Psychotherapy
2017, Vol. 54, No. 4, 321–338

0033-3204/17/$12.00 http://dx.doi.org/10.1037/pst0000144

The Importance of Problem-Focused Treatments: A Meta-Analysis of Anxiety Treatments

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One explanation for differences in treatment effectiveness for targeted symptoms is that more-effective treatments are more focused on patients' problems than are less-effective treatments. This conjecture was examined meta-analytically. Comparisons of two treatments of adults with anxiety disorders were included. Effect sizes for targeted symptoms, nontargeted symptoms, and global outcomes (e.g., quality of life and well-being) as well as the relative focus on patients' problems and researcher allegiance were coded. Metaregressions were conducted to predict effect sizes from (a) variables related to the focus on patients' problems and (b) researcher allegiance. For symptom measures, the relative focus on patients' problems predicted the relative effectiveness of the treatments, with the expectations created by explanation appearing more predictive than specific therapeutic actions focused on patients' problems, although conclusions about relative importance were difficult to determine given collinearity of predictors. Researcher allegiance also predicted the effects of the comparisons. For global outcomes, both the focus on patients' problems and researcher allegiance seemed to have smaller roles. A focus on patients' problems appears to be important for the reductions of symptoms. Clinical trials comparing treatments need to balance the focus on patients' problems and reduce researcher allegiance.

Keywords: focused treatments, relative efficacy, meta-analysis

Supplemental materials: http://dx.doi.org/10.1037/pst0000144.supp

Progress in psychotherapy should be characterized by improvement in both the effects of the practice as well as by increasing knowledge about how psychotherapy works. Pursuit of progress in psychotherapy often takes the form of discussions about treatments—Which treatments target fundamental processes and therefore are more effective in reducing distress and producing well-being? The evidence used to document progress is often derived from randomized clinical trials (RCTs; Stiles et al., 2006).

RCTs are often used to determine the relative efficacy of various treatments. The evidence from RCTs comparing two treatments is ambiguous. Some meta-analyses of comparative RCTs have claimed superiority of a particular treatment, whereas others have concluded that treatment differences do not exist (cf., Baardseth et al., 2013; Butler, Chapman, Forman, & Beck, 2006; Mayo-Wilson et al., 2014; Tolin, 2010, 2014, 2015; Wampold et al., 2017; Wampold & Imel, 2015). When differences are detected, the effects are small, are limited to targeted symptoms, are specific to completers, are present only at termination, and appear to be in favor of cognitive–behavioral therapies (CBT; Marcus, O'Connell, Norris, & Sawaqdeh, 2014; Tolin, 2014, 2015; Wampold et al., 2017). The superiority of CBT in these meta-analyses with regard to targeted symptoms raises the issue of whether the relative benefits of CBT are due to the cognitive/behavioral components of the treatment or the greater focus on the targeted symptoms. Marcus et al. found heterogeneity in the effects showing CBT superiority. When they examined the four studies that produced the largest effects, they found that the superior treatments were more focused on reducing the particular problems.

> In each of these four studies, a highly symptom-focused treatment (habit reversal or CBT) was more effective than a less-focused treatment (supportive therapy, meditation, or applied relaxation) at reducing a very specific symptom (tics or panic attacks) or a relatively specific symptom (social phobia; p. 527).

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The issue of problem-focused versus more diffuse treatments has not been examined extensively but may be critical to explaining the results of various RCTs and meta-analyses. Recently, Poulsen et al. (2014) found that CBT was superior to psychoanalytic psychotherapy for the treatment of bulimia nervosa. An "enhanced" version of CBT for eating disorders was used (Fairburn, 2008), one which was "the focused form of the treatment, which concentrates exclusively on modifying the patient's eating disorder psychopathology" (Poulsen et al., p. 110). On the other hand, the psychoanalytic psychotherapy focused much less on the eating problems:

> It is characterized by a nondirective approach where the patient is invited to talk as freely as possible, a focus on the therapeutic relationship, and involvement of the patient in a mutual reflection on the function of and the circumstances triggering the symptoms of the disorder. The bulimic symptoms are not necessarily discussed in every session (p. 110).

In this RCT, CBT clearly was more focused on the patient's eating problems and the authors concluded, "The findings indicate the need to develop and test a more structured and symptom-focused version of psychoanalytic psychotherapy for bulimia nervosa" (p. 109).

The relatively unfocused psychoanalytic treatment used in Poulsen et al. (2014) can be contrasted with a focused psychodynamic treatment for an eating disorder investigated by Zipfel et al. (2014). In this multisite RCT, CBT was compared with focal psychodynamic treatment for anorexia nervosa. CBT was similar to the treatment used in the study by Poulsen et al., but the psychodynamic treatment was focused on aspects of the eating disorder. In this case, no differences were found between CBT and focal psychodynamic treatment, indicating that when focused on the particular eating problem, psychodynamic psychotherapy appears to be as effective as CBT.

The various meta-analyses (Marcus et al., 2014; Tolin, 2014, 2015) and the two studies of eating disorders suggest that the degree to which the treatment is focused on patients' problems and actions to overcome these problems is important in psychotherapy, particularly with regard to reduction of targeted symptoms. This is a principle discussed by Jerome Frank over 50 years ago when he claimed that the success of psychotherapy depends on the efforts patients make to address particular problematic areas in their life (Frank, 1961, 1973; Frank & Frank, 1991; Liberman, 1978). The degree to which patients attribute therapeutic gains to their efforts to overcome difficulties is critical to sustaining those gains (Liberman, 1978; Powers, Smits, Whitley, Bystritsky, & Telch, 2008). Many common factor models of psychotherapy stress the importance of specific therapeutic actions (Frank & Frank, 1991; Wampold & Imel, 2015), despite the notion that common factors are limited to relationship components.

Unfortunately, in an effort to establish that the specific ingredients of a treatment are what makes the treatment work, researchers have designed control treatments without specific ingredients, giving them names that refer to their innocuous nature (e.g., nonspecific therapy, supportive counseling, talking controls; see Honyashiki et al., 2014; Smits & Hofmann, 2009; Wampold & Imel, 2015) and likening them to placebos in medical trials. The problems with using psychological placebos in psychotherapy research have been discussed for decades (see, e.g., Kirsch, 2005; Kirsch, Wampold, & Kelley, 2016; Wampold, Frost, & Yulish, 2016; Wampold & Imel, 2015 for recent discussions). One essential problem is that removing specific ingredients from psychotherapy yields something that no longer resembles psychotherapy, neither to the therapist delivering the treatment nor to the patient receiving the treatment. As an example, consider a "talking control" for CBT for depression in older people (Serfaty, Csipke, Haworth, Murad, & King, 2011). In this study, the control treatment was designed with special attention to purportedly providing all of the common factors, including therapist enthusiasm, sympathy, being nonjudgemental, and encouraging the patients to talk about their history, family, and friends. However, at the same time, the therapist was instructed to stay with "neutral topics such as hobbies, news, holidays, etc." and avoid setting an agenda, conceptualizing or explaining the patient's distress, asking the patient about their view of the session, exploring belief systems, or "*collaborating with client to solve problems* [and] *focusing on key problem areas*" (p. 434, Table 1, emphasis added). For example, in the talking control, if the patient stated, "*I am sure my children think I'm a burden and dread visiting me*," it is suggested the therapist say, "*You have children? How many and how old are they*?" (p. 434). Such control treatments are often quite effective (Honyashiki et al., 2014; Smits & Hofmann, 2009), despite their various proscriptions of actions that characterize what any reasonably skilled therapist would include in therapy. Conspicuously missing from these control conditions, as well as some more legitimate treatments (e.g., the psychoanalytic treatment for eating disorders discussed earlier, Poulsen et al., 2014), is a focus on the problems the patient desires to resolve or cope with.

The importance of a focus on the patient's problems is prominent in several theories of psychotherapy change. Wampold and colleagues (Wampold & Budge, 2012; Wampold & Imel, 2015) have proposed the contextual model of psychotherapy, which hypothesizes three pathways through which psychotherapy creates change. The first pathway, which involves empathy and the real relationship (Elliott, Bohart, Watson, & Greenberg, 2011; Gelso, 2011), is unrelated to a focus on patients' problems. The other two pathways of the contextual model posit how a therapeutic focus on patients' problems creates change.

The second pathway involves expectations created by the therapists' explanation to the patient about his or her distress and how engaging in the specific therapeutic actions of therapy will result in distress reduction. Expectations are created by the explanation provided to the patient about his or her problems and how the particular treatment actions will lead to change (Benedetti, 2011, 2014; Wampold & Imel, 2015), aspects of psychotherapy that are problem-focused and that are reflected in agreement about goals (what problem does the patient wish to address?) and tasks (what will happen in therapy to attenuate problems?). More specifically, according to the common factor models (Frank & Frank, 1991; Wampold & Imel, 2015), expectations depend on a cogent treatment rationale and an explanation of how the treatment actions align with the rationale, so that the patient understands how the treatment will help remediate the distress created by his or her problems. Expectations have a strong influence on response to interventions, as demonstrated in the placebo literature (Benedetti, 2011, 2014; Keefe et al., 2017; Price, Finniss, & Benedetti, 2008) as well as in psychotherapy (Constantino, Ametrano, & Greenberg, 2012; Constantino, Glass, Arnkoff, Ametrano, & Smith, 2011).

The third pathway, also related to therapeutic focus, involves the direct effect of the specific therapeutic ingredients on the patient's particular problem. According to the contextual model, the specific actions of therapy induce the patients to make positive changes in their lives, say by thinking about the world in a more adaptive way (CBT), by improving interpersonal relationships (interpersonal psychotherapy), by experiencing and expressing affect appropriately (emotion-focused psychotherapy), or by changing relationship and attachment schema (relational psychodynamic psychotherapy). That is, according to the contextual model, the client is asked to do something specific and the patient believes that this is necessary to remediate the distress of his or her problems.

The second and third pathways of the contextual model involve a focus on the patient's problems. The treatment rationale, which is explained to the patient as a means to address the patient's problems, and participation in therapy actions that are consistent with the treatment rationale and are presented as a means to overcome difficulties are hypothesized to be critical factors in the success of treatment. Treatments that lack a focus on the patient's problems, such as the "talking control" treatment (Serfaty et al., 2011) or the psychoanalytic eating disorder treatment (Poulsen et al., 2014) discussed earlier, will not be as effective as those that contain the components of the second and third pathways of the contextual model. It should be noted that problem focus does not mean that the treatment is focused primarily on symptoms but only that it is clear how the explanation and treatment actions will result in reducing distress.

As discussed earlier, there appears to be heterogeneity of effects produced by comparative RCTs. In some instances, a given treatment appears to be superior to other treatments. In this meta-analysis, we examine whether the superiority of one treatment *vis-à-vis* another in RCTs is due to the relative focus on the patients' problems and, if so, whether these differences are due to expectations (Pathway 2 of the contextual model) or the specific ingredients themselves (Pathway 3 of the contextual model). We chose to focus on RCTs of treatments for anxiety disorders because (a) these disorders are prevalent, (b) there are many treatments focused on particular anxiety disorders, (c) there is conjecture that some treatments for anxiety disorders are superior to others (Tolin, 2014, 2015), (d) expectations seem to be critical to benefits of a variety of anxiety disorders (Borkovec & Costello, 1993; Brown et al., 2014; Chambless, Tran, & Glass, 1997; Kirsch, Tennen, Wickless, Saccone, & Cody, 1983; Newman & Fisher, 2010; Rutherford et al., 2015; Westra, Dozois, & Marcus, 2007), and (e) a variety of focused treatments for anxiety disorders have been tested, including CBT (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012), psychodynamic treatments (Keefe, McCarthy, Dinger, Zilcha-Mano, & Barber, 2014), and interpersonal therapy (Markowitz et al., 2015). Because meta-analyses comparing various treatments have revealed differences on primary (i.e., disorder-specific symptom measures) but not secondary outcomes, we examined (a) disorder-specific symptom measures, (b) other symptom measures, and (c) global outcomes (e.g., well-being or quality of life).

From the first clinical trials of psychotherapy, allegiance of the researcher to a particular treatment has been detected and found to be a confound (Wampold & Imel, 2015). Luborsky, Singer, and Luborsky (1975), in their review of comparative trials of psychotherapy, stated, "It is natural to question whether or not . . . the therapeutic allegiance of the experimenter might . . . influence the results" (p. 1003). The original meta-analysis of psychotherapy trials found unequivocal evidence that studies conducted by advocates of a particular treatment produced larger effects than when others studied the same treatment (Smith, Glass, & Miller, 1980). Luborsky and colleagues (1999) performed a comprehensive study of allegiance, using various ways of operationalizing allegiance, and when combined "the three measures explained 69% of the variance in outcomes!" (p. 95), and they went on to caution that allegiance "can distort comparative treatment results" (p. 95). Since then, the allegiance effects have been verified and the mechanics of these effects identified, particularly how the design features of comparative trials skew the results (Munder, Brütsch, Leonhart, Gerger, & Barth, 2013; Munder, Flückiger, Gerger, Wampold, & Barth, 2012; Munder, Gerger, Trelle, & Barth, 2011; Wampold & Imel, 2015). We therefore examined allegiance, as operationalized as design features that would favor one treatment, to control for an allegiance confound in that we wanted to conclude that problem focus was important rather than design issues, such as the amount of supervision provided.

Method

Inclusion Criteria

To be included in the current meta-analysis, studies needed to have met the following criteria: (a) published in an English-language peer-reviewed journal, (b) used an RCT design, (c) included only adult patients, (d) used direct comparisons of at least two therapeutic treatments that were primarily psychological (excluded treatments that were primarily physical, such as exercise), (e) reported the necessary statistics to calculate effect sizes, (g) were published between 1985 and March 2016, and (h) compared at least two treatments for an anxiety disorder, where patients met the *Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition* criteria for the disorder. The following exclusion criteria were used: (a) studies that contained nonadult patient populations, (b) studies that examined the effect of pretreatment interventions (e.g., adjunctive preparation for therapy), (c) studies that evaluated group versus individual treatment, (d) additive studies (e.g., CBT vs. CBT + meditation), (e) studies that involved treatment-as-usual (TAU) where the TAU was not explicitly defined or was heterogeneous, or (f) studies that investigated modalities other than direct face-to-face therapeutic modalities (e.g., computer-based treatments, self-help treatments). TAU was excluded because the relative focus on the patients' problems would be difficult to determine if the TAU was not sufficiently described or sufficiently homogeneous (Wampold et al., 2011).

We purposefully did not exclude treatments that would not be classified as "bona-fide" treatments. Bona-fide treatments are those that are intended to be therapeutic and contain components with a psychological basis (Wampold et al., 1997). Smits and Hofmann (2009) showed meta-analytically that treatments used as controls in RCTs of anxiety disorders of adults produced sizable pretreatment to posttreatment effects, with low attrition rates. These control conditions, which would not be classified as bona-fide, included supportive counseling, supportive therapy, nondirective supportive therapy, anxiety management, systematic relax-

ation, and discussion groups. Such control conditions, which typically by design do not focus on the particular problems of various anxiety disorders, were included in the present meta-analysis.

Literature Search

The search included studies found by systematically examining several major databases, including PsycINFO, PsycARTICLES, PsycCRITIQUE, Medline, CINAHL, HealthSource: Nursing/Academic Edition, ERIC, Education Fulltext, SocIndex, Social Work Abstracts, Social Sciences Fulltext, and Academic Search Elite, using all pairs of primary with secondary terms and by filtering using the advanced search option "TREATMENT OUTCOME/CLINICAL TRIAL" when this option was available. The primary terms were each of the anxiety disorders from the *Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition* (viz., generalized anxiety disorder, panic disorder, agoraphobia, specific phobia, social phobia, obsessive-compulsive disorder, posttraumatic stress disorder, and acute stress disorder) and the secondary terms were psychotherapy, therapy, supportive psychotherapy, nondirective supportive psychotherapy, randomized controlled study, comparison study, direct comparison, effectiveness, efficacy, outcome, treatment, and study. In addition, the reference lists of any existing meta-analyses on anxiety disorder treatment were inspected to identify additional studies relevant to this analysis. The final literature search for this meta-analysis concluded on March 7, 2016, and is presented in Figure 1. The review of databases resulted in 79,807 search results and the review of other sources (i.e., existing meta-analyses) resulted in 689 search results, totaling 80,496 search results. Each search result was reviewed by a team of graduate students trained in meta-analytic procedures for potential inclusion, which resulted in 197 initial studies. Then, the team of graduate students used the previously identified exclusion criteria and identified 135 RCTs that met both inclusion and exclusion criteria. Studies contained two (115) or more than two (20) treatments. For those studies with more than two treatments, effects for all pairwise comparisons among the treatments were included, resulting in $k = 176$ comparisons ($k = 176$, 140, and 41 for targeted symptoms,

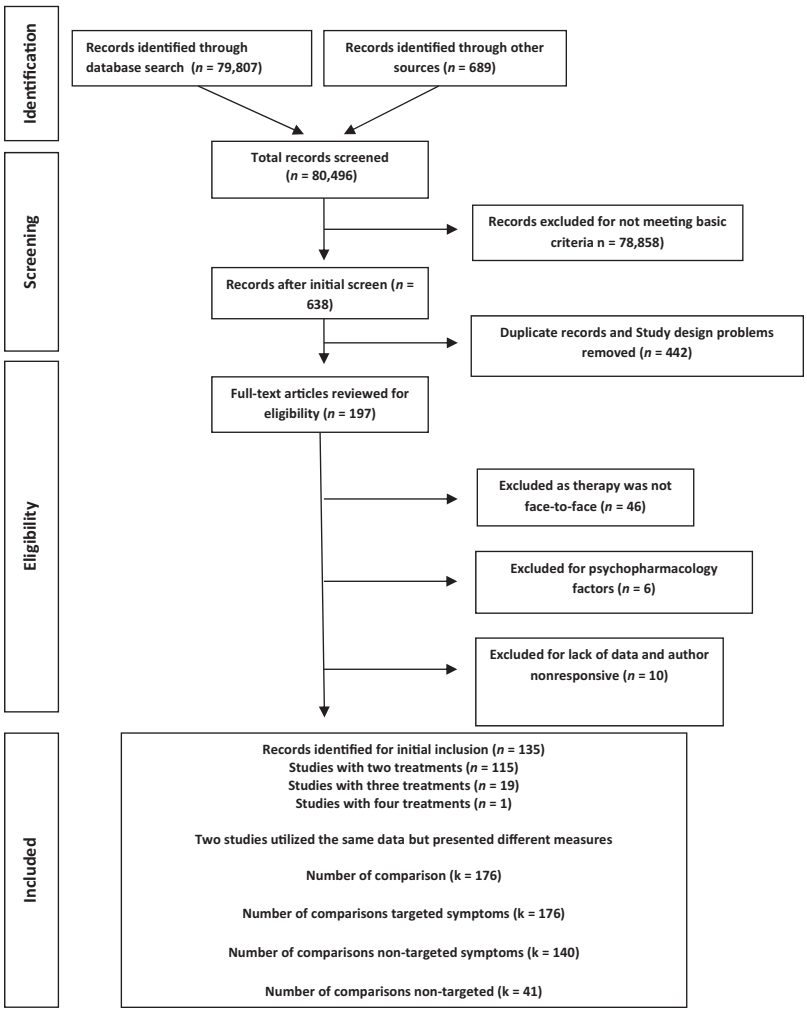

Figure 1. Flow diagram of the study selection process.

nontargeted symptoms, and nontargeted global symptoms, respectively).

Calculation of Effect Sizes

For all pairwise comparisons, effects sizes, the relative focus on the patients' problems, and relative researcher allegiance to the treatments were calculated. These calculations depended on which of the two treatments was designated as Treatment A and which was designated as Treatment B. In this meta-analysis, the two treatments in each comparison were ordered randomly, as is the practice in relative efficacy studies (Benish, Imel, & Wampold, 2008; Imel, Wampold, Miller, & Fleming, 2008; Wampold et al., 1997), and which is a method with known statistical properties (Wampold & Serlin, 2014). That is, for each treatment comparison, which treatment was designated as Treatment A and which was designated as Treatment B was determined randomly. The designation of Treatment A and Treatment B was constant across all calculations. The moderators (relative focus on patients' problems and allegiance) for this meta-analysis were the differences in the scores for each pathway. Thus, differences in outcomes for Treatment A and Treatment B were predicted by the relative focus on patients' problems and researcher allegiance for Treatments A and B.

In the current meta-analysis means, standard deviations, and sample sizes at posttest assessments for each reported outcome measure were obtained to calculate effect sizes. Separate effect sizes were calculated for each of the three types of outcome measures. Effect sizes were computed as Cohen's *d*, which represents the mean difference between the two treatments, where a positive *d* indicates that Treatment A was superior to Treatment B. Cohen's *d* was calculated using the following formula:

$$d = (M_A - M_B)/s$$

where M_A and M_B are the means of Treatments A and B, as designated earlier, and where *s* is the pooled standard deviation of the two groups (Borenstein, Hedges, Higgins, & Rothstein, 2009). The effect sizes were corrected for small sample bias and the variance of each effect size estimate was calculated.

Often studies reported more than one measure for each type of outcome. For this meta-analysis, when an individual study reported multiple measures of each type of outcome, the multiple effects were aggregated for each study under the assumption that correlations of dependent effects within studies were .50 (cf. Wampold et al., 1997 for rationale). This aggregation produced one effect size per outcome type for each comparison. The aggregations within studies were conducted with the R statistical software package for meta-analysis "Mad" (Del Re & Hoyt, 2010).

Study Coding and Moderator Calculation

Included studies were coded on intervention features (e.g., name of treatments, group or individual modality, duration of treatment), patient characteristics (e.g., gender composition and percentage of ethnic/racial minorities included), sample size, attrition, and general aspects of the study (e.g., year published, anxiety disorder), as well as treatment focus, allegiance, and outcome type, as described later.

Coding problem focus. To code the focus of each treatment on the patient's problems, a coding system for the two pathways involving expectations and the action of specific ingredients was developed, using a modified Guttman scale, in which endorsement of each item implies that all of the lower-level items have been also endorsed, providing a means to scale qualitative data (Guttman, 1944). To correspond to the pathways in the contextual model (Wampold & Imel, 2015), the two pathways are labeled Pathway 2 and Pathway 3.[1] The coding system is found in Table 1, with two items for Pathway 2 (treatment rationale and treatment explanation),[2] which were combined (viz., the average of the two items) to form one score denoted by P2, and one item for Pathway 3 (specific techniques), denoted by P3. The items were designed to operationalize the concepts of the contextual model (Wampold & Imel, 2015).

Calculation of focus moderators. The purpose of this study was to determine how the relative focus on the patient's problems moderated the relative effectiveness of the treatments. For Pathway 2, the difference score was calculated as follows:

$$\Delta P2 = P2_A - P2_B$$

where $P2_A$ and $P2_B$ are the scores for Pathway 2 for Treatments A and B, respectively.

And for Pathway 3, the difference score was calculated as follows:

$$\Delta P3 = P3_A - P3_B$$

where $P3_A$ and $P3_B$ are the scores for Pathway 3 for Treatments A and B, respectively.

Researcher allegiance score. For each treatment, a total score for allegiance was calculated, based on a system developed based on the findings of allegiance meta-analyses conducted by Munder and colleagues (Munder et al., 2011, 2012, 2013) that were focused on treatment design issues. The allegiance coding scheme, which is presented in Table 2, has an upper limit of 4 and a lower limit of −3. A positive number demonstrated researcher allegiance that advantaged a treatment, zero indicated no researcher allegiance, and a negative number demonstrated operations that disadvantaged a treatment. The moderator for this meta-analysis was calculated by finding the difference between the two treatment allegiance scores using the following formula:

$$\Delta\text{Allegiance} = \text{Allegiance}_A - \text{Allegiance}_B$$

where Allegiance_A and Allegiance_B were the Allegiance scores for Treatments A and B, respectively.

Types of outcome measures. Types of outcome measures were classified into the following three categories: (1) targeted symptom (i.e., symptom of disorder being treated), (2) nontar-

[1] In the dissertation on which this article is based, a coding system for Pathway 1 (the real relationship) was developed, but we found that articles typically did not provide enough information about components of this pathway, such as empathy or genuineness, to validly and reliably rate this pathway.

[2] There was a third item for Pathway 2 in the dissertation related to whether psychoeducation was present, but treatment descriptions typically failed to indicate whether psychoeducation was provided, especially for various control conditions.

Table 1
Focus Coding

Pathway description	Point value	Description
P2		
Treatment rationale	1	No rationale exists as to how treatment will be helpful or why it was designed to help.
	2	Treatment has a rationale but allows the client to decide the course of treatment, such as is the case in supportive or nondirective interventions.
	3	Treatment not specifically designed for a disorder but is intended to be therapeutic and patients are instructed to confront problems
	4	Treatments that were designed to treat the symptoms of specific disorders.
Explanation of treatment actions to patients	1	Nothing or very little is explained to the patient with respect to the course of treatment.
	2	The therapeutic explanation given to patients talks about the intent to be helpful and that patients get better in some way from this treatment
	3	An explanation of the patient's psychological distress is provided.
	4	Therapeutic actions that are described to the patient and which align with treatment rationale (e.g., if treatment describes anxiety as a consequence of avoidance, then some sort of exposure should be present to reduce avoidance).
P3		
Specific techniques	1	The client is not asked to do anything specific during the course of treatment.
	2	The client is asked to do specific actions, but it is not clear that the actions are health-promoting or that the client believes they are tied to change.
	3	The client is asked to do specific actions and those actions are either health-promoting or the client believes that they are tied to change.
	4	The client is asked to do specific actions that are health-promoting and the client believes the actions are necessary for change.

Note. P2 = Pathway 2 of the contextual Model; P3 = Pathway 3 of the contextual model.

geted symptom (either anxiety symptom not specific to disorder being treated or a nonanxiety symptom, such as depression), or (3) nonsymptom global measure (e.g., well-being or quality of life).

Coding Procedures

Seven doctoral students in counseling psychology were trained to code the treatment focus, allegiance, and outcome type. Coders rated each treatment independent of the other treatments investigated in the RCT and independent of the outcome of the RCT. Treatments were distributed to coders based on their search assignments, and Noah E. Yulish coded all treatments. This resulted in each study being coded twice, once by Noah E. Yulish and then once by another member of the coding team.

If the independent raters disagreed on any aspect of the coded treatment, then the raters discussed the disagreement to come to a consensus. If the raters did not reach consensus after discussion, the principal investigator (last author) would independently evaluate the treatment. However, consensus was always reached between coders.

An index of coder agreement for focus, allegiance, and outcome type was calculated. These analyses were conducted with the R statistical software package "psych" (Revelle, 2015), which has procedures for computing an intraclass correlation coefficient (ICC), an index of rater similarity on coded continuous variables, as well as Cohen's κ, an indicator of rater agreement on categorical variables that corrects for chance agreement (Borenstein et al., 2009). For ICC, two coders coded all studies; therefore, these results are reporting ICC(2,2). ICCs were .76, .80, .76, and .79 for allegiance, treatment rationale, explanation, and specific actions,

Table 2
Researcher Allegiance Coding

Item	Point value	Description
1	+1	If author advocates for treatment or developed treatment
2	+1	If #1 is true, and authors supervised the therapists, were the therapists in their own condition, or the therapists were extensively trained in the treatment
3	+1	If therapists received more supervision/training than other treatment
4	−1	If supervisor is not a recognized expert in treatment.
5	−1	If treatment protocol manual was altered by removing ingredient(s) or changing order in a theoretically deleterious manner.
6	−1	If therapists were proscribed from responding what reasonable therapist would routine do AND proscription was egregious (i.e., proscription was judged to be deleterious to treatment)
7	+1	If greater face-to-face dosage compared with other treatment

respectively. Finally, as outcome type was coded as a categorical variable, Cohen's κ was calculated with a coefficient of .88. Reliabilities were all in the good to excellent range based on Cicchetti's (1994) guidelines.

Statistical Analysis

The current study used a random-effects model based on the assumption that the identified studies were a random sample of studies drawn from a population of potential studies, with findings thus generalizable to the population (Hedges & Vevea, 1998). We used a restricted maximum-likelihood estimator from the "metafor" package (Viechtbauer, 2010) available in the R statistical software environment (R Development Core Team, 2015).

First, we tested the omnibus hypothesis that all treatments were equally effective. This hypothesis has been termed *relative efficacy*. Wampold and Serlin (2014) developed a test for relative efficacy using the statistic *W*, which assesses the heterogeneity of effects under the null hypothesis of no differences among treatments. In this study, it is expected that the null will be rejected because many of the treatments included were not bona-fide treatments and thus some treatments would be more effective than others. The goal of the study was to explain the differences between treatments (i.e., the heterogeneity of effects) by the relative focus on the patient's problems.

The moderator analysis took several steps. First, for each outcome type, a metaregression was conducted with each of the pathway variables (e.g., specific techniques) tested independent of one another as study-level predictors, denoted as:

$$g = B_0 + B_1(\Delta P2) + v_j^*$$

$$g = B_0 + B_1(\Delta P3) + v_j^*$$

where B_0 is the intercept (grand mean for studies when ΔP is zero), B_1 regression coefficient (expected change in effect size per unit change per unit of difference in value of pathway), and v_j^* is error of the variance for study *j*. The formula for v_j^* is:

$$v_j^* = v_j + \tau^2$$

where v_j is the known error of each effect and τ^2 is an estimation based on the included studies of the unknown between-study error.

The next step was to conduct a simultaneous model with both pathways in a metaregression to determine the unique contribution of each pathway (i.e., controlling for the effect of the other pathways):

$$g = B_0 + B_1(\Delta P2) + B_2(\Delta P3) v_j^*$$

Finally, a researcher allegiance moderator analysis was conducted to assess the influence of allegiance. A metaregression with researcher allegiance as a study-level variable was conducted:

$$g = B_0 + B_1(\Delta \text{Allegiance}) + v_j^*$$

where β_0 is the intercept (grand mean for studies when there was no allegiance), and B_1 is the slope (expected effect size change per unit of researcher allegiance change). Then, a simultaneous metaregression with researcher allegiance as well as the therapy focus pathways was conducted:

$$g = B_0 + B_1(\Delta \text{Allegiance}) + B_2(\Delta P2) + B_3(\Delta P3) + v_j^*$$

For each model, an index of heterogeneity I^2 was calculated (Higgins & Thompson, 2002). As an indicator of the size of the effects for the various moderators, the relative reduction in heterogeneity (i.e., I^2) for each model was calculated, similar to the method suggested by Singer (1998).

Hypotheses

First, it was hypothesized that there would be differences among treatments, as reflected in a sufficiently large *W* to reject the null hypothesis that all treatments were equally effective.

For targeted symptom variables, it was hypothesized that the focus moderators (viz., ΔP2 and ΔP3) would predict effect sizes (both singly and simultaneously) and that allegiance would not suppress the significance of the focus moderators. For the nontargeted symptoms, we did not make specific predictions, as the focus on patients' problems was predicted to influence the targeted symptoms, but often, reduction in targeted symptoms and other symptoms covary. For nonsymptom global measures, we predicted that problem focus variables would not predict effects.

Results

A summary of characteristics and effects for all comparisons for each outcome type are contained in the supplemental materials. Included studies are marked by an asterisk in the reference section.

Table 3 presents descriptive statistics for each outcome type. These data include the number of comparisons (*k*) for each outcome type, the aggregated Hedges' *g*, as well as standard error (*SE*) of the aggregate, I^2, a measure of heterogeneity (Higgins & Thompson, 2002), a minimum (min) and maximum (max) value of *g*, and finally Wampold and Serlin's (2014) *W*. Note that aggregate *g*s in all cases were close to zero, as expected because the designation of which treatment was Treatment A was random. How-

Table 3
Descriptive Statistics of Outcome Type

Type of outcome	*k*	g_{agg}	*SE*	I^2	Min	Max	*W*
Targeted symptoms	176	.028	.045	81.83	−2.06	2.28	877.01***
Nontargeted symptoms	140	−.029	.036	56.76	−1.81	1.43	321.27***
Nonsymptom global	42	.007	.062	60.30	−1.39	.68	102.54***

*** $p < .001$, based on comparison of *W* to a χ^2 distribution with *k* degrees of freedom (Wampold & Serlin, 2014).

ever, in all cases, *W* was sufficiently large to reject the null hypothesis that treatments were equally effective. That is to say, on the whole, one treatment was found to be superior to the comparison treatment, or more technically, the null hypothesis of no differences between treatments was rejected. Thus, there was sufficient variation among treatments to conduct a moderator analysis, which will examine whether the differences were due to a relative focus on patients' problems and allegiance.

The correlations among the effects and type of outcome are presented in Table 4. The correlations among the predictors (ΔP2, ΔP3, and ΔAllegiance) as well as their means and variances are found in Table 5. Again, the mean values were close to zero, as expected. It is important for the interpretation of the results to note that the correlations among the predictor variables were relatively large, creating issues for the interpretation of the regression coefficients.

The tests for moderators for each type of outcome are presented in Tables 6, 7, and 8. When entered singly, the problem focus moderators related to Pathway 2 and Pathway 3, as well as researcher allegiance, were significant predictors of effects on targeted symptoms. In the simultaneous metaregressions, whether or not allegiance was entered as a predictor, only the moderator related to Pathway 2 remained statistically significant. It appears that the relative focus on the disorder is most important through Pathway 2, which involves the creation of expectations through an explanation, although interpretation of the relative importance of the predictors is problematic due to presence of collinearity. However, the results clearly support the hypothesis that differences in effectiveness of treatments for anxiety, as assessed by targeted symptoms, are associated with a relative focus on the patient's problems, with the possibility that this is due to the expectations created by explanations provided to the patient. In all regressions, the relative reduction in heterogeneity (Singer, 1998) was modest (about 4%–8%), but the relative reduction was greatest for models containing Pathway 2.

The results for the effects of nontargeted symptom variables were similar to that of targeted symptoms, with the exception that the relative researcher allegiance to a treatment was significant in the simultaneous model. That is, when accounting for the predictors due to focus on treatment, allegiance still accounted for variability in the effects produced. The similarity of results for targeted symptoms and nontargeted symptoms is not surprising, given the relatively large zero-order correlations between the effects for these types of outcomes in the current sample of studies (viz., $r = .76$). In this instance, however, researcher allegiance was an important determinant in the relative efficacy of various treatments of anxiety on nontargeted symptoms, over and above the relative focus on the patient's problems. The relative reduction in heterogeneity for nontargeted symptoms was larger than for targeted symptoms, ranging from 20% to 32%, with the largest reductions for models that contained Pathway 2.

Table 4
Correlations Among Outcomes Types

Type of outcome	1	2
1. Targeted symptoms		
2. Nontargeted symptoms	.76	
3. Global symptoms	.52	.83

Table 5
Correlations Among ΔP Pathways and Allegiance, and Mean and Variance of These Predictors

Predictor	1	2	*M*	Variance
1. ΔP2	—		.00	1.43
2. ΔP3	.84	—	−.02	1.43
3. ΔAllegiance	.65	.56	−.15	3.06

Results differed when examining effects on nonsymptom global outcomes (e.g., well-being). When entered singly, both contextual model pathway variables significantly predicted the relative effects of the two treatments. However, when entered together, neither pathway predicted the relative effects. As well, researcher allegiance was not a significant predictor when entered singly or in the simultaneous model. Relative reduction in heterogeneity ranged from 1% to 14%, with models with either or both pathways leading to reduction in heterogeneity, but allegiance did not play a role in the reduction.

All of the analyses conducted heretofore included all comparisons, although some studies contained multiple comparisons, strictly violating the independence assumption. To ensure the robustness of the results, tests were rerun using only one comparison, selected randomly, from studies with multiple comparisons. Effect sizes and significance tests were essentially unchanged, with one exception. Pathway 2 went from a significant predictor ($B = 0.10$, $p = .044$) to a nonsignificant predictor ($B = 0.09$, $p = .168$) of nontargeted symptom outcomes in the metaregression that included both Pathway 3 and allegiance.

Discussion

The present meta-analysis investigated whether differences in outcome of anxiety treatments were due to the relative focus of the treatment on the patient's problems. As predicted for targeted symptoms, treatment focus, through creating expectations and by using specific ingredients of treatment, predicted the relative efficacy of the treatment. A similar result was found for nontargeted symptoms. It was hypothesized that the focus of treatment would not predict the relative efficacy of global measures. However, it was found that when considered individually, the creation of expectations (Pathway 2 of the contextual model) and provision of specific ingredients (Pathway 3 of the contextual model) were associated with relative efficacy as assessed by global measures, although neither was significant in the simultaneous models. Thus, the central conjecture of the meta-analysis received substantial support: The relative focus of treatment on the patient's problems was associated with more effective treatments, particularly for symptom measures. There was some evidence that Pathway 2 related to expectations was stronger than Pathway 3 related to specific actions for symptom measures, but the relative importance of these two pathways is ambiguous for several reasons discussed later. The support for the contextual model is tempered somewhat by the fact the relative reduction in heterogeneity was larger for nontargeted symptoms than for targeted symptoms, which was unexpected.

Table 6
Meta-Regressions for Targeted Symptom Outcomes (k = 176)

Predictor	*B*	[95% CI]	*p*	I^2	Relative reduction I^2
Single moderator test CM2					
Intercept	.03	[−.05, .10]	.466	75.21	8.09%
ΔP2	.25	[.19, .31]	<.001		
Single moderator test CM3					
Intercept	.03	[−.04, .11]	.379	76.3	6.76%
ΔP3	.22	[.16, .29]	<.001		
Single moderator test allegiance					
Intercept	.05	[−.03, .13]	.252	78.54	4.02%
ΔAllegiance	.13	[.09, .18]	<.001		
Simultaneous model, without allegiance					
Intercept	.03	[−.05, .11]	.440	75.07	8.26%
ΔP2	.20	[.09, .32]	.001		
ΔP3	.05	[−.06, .17]	.351		
Simultaneous model with allegiance					
Intercept	.03	[−.04, .11]	.374	75.05	8.29%
ΔP2	.17	[.05, .30]	.008		
ΔP3	.05	[−.06, .17]	.365		
ΔAllegiance	.03	[−.03, .09]	.267		

The results for researcher allegiance are informative as well. The operationalization of researcher allegiance in this study was based on research procedures related to treatment implementation, as discussed by Munder and colleagues (Munder et al., 2011, 2012, 2013) and shown in Table 2. For symptom measures, allegiance was associated with the relative efficacy of the treatments compared, consistent with the findings of Munder and colleagues. That is, relative researcher allegiance to Treatment A, in terms of treatment design and implementation, was associated with greater symptom reduction for patients receiving Treatment A relative to Treatment B. For targeted symptoms, the importance of a focus on patients' problems remained even when accounting for allegiance, but the effect of allegiance disappeared in the simultaneous model. Therefore, it appears that part of the effect of allegiance is explained by the relative focus of the treatment on targeted symptoms. For nontargeted symptoms, allegiance remained significant in the simultaneous model, again suggesting that research procedures that favor one treatment have an effect on outcome. It is quite possible that the effects of researcher allegiance are instantiated through design aspects that reduce expectations for an alternative treatment.

The results of this meta-analysis have implications for understanding how psychotherapy works, for conducting research on psychotherapy, and for clinical practice. The present results support the notion that a focus on the patient's problems is an important aspect of psychotherapy, particularly for symptom relief. This notion has been a central tenet of common factor models of psychotherapy since Jerome Frank discussed the importance of providing an explanation for the patient's distress and concomitant specific therapeutic actions to overcome the distress (Frank, 1961, 1973, 1978; Frank & Frank, 1991; Liberman, 1978). In the contextual model (Wampold & Budge, 2012; Wampold & Imel,

Table 7
Meta-Regressions for Nontargeted Symptom Outcomes (k = 140)

Predictor	*B*	[95% CI]	*p*	I^2	Relative reduction I^2
Single moderator test CM2					
Intercept	−.03	[−.09, .03]	.315	41.58	26.74%
ΔP2	.17	[.12, .22]	<.001		
Single moderator test CM3					
Intercept	−.02	[−.08, .04]	.496	45.54	19.77%
ΔP3	.14	[.10, .19]	<.001		
Single moderator test allegiance					
Intercept	−.01	[−.07, .05]	.697	43.97	22.53%
ΔAllegiance	.11	[.08, .14]	<.001		
Simultaneous model without allegiance					
Intercept	−.03	[−.09, .03]	.332	41.99	26.02%
ΔP2	.16	[.06, .25]	.001		
ΔP3	.01	[−.08, .11]	.804		
Simultaneous model, with allegiance					
Intercept	−.02	[−.08, .04]	.493	39.23	30.88%
ΔP2	.10	[.003, .21]	.044		
ΔP3	.01	[−.09, .10]	.880		
ΔAllegiance	.06	[.02, .10]	.008		

Table 8
Meta-Regressions for Nonsymptom Global Outcomes (k = 41)

Predictor	*B*	[95% CI]	*p*	I^2	Relative reduction I^2
Single moderator test CM2					
Intercept	.03	[−.09, .14]	.650	53.08	11.97%
ΔP2	.12	[.03, .21]	.011		
Single moderator test CM3					
Intercept	.03	[−.09, .14]	.636	52.2	13.43%
ΔP3	.12	[.04, .21]	.006		
Single moderator test allegiance					
Intercept	.02	[−.11, .14]	.775	59.73	.95%
ΔAllegiance	.04	[−.03, .11]	.291		
Simultaneous model, without allegiance					
Intercept	.03	[−.09, .14]	.638	53.24	11.71%
ΔP2	.02	[−.18, .23]	.818		
ΔP3	.10	[−.09, .30]	.307		
Simultaneous model, with allegiance					
Intercept	.02	[−.10, .14]	.714	54.04	10.38%
ΔP2	.05	[−.17, .27]	.642		
ΔP3	.11	[−.09, .31]	.280		
ΔAllegiance	−.04	[−.13, .05]	.418		

2015), a cogent explanation, therapeutic actions, agreement about the goals and tasks of therapy (i.e., therapeutic alliance), and the health-inducing effect of specific therapeutic actions are identified as mechanisms most important for producing symptom relief. This meta-analysis suggests that expectations created by explanation and therapeutic actions may play a critical role in reducing symptoms. This result is consistent with several studies that have shown an association between expectations and outcomes in the treatment of anxiety disorders (Borkovec & Costello, 1993; Brown et al., 2014; Chambless et al., 1997; Kirsch et al., 1983; Newman & Fisher, 2010; Rutherford et al., 2015; Westra et al., 2007) as well as a recent trial of chamomile for generalized anxiety disorder that demonstrated that greater expectations that the treatment would be effective resulted in greater symptomatic relief (Keefe et al., 2017). The conclusion that problem-focused treatments are more effective is consistent with a meta-analysis of treatments of depression that found that nondirective supportive therapies were less effective than problem-focused structured treatments, although that result was also tempered by allegiance (Cuijpers et al., 2012). The results of the present meta-analysis suggest that the specific therapeutic actions, without an explanation of how they will help the patient, may not be particularly effective. In summary, the results of this study are consistent with common factor models, particularly those proposed by Frank and colleagues (Frank, 1961, 1973, 1978; Frank & Frank, 1991; Liberman, 1978), and the contextual model, proposed by Wampold and colleagues (Wampold & Budge, 2012; Wampold & Imel, 2015).

RCTs are the gold standard for establishing causation. Of course, the mechanisms that cause an observed effect are not easily parsed (Kazdin, 2007, 2009). The finding that Treatment A is superior to Treatment B in reducing symptoms, while presumably caused by differences between Treatment A and Treatment B, does not imply that the purported critical ingredients of Treatment A are responsible for the relative benefits of that treatment. It may well be that Treatment A is more focused on these symptoms, as suggested by the finding of the present meta-analysis, the studies of eating disorders discussed previously (Poulsen et al., 2014; Zipfel et al., 2014), and previous meta-analyses (Marcus et al., 2014). Often CBT is more focused on targeted symptoms and thus may have a distinct advantage, particularly with regards to targeted symptoms (Wampold et al., 2017). Often, a legitimate treatment is compared with a treatment where the therapist is proscribed from talking about the patient's problems or collaborating with the patient to work toward any goal, as was the case with the "talking control" described in the introduction (Serfaty et al., 2011). Nevertheless, these comparisons are often included in meta-analyses (Honyashiki et al., 2014; Cuijpers et al., 2012) that are used to estimate the effects of specific ingredients, although any such conclusions are specious (Kirsch, 2005; Kirsch et al., 2016; Wampold et al., 2016; Wampold & Imel, 2015). That CBT is more effective than a therapy that prohibits the therapist from collaborating with the patient to work on problems, discussing distressing topics, and providing an explanation of the patient's distress or what therapy will provide, and to be instructed to avoid any therapeutic topics by asking the patient how many children they have *does not in any manner of speaking establish the specificity of the ingredients contained therein.* To be informative, at the very least, studies comparing two psychotherapies must balance the focus on patients' problems, as well as the other factors that are necessary for any therapy to be effective. But it is important to note that psychodynamic treatments can vary with regard to the components composing the construct of problem focus and the comments made here apply to treatments in general.

Establishing the mechanisms of change is complicated (Kazdin, 2007, 2009; Wampold & Imel, 2015). Evidence for the mechanisms of various evidence-based treatments can be obtained by dismantling studies (removing the purported critical ingredient), mediation studies, and naturalistic studies, among others (Wampold & Imel, 2015). As this study shows, RCTs can be flawed when various confounds exist, such as the relative focus on the patient's problems (or allegiance, as was also shown in this and many other meta-analyses; e.g., Munder et al., 2011, 2012, 2013).

The results of this meta-analysis suggest that treatments without an explicit focus on patients' problems will not be optimally

effective in reducing symptoms. Sitting with a patient, being warm and accepting, expressing empathy and understanding, but not providing the patient an explanation for his or her distress or a means to overcoming that distress activates only one of the three pathways of the contextual model. Such treatments may well be beneficial, as they are for anxiety disorders (Smits & Hofmann, 2009), but they fail to fully exploit the factors that lead to therapeutic success. The common factors are often discussed in terms of relationship and many interpret equivalence of various treatments as license to provide patients only an empathic relationship (Wampold & Imel, 2015). It is worth emphasizing that the contextual model and most other common factor models emphasize the need to provide a cogent treatment and therapeutic actions intended to overcome the patient's problems. If it is not clear to the patient how what is done in therapy logically (with the patient's logic—not the therapist's) leads to a reduction in distress or achievement of therapeutic goals, the treatment will not be optimally effective. It should be noted that "problem focus" need not, and often will not, be limited to the patient's presenting problem. Problem clarification and agreement on the goals of therapy are aspects of therapy that would precede work on a particular problem or set of problems. As well, the focus of therapy might well change during the course of treatment, as the treatment progresses (or fails to progress).

The results also have implications for training. Clearly training in relationship skills, although extremely important, is not sufficient, as trainees need to learn particular treatments and become skilled in not only the treatment but in the manner in which the treatments are explained to the patient. For instance, explanations that are consistent with cultural values are critical for the success of evidence-based treatments for various cultural groups (Benish, Quintana, & Wampold, 2011).

There are a number of limitations to the present meta-analysis. The coding of contextual model pathways was theoretically derived and accomplished reliably; however, the information about treatments was based on the limited information provided in the article that reported the results. It was our intention to code these variables from the manuals for each treatment, but the yield from requesting manuals from study authors, particularly for various types of comparison treatments, was extremely low. The unavailability of treatment manuals is problematic because it creates scientific ambiguity about mechanisms of change, as an adequate description of those mechanisms is unavailable to the community of scientists (Wampold et al., 2017). Unless scientists know the specification of the mechanisms (i.e., the therapeutic actions) in various treatments, conclusions about such mechanisms should be precluded—that is, unless manuals are available, researchers should not make claims about the treatments. Fidelity to the treatment is irrelevant if scientists are not allowed to know the nature of the actions to which the therapist was adhering. As well, it should be noted that although there was agreement about the coding for the pathways, the validity of the scheme has not been established. Validity is an ambiguous concept that is established through the relationship of a construct with other constructs, and as such, this study provides one piece of evidence for validity, but clearly additional research is needed to establish validity of the coding schemes used in this study.

Another limitation is the necessarily correlational nature of the meta-analytic method used in the current study. We examined the influence of the focus on patients' problems indirectly, examining the association of relative problem focus and effects produced by comparison of two treatments. A more direct test would involve randomized designs where the focus on the patient's problems was experimentally manipulated. It would be particularly informative if the degree of problem focus were manipulated within a particular treatment—for example, is a more problem-focused CBT more effective than a less problem-focused CBT? Particularly problematic in the present study was the relatively high correlations among the predictor variables. This is problematic in the simultaneous regressions because the common variance between two predictors (say Pathway 2 and Pathway 3) may be more important than the unique variance of either predictor. Moreover, correlated predictors increase the standard error of estimates for the coefficients of the predictors, increasing the likelihood of Type II errors (Mason & Perreault, 1991). This strengthens the case for the focus on patient problem variables for symptom measures, as they continue to significantly predict outcomes even in the simultaneous regressions. Theoretically, it is difficult to separate the expectations created in therapy from the specific actions that help to create those expectations. Expectation that a placebo pill will reduce pain is insufficient if the patient does not ingest the pill. Furthermore, the correlations of allegiance and the pathway variables suggest that the design features of the allegiance coding and problem focus overlap. In any such correlational method, there are unobserved variable confounds. For example, in these studies, therapists might have had an allegiance to the more focused treatments.

A third limitation to the present analysis is statistical power. Although the power of this meta-analysis was relatively large (Hedges & Pigott, 2004; Wampold & Serlin, 2014), it varied by type of outcome, with many more effects for symptoms (176 and 140 for targeted and nontargeted symptoms) than for global measures (41 effects). However, in the simultaneous regression for global outcomes, the coefficients for the focus on patient problems variables were relatively small, although relative reduction in heterogeneity was achieved. We did not expect that the focus on patients' problems would predict global outcomes and note that "proving" the null hypothesis is not possible and in the present case, there was less power for examining global outcomes than for the symptom measures.

The data for this study were derived from clinical trials, where treatments are given in controlled and sometimes artificial ways. It is not possible to generalize the findings to the outcomes of unfocused treatments delivered in clinical settings. It might well be that the unfocused treatments in clinical trials are arranged in a way, say by proscribing therapists from certain actions, that attenuates their effectiveness. It may well be that problem focus is better studied in a naturalistic setting, where there is natural variability in problem focus, or in process studies of arms of clinical trials to examine mechanisms of change in a particular treatment.

A final limitation is that this meta-analysis only included published articles. It was our intention to include only those treatment comparisons whose quality was sufficient to be published. However, some studies that failed to find significant differences might have failed to be published, creating a bias. However, in the present study, we were attempting to explain differences between various treatments, rather than to estimate the effect of treatments, so studies that showed differences were desirable. Moreover, com-

parative studies without significant differences are often published, as a means to show noninferiority of a particular treatment or to show superiority to no treatment (Benish et al., 2008; Wampold et al., 1997; Wampold & Imel, 2015).

The purpose of the present meta-analysis was to examine the effects of focusing treatment on the patient's problems. This aspect of therapy has not been studied much, but the results of this meta-analysis suggest that treatment focus as a therapy ingredient warrants further clinical and research attention.

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Received April 13, 2017
Revision received September 20, 2017
Accepted September 20, 2017 ■