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Acceptance and commitment therapy for depression

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Recent research provides further empirical support for acceptance and commitment therapy (ACT) in alleviating depression and that it does so through processes specific to the model of psychological flexibility on which it is based. These latest investigations have examined ACT's effectiveness in both ameliorating and preventing depression as well as its impact when implemented through alternative delivery systems (e.g. via self-help, bibliotherapy, and telehealth) and when combined with other interventions. ACT appears to be comparable to cognitive therapy in outcomes, but to have greater empirical support for the processes through which it initiates therapeutic improvement. Preliminary findings supportive of ACT in preventing depression when delivered through nontraditional means require validation by comparisons to appropriate control conditions. Component analyses are recommended to substantiate suggestive evidence that ACT may contribute appreciably to the impact of existing treatments for depression and related disorders.

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Introduction

Acceptance and commitment therapy (ACT) [1] has become one of the more visible interventions within the latest generation of cognitive-behavioral therapies (CBT) to emerge over the last quarter century [2]. Although ACT was developed as a transdiagnostic approach, the first randomized clinical trials evaluating its efficacy were on depression [3,4] and has remained a focus of ongoing research. The most recent systematic review and meta-analysis by Ruiz [5••] in 2012 comparing ACT and traditional CBT for depression concluded they were equally efficacious, but evidence that they operated through their purported processes of change was greater for ACT. While the Society of Clinical Psychology [6] has judged the current empirical support of ACT in treatment of depression to be modest, Ost [7] has cited several methodological concerns with the clinical trials in arguing that ACT's current status should only be regarded as probably efficacious.

The purpose of this review is to provide a summary and related critical commentary of research developments involving ACT for depression occurring within the last two years since the Ruiz [5••] paper. For ease of discussion, I have organized recent findings into the following topical areas: (a) effectiveness research, (b) use of alternative means of treatment implementation, (c) combining ACT with other interventions, and (d) process research. Insofar as some of the studies addressed multiple issues, several will be discussed in more than one section.

Effectiveness research

By far the most noteworthy opportunity to further evaluate the effectiveness of ACT has emerged by its inclusion, along with traditional CBT and interpersonal therapy, in the national program for dissemination and implementation of evidence-based approaches for treatment of depression by the U.S. Veterans Health Administration (VHA) [8]. A 12–16 session ACT protocol showed a large effect size ($d = 1.0$) in reducing mean Beck Depression Inventory-II scores (BDI-II) [9] from the severe to mild range among over 700 veterans [10••]. The effect size did not vary by age [11] and is similar to those found in controlled trials of ACT [3,12] as well as to that reported for traditional CBT within the VHA program [13,14]. The primary objective of ACT for depression, however, is not to merely provide symptomatic relief, but to enhance valued living [15]. While it is thus noteworthy that self-reported quality of life measures also increased significantly in the VHA study, the effect sizes were within the medium range and not greater than those for traditional CBT.

Because there are apparently no plans within the VHA program to conduct an efficacy trial by randomly assigning depressed veterans to ACT or traditional CBT, all comparisons that will be or have been conducted thus far between the two have been indirect. Unfortunately, no follow-up data have been reported thus far on either approach and outcome measures have not been systematically analyzed for their clinical significance [16]. Further indirect comparisons of the two treatment protocols based on clinically significant analyses of prolonged follow-up data would appear to be especially pertinent given recent findings of a long-term (18 months) advantage

of traditional CBT over ACT among those treated for anxiety and depression in a college student counseling center [17].

Some additional information on the possible durable impact of ACT on depressive symptoms and quality of life has been provided by a Swedish study [18]. Individuals on long-term sick leave due to depression were randomized to a treatment-as-usual (TAU) control condition (access to public health care and assistance) or TAU plus one individual and five group sessions of ACT. Only participants receiving ACT reported significant pre to posttreatment improvement in depression, general health, and quality of life, with these gains maintained over 18-month follow-up. Unfortunately, ACT did not differ from TAU in impacting sick leave and employment status, and in the absence of an appropriate attention-placebo condition and/or another active comparison intervention, the apparent benefits of ACT cannot be unambiguously and specifically attributed to it.

Insufficient control for nonspecific effects was also a limitation in comparing an eight-week ACT group program versus TAU (monitoring support from school counselors) for Australian adolescents experiencing mild to moderate depressive symptoms [19]. While significant improvement was only reported for those receiving ACT, it remains unclear if this reflects a specific effect for ACT, the impact of peer support, a possible attention-placebo effect, or even some combination of all three. In light of their relatively small sample sizes and TAU as the only comparison condition, it seems appropriate to regard both the Folke *et al.* [18] and Livhiem *et al.* [19] studies as pilot projects worthy of further evaluation by examining clinically significant, long-term improvements in depression and functional/quality of life measures within randomized trials comparing ACT and alternative interventions.

Alternative means of implementing ACT

Efforts over the last several years to explore alternatives to one-on-one psychotherapy in meeting the mental health needs of underserved populations [20] recently also has included innovations in the delivery of ACT to both prevent and alleviate existing depression. For example, an eight-week program of ACT bibliotherapy broadly focused on mental health issues demonstrated both significant preventive and ameliorative effects on depression relative to waiting-list [21••]. U. S. school teachers and other educational workers reporting normal levels of pretreatment depression who completed an ACT self-help workbook [22] maintained their status over 10 weeks of follow-up, while the 41% displaying at least mild pretreatment depression showed significant improvement over the course of the program, with these gains maintained during follow-up. By contrast, nondepressed waiting-list participants deteriorated significantly from pretreatment to follow-up. Those in the waiting-list who were depressed to begin with remained so at follow-up, but improved significantly after completing the workbook, thereby providing further support for the program's impact.

The results of another recent self-help program suggest that the effectiveness of ACT-based bibliotherapy is not limited to specific cultures or workbooks [23]. Dutch community participants with mild to moderate depressive symptoms were randomized to two self-help conditions that varied in their level of email support or waiting list control. Those assigned to self-help followed a different workbook [24] than that of Jeffcoat and Hayes [21••] and maintained large effect size reductions in depression through follow-up relative to the control group, regardless of the level email support they received.

Further suggestive evidence for the benefits of delivering ACT for depression via self-help has been provided by a recent internet-based study conducted in Sweden [25]. Community participants exhibiting mild to moderately severe major depressive disorder were randomized to either waiting list or access to a two-month long intervention comprised of an internet-administered self-help group that included elements of both ACT and behavioral activation [26], a related workbook, and minimal weekly access (15 min) to therapist support. Results showed a large between group effect size in depressive symptom reduction favoring the intervention. However, only a modest proportion of treatment participants (25%) showed clinically significant improvement and there was no difference between conditions in enhanced quality of life. While the overall findings of this study suggest promise in making treatment for depression more accessible via the internet, it is unclear what ingredients of the intervention contributed most powerfully to its impact. In particular, even if specific effects were responsible, further research is needed to determine whether this primarily resulted from the ACT or behavioral activation components.

Somewhat similar ambiguities also surround a recent Finnish program that combined the internet as well as other telehealth-related technologies with three professionally lead group meetings [27]. Community men experiencing mild to moderate symptoms of stress and/or depression were randomized to the intervention that combined components of both traditional CBT (relaxation training) as well as ACT, or waiting list. Significantly greater reductions in depression and increased ratings of health and working ability were reported by those who received the intervention, although these outcomes cannot be clearly attributed to ACT. There was no control for placebo and other nonspecific factors, and in the absence of further research, the possibility that specific effects were due to traditional CBT components cannot be ruled out. A next meaningful step in evaluating innovative ways

of implementing ACT could compare such efforts to similar programs based on other approaches, such as cognitive therapy, in treating depression. Alternatively, it would also be informative to compare the cost-benefit ratios of delivering ACT via bibliotherapy or the internet versus doing so one-on-one.

Combining ACT with other interventions

Recent investigations combining ACT with other interventions in treatment of depression have not been limited to the two internet-based programs just reviewed [25,27]. In particular, two developmental projects have explored the feasibility of integrating ACT with other approaches in treating depression comorbid with other disorders and clinical features. Gaudiano and his colleagues [28•] in an open trial evaluated a six-month program that combined elements of ACT and behavioral activation in conjunction with pharmacotherapy in treatment of major depression with psychotic features. Clinically significant improvements in both depressive and psychotic symptoms, as well as psychosocial functioning, maintained through three-month follow-up suggest that the program is sufficiently promising to merit further evaluation in a randomized trial.

The combination of pharmacotherapy and an ACT-based intervention was also investigated in a recent pilot program by Dalrymple *et al.* [29•] for psychiatric outpatients experiencing comorbid depression and social anxiety disorder (SAD). The psychotherapy component of the program integrated behavioral activation for depression [30] and exposure therapy for SAD [31,32] from an ACT-consistent perspective [33]. Results showed significant symptomatic relief in both depression and social anxiety as well as concomitant, but more modest improvement in quality of life and functioning. As with the Gaudiano *et al.* project [28•], it seems most useful to frame this program as a promising proof of concept that warrants more critical scrutiny in future component, process, and comparative outcome research with larger sample sizes over an extended follow-up.

Process research

ACT researchers have demonstrated an ongoing commitment to investigating its purported mechanisms of action [34] dating back to the earliest randomized trials in treatment of depression [35]. Not surprisingly, the majority of the studies reviewed in this paper have also included an analysis of process measures, with most focusing on whether increased psychological flexibility as assessed by the Acceptance and Action Questionnaire-II [36] mediates therapeutic improvement. At least three [10••,28•,29•] have reported significant correlations between AAQ-II change scores and decreased depression. However, only two [21••,37••] have provided sufficient evidence of mediation by demonstrating that increased psychological flexibility precedes reductions in depressive symptoms and changes in other desired outcomes [38].

Studies covered in this review that have examined measures of mindfulness [39–41], defusion [42], and value-congruent behavior [43] as mediating/subprocess variables that ostensibly contribute to psychological flexibility have yielded more mixed and less compelling findings. While changes in both mindfulness and value-directed behavior correlated with reduced depression have been reported [10••,28•], two other studies failed to document similar relationship involving mindfulness [21••] and defusion [19]. Perhaps most importantly, none of these other process analyses have meet all the requirements of mediation [38]. To meet this challenge, session-by-session tracking of changes in both process variables; such as psychological flexibility and mindfulness; and outcome measures [44] that also include improvements in quality of life and daily functioning are recommended.

Summary and conclusions

Research of ACT on depression over the last two years has been expansive in extending the approach to both preventive and ameliorative goals; with new clinical, subclinical, and even nonclinical populations; when integrated with other existing empirically supported interventions; and through increasingly more technically sophisticated and accessible modes of delivery, while continuing to examine its purported mechanisms of action. Efforts in these areas so far have been promising and clearly seem worth pursuing further with more rigorous research designs and methodologies. One overarching concern, however, is that such endeavors may overlook the need to further substantiate the extant empirical base for ACT in targeting depression. Despite ongoing controversy and debate surrounding the merits of formally recognizing evidence-based psychotherapies [45–48], there would appear to both sufficient scientific and financial, as well as likely political advantages [49,50], to elevating the current empirical support for ACT for depression from 'modest' to 'strong' [6]. To accomplish this, randomized trials that satisfy methodological concerns [7] and conducted by independent investigative teams with larger sample sizes are recommended. There is certainly something to be said for plowing many fields, but also for insuring that at least some of them are plowed sufficiently deep.

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