

A Treatment by Disorder Meta-Analysis of Dropout From Psychotherapy

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Previous reviews of premature termination have yet to examine whether disparate psychotherapy treatments differ in their dropout rates for specific disorders. Using data from 587 studies, a series of meta-analyses were conducted comparing dropout rates between treatment approaches for 12 separate disorder categories. Although, significant differences between treatment approaches were found for depression [$Q(9) = 22.69$, $p < .01$], eating disorders [$Q(7) = 14.63$, $p < .05$], and posttraumatic stress disorder (PTSD) [$Q(7) = 20.20$, $p < .01$], treatments did not differ in their dropout rates for the remaining 9 diagnostic categories. Although integrative treatments resulted in the lowest dropout rates for depression and PTSD, dialectical-behavior therapy resulted in the lowest average dropout rate for eating disorders. The similarity in dropout rates for the majority of the disorder categories suggests that clients' decisions to drop out may depend more on other therapy variables (e.g., common factors, client characteristics, and therapist characteristics) rather than the specific type of treatment that is used. Additionally, our findings highlight the particular usefulness of an integrationist approach to therapy—it showed to be the most robust model for retaining clients in that its dropout rate was equal to or better than all of the other therapy approaches for 11 out of the 12 disorders examined.

Keywords: dropout, integrative approaches, meta-analysis, moderator, premature discontinuation

Almost half a century ago Gordon Paul suggested that the field seek to answer the now famous question: “*What treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances?*” (Paul, 1967, p. 111). Since that time, psychotherapy researchers have investigated a number of different methods for tailoring interventions (Castonguay & Beutler, 2005; Norcross, 2011). Probably the most well researched method of tailoring has been an attempt to examine the effectiveness of treatment approaches that are applied to specific client disorders (Barlow, 2007; Nathan & Gorman, 2007; Roth & Fonagy, 2004; Task Force on Promotion and

Dissemination of Psychological Procedures, 1995). Although a significant amount of research has sought to investigate treatment by disorder effects in terms of outcome differences, research has yet to fully investigate whether treatments differ in their rates of therapy dropout when applied to specific disorders.

Therapy dropout has been defined as occurring when a client unilaterally discontinues an intervention prematurely, before recovering from the problems that led him or her to seek out treatment and/or before completing the intervention's specified protocol (Garfield, 1994; Hatchett & Park, 2003; Swift, Callahan, & Levine, 2009; Swift & Greenberg, 2012). Although the necessary dose may be different for every client (Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009; Barkham et al., 2006) depending on the problems experienced, the goals set, and the expected level of improvement, premature termination implies that the client has dropped out before finishing the therapeutic endeavor, before experiencing a substantial reduction in symptoms, and before re-

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turning to a nonclinical level of functioning. Many different methods for operationalizing this construct have been suggested. Some of the more popular methods include basing dropout classifications on a specified number of sessions (e.g., all clients who attend less than four sessions are considered dropouts), failure to complete a treatment protocol (e.g., a client must attend all 12 sessions from a 12-session treatment to not be considered a dropout), failure to show for a scheduled appointment, therapist judgment (i.e., based on his or her knowledge of the client, the therapist determines if he or she has dropped out), and clinically significant change (i.e., a client who does not demonstrate a reliable improvement placing him or her in the nonclinical range on an objective symptom or outcome measure would be classified as a dropout). Although strengths and weaknesses can be found with each of these operationalizations, the clinically significant change method of classification has been argued to best fit the definition of premature termination from psychotherapy (Hatchett & Park, 2003; Swift et al., 2009).

Although there is disagreement in the literature on the exact operationalization that should be used, the deleterious outcomes that are associated with premature termination are well documented. Studies have consistently found that dropouts report more dissatisfaction (Björk, Björck, Clinton, Sohlberg, & Norring, 2009; Knox, Adrians, Everson, Hess, Hill, & Crook-Lyon, 2011; Kokotovic & Tracey, 1987) and poorer treatment outcomes (Cahill et al., 2003; Klein, Stone, Hicks, & Pritchard, 2003; Lampropoulos, 2010; Pekarik, 1983, 1992; Swift et al., 2009) compared with therapy completers. Research has also indicated that therapists often experience a loss of revenue and a sense of failure or demoralization when clients discontinue therapy prematurely (Barrett, Chua, Crits-Christoph, Gibbons, Casiano, & Thompson, 2008; Ogrodniczuk, Joyce, & Piper, 2005; Pisselli, Halgin, & Macewan, 2011). Given the negative outcomes associated with premature discontinuation, it is unfortunate that approximately one in five clients have been found to drop out of therapy prematurely (19.7% according Swift and Greenberg's [2012] recent review). Thus, it is essential that clinical researchers and practitioners alike become familiar with the situations when premature termination is most likely to occur.

In the most recent and most comprehensive (669 studies representing data from almost 84,000 adult clients) review of premature discontinuation in therapy, Swift and Greenberg (2012) conducted a number of moderator analyses, two of which are particularly relevant to the "what works for whom" question. First, Swift and Greenberg examined whether dropout rates differed between the various treatment orientations, including cognitive-behavioral therapies, psychodynamic psychotherapies, solution-focused therapy, humanistic/existential/supportive psychotherapies, and integrative approaches. Significant differences between these approaches were not found, with average rates ranging from 17.3% to 20.0%, $Q(5) = 1.59$, $p = .90$. Swift and Greenberg also compared rates of premature discontinuation between client diagnostic categories. Here a significant difference was found, $Q(6) = 93.58$, $p < .001$. Although only 16.1% to 17.4% of clients with either a psychotic disorder, anxiety disorder, or mood disorder discontinued prematurely, 23.9% of clients with an eating disorder and 25.6% of clients with a personality disorder dropped out. Although these results are informative, one might wonder whether certain approaches are more aptly suited for the treatment of certain disorders. For example, do fewer clients with social phobia drop out of cognitive therapy or exposure-based behavior therapy? Or, do fewer clients who suffer from depression prematurely discontinue interpersonal psychotherapy or short-term psychodynamic psychotherapy?

Using the same studies and data from the Swift and Greenberg (2012) meta-analysis, in this review we compared dropout rates between treatment orientations after separating the studies by their diagnostic categories. Thus, this review includes separate meta-analyses of treatment dropout for 12 different disorder groups. The results of this study have the potential to provide psychotherapy researchers and practitioners with a better understanding of treatment performance as measured by premature termination when used to treat specific client problems. Within most disorder categories a number of effective treatments do exist. It would be valuable for clinicians to also consider dropout rates when making treatment decisions. Additionally, the results of this study could identify higher risk treatment by disorder situations

when utilizing dropout reducing strategies would be most important.

Method

The studies that were included in this review were pulled from the studies included in Swift and Greenberg's (2012) meta-analysis. Therefore, we will first review the methods for identifying studies for the Swift and Greenberg meta-analysis and then we will provide details for identifying studies for this review. For the original Swift and Greenberg meta-analysis, the literature was searched for any study that was published between July 1990 and June 2010 that reported a psychotherapy dropout rate, was published in English, and met the following inclusion or exclusion criteria: (a) included actual psychotherapy clients and not therapy analogues, (b) included a sample of primarily adult clients (some included studies had participants that were younger than 18, but in those studies the majority of participants were over 18 and the intervention that was tested was one that would primarily be used for adults), (c) were not limited exclusively to drug or alcohol clients, (d) were not limited entirely to clients being seen for a physical health concern, (e) were not exclusively testing self-help or technology-based interventions, and (f) were not limited to couples or family based interventions.

Three methods were used to search the literature for studies that met these criteria. The first of these search strategies included a PsycINFO search using the terms *attrition*, *client variables*, *continuation*, *dropout*, *psychotherapy dropout*, *termination*, or *therapist variables*. All resulting citations were first reviewed at the abstract level; then, if appropriate, the entire article was reviewed. The second search strategy included a review of studies included in previous treatment outcome meta-analyses. These meta-analyses were identified through a PsycINFO search using the terms *meta-analysis* and *psychotherapy* or *therapy* or *psychological treatment* or *psychological intervention*. The resulting meta-analyses were also first reviewed at the abstract level; for those meta-analyses that were deemed appropriate, the search continued with a full article review of each individual study that had been included in one of the pertinent meta-analyses. The last of the search strategies included a hand review of eight jour-

nals (*American Journal of Psychiatry*; *Archives of General Psychiatry*; *Behavior Therapy*; *Behavior Research and Therapy*; *British Journal of Psychiatry*; *Journal of Consulting and Clinical Psychology*; *Psychotherapy*; and *Psychotherapy Research*). These journals were chosen because they had contributed to a large number of studies that were found through the first two search strategies. Every article from these journals was reviewed at the abstract level first, and then if appropriate the entire article was reviewed.

For this review we were interested in examining whether treatments resulted in different dropout rates when separated by client disorders. Thus, only studies in which a primary diagnosis for participating clients and a specific treatment modality could be coded were included in this review. The study dropout rate was coded as the percentage of clients who started the intervention and who were then identified as dropouts according to each author's method of operationalization. Twelve different diagnostic categories were identified in the included studies. The diagnostic categories were coded based on the primary diagnosis identified by each study's authors. Some studies reported multiple primary diagnostic groups among their samples. Although those studies that reported dropout rates separately for each primary diagnostic group were included (separate results were entered for each group), those studies that did not report dropout rates separately were removed from analyses. Depression was coded for studies of major depressive disorder or dysthymia. Eating disorder was coded for studies focusing on the treatment of anorexia nervosa, bulimia, binge eating disorder, or eating disorder not otherwise specified. Other personality disorder was coded for studies that focused on a personality disorder other than borderline personality disorder (BPD), including avoidant personality disorder, obsessive-compulsive personality disorder and studies that reported the treatment of personality disorders without specifying which ones. Somatoform disorder was coded for studies of body dysmorphic disorder, conversion, and hypochondriasis. Studies of bereavement, BPD, generalized anxiety disorder (GAD), obsessive-compulsive disorder, panic disorder, posttraumatic stress disorder (PTSD), psychotic disorders, and social phobia were also identified.

After studies were broken down by diagnostic categories, the treatment approaches for each study were coded. Thirteen different treatment approaches were identified in the coded studies, including behavioral therapy (applied relaxation, exposure, and other), cognitive-behavioral-analysis system of psychotherapy (CBASP), cognitive therapy, cognitive-behavioral therapy, cognitive-processing therapy, dialectical-behavior therapy (DBT), eye movement desensitization and reprocessing (EMDR), integrative approaches, interpersonal psychotherapy, psychodynamic psychotherapy, solution-focused therapy, and humanistic/existential/supportive psychotherapies. Integrative approaches were defined as those approaches that were either defined by the study authors as integrative or treatments that combined multiple techniques that were not exclusive to one broad orientation (e.g., client-centered or humanistic, cognitive-behavioral, and psychodynamic). In some cases, treatments that could be defined as integrative (e.g., DBT that includes cognitive, behavioral, and interpersonal techniques as well as mindfulness that comes from Eastern spiritual practices and traditions) were included as their own group when there were enough studies to include them as such. Additionally, although supportive psychotherapy has its roots in the psychodynamic tradition (Winston, Rosenthal, & Pinsky, 2004), it was included with the humanistic and existential approaches. In contrast to psychodynamic approaches that focus on transference and interpretations, supportive psychotherapies focus on the use of common factors and support to bring about client change (Brenner, 2012). Although some of the supportive approaches that were included in this review were bona fide treatments with well-defined treatment manuals, others were only active controls. Compared with other placebo control conditions, we still included the supportive psychotherapy control conditions in this review because they included defined techniques and elements that were thought to produce client change. Studies from the original meta-analysis were not included in these analyses if no specific treatment approach was specified or if dropout rates were not reported separately when more than one treatment approach was included. Similar to the procedures for diagnostic category, when a study included a reporting of dropout rates for more than one treatment ap-

proach, dropout rates were recorded separately for each treatment that was included. A breakdown of disorder categories and treatment approaches for each can be found in Table 1.

After dividing the studies into the 12 disorder categories, separate meta-analyses were conducted comparing dropout rates between the included treatment approaches. With each meta-analysis the identified treatment conditions were compared as potential moderators for that disorder category. Within each disorder category, treatment approaches were only included in the analyses if at least three dropout estimates drawn from at least three separate studies had been found for that approach. This minimum criterion was chosen so that comparisons would be based on averages rather than single studies whereas still allowing for the maximum number of treatment conditions to be included in the analyses. The *Q*-statistic was used to test between treatment differences in dropout rates. Testing differences between treatment groups with a *Q* test in a meta-analysis is analogous to testing for group differences with analysis of variance (ANOVA) in primary research. The moderator tests were conducted using a mixed-effects model, which Borenstein, Hedges, Higgins, and Rothstein (2009) indicated is preferable, compared to a fixed-effects model, when studies within the subgroups are assumed to vary in their effect sizes. In mixed-effects models, variance between studies within a subgroup is taken into account when comparing differences in averages between subgroups. All data analyses were conducted using the Comprehensive Meta-analysis (Version 2) computer program (Borenstein, Hedges, Higgins, & Rothstein, 2005).

Where significant differences between treatments were found within a diagnostic category, post hoc pairwise comparisons were made between each of the treatment approaches. Although this resulted in a high number of comparisons that were made (45 comparisons for depression, and 28 for eating disorders and PTSD each) and thus a higher likelihood of a Type I error, we elected not to adopt a more stringent α level for the post hoc comparisons. However, power is often low for testing moderators in meta-analyses (Borenstein et al., 2009; Hedges & Pigott, 2004). Low levels of power for these post hoc pairwise comparisons were expected in this study given the minimal

Table 1
Results From the Treatment by Disorder Dropout Analyses

| Disorder category | Treatment approach | k | Dropout rate ^a | 95% CI | Between groups Q-value | df (Q) | p-value | | | | |
|--------------------------|-----------------------------|-----------------------------|---------------------------|--------------|------------------------|--------|---------|--------------|------|---|-----|
| Bereavement | Average | 9 | 24.9% | 20.7%, 29.7% | 1.93 | 1 | .17 | | | | |
| | Psychodynamic | 4 | 26.2% | 21.5%, 31.5% | | | | | | | |
| | Supportive | 5 | 17.5% | 9.7%, 29.5% | | | | | | | |
| BPD | Average | 25 | 24.0% | 20.1%, 28.4% | 1.55 | 2 | .46 | | | | |
| | Cognitive therapy | 5 | 21.5% | 14.2%, 31.2% | | | | | | | |
| | DBT | 12 | 23.5% | 18.8%, 28.9% | | | | | | | |
| Depression | Psychodynamic | 8 | 30.5% | 19.6%, 44.1% | 22.69 | 9 | < .01 | | | | |
| | Average | 161 | 19.2% | 17.8%, 20.8% | | | | | | | |
| | Behavioral therapy | 7 | 15.5% | 7.5%, 29.2% | | | | | | | |
| | CBASP | 4 | 23.0% | 20.4%, 25.9% | | | | | | | |
| | Cognitive therapy | 27 | 17.2% | 14.1%, 20.8% | | | | | | | |
| | DBT | 4 | 13.3% | 6.7%, 24.6% | | | | | | | |
| | Full CBT | 46 | 20.4% | 16.3%, 25.2% | | | | | | | |
| | Integrative | 8 | 10.9% | 7.5%, 15.7% | | | | | | | |
| | IPT | 23 | 18.2% | 13.1%, 24.7% | | | | | | | |
| | Psychodynamic | 15 | 15.2% | 9.2%, 24.2% | | | | | | | |
| | Solution-focused | 6 | 17.8% | 13.6%, 22.9% | | | | | | | |
| Eating disorders | Supportive | 21 | 18.6% | 14.2%, 24.0% | 14.63 | 7 | < .05 | | | | |
| | Average | 60 | 24.2% | 21.7%, 26.9% | | | | | | | |
| | Behavior therapy | 4 | 22.2% | 12.1%, 37.2% | | | | | | | |
| | Cognitive therapy | 4 | 25.1% | 15.7%, 37.6% | | | | | | | |
| | DBT | 4 | 5.9% | 2.5%, 13.4% | | | | | | | |
| | Full CBT | 29 | 23.7% | 20.2%, 27.6% | | | | | | | |
| | Integrative | 3 | 28.4% | 18.8%, 40.4% | | | | | | | |
| | IPT | 4 | 22.8% | 12.8%, 37.4% | | | | | | | |
| | Psychodynamic | 7 | 27.1% | 20.4%, 35.0% | | | | | | | |
| | Supportive | 5 | 27.6% | 20.1%, 36.7% | | | | | | | |
| | GAD | Average | 47 | 15.2% | | | | 12.9%, 18.0% | 4.82 | 6 | .57 |
| Behavior therapy (AR) | | 7 | 16.4% | 10.6%, 24.5% | | | | | | | |
| Behavior therapy (other) | | 5 | 15.0% | 9.9%, 22.1% | | | | | | | |
| Cognitive therapy | | 6 | 13.9% | 9.0%, 21.0% | | | | | | | |
| Full CBT | | 20 | 15.2% | 11.4%, 19.9% | | | | | | | |
| Integrative | | 3 | 10.5% | 5.1%, 20.5% | | | | | | | |
| Psychodynamic | | 3 | 11.3% | 3.9%, 28.7% | | | | | | | |
| Supportive | | 3 | 26.4% | 14.2%, 43.7% | | | | | | | |
| OCD | | Average | 45 | 16.3% | 14.0%, 19.0% | 3.02 | 2 | .22 | | | |
| | | Behavior therapy (exposure) | 21 | 18.7% | 14.9%, 23.1% | | | | | | |
| | Cognitive therapy | 4 | 17.2% | 10.0%, 28.1% | | | | | | | |
| | Full CBT | 20 | 14.0% | 11.0%, 17.7% | | | | | | | |
| Other personality | Average | 15 | 20.3% | 12.6%, 30.9% | 1.90 | 1 | .17 | | | | |
| | CBT | 6 | 13.1% | 5.6%, 27.7% | | | | | | | |
| | Psychodynamic | 9 | 25.6% | 14.5%, 41.1% | | | | | | | |
| Panic disorder | Average | 80 | 15.4% | 13.7%, 17.3% | 4.62 | 4 | .33 | | | | |
| | Behavior therapy (AR) | 8 | 11.4% | 6.1%, 20.0% | | | | | | | |
| | Behavior therapy (exposure) | 13 | 14.0% | 11.3%, 17.1% | | | | | | | |
| | Cognitive therapy | 16 | 14.9% | 10.8%, 20.1% | | | | | | | |
| | Full CBT | 38 | 17.5% | 14.7%, 20.7% | | | | | | | |
| Psychotic disorders | Supportive | 5 | 11.5% | 4.9%, 24.4% | 4.02 | 3 | .26 | | | | |
| | Average | 27 | 16.5% | 13.5%, 20.1% | | | | | | | |
| | Behavior therapy | 3 | 14.8% | 10.4%, 20.8% | | | | | | | |
| | Cognitive therapy | 3 | 24.9% | 15.3%, 37.7% | | | | | | | |
| | Full CBT | 17 | 16.2% | 11.9%, 21.8% | | | | | | | |
| PTSD | Supportive | 4 | 11.2% | 4.7%, 24.5% | 20.20 | 7 | < .01 | | | | |
| | Average | 92 | 21.0% | 18.8%, 23.5% | | | | | | | |

(table continues)

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Table 1 (continued)

| Disorder category | Treatment approach | <i>k</i> | Dropout rate ^a | 95% CI | Between groups <i>Q</i> -value | <i>df</i> (<i>Q</i>) | <i>p</i> -value |
|----------------------|-----------------------------|----------|---------------------------|--------------|--------------------------------|------------------------|-----------------|
| Social phobia | Behavior therapy (AR) | 4 | 12.1% | 5.5%, 24.6% | 0.59 | 3 | .90 |
| | Behavior therapy (exposure) | 25 | 23.2% | 19.3%, 27.6% | | | |
| | Cognitive therapy | 8 | 15.2% | 9.6%, 23.3% | | | |
| | CPT | 5 | 23.7% | 16.3%, 33.1% | | | |
| | EMDR | 10 | 16.9% | 10.0%, 27.2% | | | |
| | Full CBT | 27 | 28.5% | 22.4%, 35.6% | | | |
| | Integrative | 4 | 8.8% | 2.9%, 23.7% | | | |
| | Supportive | 9 | 15.2% | 11.1%, 20.5% | | | |
| | Average | 52 | 18.0% | 15.5%, 20.7% | | | |
| | Behavior therapy (exposure) | 14 | 17.5% | 12.4%, 24.0% | | | |
| | Cognitive therapy | 5 | 14.5% | 7.3%, 26.8% | | | |
| Somatoform disorders | Full CBT | 30 | 18.3% | 15.4%, 21.6% | 0.00 | 1 | .97 |
| | Integrative | 3 | 20.3% | 8.8%, 40.2% | | | |
| | Average | 7 | 11.1% | 4.1%, 26.4% | | | |
| | Behavior therapy | 3 | 10.9% | 2.7%, 34.7% | | | |
| | Full CBT | 4 | 11.3% | 2.7%, 36.9% | | | |

Note. AR = applied relaxation; BPD = borderline personality disorder; CBASP = cognitive behavioral-analysis system of psychotherapy; CBT = cognitive-behavior therapy; CPT = cognitive processing therapy; DBT = dialectical behavior therapy; EMDR = eye movement desensitization reprocessing; GAD = generalized anxiety disorder; IPT = interpersonal psychotherapy.

^a The averages that are presented are weighted.

differences that might be expected based on the null findings from the broad treatment comparisons in Swift and Greenberg (2012) and the fact that several of the groups included less than 10 studies (all but five of the depression treatment groups, all but one of the eating disorder treatment groups, and all but three of the PTSD treatment groups). Adopting a more stringent α level would have resulted in even lower levels of power for these analyses. In addition to these post hoc comparisons, there was a further examination of the treatment conditions to see if they varied systematically on some other study variable. In Swift and Greenberg's (2012) main meta-analysis of premature discontinuation they found that study dropout rates differed for nine variables, including the search strategy (higher dropout rates in studies found through the keyword search), client age (higher rates for younger clients), whether the treatment was time-limited (higher rates for treatments without a set duration), whether the treatment was manualized (higher rates for treatments administered without a manual), dropout definition (higher rates when dropout was determined by therapist judgment), study type (higher rates for effectiveness studies vs. efficacy studies), treatment format (higher rates for treatments that combined individual and group), setting (higher

rates in University-based clinics), and the experience of the provider (higher dropout rates for clients seen by trainees). Thus, the treatments found to differ significantly in their rates of premature discontinuation were then compared for systematic differences on any of these variables. Given that higher levels of these variables were found to be associated with higher levels of premature termination in Swift and Greenberg's (2012) meta-analysis, they were labeled as risk factors in the results. Tables providing data on the risk factors present for each of the treatment types within each disorder category can be found online at www.psychotherapyresearchlab.com

Results

Figure 1 presents the identification of studies from each of the three search strategies. Using the keyword search strategy, 13,191 citations were identified and reviewed at the abstract level. Based on the abstract level review, 358 articles were reviewed in their entirety, which resulted in 198 studies that met all inclusion or exclusion criteria from this search strategy that were included in the original meta-analysis. The second search strategy included a review of studies from 196 treatment outcome meta-analyses. Using the meta-analysis search strat-

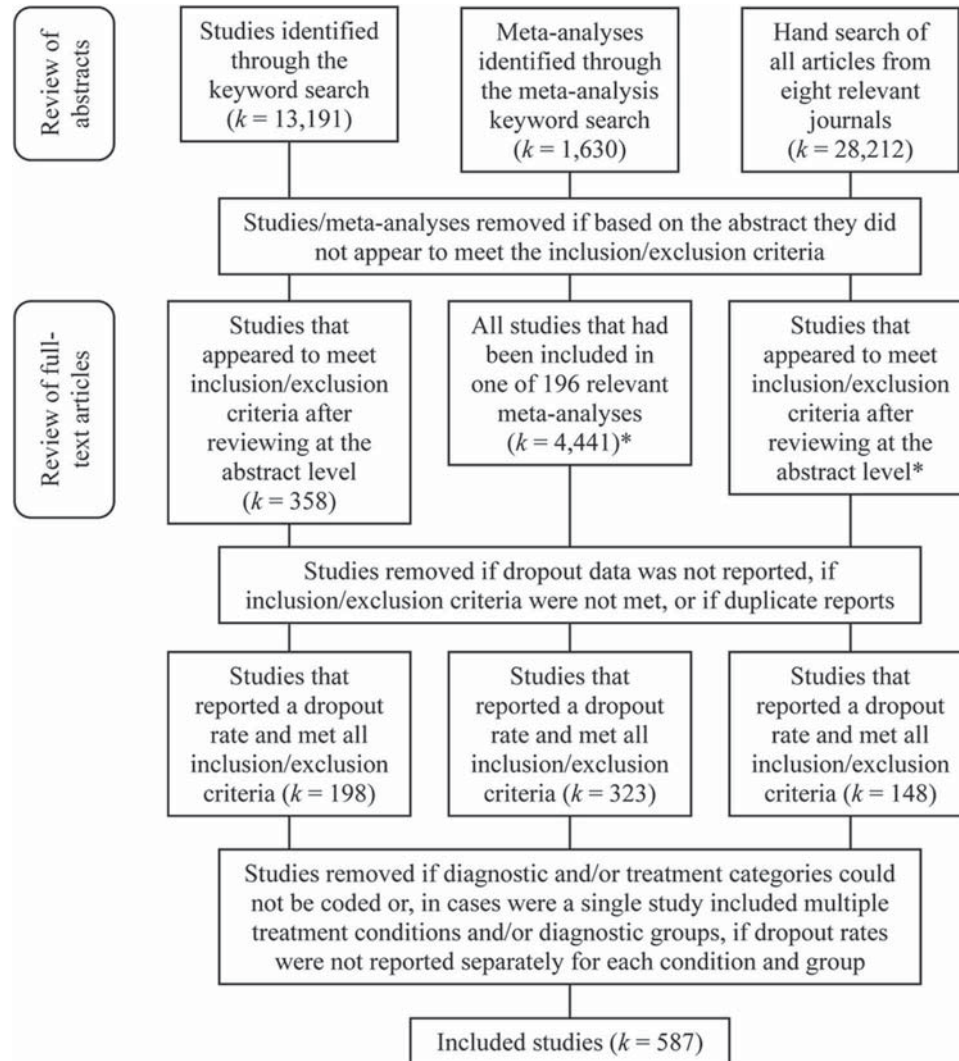


Figure 1. Flowchart for identification of studies to be included in this review. Adapted from "Premature Discontinuation in Adult Psychotherapy: A Meta-Analysis" by J. K. Swift and R. P. Greenberg, 2012, *Journal of Consulting and Clinical Psychology*, 80, p. 550. Copyright, 2012 by the American Psychological Association. Adapted with permission. * Full-text review was not needed for all of these studies because many had either been included in multiple meta-analyses or had been screened during the previous search strategies.

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egy, 1,630 meta-analyses were identified and reviewed at the abstract level to see if they might contain studies that met the inclusion/exclusion criteria. Every individual study included in one of the 196 meta-analyses was then reviewed in its entirety. This second search contributed an additional 323 studies to the original meta-analysis. Lastly, the hand search resulted

in an additional 148 studies included in the original meta-analysis. References for Swift and Greenberg's 669 studies can be found at www.psychotherapyresearchlab.com. Of the 669 studies from the original meta-analysis, 587 reported enough details on the type of treatment, type of client disorder, and dropout rates to be included in this review.

Table 1 reports the results for each of the 12 meta-analyses. In summary, dropout rates did not differ significantly between the included treatment approaches for nine of the studied disorder categories. The categories with nonsignificant findings included bereavement, BPD, GAD, OCD, other personality disorders, panic disorder, psychotic disorders, social phobia, and somatoform disorders.

In contrast, significant differences in treatment dropout rates were found for the three remaining disorder categories. Ten different therapy approaches were included in the comparison for depression. Within this diagnostic category, dropout rates ranged from 10.9% for the integrative approaches to 23.0% for CBASP. The results from the post hoc comparisons for treatments of depression can be found in Table 2. The integrative approaches had significantly lower dropout rates than CBASP, cognitive therapy, cognitive-behavioral therapy, interpersonal psychotherapy, solution-focused therapy, and supportive psychotherapy. CBASP had significantly higher dropout rates than cognitive therapy and the integrative approaches. No other significant differences in dropout rates between the treatment modalities were found. In considering possible explanations for the lowest average dropout rate that was observed in the integrative approaches, it should be noted that five of the nine risk factors were not present in any of the integrative studies. However, the absence of these risk factors was similar in the other treatment approaches, including CBASP. Despite having the lowest average dropout rate for depression, the highest rates of two risk factors (University-based clinic and trainee clinicians) were present in the integrative approaches.

A comparison of eight treatment approaches was made for the eating disorders category. Within this diagnostic category dropout rates were found to range from 5.9% for DBT to 28.4% for the integrative approaches. The results from the post hoc comparisons of treatments for eating disorders can be found in Table 3. DBT was found to have significantly lower dropout rates than each of the seven other treatment categories that were included in the analyses. No other significant differences were found. Some systematic differences between DBT and the psychodynamic, integrative, and supportive approaches (the three approaches

Table 2
Post Hoc Comparisons Between Treatment Subgroups for Depression

| | CBASP | CT | DBT | Full CBT | Integrative | IPT | Dynamic | SF | Supportive |
|-------------------------|------------|--------------|------------|------------|------------------|--------------|------------|--------------|--------------|
| BT ($k = 7$) | $Q = 1.35$ | $Q = 0.08$ | $Q = 0.10$ | $Q = 0.59$ | $Q = 0.73$ | $Q = 0.18$ | $Q = 0.00$ | $Q = 0.14$ | $Q = 0.25$ |
| CBASP ($k = 4$) | | $Q = 6.51^*$ | $Q = 2.88$ | $Q = 0.91$ | $Q = 15.51^{**}$ | $Q = 1.92$ | $Q = 2.84$ | $Q = 3.21$ | $Q = 2.14$ |
| CT ($k = 27$) | | | $Q = 0.56$ | $Q = 1.35$ | $Q = 4.66^*$ | $Q = 0.09$ | $Q = 0.21$ | $Q = 0.04$ | $Q = 0.24$ |
| DBT ($k = 4$) | | | | $Q = 1.58$ | $Q = 0.26$ | $Q = 0.74$ | $Q = 0.11$ | $Q = 0.67$ | $Q = 0.91$ |
| Full CBT ($k = 46$) | | | | | $Q = 8.45^{**}$ | $Q = 0.35$ | $Q = 1.22$ | $Q = 0.64$ | $Q = 0.28$ |
| Integrative ($k = 8$) | | | | | | $Q = 4.21^*$ | $Q = 1.11$ | $Q = 4.49^*$ | $Q = 5.40^*$ |
| IPT ($k = 23$) | | | | | | | $Q = 0.37$ | $Q = 0.01$ | $Q = 0.01$ |
| Dynamic ($k = 15$) | | | | | | | | $Q = 0.31$ | $Q = 0.52$ |
| SF ($k = 6$) | | | | | | | | | $Q = 0.06$ |
| Supportive ($k = 21$) | | | | | | | | | |

Note. BT = behavior therapy; CBASP = cognitive behavioral-analysis system of psychotherapy; CT = cognitive therapy; CBT = cognitive-behavior therapy; DBT = dialectical behavior therapy; IPT = interpersonal psychotherapy; SF = solution-focused therapy.

* $p < .05$. ** $p < .01$.

Table 3
Post Hoc Comparisons Between Treatment Subgroups for Eating Disorders

| | CT | DBT | Full CBT | Integrative | IPT | Dynamic | Supportive |
|-----------------------------|-----------------|-------------------|--------------------|--------------------|-------------------|--------------------|--------------------|
| BT (<i>k</i> = 4) | <i>Q</i> = 0.11 | <i>Q</i> = 6.58* | <i>Q</i> = 0.05 | <i>Q</i> = 0.50 | <i>Q</i> = 0.00 | <i>Q</i> = 0.39 | <i>Q</i> = 0.46 |
| CT (<i>k</i> = 4) | | <i>Q</i> = 9.25** | <i>Q</i> = 0.05 | <i>Q</i> = 0.18 | <i>Q</i> = 0.07 | <i>Q</i> = 0.09 | <i>Q</i> = 0.13 |
| DBT (<i>k</i> = 4) | | | <i>Q</i> = 11.44** | <i>Q</i> = 11.82** | <i>Q</i> = 7.04** | <i>Q</i> = 12.72** | <i>Q</i> = 12.62** |
| Full CBT (<i>k</i> = 29) | | | | <i>Q</i> = 0.69 | <i>Q</i> = 0.02 | <i>Q</i> = 0.68 | <i>Q</i> = 0.76 |
| Integrative (<i>k</i> = 3) | | | | | <i>Q</i> = 0.42 | <i>Q</i> = 0.04 | <i>Q</i> = 0.01 |
| IPT (<i>k</i> = 4) | | | | | | <i>Q</i> = 0.32 | <i>Q</i> = 0.38 |
| Dynamic (<i>k</i> = 7) | | | | | | | <i>Q</i> = 0.01 |
| Supportive (<i>k</i> = 5) | | | | | | | |

Note. BT = behavior therapy; CT = cognitive therapy; CBT = cognitive-behavior therapy; DBT = dialectical behavior therapy; IPT = interpersonal psychotherapy.

* *p* < .05. ** *p* < .01.

with the highest dropout rates for eating disorders) in the presence of other variables that are associated with higher rates of premature discontinuation can be seen. For example, 100% of the studies of an integrative approach and 71.4% of the studies of a psychodynamic approach were found through the keyword search. Additionally, although none of the DBT studies were open ended in terms of session limits, 33.3% of the integrative treatments, 57.1% of the psychodynamic treatments, and 40% of the supportive treatments were all open ended. Similarly, whereas DBT was always manualized, none of the integrative approaches, only 25% of the psychodynamic treatments, and only 60% of the supportive treatments were manualized. Furthermore, although only 25% of the DBT studies could be classified as effectiveness studies, 100% of the integrative studies, 71.4% of the psychodynamic studies, and 40% of the supportive studies to place in a naturalistic setting. Additionally, clients in the integrative and

psychodynamic treatments were much younger and therapist judgment was used much more often for defining dropout in psychodynamic treatments compared with the averages and rates for the DBT studies.

Lastly, eight approaches were compared in the treatment of PTSD. Within this diagnostic category dropout rates were found to range from 8.8% for the integrative approaches to 28.5% for full CBT. Results from the post hoc comparisons for treatments of PTSD can be found in Table 4. Full CBT for PTSD was found to result in significantly higher dropout rates compared with applied relaxation, cognitive therapy alone, integrative approaches, and supportive psychotherapy. Additionally, supportive psychotherapy was found to result in significantly lower dropout rates when compared with exposure for PTSD. Although the integrative approaches were much lower in their dropout rates compared with all of the other treatment approaches, the differences were not significantly

Table 4
Post Hoc Comparisons Between Treatment Subgroups for PTSD

| | Exposure | CT | CPT | EMDR | Full CBT | Integrative | Supportive |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|--------------------|
| AR (<i>k</i> = 4) | <i>Q</i> = 2.95 | <i>Q</i> = 0.27 | <i>Q</i> = 2.64 | <i>Q</i> = 0.53 | <i>Q</i> = 5.10* | <i>Q</i> = 0.23 | <i>Q</i> = 0.30 |
| Exposure (<i>k</i> = 25) | | <i>Q</i> = 3.14 | <i>Q</i> = 0.01 | <i>Q</i> = 1.41 | <i>Q</i> = 1.89 | <i>Q</i> = 3.52 | <i>Q</i> = 5.63* |
| CT (<i>k</i> = 8) | | | <i>Q</i> = 2.35 | <i>Q</i> = 0.09 | <i>Q</i> = 6.46* | <i>Q</i> = 0.91 | <i>Q</i> = 0.00 |
| CPT (<i>k</i> = 5) | | | | <i>Q</i> = 1.18 | <i>Q</i> = 0.75 | <i>Q</i> = 3.33 | <i>Q</i> = 3.36 |
| EMDR (<i>k</i> = 10) | | | | | <i>Q</i> = 3.69 | <i>Q</i> = 1.24 | <i>Q</i> = 0.13 |
| Full CBT (<i>k</i> = 27) | | | | | | <i>Q</i> = 5.27* | <i>Q</i> = 10.46** |
| Integrative (<i>k</i> = 4) | | | | | | | <i>Q</i> = 0.98 |
| Supportive (<i>k</i> = 9) | | | | | | | |

Note. AR = applied relaxation; CT = cognitive therapy; CBT = cognitive-behavior therapy; CPT = cognitive processing therapy; EMDR = eye movement desensitization reprocessing.

* *p* < .05. ** *p* < .01.

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different except for with full CBT. This may be because of the low power given the few number of studies on integrative approaches that were included in this set of analyses. In looking at the risk factors, studies of full CBT did more frequently use therapist judgment to define dropout compared to studies of the other treatment approaches. However, no other systematic differences in the other risk factor variables between the treatment approaches for PTSD were apparent.

Discussion

The purpose of this meta-analysis was to examine whether treatments differ in their dropout rates for 12 different diagnostic categories. Separate moderator analyses indicated a lack of difference in dropout rates between treatments for nine of the disorder groups, including bereavement, BPD, GAD, OCD, other personality disorders, panic disorder, psychotic disorders, social phobia, and somatoform disorders. Although outcome differences may or may not exist between the treatment approaches for these disorders, these results from this meta-analysis found a lack of evidence indicating that treatments differ in terms of rates of premature termination. One possibility for this finding is that, for these disorders at least, perhaps the common factors (i.e., the therapeutic alliance, having a rationale for the problem and a believed in method for treating it), rather than the specific techniques are enough to keep clients in therapy (Greenberg, 2012).

In contrast to the nonsignificant findings for 9 of the 12 diagnostic categories, interventions did differ in rates of premature discontinuation for depression, eating disorders, and PTSD. For depression, the lowest average dropout rate was also found among the integrative approaches at only 10.9% whereas the highest average dropout rate was found in CBASP treatments (23.0%). Although the CBASP studies were more often found through the keyword search (studies found through the keyword search in general had higher dropout rates), there did not seem to be any systematic differences on any of the other variables that would explain why higher dropout rates were found for CBASP and lower rates were found for the integrative approaches. Given the dropout rate differences and the general absence of systematic differences in study

characteristics, one possible explanation for the results is that depressed clients find an integrative approach to be easier to complete than CBASP as well as many other treatment approaches (cognitive therapy, full CBT, IPT, solution-focused therapy, and supportive psychotherapy) for depression. This finding seems to suggest that openness in the techniques and approaches that are used might be the best fit when working with depressed clients. In other words, instead of considering what treatment works for this disorder, clinicians should consider which approach or set of approaches might work for the individual client.

DBT in the treatment of eating disorders had much lower average dropout rates (5.9%) compared with the other eating disorder treatments (ranging from 22.8% to 28.4%). Although DBT does integrate ideas and techniques from other treatment approaches, it is a very structured manualized treatment with a set duration, both of which are factors that have been found to be linked to lower rates of premature discontinuation. Additional components of DBT such as the strict behavioral guidelines, the availability of phone consultation, and the four skills modules (mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness) may be particularly useful in helping clients with eating disorders complete treatment. However, there were some important study differences (search strategy, age of clients, definition of dropout, and efficacy vs. effectiveness type) that may also explain some of the dropout rate differences between DBT and some of the other approaches in the treatment of eating disorders.

Similar to the findings for depression, the integrative approaches were found to have the lowest average dropout rates for the treatment of PTSD. Also similar to the depression analyses, there did not seem to be any systematic differences on any of the other variables that would explain why lower dropout rates were found for this type of approach. After the integrative approaches, applied relaxation, cognitive therapy, supportive approaches, and EMDR were also found to have relatively lower rates of premature discontinuation (ranging from 12.1% to 16.9%) for PTSD clients. In contrast, the highest rates of premature discontinuation in PTSD were found in full cognitive-behavioral therapy (28.5%), followed by exposure (23.2%) and cognitive processing therapy (23.2%). Each

of these three treatments has a strong exposure component. Although exposure has been found to be highly beneficial in reducing PTSD symptoms (Foa et al., 2005; Resick, Nishith, Weaver, Astin, & Feuer, 2002), clinicians should be aware that without proper preparation this technique might raise anxieties in clients leading them to drop out prematurely. In contrast to our study, Imel, Laska, Jakupcak, and Simpson (2013) failed to find a difference in dropout rates between treatments for PTSD; however, they did not include integrative or supportive treatment conditions (the two conditions with the lowest rates in our meta-analysis) and they restricted their analyses to studies in which direct comparisons were made.

Limitations

A number of limitations with the current review should be noted. Through a series of meta-analyses we were able to compare dropout rates between treatment approaches for 12 different disorder categories. Although some of the studies that were included in these meta-analyses made direct comparisons between treatment conditions, many of the studies only included one treatment condition. To be more inclusive of studies and to compare multiple approaches at the same time, we conducted moderator analyses with the treatment approaches classified as subgroups rather than attempting to compute effect size comparisons between all of the possible treatment groups. Given that all of the treatment approaches were not compared within the same studies it is possible that some of the differences in dropout rates may be because of other variables that differed between studies rather than variations in the treatment approach. We attempted to examine the possibility that differences between studies in their characteristics may explain some of the results by comparing treatments or studies in their presence of nine different dropout risk factors (e.g., level of control in the study, treatment manualization, and definition of dropout) and tables reporting the characteristics for conditions can be found online at www.psychotherapyresearchlab.com. These risk factors were identified through Swift and Greenberg's (2012) original meta-analysis that tested 20 different treatment, client, therapist, and design variables as potential predictors of premature termination. However, there are

likely many other risk factors of dropout that were not included simply because there is less existing data on these variables. For example, a recent study found that clinics can differ in their dropout rates depending on their organizational structure and stability (Werbart, Andersson, & Sandell, 2014). Given the small number of studies for some of the treatment conditions in our analysis, the stability of one clinic may actually have a large impact on the average rates that were found for some conditions. However, because these types of organizational factors were not consistently reported across studies, it is difficult to know whether such factors could be influencing the results that we found.

This review is also limited in that we only attempted to examine whether dropout differences exist between the treatment approaches. Identifying differences is important because it provides insight into situations when clinicians should be aware that their clients might be at a higher risk of dropping out. However, this study did not attempt to identify the reasons for the dropout differences or similarities. A significant body of research has sought to identify the reasons clients give for prematurely terminating (Hunsley, Aubry, Verstervelt, & Vito, 1999; Knox et al., 2011; Pekarik, 1992; Westmacott, Hunsley, Best, Rumstein-McKean, & Schindler, 2010) as well as variables that are correlated with higher rates of premature termination (Sharf, Primavera, & Diener, 2010; Swift & Greenberg, 2012; Wierzbicki & Pekarik, 1993); however, little research has attempted to identify the actual causal factors. For example, do clients drop out of treatment after experiencing unresolved alliance ruptures or because they never developed a significant bond with their therapists? Or, do clients drop out because they had expectations for therapy that were not met? Or, do clients drop out because they feel they had reached a desired level of improvement? Furthermore, one may ask whether clients choose to drop out because of dissatisfaction with the treatment approach or because of dissatisfaction with some other therapist, process, or logistical variable. Future studies should attempt to test some of the possible causal mechanisms for premature termination in therapy.

Along these same lines, it is also important to recognize that not all occurrences of dropout represent a therapy failure. Some clients may stop meeting with one therapist prematurely

simply because they move to a new location and others may drop out because they have made some initial gains and they are satisfied with the level of improvement made (Cahill et al., 2003). Still, it should be recognized that for the most part clients who prematurely terminate from therapy do report more dissatisfaction and poorer treatment outcomes compared to therapy completers (Björk et al., 2009; Cahill et al., 2003; Klein et al., 2003; Knox et al., 2011; Kokotovic & Tracey, 1987; Lampropoulos, 2010; Pekarik, 1983, 1992; Swift et al., 2009).

In this review we coded dropout based on the classifications of the individual studies' authors. It is likely that some clients who were classified as dropouts in any given study would not have been considered dropouts by another study's standards. Indeed, Swift and Greenberg (2012) did find that dropout rates do differ significantly depending on the method of operationalization. For this review, using different definitions would be problematic if there were some systematic differences between the treatment conditions. However, a review of the data presented in the Definition column in the risk factors tables indicate this is not the case. In these tables one will notice that the frequency of the use of the therapist judgment operationalization (the classification system resulting in the highest rates of premature termination according to Swift and Greenberg's original analysis) is similar across treatment conditions except for the studies that tested a psychodynamic approach for depression and eating disorders. Although the average dropout rate for the psychodynamic treatments was not the highest for either disorder, the more frequent use of the therapist judgment operationalization may partially explain why the rates were as high as they were.

This review is also limited by the small number of studies that were included for some of the treatment conditions. We chose to only include treatments conditions that had a minimum of three studies per condition to allow for cross treatment comparisons to be based on averages rather than single studies whereas still including as many treatments as possible in our analyses. Although small, this number is similar to what is frequently observed in other meta-analyses in the field. However, it is important to recognize that when data from a smaller number of studies are included, the power to detect differences is

lower and individual study characteristics are more likely to influence the results.

A number of other future directions for research on premature discontinuation in therapy exist. As with any study, this review was limited in scope because we only attempted to answer the "what works for whom question" by examining treatment by disorder dropout effects. However, many other comparisons could be made that attempt to answer other aspects of Gordon Paul's famous question. Future studies and reviews can examine whether dropout interactions exist between disorders, treatments, settings, other client characteristics, and therapist characteristics. Additionally, in this study we were able to identify some of the treatment by disorder situations when clients are more likely to drop out of therapy. Efforts should now be made to test dropout reducing strategies that are specifically designed to decrease rates of dropout in those high risk situations.

Conclusions

In this review we found that the studied treatment approaches do not differ in their rates of premature termination for bereavement, BPD, GAD, OCD, panic disorder, personality disorders other than BPD, psychotic disorders, social phobia, or somatoform disorders. In contrast, the studied treatment approaches did differ in dropout rates for depression, eating disorders, and PTSD. These results have important implications for future research and clinical practice. First, the results of this review can inform the treatment decision-making process, particularly for the disorder categories where significant differences were found. In addition to considering outcome results when making treatment decisions, practitioners can now also consider dropout results. Even if a treatment is highly effective, it will be of little use if many clients fail to complete that treatment. Treatment decisions may be most appropriate when both variables (dropout rates and outcomes) are kept in mind. Clinicians may want to pay particular attention to treatment dropout rates in their decision making-process when they are working with clients whom they suspect might be at a higher risk of dropping out.

Although many clinicians may not want to, or be able to switch their treatment approach just based on rates of premature termination, there

are a number of suggestions for reducing premature termination regardless of orientation. First, given that the integrative approaches were found to have the lowest rates of dropout for depression and PTSD, whereas staying true to their theoretical orientation, therapists may want to consider incorporating some techniques from other orientations that have the potential to make treatment more acceptable or pleasant for clients (e.g., focus on the common factors, adding mindfulness, or centering components). The exact techniques that can be incorporated can be based on the clinician's judgments of the client's needs as well as the client's expectations and preferences. Second, regardless of orientation, the results of this study can help clinicians identify the situations when dropout reducing strategies would be most beneficial. A number of effective dropout reducing strategies have been identified (Swift, Greenberg, Whipple, & Kominiak, 2012). Clinicians may want to make a special effort to utilize these strategies when using a treatment that may have a higher disorder-specific dropout rate. Last, the results of this review can serve as a benchmark for those developing or testing new treatment approaches. For example, a developer of a new treatment approach for social phobia should be aware that dropout rates for the existing approaches that were included here ranged from roughly 15% to 20%. If a higher dropout rate is found for the newly developed treatment, the developer may want to work to alter the approach so that it is more acceptable to clients.

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Correction to Goodman, Anderson, and Diener (2014)

In the article “Processes of Therapeutic Change in Psychodynamic Therapy of Two Inpatients With Borderline Personality Disorder,” by Geoff Goodman, Keiha Anderson, and Marc J. Diener (*Journal of Psychotherapy Integration*, 2014, Vol. 24, No. 1, pp. 30–45. doi:10.1037/a0035970), there was an error in Table 2. The corrected Table 2 is presented below.

Table 2

Correlations of Prototypical Process Scores With Weeks and SCL-90-R^A Scores

| | <i>M (SD)</i> | Weeks | PDT | CBT | IPT | TFP | DBT |
|----------------------------|---------------|--------|--------|--------|------|-------|------|
| Patient 1 | | | | | | | |
| Weeks (23) | — | — | -.49* | .23 | -.09 | -.36 | -.19 |
| SCL-90-R ^a | 35.96 (2.58) | -.46* | .21 | -.13 | .30 | .11 | .27 |
| Patient 2 | | | | | | | |
| Weeks (21) | — | — | -.25 | .21 | .24 | -.11 | -.34 |
| SCL-90-R ^a | 42.43 (3.09) | -.65** | .36 | -.22 | -.10 | .31 | .02 |
| Combined treatments | | | | | | | |
| Weeks (44) | — | — | -.39** | .23 | .09 | -.26 | -.27 |
| SCL-90-R ^a | 39.05 (4.31) | -.42** | .25 | -.45** | .002 | .39** | .16 |

Note. Although data in which $p < .05$ are indicated as such in the Table, the present study required $p < .01$ for statistical significance as explained in the Results section.

^a More specifically, the GSI scores taken from the SCL-90-R data were used.

* $p < .05$. ** $p < .01$.

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