A meta-analysis of dropout rates in acceptance and commitment therapy

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A B S T R A C T

Many psychotherapies, including cognitive behavioral therapy and acceptance and commitment therapy (ACT), have been found to be effective interventions for a range of psychological and behavioral health concerns. Another aspect of treatment utility to consider is dropout, as interventions only work if clients are engaged in them. To date, no research has used meta-analytic methods to examine dropout in ACT. Thus, the objectives of the present meta-analysis were to (1) determine the aggregate dropout rate for ACT in randomized controlled trials, (2) compare dropout rates in ACT to those in other psychotherapies, and (3) identify potential moderators of dropout in ACT. Our literature search yielded 68 studies, representing 4,729 participants. The weighted mean dropout rates in ACT exclusive conditions and ACT inclusive conditions (i.e., those that included an ACT intervention) were 15.8% (95% CI: 11.9%, 20.1%) and 16.0% (95% CI: 12.5%, 19.8%), respectively. ACT dropout rates were not significantly different from those of established psychological treatments. In addition, dropout rates did not vary by client characteristics or study methodological quality. However, master's-level clinicians/therapists (weighted mean = 29.9%, CI: 17.6%, 43.8%) were associated with higher dropout than psychologists (weighted mean = 12.4%, 95% CI: 6.7%, 19.4%). More research on manipulable, process variables that influence dropout is needed.

1. Introduction

Treatment dropout rates for psychotherapy have been examined in a number of reviews. An early systematic review of psychotherapy dropout rates across 125 studies published before 1990 concluded that 46.9% of participants dropped out of treatment prematurely (Wierzbicki & Pekarik, 1993). A more recent review found an improved dropout rate of 19.7% across 669 studies published from 1990 to 2010 (Swift & Greenberg, 2012). Dropout rates for the different types of treatment were: 17.3% (supportive therapy), 18.4% (cognitive behavioral therapy; CBT), 19.1% (integrative), 19.2% (solution-focused), and 20.0% (psychodynamic). However, no significant differences in dropout rates were found among modalities. Another recent review of 115 CBT clinical trials found dropout rates of 15.9% before the start of treatment and 26.2% during treatment (Fernandez, Salem, Swift, & Ramtahal, 2015).

Although informative, these meta-analytic reviews have not specifically examined dropout rates in modern forms of CBT. One such unexamined treatment modality is acceptance and commitment therapy (ACT; S. C. Hayes, Strosahl, & Wilson, 1999), a type of cognitive behavioral therapy that emphasizes acceptance, mindfulness, and valued action. The theorized mechanism of change in ACT is psychological flexibility, which can be defined as the ability to fully contact the present moment regardless of internal experiences that show up, while engaging in valued behavior (S. C. Hayes, Luoma, Bond, Masuda, & Lillis, 2006). ACT aims to improve psychological flexibility through six processes or skills, with the ultimate aim of increasing effective or meaningful action. The ACT processes include: acceptance (willingness to experience internal events), defusion (deliteralizing language that can govern behavior), contact with the present moment (grounding the self in the here and now), self-as-context (recognizing the self as a temporary vessel for internal events), values (self-chosen domains of living that provide meaning and purpose), and committed action (commitment to and engagement in valued behavior).

A growing body of research has shown ACT to be an effective treatment across a broad range of problem areas that include: anxiety (Swain, Hancock, Hainsworth, & Bowman, 2013), chronic pain (Hann & McCracken, 2014), depression (Zettle, 2015), obsessive-compulsive spectrum disorders (Bluett, Homan, Morrison, Levin, & Twohig, 2014), and substance use (Lee, An, Levin, & Twohig, 2015). However, little is known about the overall acceptability of ACT and how it compares to that of other empirically supported treatments.

As ACT becomes more established and popular among treatment providers, it is increasingly necessary to evaluate dropout rates in ACT. ACT emphasizes a willingness to experience thoughts, emotions, and bodily sensations, eschewing more traditional methods of evaluating

and attempting to change, remove, or control these experiences (e.g., cognitive restructuring). These strategies are used in other psychotherapies, such as CBT. The theory, philosophy, and methodology of ACT may be better suited to some individuals, whereas others may more readily engage in a traditional CBT approach. For example, a recent analysis of two randomized controlled trials identified moderators that differentiated between participants who were more likely to continue treatment for anxiety using either a traditional CBT or ACT approach (Niles, Wolitzky-Taylor, Arch, & Craske, 2017). The researchers found that those who perceived a high level of control of their anxiety, were taking medication for anxiety, were more religious, and were more avoidant of physiological arousal symptoms were more likely to drop out of ACT than CBT. On the other hand, individuals were more likely to drop out of CBT than ACT when they did not have these traits. A better understanding of predictors of dropout in ACT could be used to individualize treatment recommendations among the many empirically supported therapies, as well as identify variables that enhance treatment retention in ACT, consequently, bolstering treatment effectiveness.

The overarching objective of the current meta-analysis was to examine dropout in ACT, as one of the key metrics of treatment utility. As such, the specific goals of our study were to: (1) systematically and statistically review current data on dropout rates in ACT across a broad range of psychological and behavioral health problems, (2) compare dropout rates in ACT to those in other psychological interventions, and (3) identify potential moderating factors that contribute to dropout in ACT, including client characteristics and therapy variables.

2. Method

This meta-analysis was conducted in accordance with the PRISMA guidelines (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009).

2.1. Literature search

Systematic literature searches were conducted on PsycINFO and PubMed in August 2017, using the keywords: "acceptance and commitment therapy" AND "randomized controlled trial OR RCT OR random*." Search results were restricted to peer-reviewed journal articles published in English. We also identified articles from a list of ACT randomized controlled trials on the Association for Contextual Behavioral Science website, which was updated in March 2017 (https://contextualscience.org/ACT_Randomized_Controlled_Trials). After the removal of duplicate articles, abstracts were screened by the first and second authors. Full-length articles of abstracts that appeared to meet the study selection criteria were retrieved. The articles were then reviewed for eligibility. Any ambiguity regarding study eligibility was settled via discussion between the first two authors; a consensus was required for inclusion in the meta-analysis.

2.2. Selection criteria

To be included in the present meta-analysis, studies had to meet the following criteria: (a) random assignment to treatment condition; (b) inclusion of at least one comparison condition (e.g., waitlist, treatment-as-usual); (c) participants with a psychological diagnosis, physical diagnosis, or behavioral health problem (i.e., clinical sample); (d) comprehensive ACT protocol (i.e., covered all six ACT processes); (e) face-to-face therapy; and (f) English-language publication. We included various modalities of therapy, including individual, group, and telehealth formats, as well as participants belonging to all age groups to increase generalizability of our findings. Studies that reanalyzed data

from an existing study, used a treatment that did not match the identified problem behavior (e.g., targeting shame in individuals with substance use), or that did not provide sufficient information on dropout rates were excluded from this review.

2.3. Risk of bias in individual studies

To increase generalizability of present findings, we did not exclude studies based on methodological quality, provided that they met our eligibility criteria. We note that heterogeneity in reported dropout rates may be partly attributed to methodological quality, which we examined as a moderator. However, the variance introduced by study quality may also provide a more accurate representation of psychological interventions administered across different settings.

2.4. Coding

Methodological quality. Given our broad inclusion criteria, each study was coded for methodological quality by two independent raters using the Psychotherapy Outcome Study Methodology Rating Scale developed by Öst (2008), which has been used in previous meta-analyses (A-Tjak et al., 2015; Öst, 2014). The scale assesses outcome studies in the areas of: clarity of sample description, disorder severity/chronicity, sample representativeness, diagnostic reliability, specificity of outcome measures, psychometric quality of outcome measures, use of blind evaluators, assessor training, condition assignment, design (strength of comparison conditions), power analysis, assessment points, quality and replicability of intervention, number of therapists, therapist training/experience, checks for treatment adherence, checks for therapist competence, control of concomitant treatments, handling of attrition, statistical analyses and presentation of findings, clinical significance, and equality of therapy hours across conditions. Each area is rated from 0 (poor) to 2 (good), and verbal descriptions of each numerical score are provided in the scale. The intraclass correlation coefficient for total score between both raters was .99 (95% CI: .99–1.00), indicating excellent interrater reliability.

Descriptive information. Data on participant and treatment characteristics, as well as dropout rates were extracted from each article. For analyses, we defined dropout as attrition following the start of therapy (i.e., after attending at least one session of intervention). Trained research assistants coded all studies, and 85% of articles were recoded by a second coder for accuracy. Discrepancies in coding were resolved by either the first or second author.

Samples were coded by age group (adult, child/adolescent) and diagnosis (psychological, physical, behavioral health, mixed). Psychological conditions included presentations such as anxiety, depression, and eating disorders; physical conditions included chronic pain and fibromyalgia; and behavioral health conditions included substance use and obesity. Study conditions were categorized into treatment type (ACT [ACT exclusive], ACT+ [ACT plus another intervention or ACT inclusive], CBT, cognitive therapy [CT], behavior therapy [BT], active control, inactive control), therapy format (individual, group, mixed), mode of delivery (in-person, telehealth), and therapist experience (Ph.D./psychologist, M.D./physician, Master's level clinician/therapist, graduate student, no therapist, multidisciplinary team). Active control conditions included treatment as usual, whereas inactive control referred to waitlist conditions. When conditions used therapists with varying levels of experience within the same domain (e.g., psychologists and psychology graduate students), they were assigned to the category with less experience (i.e., graduate students) to err on the conservative side.