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Acceptance and Commitment Therapy for PTSD and Trauma: An Empirical Review

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Abstract

Many treatments for posttraumatic stress disorder (PTSD), including variants of cognitive behavior therapy, have been found to be effective in clinical trials. However, even with these useful treatment options PTSD continues to be a difficult disorder to treat. A possible alternative treatment is acceptance and commitment therapy (ACT), which has demonstrated effectiveness across a variety of presenting problems, including PTSD and trauma. This article summarizes the existing data on ACT for PTSD and trauma and discusses its clinical implications. The present review included data from case studies, single-subject designs, and randomized controlled trials. Overall, the extant literature suggests that ACT has potential as a treatment option for PTSD and trauma, but that much more research is needed.

Acceptance and Commitment Therapy for PTSD and Trauma: An Empirical Review

The estimated lifetime prevalence of posttraumatic stress disorder (PTSD) is 8.3% (Kilpatrick et al., 2013). Effect sizes for PTSD treatments are large for cognitive processing therapy, exposure therapy, and eye movement desensitization and reprocessing (EMDR) ($g = 1.63, 1.08, \text{ and } 1.01$, respectively) (Watts et al., 2013). Cognitive behavioral therapy (CBT) approaches outperformed pharmacotherapies and are among the most effective treatments for PTSD (Watts et al., 2013). In addition, Watts et al. reported no differences among cognitive-behavioral approaches that emphasized cognitive restructuring, exposure, or a combination of the two, suggesting that individuals have multiple options when seeking treatment for trauma symptoms. However, CBT for PTSD is not a cure-all, with a recent meta-analysis showing pretreatment to posttreatment response rates of 59% (63% to follow-up) and high dropout rates (up to 54%) (Loerinc et al., 2015). Therefore, there is a need for additional treatment options.

A potential alternative for trauma and PTSD is ACT, which has been increasingly studied due to demonstrated efficacy for a number of treatment concerns (Hayes, Pistorello, & Levin, 2012). The goal of ACT is to increase psychological flexibility, the ability to flexibly engage in valued behaviors in the presence of difficult internal experiences. As such, ACT promotes a stance of acceptance – the willingness to experience thoughts, feelings, and sensations as they are, without efforts to change or control them – as opposed to experiential avoidance, which encompasses attempts to alter and/or escape unpleasant internal experiences, which result in lower functioning. Acceptance is an active choice undertaken by an individual to embrace inner experiences while they are occurring.

Experiential avoidance has been suggested as a key factor in the development and maintenance of PTSD, as well as a potential barrier to improved psychological functioning (Hayes et al., 2013; Bluett et al., 2014). This is because experiential avoidance reduces behavioral flexibility in the face of distressing stimuli. For example, an individual with military trauma and high levels of experiential avoidance may choose to keep away from situations that contain trauma cues, such as celebratory events where loud noises are present, even when being at those situations may be important or meaningful to them.

Other ACT processes are pertinent to PTSD as well. Cognitive defusion aims to alter the way individuals interact with thoughts or the function of thoughts. Specifically, defusion weakens the literality of thoughts and instead encourages seeing thoughts for what they are, in lieu of what they say they are. For instance, a trauma survivor may be plagued by the thought, “Everything was my fault.” Taken literally, the thought can occasion self-blame, additional self-critical thoughts, and self-punishing actions. However, if taken to be a thought that shows up in one’s mind, the individual may instead be able to make valued choices in the presence of a once-powerful thought. Distressing thoughts about the future or the past (e.g., flashbacks) can result in loss of contact with the present moment, such that the individual fails to live life as it is occurring. Yet, by experiencing the world as events occur, the individual’s behavior can become more flexible, sensitive to direct contingencies, and consistent with values (Hayes et al., 2011).

Self-as-context is another ACT process that entails viewing oneself as a context for internal experiences; as such, it involves perspective taking. Rather than holding on to a self-narrative tightly (e.g., “I am a bad person”), the self-as-context perspective encourages contact with an “observer self” who notices these self-stories and can flexibly respond to them. Clarifying values – things that are important to the individual – can help the individual maintain

focus in the face of life challenges. In other words, values are what make difficult experiences worth having. Values are also used to evaluate the effectiveness of behavior; behaviors that bring one closer to values are effective, whereas those that bring one further away from values are ineffective. Committed action is the behavioral instantiation of one's values. These processes do not function independently, but rather collectively to describe the overarching goal of psychological flexibility that defines the ACT model.

The Acceptance and Action Questionnaire (AAQ; Hayes, Luoma, Bond, Masuda, & Lillis, 2006) is a measure of psychological inflexibility and experiential avoidance. Currently, the second version of the AAQ, the AAQ-II is more commonly used, and scores between 24 and 28 on the AAQ-II have been associated with clinically significant distress (Bond et al., 2011). Higher scores on the AAQ have been associated with re-experiencing, avoidance/numbing, and hyperarousal, the three PTSD symptom clusters (Meyer, Morissette, Kimbrel, Kruse, & Gulliver, 2013). Higher scores on the AAQ-II were also associated with more severe PTSD symptomatology, controlling for avoidance symptoms and negative emotionality (Meyer et al., 2013). While there is some support for this model of PTSD, the effects of ACT on PTSD have not been recently reviewed.

The objective of this review was to summarize data on the effectiveness of ACT interventions on PTSD and trauma symptoms. Specifically, this paper reviews treatment studies using ACT in cases of PTSD and trauma, discusses clinical implications of these data, and highlights future research directions.

Method

A literature search on PsycINFO and MEDLINE/PubMed using three combinations of search terms was conducted: (1) "ACT" AND "trauma," (2) "AAQ" AND "PTSD," and (3)

“ACT” AND “PTSD.” To be included, articles had to be published in English between 1990 and 2016. Prior to 1990, research on ACT was limited to the treatment of depression and Follette first used ACT in the treatment of trauma in 1990 (McLean & Follette, 2016). Articles were reviewed for relevance and those that did not report on the treatment of trauma using ACT were excluded. Studies reporting on individuals with a diagnosis of PTSD or with clinically significant trauma symptoms were included. In total, three case studies, one case series, one single-subject design, and two randomized trials were included in this review.

Empirical Support

Case Studies

Three case studies applying ACT to trauma have been published. ACT was used with a 19-year-old female diagnosed with substance abuse and PTSD resulting from a history of sexual abuse (Batten & Hayes, 2005). ACT was chosen because a transdiagnostic treatment specifically focused on the reduction of experiential avoidance might be expected to simultaneously affect PTSD and substance abuse, which are disorders commonly associated with significant levels of experiential avoidance that can be comorbid. In other words, ACT targeted the function of the client’s behavior - avoidance of unpleasant internal experiences - through increasing psychological flexibility rather than the disparate behaviors themselves. The client’s AAQ score fell from 36 at intake to 27 at termination. Additionally, her scores on measures of general psychopathology and believability of thoughts decreased at termination (see Table 1). Batten and Hayes (2005) reported that the client’s self-report scores on the measures were below cutoffs for clinically significant distress after 12 months of therapy, and that these gains were maintained until treatment termination. In addition, the client reported abstinence of substances from the seventh month until the end of therapy (see Table 1).

A second case study involved a 43-year-old female who was diagnosed with PTSD after experiencing verbal and physical abuse (Twohig, 2009). The client reported experiencing flashbacks, intrusive recollections, and dreams of the abuse. She did not respond to previous CBT interventions that focused on cognitive challenging and exposure scripts. Prior to beginning the 21-week trial of ACT, she scored 33 on the AAQ and 67 on the Posttraumatic Checklist – Civilian Version (PCL-C; Ruggiero, Ben, Scotti, & Rabalais, 2003). By the end of the trial, her score was 8 on the AAQ and 28 on the PCL-C. The mean upper quartile scores of experiential avoidance on the AAQ was 42 for clinical samples and 38 for nonclinical samples (Hayes et al., 2004). Clinical range for the PCL-C is indicated by scores of 44 and above, which suggests that the client's trauma severity was no longer in the clinical range. The client's depression and anxiety scores also declined (see Table 1).

In the third case study, Burrows (2013) conducted a case study with an 18-year-old female who experienced sexual assault. She developed self-deprecating thoughts and a high level of anxiety at the prospect of going out in public, due to avoidance of flashback-inducing stimuli. The therapist conceptualized the client's struggles as stemming from maladaptive ways of avoiding uncomfortable inner experiences (e.g., thought suppression, withdrawing from social relationships). Thus, ACT was the indicated treatment. By the end of the 18-session ACT trial, the client's AAQ-II score had fallen from 36 to 26. AAQ-II scores in the range of 24 to 28 are considered clinical (Bond et al. 2011). Measures of thought suppression and trauma symptoms also declined, while her scores on the Valued Living Questionnaire rose (see Table 1).

Case Series

Jansen and Morris (2016) conducted a 12-week ACT study with three participants who met criteria for schizophrenia and PTSD. Mean AAQ-II score dropped by an average of 23 by

the end of the therapy. Improvements were also reported at post-treatment in other self-report measures of PTSD, anxiety, and depression symptoms (see Table 1). This study provides additional evidence that in-vivo ACT treatment programs can result in improvements across a variety of measures and can be effective for those with comorbid conditions.

Single-Subject Designs

Seven adolescents with a variety of trauma experiences participated in a ten-week course of ACT tested in two multiple baseline designs (Woidneck, Morrison, & Twohig, 2014). There was a decrease in self-reported and observer-rated PTSD symptomatology, as well as psychological inflexibility. Additionally, objective and subjective quality of life scores increased (see Table 1). In this study, the three participants that were considered treatment dropouts experienced considerable sexual abuse histories and exhibited complex symptomatology, suggesting a possible need to modify or augment the treatment protocol to target interfering behaviors. One set of participants also lived in residential care and were concurrently receiving individual, family, and group therapy while participating in this study, though trauma was not targeted in the other types of therapy.

Randomized Controlled Trials

A treatment comparison study examined 160 individuals with current diagnoses of PTSD, anxiety, depression, and post-concussive symptoms (Lang et al., 2016). These individuals were randomly assigned to either the ACT or present-centered therapy (PCT) condition. Twelve one-hour sessions of individual therapy were conducted for each participant in each group. Scores on measures of wellbeing, functioning, and alcohol use all decreased (see Table 1). Improvements were observed for both groups and the only significant difference between groups was that ACT was associated with more improvement in insomnia at posttreatment. This study, like others

working with veterans, experienced a high rate of attrition. Another consideration with regard to this study was that 82% of the sample was diagnosed with PTSD, thus results may not generalize to individuals with only traumatic experiences.

Boals and Murrell (2016) conducted a clinical trial that included 63 participants with elevated PTSD symptoms. Their active intervention consisted of four one-hour ACT sessions that emphasized self-as-context to target event centrality, or the degree to which the traumatic event is incorporated into the individual's identity, in addition to treatment as usual at a community outreach center. The control group only received treatment as usual. Results indicated a significant effect of treatment condition from pre- to post-treatment on event centrality, PTSD symptoms, and depression. In addition, Boals and Murrell found that event centrality significantly mediated the link between study condition and PTSD symptoms, suggesting that the ACT intervention worked in a theoretically consistent way (see Table 1). It is important to note that control participants who wanted to switch to the treatment condition were allowed to do so at the pretreatment assessment, thus this was a semi-randomized trial.

Discussion

The objective of the present review was to summarize existing data on the application of ACT to trauma and PTSD. This area of research is in its nascence and preliminary evidence suggests that ACT is potentially an effective intervention, though the dearth of large-scale trials with well-defined PTSD symptoms tempers recommending dissemination of ACT for PTSD. More information on moderating factors of treatment response or mediational pathways through which psychological flexibility and quality of life improved would enable more informed clinical decision making and individualization of treatment approaches.

Because ACT adopts a transdiagnostic stance on psychopathology and has demonstrated its efficacy across a range of conditions (A-Tjak et al., 2015), one might assume that ACT will be effective for treating PTSD. However, clinical trials demonstrating the effectiveness of ACT across varying trauma presentations and client variables are still needed to better understand the best ways to apply ACT in the context of PTSD. Examining the acceptability and feasibility of ACT in non-research settings may reveal practical advantages to presenting ACT as a treatment option for PTSD.

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Table 1

Outline of data collected for all reviewed studies

Author(s)	Population	<i>n</i>	Outcome Measures	Intake/ Pretreatment	Termination
Batten, (2005)	Adult Female, Age 19	1	SCL-90-R BDI AAQ ATQ-F ATQ-B	.88 16 36 48 48	.16 4 27 42 35
Twohig, (2009)	Adult Female, Age 43	1	AAQ PCL-C BDI-II BAI	33 67 34 38	8 28 4 7
Burrows, (2013)	Adult Female, Age 18	1	AAQ-II WBSI TSC-40 VLQ (Composite) VLQ (Importance) VLQ (Consistency)	36 73 70 38 63 53	26 57 45 42 66 56
Lang et al., (2016)	Veterans (<i>Age</i> = 34.2))	160	BSI-18 GSI ACT (Avg.) BSI-18 GSI PCT (Avg.) SDS - ACT (Avg.) SDS - PCT (Avg.) AUDIT - ACT (Avg.) AUDIT - PCT (Avg.)	73.3 74 6.7 6.5 5.3 5.7	65 66.8 4.9 5.3 4.1 4.4
Jansen & Morris, (2016)	Adults, Aged 21-27 (<i>Age</i> = 23.7)	3	AAQ-II (Avg.) BAI (Avg.) BDI-II (Avg.) IES-R (Avg.) PCL-C (Avg.)	44 28 29 58 51	22 8 9 10 25
Woidneck, Morrison, & Twohig, (2014)	Adolescents, Aged 12-17 (<i>Age</i> = 14.6)	7	Self-Monitoring CAPS-CA (Avg.) CPSS (Avg.) ComQol-O (Avg.) ComQol-S (Avg.) TEI-SF (Avg.) AFQ-Y (Avg.)	27 60 23 54 66 71 31	6 23 8 64 N/A 67 12
Boals & Murrell, (2016)	Adults, Aged 22-52 (<i>Age</i> = 35.7)	63	CES ACT+TAU (Avg.) TAU Only (Avg.) PCL-S ACT+TAU (Avg.) TAU Only (Avg.) BDI ACT+TAU (Avg.) TAU Only (Avg.)	28 26.3 60 55.9 30.7 25.4	23.3 26.5 43.3 47.1 19.6 22.6

Note. SCL-90-R= Symptom Checklist-90-R; BDI=Beck Depression Inventory;
AAQ=Acceptance and Action Questionnaire; ATQ-F=Automatic Thoughts Questionnaire-

Frequency; ATQ-B=Automatic Thoughts Questionnaire-Believability; PCL-C= Posttraumatic Checklist–Civilian Version; BDI-II=Beck Depression Inventory-II; BAI=Beck Anxiety Inventory; AAQ-II=Acceptance and Action Questionnaire-II; WBSI=White Bear Suppression Inventory; TSC-40=Trauma Symptom Checklist-40; VLQ= Valued Living Questionnaire; BSI-18 GSI= Brief Symptoms Inventory–18 Global Severity Index; SDS= Sheehan Disability Scale; Audit= Alcohol Use Disorders Identification Test; IES-R= Impact of Event Scale–Revised; CAPS-CA= Clinician Administered PTSD Scale for Children and Adolescents; CPSS=Children’s PTSD Symptom Scale; ComQol-O=Comprehensive Quality of Life Scale-Objective; ComQol-S=Comprehensive Quality of Life Scale – Subjective; TEI-SF= Treatment Evaluation Inventory-Short Form; AFQ-Y= Avoidance and Fusion Questionnaire for Youth; CES=Centrality of Events Scale; PCL-S=PTSD Symptom Checklist