students with MDD (Armento et al., 2012; Gawrysiak et al., 2009).

Mindfulness-based therapy (MBT) such as Mindfulness-Based Stress Reduction (MBSR: Baer, 2003; Kabat-Zinn, 1982) and mindfulness-based cognitive therapy (MBCT: Segal, Teasdale, & Williams, 2002) also show promise as effective interventions for anxiety and depression (Baer, 2003; Bohlmeijer, Prenger, Taal, & Cuijpers, 2010; Fjorback, Arendt, Fink, & Walach, 2011; Hofmann, Sawyer, Witt, & Oh, 2010; Regehr, Glancy, & Pitts, 2013). MBCT was designed specifically as a relapse prevention treatment for previously depressed patients, and research suggests MBCT successfully prevents depression relapse (Ma & Teasdale, 2004; Teasdale et al., 2000) and also may be effective for acutely symptomatic patients (Barnhofer et al., 2009; Manicavasgar, Parker, & Perich, 2011). In contrast, although not specifically developed to treat depression, there are substantial data supporting the efficacy of MBSR as a depression intervention (Bohlmeijer et al., 2010; Hofmann et al., 2010). The fundamental principles of MBT involve attention regulation, openness to present experience, curiosity and acceptance of the "here-and-now," and non-judgmental awareness of thoughts, emotions, sensations, and the environment (Baer, 2003; Bishop et al., 2004; Kabat-Zinn, 1982). The efficacy of MBT in treating emotional disorders is believed to be a function of an increased ability to manage life stressors (Baer, 2003; Dobkin, 2008), enhanced concentration and mindfulness (Kabat-Zinn et al., 1992), and reduced rumination (Jain, Shapiro, Swanick, Roesch, Mills, Bell, et al. 2007; Ramel, Goldin, Carmona, & McQuaid, 2004). Although interventions such as MBSR are predominantly administered over 8 (3-h) weekly sessions followed by a daylong retreat, some data support abbreviated formats of the comprehensive MBSR protocol. For example, both four (Jain et al., 2007) and six-week MBSR interventions (Cohen & Miller, 2009; Klatt, Buckworth, & Malarkey, 2009) significantly reduced depression, anxiety, and perceived stress, and enhanced interpersonal well-being.

At this stage of treatment outcome research for depression, there is increasing empirical evidence for the efficacy of BA and MBT. However, MBT has only been empirically researched in group rather then individualized formats, the latter mode of therapy most commonly provided in college counseling clinics (Eisenberg et al., 2009; Sharkin, 2012). Accordingly, the primary objective of this paper was to conduct a preliminary investigation of (individualized) abbreviated MBT and BA treatments in the context of a randomized controlled research design. With the aim of developing condensed behavior therapies that might viably be implemented within college clinic settings, this randomized controlled trial examined the efficacy of abbreviated (4-week) MBT and BA relative to a wait-list control (WLC) condition for depressed college