

# Journal of Consulting and Clinical Psychology

## **Integrating Motivational Interviewing With Cognitive-Behavioral Therapy for Severe Generalized Anxiety Disorder: An Allegiance-Controlled Randomized Clinical Trial**

Henny A. Westra, Michael J. Constantino, and Martin M. Antony

Online First Publication, March 17, 2016. <http://dx.doi.org/10.1037/ccp0000098>

### CITATION

Westra, H. A., Constantino, M. J., & Antony, M. M. (2016, March 17). Integrating Motivational Interviewing With Cognitive-Behavioral Therapy for Severe Generalized Anxiety Disorder: An Allegiance-Controlled Randomized Clinical Trial. *Journal of Consulting and Clinical Psychology*. Advance online publication. <http://dx.doi.org/10.1037/ccp0000098>

# Integrating Motivational Interviewing With Cognitive-Behavioral Therapy for Severe Generalized Anxiety Disorder: An Allegiance-Controlled Randomized Clinical Trial

Henny A. Westra  
York University

Michael J. Constantino  
University of Massachusetts Amherst

Martin M. Antony  
Ryerson University

**Objective:** Although integrating motivational interviewing (MI) and cognitive-behavioral therapy (CBT) has been recommended for treating anxiety, few well-controlled tests of such integration exist. **Method:** In the present randomized trial for severe generalized anxiety disorder (GAD), we compared the efficacy of 15 sessions of CBT alone ( $N = 43$ ) versus 4 MI sessions followed by 11 CBT sessions integrated with MI to address client resistance/ambivalence ( $N = 42$ ). Clients were adults, predominantly female and Caucasian, with a high rate of diagnostic comorbidity. To control for allegiance, therapists were nested within treatment group and supervised separately by experts in the respective treatments. **Results:** Piecewise multilevel models revealed no between-groups differences in outcomes from pre- to posttreatment; however, there were treatment effects over the follow-up period with MI-CBT clients demonstrating a steeper rate of worry decline ( $\gamma = -0.13, p = .03$ ) and general distress reduction ( $\gamma = -0.12, p = .01$ ) than CBT alone clients. Also, the odds of no longer meeting GAD diagnostic criteria were ~5 times higher at 12-months for clients receiving MI-CBT compared with CBT alone. There were also twice as many dropouts in CBT alone compared with MI-CBT (23% vs. 10%); a difference that approached significance ( $p = .09$ ). The treatments were competently delivered, and intraclass correlations revealed negligible between-therapist effects on the outcomes. **Conclusions:** The findings support the integration of MI with CBT for severe GAD and point to the importance of training therapists in appropriate responsiveness to in-session markers of resistance and ambivalence.

### What is the public health significance of this article?

This study highlights that assimilating MI strategies into CBT for GAD results in better longer-term outcomes than CBT alone. Thus, standard CBT for this debilitating condition can be improved by training therapists to notice markers of client resistance and ambivalence, and to shift in these moments to interventions marked by empathy, collaboration, and client-centeredness.

**Keywords:** ambivalence, cognitive-behavioral therapy, generalized anxiety, motivational interviewing, psychotherapy integration

Cognitive-behavioral therapy (CBT) has well-documented efficacy in treating anxiety (e.g., Cuijpers et al., 2014). However, a substantial proportion of clients either fail to respond, respond only partially, or relapse at follow-up. For example, the Cochrane review of 25 studies of psychological therapies for generalized anxiety disorder (GAD) found significant response

heterogeneity, with 46% of clients demonstrating clinically significant improvement (Hunot, Churchill, Teixeira, & Silva de Lima, 2007). Clearly, there is room to improve CBT for GAD, and particularly for more severe cases, given that higher severity is among the strongest predictors of poorer outcome in psychotherapy in general, and GAD and related disorders in

Henny A. Westra, Department of Psychology, York University; Michael J. Constantino, Department of Psychology, University of Massachusetts Amherst; Martin M. Antony, Department of Psychology, Ryerson University.

Our sincere thanks to the Canadian Institute of Health Research (CIHR) for their financial support of this study (MOP-114909). We also wish to acknowledge the dedication of the people who made this trial possible

including our wonderful post-doctoral fellow, Dr. Suzanne Stone, and the many outstanding therapists, diagnosticians, coders, volunteers, and research assistants. We also wish to thank Lisa Fiorenzo, Aline Sayer, and Alice Coyne at the University of Massachusetts for their excellent statistical and data analysis guidance and support.

Correspondence concerning this article should be addressed to Henny A. Westra, York University, 127 BSB, Department of Psychology, Toronto, Ontario, M3J 1P3 Canada. E-mail: hwestra@yorku.ca

particular (Bohart & Greaves Wade, 2013; Durham et al., 2004; Haby, Donnelly, Corry, & Vos, 2006).

Accordingly, a number of promising adaptations of CBT for GAD have emerged in recent years in an effort to improve response rates (e.g., Dugas et al., 2010; Newman et al., 2011; Wells et al., 2010). Each of these approaches is based on emerging theoretical models highlighting core and previously neglected features of GAD (i.e., intolerance of uncertainty, interpersonal problems, and metacognition, respectively). And in existing studies to date, each adaptation has generated promising results compared to established models of CBT for GAD.

A complementary and alternative way of adapting traditional CBT for GAD stems from considerations that client ambivalence about change may limit response rates to established CBT approaches. For example, Westra and Arkowitz (2010) have argued that because individuals with GAD have been found to hold positive (not just negative) beliefs about the value of their worry, they may be reluctant to relinquish it. And in the context of ambivalence, therapist directiveness or demands for change have been found to robustly trigger clients' resistance/opposition to the therapy or therapist (e.g., Aspland, Llewelyn, Hardy, Barkham, & Stiles, 2008; Beutler, Harwood, Michelson, Song, & Holman, 2011). Moreover, higher levels of resistance have been strongly related to poorer subsequent treatment engagement and outcomes (Aviram & Westra, 2011; Beutler et al., 2011). In contrast, supportive therapy approaches have been found to reliably reduce clients' resistance (Aviram & Westra, 2011; Miller, Benefield & Tonigan, 1993). Such findings underscore the need for flexible intervention in response to readiness for change.

In this context, Motivational Interviewing (MI) may hold promise for augmenting existing efficacious treatments, including established CBT approaches, given its central focus on ambivalence about change (Miller & Rollnick, 2002). MI's relational context, heavily based on the client-centered therapy of Carl Rogers (Rogers, 1959), includes the judicious use of empathy and "MI spirit" (i.e., collaboration, evocation, and preservation of client autonomy). In MI, the therapist refrains from taking the role of change advocate, but instead helps the client become his or her own advocate for change. MI incorporates specific strategies for managing client change ambivalence, which thereby reduces resistance and increases intrinsic motivation (e.g., Aviram & Westra, 2011; Miller et al., 1993). Moreover, MI may be particularly useful in facilitating engagement by building on, rather than replacing, existing treatments. For substance abuse and health behaviors, reviews have supported the use of MI in combination with other treatments for enhanced engagement and outcomes (e.g., Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010).

Although extending MI to the treatment of anxiety is widely recommended, much of the research to date has involved case studies or small, uncontrolled pilot studies (Westra, Aviram, & Doell, 2011). Findings from these studies, though, are promising in demonstrating enhanced engagement with and response to treatment for a variety of anxiety populations. With respect to GAD in particular, a randomized controlled trial revealed that receiving MI before CBT, compared with not receiving the MI pretreatment, was specifically beneficial for clients with high worry severity (Westra, Arkowitz, & Dozois, 2009). Moreover, these individuals exhibited lower levels of observed in-session resistance early in CBT, and this lower resistance mediated the treatment effect

(Aviram & Westra, 2011). However, there were a number of important confounds in this study, including MI-CBT clients receiving more therapy sessions, having two rather than one therapist, and being aware of receiving additional treatment. Moreover, because the MI was delivered as a pretreatment only, the CBT therapists could not move flexibly to respond to client ambivalence as it arose in the context of conducting CBT, thereby limiting the generalizability of these findings to real-world clinical practice.

The present study was designed to provide a strong empirical test of the impact of integrating MI and CBT for GAD. Clients with a principal diagnosis of GAD with high severity worry (the subset of clients with GAD for whom MI-CBT seems particularly indicated) were randomly assigned to receive either 15 sessions of CBT alone or 4 sessions of MI followed by 11 sessions of CBT integrated with MI. The present study included equal therapist contact between treatment groups, a strong comparison group of current gold-standard CBT, and control of robust allegiance effects (Munder, Brüttsch, Leonhart, Gerger, & Barth, 2013). Therapists were nested within treatment groups, they self-selected into the treatment they wished to deliver, and were supervised independently by experts in (and clear proponents of) the respective treatments. We hypothesized that clients in MI-CBT, relative to those in CBT alone, would (a) show greater improvements in the primary outcomes of worry and general distress (i.e., combined depression, anxiety, and stress), (b) show greater clinically significant change on both self-reported outcomes and clinician assessment of GAD diagnostic status, and (c) be less likely to drop out of treatment prematurely.

## Method

Institutional Ethics Review Boards for research involving human participants approved all measures and procedures in the present study.

## Participants

**Clients.** Adults responding to community advertisements in the greater Toronto area were enrolled over a 15-month period from February 2012 to April 2013. Potential clients were phone-screened, and those having a high probability of meeting study criteria for GAD completed an in-person Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* Axis I Disorders (SCID-IV; First, Spitzer, Gibbon, & Williams, 1996). This interview determined whether potential clients had GAD according to DSM versions IV (*DSM-IV*; American Psychiatric Association, 1994) and 5 (*DSM-5*; American Psychiatric Association, 2013). Only those with GAD as the principal diagnosis and scoring above the high severity cutoff of at least 68 of 80 on the Penn State Worry Questionnaire (PSWQ; described below) remained eligible. Those who were unmedicated were required to remain so for the duration of trial. Concurrent antidepressant medication was permitted provided the individual was using the same medication and dose for at least 3 months before study inclusion and agreed to remain on this regimen for the duration of the treatment. A washout period of 3 months was required for individuals who recently discontinued antidepressant medication.

Exclusion criteria included use of benzodiazepines (given their potential to exert amnesic effects; Buffett-Jerrott & Stewart,

2002); a history of psychotic spectrum disorders or bipolar disorder; cognitive impairment, such as neurodegenerative illness or head injury; substance dependence within the past 6 months; and significant current suicidal ideation. Figure 1 presents number of participants enrolled/excluded, randomized, and included in the analyses (Altman et al. & CONSORT Group, 2001). Interrater reliability based on a random sample of 25% of audio-recorded diagnostic interviews for those who were successfully enrolled in the study was good, with an overall kappa of .95 for GAD diagnosis and .87 for all diagnoses.

**Therapists.** Therapists delivered *either* MI-CBT or CBT alone, and they self-selected into condition. There were 13 therapists in the CBT alone group (12 doctoral candidates in clinical psychology and one postdoctoral psychologist), who saw between 1 and 7 cases each (median of 5). Therapists in the CBT alone group were required to have had no formal training in MI, and 92% identified their primary orientation as cognitive-behavioral. There were nine therapists in the MI-CBT group (eight doctoral candidates in clinical psychology and one postdoctoral psychologist) who saw between 3 and 14 cases each (median of 5). In the MI-CBT group, 56% of therapists identified their primary orientation as integrative, 22% as client-centered, and 22% as cognitive-behavioral. Despite having no restrictions on the recruitment of therapists, all therapists were female.

Training for each treatment consisted of readings, 4 day-long workshops including discussion and role-play, and at least one practice case with intensive feedback and video review of therapy sessions. The first author, an expert in MI and CBT, conducted training and case supervision for the MI-CBT therapists. The third author, an expert in CBT, together with a postdoctoral fellow specializing in CBT (under the supervision of the third author)

conducted CBT training (for both groups) and supervised the CBT alone therapists. Across both conditions, only therapists deemed competent (based on supervisor assessment after repeated video review of therapy sessions and supervisor completion of the relevant treatment competence measures during practice cases) moved on to see study cases. All therapists in the CBT alone group saw one practice case and were deemed competent. Therapists in the MI-CBT group saw between 1 and 2 practice cases and 9 of the 14 therapists that entered training were deemed competent to see study clients.<sup>1</sup> Supervision of study cases consisted of video review and weekly individual supervision meetings.

## Treatment Conditions

Both groups received 15 weekly individual sessions. In the MI-CBT group, individuals received up to 4 initial sessions of MI alone,<sup>2</sup> followed by 11 sessions of CBT integrated with MI. All participants also received booster sessions at 1 and 3 months posttreatment.

**CBT.** The treatment was adapted from a number of evidence-based protocols by Barlow and colleagues (e.g., Coté & Barlow, 1992; Craske & Barlow, 2006; Zinbarg, Craske, & Barlow, 2006) that were rooted in Borkovec's work (e.g., Borkovec & Costello, 1993; Borkovec et al., 1987) and included psychoeducation regarding anxiety and worry, self-monitoring, progressive muscle relaxation, cognitive restructuring, and behavioral interventions strategies. Sleep strategies were also incorporated as needed (drawing on Carney & Edinger, 2010). Beginning in Session 14, a relapse prevention plan was developed. To establish consistency in the management of homework noncompliance, CBT-consistent procedures were extracted from the literature and made explicit.<sup>3</sup>

**MI-CBT.** The principles and methods of MI described by Miller and Rollnick (2002) were generalized to the treatment of anxiety (Westra, 2012). Treatment followed Westra's guidelines, which outline both MI alone and the integration of MI with more action-oriented treatments like CBT. With respect to MI alone (the first four sessions), therapists provided a rationale for treatment that included noting that the first four sessions would be more 'exploratory' regarding feelings about change and getting ready to

<sup>1</sup> Therapists in the CBT alone group likely achieved competence relatively more quickly because of prior exposure in training programs to CBT for anxiety and the fact that nearly all therapists in the CBT alone condition came from an established laboratory specializing in CBT for anxiety. In contrast, MI-CBT therapists had relatively more difficulty in achieving competence given the novelty of both MI for anxiety and then the integration of MI with CBT, and consequently, they had relatively less prior exposure to the treatment they would deliver.

<sup>2</sup> The typical client received the 4 initial sessions of MI alone. The exceptions to this were cases where the client was clearly highly motivated, as indicated by the presence of repeated markers of high levels of readiness for change or being clearly frustrated by not receiving 'practical' advice. In those cases, the switch to CBT was made one or two sessions early (with every client receiving the full 15 sessions of treatment total).

<sup>3</sup> Strategies for preventing and responding to noncompliance in the CBT alone condition were derived from procedures recommended in the CBT literature (e.g., Beck, 2005; Kazantzis & Shinkfield, 2007; Waters & Craske, 2005). Examples of prevention strategies were collaboratively setting tasks, gauging perceived task difficulty and ability, presentation of a rationale for tasks, and so forth. Responding to noncompliance strategies included expressing empathy, validating the difficulty of completing tasks, psychoeducation, functional analysis, problem-solving, and so forth.

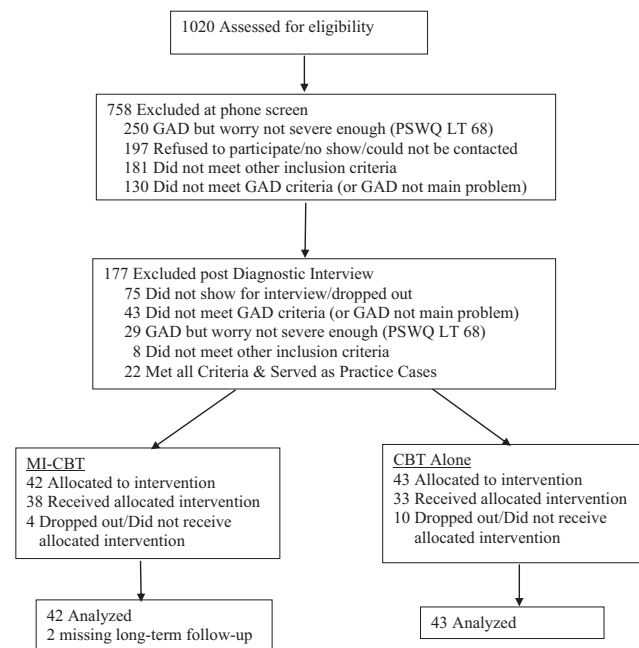


Figure 1. CONSORT flow diagram. GAD = generalized anxiety disorder; PSWQ = Penn State Worry Questionnaire; MI = motivational interviewing; CBT = cognitive-behavioral therapy.



change, which would then be followed by sessions focused on 'practical' strategies to achieve change. During these four initial MI alone sessions, therapists refrained from using any change-oriented strategies and explored client feelings and ambivalence regarding reducing worry and related problems. They used the spirit of MI (autonomy support, collaboration, evocation, and empathy) and the principles of MI (express empathy, develop discrepancy, roll with resistance, support self-efficacy) to help clients focus on, process, and resolve any ambivalence about change prior to taking steps to change. Following this, in the MI-CBT phase, identification and responsiveness to in-session markers of ambivalence and resistance was emphasized. Integration of MI with CBT was accomplished in two ways: (a) therapists could switch back to MI (supportive exploration of ambivalence) in response to markers of ambivalence or resistance, and (b) the underlying spirit of MI was used as a foundational platform from which to conduct CBT.<sup>4</sup>

## Measures

### Therapist protocol delivery.

**MI.** MI integrity was assessed using the Motivational Interviewing Treatment Integrity Code Version 2.0 (MITI; Moyers, Martin, Manuel, Hendrickson, & Miller, 2005). A random sample of 20 min of each selected session is rated for several global dimensions, including empathy and the various elements of MI spirit. Ratings range from 1 to 5, with higher scores reflecting higher levels of the construct. Six undergraduate students were trained to criterion over a period of 6 months and worked independently to make ratings. Regular group meetings were held to reduce rater drift, and disagreements were resolved by discussion. The intraclass correlation coefficient (ICC), which was calculated from a random sample of 25% of videos that were double-coded, was .91.

**CBT.** Treatment competence for CBT was assessed using the Cognitive Therapy Rating Scale (CTRS; Young & Beck, 1980). Skill ratings are made on 11 different dimensions, including interpersonal skills (e.g., collaboration), and specific cognitive therapy skills (e.g., focus on key cognitions), and also for overall session quality. The aforementioned postdoctoral fellow trained five undergraduate students to criterion over a period of 6 months. They worked independently, met regularly to reduce rater drift, and resolved disagreements through discussion. The ICC, which was calculated from a random sample of 25% of videos that were double-coded, was .84.

### Questionnaires.

**Worry.** Clients completed the PSWQ (Meyer, Miller, Metzger, & Borkovec, 1990), a widely used 16-item instrument assessing trait worry. This served as a principal outcome measure. It possesses high internal consistency and temporal stability, as well as good convergent and discriminant validity (Brown, Antony, & Barlow, 1992). Scores range from 16 to 80, with higher scores indicating greater worry. For the current study,  $\alpha$  was .62 at baseline, but ranged from .96 to .97 at posttreatment and follow-up assessments.<sup>5</sup> To determine statistically reliable and clinically significant change, we used Jacobson and Truax's (1991) criteria. To be considered a treatment responder, clients had to pass an empirically derived cutpoint for reliable response (the Reliable Change Index; RCI) and clinically meaningful response (i.e., *Cut-*

*off C*). Drawing on Gillis, Haaga, and Ford's (1995) normative data, the PSWQ had a RCI of 9 and a Cutoff C of 58 (i.e., a score of  $\leq 58$  was closer to the normal than clinical range). Clients with outcomes not meeting these criteria were coded as nonresponders.

**General distress.** Clients completed the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995). Although the three scales of this instrument can be analyzed separately, factor analytic research has demonstrated considerable validity in combining them as a measure of general psychological distress (Campbell-Sills & Brown, 2010; Henry & Crawford, 2005), which fit our interest as a complementary primary outcome to worry. The DASS total score demonstrates good reliability and validity, and the 21-item version, which we used, has been found to be psychometrically comparable to the original 42-item version (Antony, Bieling, Cox, Enns, & Swinson, 1998). Total DASS scores range from 0 to 63, with higher scores reflecting higher levels of general distress.<sup>6</sup> For the current study, DASS total score  $\alpha$  ranged from .88 to .93 over the various assessments. To determine statistically reliable and clinically significant change, we again used Jacobson and Truax's (1991) criteria. To be considered a treatment responder, clients had to pass the RCI of 10 and Cutoff C of 19 established for the DASS total score drawing on Henry and Crawford normative data. Clients not meeting these criteria were coded as nonresponders.

**Motivation.** Clients completed the *Change Questionnaire* (CQ; Miller & Johnson, 2008), a 12-item measure in which the respondent identifies what they are considering changing (in the current study this was entered as "to worry less") and items are completed with reference to that change. Two items each represent desire, ability, reasons, need, commitment to change, and taking steps to change, and are rated on a 0 (*definitely not*) to 10 (*definitely*) scale. Scores range from 0 to 120, with higher scores indicating higher levels of motivation. The CQ has good internal consistency and test-retest reliability (Miller & Johnson, 2008). For the current study,  $\alpha$  was .82 at baseline.

## Sample Size and Power

To estimate the sample size required to detect a treatment effect, we used the formula provided by Raudenbush and Xiao-Feng (2001) and incorporated into the Optimal Design computer program. With a minimum of 6 measurement occasions spaced over

<sup>4</sup> Note that for those clients who would have been highly motivated at baseline, MI would still have been infused into their treatment through the initial MI sessions and through the use of MI spirit as a base for conducting CBT.

<sup>5</sup> The restriction of range on the PSWQ at baseline likely negatively influenced reliability. Given high severity on the PSWQ as a criterion for inclusion, the measure did not have its typical level of variability, thus compromising its ability to discriminate the amount of true variance relative to the total variance (i.e., the reliability estimate of true vs. error variance, or internal consistency). With more variability at posttreatment and follow-up assessments, the internal consistency of the measure was back to its typically high levels.

<sup>6</sup> Total DASS scores were computed by summing scores on the items. This total score was not doubled since doubling is normally reserved for the separate subscale scores, as per the manual.

18 weeks of treatment,<sup>7</sup> we needed a total sample of 89 clients to have .80 power to detect moderate treatment effects on linear change rates. (The power curve was based on the study by Westra et al., 2009).

## Procedure

Stratified randomization using a random number generator was conducted by subgroups of 10 based on clients' baseline outcome expectation score (i.e., "On a scale from 0% to 100%, how much do you expect your anxiety symptoms to improve in this treatment?"). Following assessment, a research assistant sent eligible client information to the second author (who had no contact with clients) for treatment group assignment. Clients were treated at one of two sites in Toronto: 62% at Ryerson University and 38% at York University. The sites were similar-sized outpatient clinics, had similar operating procedures, and were both located in University settings. An equal number of clients from each treatment group were seen at each site. Clients were randomly assigned to therapist within the constraint of therapist availability.

The SCID-IV was administered at baseline, posttreatment, and at 6- and 12-month follow-up assessments. Diagnosticians were blind to treatment group assignment. The PSWQ was completed at baseline, after every session, posttreatment, and 6- and 12-month follow-up. The DASS was completed at baseline, after Sessions 6, 10, and 14, posttreatment, and 6- and 12-month follow-up. The CQ was administered at baseline. To determine treatment competence (MITI & CTRS), one early session (1), middle session (6), and late session (11) for 100% of client-therapist dyads were coded by raters blind to treatment group.

## Data Analyses

First, we conducted various preliminary analyses. We calculated descriptive statistics to characterize the client and therapist samples. We also examined the shape of distribution of all study variables; any nonnormally distributed variable was transformed. Next, we compared the treatment conditions on all baseline client and therapist variables using *t* tests for continuous variables (and estimates of effect size for significant effects) and chi-square analyses for categorical variables. If a significant difference existed on a variable by chance, thus compromising group equivalence, we controlled for its potential bias in one of two ways. For continuous dependent variables, we removed the effects of baseline difference by regressing the dependent variable on the baseline variable(s), and used the outputted residual score. (This adjusted dependent variable reflects the remaining variance not explained by the variable(s) on which the groups differed at baseline.) For dichotomous dependent variables, we included the baseline variable as a covariate in multivariate analyses. We also addressed the potential effect of site in our analytic models. Also, given our interest in assessing outcomes across a follow-up period, we also compared the treatment conditions on psychotropic medication use (yes/no) and additional treatment (yes/no) during the follow-up period, using chi-square analyses.

Second, we examined therapist protocol delivery. Specifically, we examined whether the groups were comparable on therapist competence in delivering CBT techniques and differed on therapist fidelity to MI techniques (as would be expected by design), using

estimates of between group effect sizes and confidence intervals around these effects.

Third, we used hierarchical linear modeling (HLM) to examine rates and patterns of change on the primary continuous outcome variables (PSWQ and DASS). HLM is appropriate for analyzing longitudinal data, as it accounts for the dependency in multiple successive measures coming from the same client and provides more accurate estimates of standard errors than ordinary least squares (OLS) regression (Raudenbush & Bryk, 2002). Moreover, HLM accommodates missing data, retaining clients in the analysis who have at least one score on the dependent variable (mimicking an intent-to-treat, ITT, approach). Specifically, we conducted a piecewise 2-level mixed model to estimate within-patient differences (level-1) and between-patient differences (level-2). Based on our visual inspection of individual change patterns, there was some indication of curvilinear change across acute treatment (piece 1), but not across the follow-up period (piece 2). Thus, for piece 1, we first fit a series of unconditional models to the outcome data to determine whether a linear or quadratic model best fit the data (i.e., shape of clients' change trajectories). We then analyzed at level-2 the effect of treatment on rates and patterns of outcome change for the two pieces in the model. Also, because clients were nested within therapists, we explored the amount of variability in outcomes that occurred at the therapist level by calculating the ICCs from 3-level unconditional models. These calculations informed whether we included the therapist at level-3 in our primary analyses.

Fourth, we conducted multilevel logistic regressions to examine clinically significant change from posttreatment through 12-month follow-up in terms of recovery (i.e., no longer meeting diagnostic criteria for GAD) and on the primary outcome measures (i.e., meeting reliable and clinically significant change criteria on the PSWQ and DASS). For these models, treatment group was the predictor of the likelihood of recovery or clinically significant change, with relevant covariates included in the model. To ensure a conservative estimate of treatment effects, these analyses were conducted on the ITT sample, with last observation (of meeting or not meeting diagnostic criteria or clinically significant change criteria) carried forward. Finally, we conducted a chi-square analysis to examine between group differences in attrition.

## Results

### Preliminary Analyses

We came close to reaching our power estimate, with 43 clients being randomized to CBT alone and 42 to MI-CBT. Client characteristics, by condition, are presented in Table 1. All relevant study variables were normally distributed, thus only requiring basic linear transformation to center them at 0 for ease of model interpretation. As noted in the Table 1, several between group differences for client characteristics emerged. Twenty-three percent of all clients were concomitantly using psychotropic medication (mainly antidepressants), with more medicated clients in CBT alone than MI-CBT,  $\chi^2(1) = 3.94, p = .047$ . On the CQ, CBT

<sup>7</sup> Our original intention was to have clients receive 18 weeks of treatment; however, budget cuts limited our active treatment phase to 15 weeks.

Table 1  
*Client Characteristics at Baseline by Treatment Condition*

Variables	CBT ( <i>n</i> = 43)				MI-CBT ( <i>n</i> = 42)			
	<i>M</i>	<i>SD</i>	<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>n</i>	%
Age	34.19	11.92			32.45	10.54		
Sex								
Female			41	95.35			34	80.95
Male			2	4.65			8	19.05
Race								
Caucasian			33	76.74			31	73.81
Asian			5	11.63			6	14.29
Hispanic			2	4.65			1	2.38
African Canadian			0	.00			2	4.76
Multiracial			3	6.98			2	4.76
Marital status <sup>a</sup>								
Cohabiting/married			23	53.49			24	57.14
Single			16	37.21			17	40.48
Divorced/widowed/separated			3	6.98			1	2.38
Employment status								
Unemployed/not in school			13	30.23			9	21.43
Employed/in school			30	69.77			33	78.57
Highest level of education								
Elementary			1	2.33			0	.00
High school			16	37.21			11	26.19
Postsecondary			18	41.86			19	45.24
Graduate school			8	18.60			12	28.57
Worry chronicity in years	13.43 ( <i>Mdn</i> = 7)	12.72 (range = 1 to 45)			10.98 ( <i>Mdn</i> = 8)	9.53 (range = 1 to 45)		
Concurrent psychotropic use <sup>b</sup>								
Yes			14	32.56			6	14.29
No			29	67.44			36	85.71
Previous counseling								
Yes			32	74.42			31	73.81
No			11	25.58			11	26.19
Comorbidity <sup>c</sup>								
Anxiety disorder			31	72.09			29	69.05
Depression/dysthymia			17	39.53			13	30.95
Outcome variables								
PSWQ	75.05	3.43			74.69	3.44		
DASS	32.59	11.84			29.19	10.76		
CQ <sup>b</sup>	107.23	8.76			101.60	11.50		

*Note.* *M* = mean; *SD* = standard deviation; PSWQ = Penn State Worry Questionnaire; DASS = Depression Anxiety Stress Scales; CQ = Change Questionnaire; CBT = cognitive-behavioral therapy; MI = motivational interviewing.

<sup>a</sup> Category sums to less than 43 (and less than 100%) for the CBT condition because of missing data. <sup>b</sup> Groups differed significantly at baseline on this variable ( $p < .05$ ; differences described in text). <sup>c</sup> Category sums to more than each group's sample size given that clients could have more than one type of comorbid, secondary diagnosis.

alone clients reported significantly higher levels of motivation at baseline ( $M = 107.23$ ,  $SD = 8.76$ ) compared to MI-CBT clients ( $M = 101.59$ ,  $SD = 11.49$ ),  $t(83) = 2.55$ ,  $p = .01$ ,  $d = 0.55$ , 95% CI [0.11, 0.98]. In addition to varying between treatment conditions, these two variables also differed by site. Thus, we first residualized out the effect of site on both medication status and motivation. Next, we residualized out the effects of medication status and motivation (the now residualized scores with the effect of site removed) on the primary continuous outcome variables. For dichotomous dependent variables, the residualized medication status and motivation variables were included as covariates in the models. Treatment groups did not significantly differ on psychotropic medication use at 6-month follow-up (9 taking meds in CBT alone vs. 4 in MI-CBT),  $\chi^2(1) = 2.94$ ,  $p = .09$ , or at 12-month follow-up (11 taking meds in CBT alone vs. 5 in MI-CBT),  $\chi^2(1) = 3.66$ ,  $p = .06$ . The groups also did not significantly differ

on receiving additional treatment during follow-up, as reported at 6 months (6 in CBT alone vs. 3 in MI-CBT),  $\chi^2(1) = 1.04$ ,  $p = .31$ , and 12 months (9 in CBT alone vs. 4 in MI-CBT),  $\chi^2(1) = 2.94$ ,  $p = .09$ .

Regarding the therapist sample, both age and level of experience were highly skewed (one therapist in each group was a postdoctoral fellow who were each older and with more experience than all the other therapists). Therapist groups did not differ on median age (MI-CBT = 29; CBT alone = 28),  $t(19) = 0.62$ ,  $p = .541$ .

### Therapist Protocol Delivery

MI integrity was consistently high over the course of treatment in the MI-CBT group (i.e., as noted, Sessions 1, 6, & 11 were assessed), with global therapist empathy ratings approaching the MITI's ceiling of 5 (range of  $M = 4.38$ ,  $SD = 1.01$  to  $M = 4.61$ ,

$SD = 0.63$ ). Empathy was much lower in the CBT alone group (range of  $M = 1.64$ ,  $SD = 0.74$  to  $M = 2.05$ ,  $SD = 0.93$ ) with large between group effect sizes (range  $d = 2.64$ , 95% CI [2.03, 3.19] to  $d = 3.22$ , 95% CI [2.55, 3.83]). A similar pattern was found for global ratings on MI spirit which were consistently high in the MI-CBT group (range of  $M = 4.33$ ,  $SD = 0.98$  to  $M = 4.49$ ,  $SD = 0.62$ ) and much lower in CBT alone (range of  $M = 1.89$ ,  $SD = 0.74$  to  $M = 2.26$ ,  $SD = 0.81$ ), with large between group effect sizes (range  $d = 2.18$ , 95% CI [1.62, 2.69] to  $d = 3.09$ , 95% CI [2.43, 3.68]).

CBT competence in the CBT alone group was good (range of  $M = 38.99$ ,  $SD = 7.72$  to  $M = 45.98$ ,  $SD = 9.55$ ). This compares favorably, for example, with the average score of 41.28 ( $SD = 4.24$ ) on the CTRS in the CBT group of the Treatment of Depression Collaborative Research Program (TDCRP; Shaw et al., 1999). CBT competence in the MI-CBT group was more variable. As expected, during the MI only phase, CBT competence was very low ( $M = 24.94$ ,  $SD = 6.52$ ). Subsequently, CBT competence in this integrative condition ranged from lower late in treatment ( $M = 31.81$ ,  $SD = 8.81$ ) to moderate at midtreatment ( $M = 40.65$ ,  $SD = 7.21$ ).<sup>8,9</sup>

### Primary Continuous Outcomes

We first examined the residualized PSWQ as a primary continuous outcome (see Table 2). For piece 1 (acute treatment), a quadratic model was a better fit to the data than a linear model,  $\Delta\chi^2(5) = 118.54$ ,  $p < .001$ . We next analyzed at level-2 the effect of treatment (0 = CBT alone; 1 = MI-CBT) on rates of worry change (slopes for acute treatment and follow-up, and acceleration over time for acute treatment). This piecewise model was centered at week 15, as the model intercept (i.e., the value of the outcome when all of the predictors are zero, including time) needs to be the time that the two pieces share in common. This allows the model, which estimates both pieces simultaneously, to have one meaningful intercept. As depicted in Figure 2, there was no effect of treatment group on worry level or rate of change at Session 15; however, MI-CBT clients had a significantly steeper rate of worry reduction over the follow-up period. The effect size in growth curve models is represented by a pseudo  $R^2$  statistic, which indicates how much variance in the outcome variable is explained by a predictor variable. In this model, treatment condition accounted for a 7.84% reduction of unexplained variance in the rate of worry change across the follow up period. Finally, we examined therapist effects on residualized PSWQ variability. The ICC was .0016, suggesting that between therapist differences accounted for just .16% of the variance (thus not necessitating a 3-level model).

We next examined the residualized DASS total score as a primary continuous outcome (see Table 3). For piece 1, a quadratic model was a better fit to the data than a linear model,  $\Delta\chi^2(5) = 12.43$ ,  $p = .03$ . We then analyzed at level-2 the effect of treatment on rates of distress change (again, slopes for acute treatment and follow-up, both centered at Session 15, and acceleration over time for acute treatment). As depicted in Figure 3, there was no effect of treatment group on global distress level or rate of change at Session 15; however, MI-CBT clients had a significantly steeper rate of distress reduction over the follow-up period than the CBT only clients. Treatment condition accounted for a 19.05% reduction of unexplained variance in the rate of distress change across

the follow up period. The ICC for therapist effects on the DASS was .00001, suggesting that between therapist differences accounted for .001% of the variance (thus not necessitating a 3-level model).

### Clinically Significant Change

When examining diagnostic status as a clinically significant change outcome, we conducted the logistic regression centered at 12-month follow-up and including medication status and baseline motivation as covariates (see Table 4). We centered at 12 months given that we were most interested in differences at the final point of the trial for all of our binary outcomes, as well as change on these outcomes over the follow-up period. At this time, MI-CBT clients compared to CBT alone clients were significantly more likely to be recovered (they had 5.49 times greater odds of no longer meet GAD diagnostic criteria). Moreover, when using robust standard errors,<sup>10</sup> treatment group also was marginally ( $p = .09$ ) related to the slope of diagnostic status; MI-CBT clients compared with CBT alone clients had a greater increase in the likelihood of being recovered over the follow-up period. The ICC for therapist effects on diagnostic status was .0074, suggesting that between therapist differences accounted for <1% of the variance (thus not necessitating a 3-level model). The percentages of clients in the MI-CBT group (ITT<sup>11</sup>) no longer meeting criteria for GAD were 50% at posttreatment, 62% at 6 months, and 60% at 12 months. For the CBT alone group, the comparable percentages were 41% at posttreatment, 41% at 6 months, and 35% at 12 months.

When examining clinically significant change on the self-report measures of PSWQ and the DASS (coded as 0 = not meeting change criteria, 1 = meeting change criteria), we conducted logistic regressions centered at 12-month follow-up and included medication status and baseline motivation as covariates (see Table 4). On the PSWQ, MI-CBT clients compared to CBT alone clients were more likely to meet clinically significant change criteria (7.43 times greater odds). Treatment group was unrelated to the slope of clinically significant change status for the PSWQ when using robust standard errors ( $p = .16$ ). The ICC for therapist effects on

<sup>8</sup> Note that there would also be some lowering of CBT competence scores in the MI-CBT condition secondary to measurement artifact. That is, the CTRS was designed to measure "pure" CBT competence and was not designed to accommodate deviations from it, such as those necessitated in this integrated treatment. Such "deviations," particularly because the points of integration involve "non CBT" elements and are very different in style (i.e., supportive vs. directive), would necessarily lower ratings of straight CBT competence.

<sup>9</sup> We also note that MI-CBT therapists indicated their own adherence after each session as reflecting either: 100% MI, 100% CBT, or a Mix of MI-CBT. Supporting the distinctiveness of the conditions and their appropriate delivery, early in treatment they reported using nearly exclusively MI, then by Sessions 3 and 4 up to 24% of MI-CBT therapists were introducing at least some CBT, and by session five and following they consistently reported using 100% CBT (60% or more of sessions) or a mix of CBT and MI (33% of sessions).

<sup>10</sup> We report robust standard errors for all dichotomous outcome variables in this section because there was a substantive discrepancy between the ordinary and robust estimates of the standard error. Such discrepancy may reflect non-normal distribution of the dependent variable, which in this case is because of the binary nature of the outcomes.

<sup>11</sup> Dropouts were coded as not meeting recovery criteria.



Table 2  
*Comparison and Parameters for Unconditional Model and Treatment Condition Predicting Worry (PSWQ) Change Over Acute Treatment and Follow-Up*

Parameter	Fixed effects	
	Unconditional model Unstandardized coefficient (SE)	Treatment model Unstandardized coefficient (SE)
Average worry S15, $\gamma_{00}$	-9.62*** (1.92)	-9.32*** (2.70)
Treatment type, $\gamma_{01}$		-.64 (3.83)
Piece 1 linear worry change at S15, $\gamma_{10}$	-1.49*** (.29)	-1.61*** (.41)
Treatment type, $\gamma_{11}$		.23 (.58)
Piece 2 linear worry change at S15, $\gamma_{20}$	-.06* (.03)	.0006 (.04)
Treatment type, $\gamma_{21}$		-.13* (.06)
Piece 1 quadratic worry change, $\gamma_{30}$	.01 (.02)	.003 (.03)
Treatment type, $\gamma_{31}$		.02 (.04)
Deviance statistic	9871.98	9865.04
Improvement in model fit	$\Delta\chi^2(4) = 6.94, p = .14$	
Variance components	Random effects	
	df = 84	df = 83
Intercept, $u_0$	291.46***	290.75***
Linear Piece 1, $u_1$	5.08***	5.04***
Linear Piece 2, $u_2$	.05***	.05***
Quadratic Piece 1, $u_3$	.02***	.02***
Level 1, $r$	44.35	44.35

Note. PSWQ = Penn State Worry Questionnaire; SE = standard error; S = session; Treatment type coded as 0 = CBT alone, 1 = MI-CBT; S = session.

\*  $p < .05$ . \*\*\*  $p < .001$ .

clinically significant change on the PSWQ was .00042, suggesting that between therapist differences accounted for far less than 1% of the variance (thus not necessitating a 3-level model). The percentage of clients in the MI-CBT group (ITT<sup>11</sup>) who achieved recovery on the PSWQ was 74% at posttreatment, 76% at 6 months, and 83% at 12 months. For the CBT group, the comparable percentages were 63% at posttreatment, 63% at 6 months, and 53% at 12 months.

For the DASS, again, MI-CBT clients compared with CBT alone clients were significantly more likely to meet clinically significant change criteria 1-year posttreatment (5.50 times greater odds). Moreover, treatment group was significantly related to the slope of clinically significant change status for the DASS when using robust standard errors; MI-CBT clients compared with CBT alone clients had a greater increase in the likelihood of meeting criteria over the follow-up period. The ICC for therapist effects on DASS clinically significant change was .00039, suggesting that between therapist differences accounted for much less than 1% of the variance (thus not necessitating a 3-level model). The percentage of clients in the MI-CBT group (ITT<sup>11</sup>) who achieved recovery on the DASS was 60% at posttreatment, 76% at 6 months, and 76% at 12 months. For the CBT group, the comparable percentages were 65% at posttreatment, 53% at 6 months, and 51% at 12 months.

### Attrition

There were twice as many dropouts in CBT alone (23%,  $N = 10$ ) compared with MI-CBT (10%,  $N = 4$ ),  $\chi^2(1) = 2.91, p = .09$ . This effect approached significance.

### Discussion

This study was a well-controlled test of integrated MI-CBT compared with CBT alone for severe GAD. Results indicated no immediate posttreatment outcome differences; however, multiple group differences became apparent at 6-month and 1-year follow-up assessments. On self-reported worry and general distress, MI-CBT clients demonstrated a greater rate of improvement over follow-up. That is, although CBT-alone clients generally retained their gains, MI-CBT clients continued to improve after treatment ended. MI-CBT clients also showed significantly higher rates of recovery (independent assessor ratings of diagnosis) and clinically significant change (self-reported worry and distress) compared to CBT alone clients over the follow-up period. Confidence in the findings increases when considering a 97% return rate among treatment completers for each of the follow-up assessments.<sup>12</sup>

Delayed, or sleeper, effects, have been frequently observed in the MI literature. In a meta-analysis of 12 studies examining combined CBT/MI versus treatment-as-usual for comorbid alcohol abuse and depression, the beneficial effect of CBT/MI on alcohol use was not only maintained, but also significantly strengthened from posttreatment through 12-month follow-up (Riper et al., 2014). Similar evidence of increasing improvement from posttreatment to longer-term follow-up for MI/MET (Motivational En-

<sup>12</sup> This high return rate was likely the results of clients being reimbursed \$75 for each follow-up occasion, and the research assistants stressing from the beginning of the study the critical importance of the follow-up assessments.

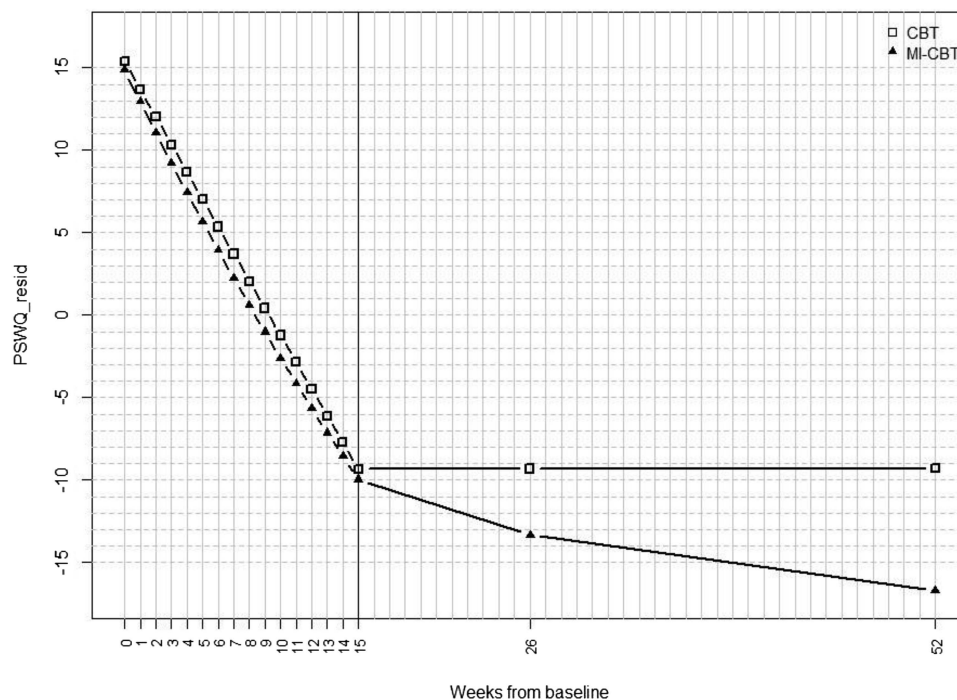


Figure 2. Penn State Worry Questionnaire (PSWQ; worry) change over acute treatment (piece 1) and follow-up (piece 2) by treatment condition. CBT = cognitive-behavioral therapy; MI = motivational interviewing.

hancement Therapy) has been observed in other studies of substance abuse (e.g., Bagøien et al., 2013; Murphy, Chen, Naar-King, & Parsons, 2012). Such studies speak not only to the durability of MI-related gains, but also continued improvement over time (and after treatment has ended). Identifying the elements of treatment associated with continued improvement will be important for future research.

### Benchmarking

When benchmarked against the posttreatment results in the Westra et al. (2009) trial of adding MI as a pretreatment to CBT for GAD, the current 1-year follow-up findings are nearly identical. This convergence across studies further increases confidence in the conclusion that MI-CBT is beneficial relative to CBT alone for high severity GAD. There are also important differences between these trials. In the previous trial, the effects of MI-CBT over CBT alone were limited to the PSWQ (vs. other outcome measures) and there was some evidence of relapse over time. In contrast, the benefits of MI-CBT in the present trial extended beyond worry and rather than relapsing, MI-CBT clients continued to improve. These enhanced outcomes might reflect the use of a fully integrated MI-CBT approach in the present study compared to using MI as a pretreatment only in the Westra et al. (2009) trial. That is, the present model allowed for responsive management, in the moment, to contextual markers of ambivalence and resistance.

Benchmarked against previous trials of CBT alone for GAD, the response rates for the MI-CBT group in this study are higher. In perhaps the most relevant previous study that involved high se-

verity, poor prognosis clients with GAD, Durham et al. (2004) reported that 40% of those who received up to 20 CBT sessions no longer met diagnostic criteria at 6-month follow-up. This compares with 67% of MI-CBT clients who no longer met GAD criteria at 12-month follow-up in the current study. Moreover, the effect size on worry at 1-year posttreatment for the MI-CBT group was large ( $d = 0.93$ ) when benchmarked against worry reduction in 10 previous CBT for GAD studies (see meta-analysis by Covin, Quimet, Seeds, & Dozois, 2008<sup>13</sup>).

Attrition rates for the CBT-alone group in the present study were higher than those in some studies of GAD treatment (e.g., Dugas et al., 2010; Newman et al., 2011; Wells et al., 2010), and comparable to others (e.g., Durham et al., 2004; Hayes-Skelton, Roemer, & Orsillo, 2013). We suspect that the CBT alone dropout rate in this study might be higher because the focus was on clients with more severe GAD. The only other CBT study to focus on a severe GAD sample (Durham et al., 2004) found a dropout rate of 25.6%, which was slightly higher than the rate in our CBT-alone condition. High symptom severity has been found to be among the strongest predictors of poorer outcome in GAD treatment, so it is not surprising that studies focusing on more severe presentations would have higher attrition rates (Haby et al., 2006).

<sup>13</sup> The *SD* for previous trials of 8.86 for GAD subjects was used for the previous studies group, as reported in the normative sample estimates of Molina and Borkovec (1994).

Table 3  
*Comparison and Parameters for Unconditional Model and Treatment Condition Predicting General Distress (DASS—Total) Change Over Acute Treatment and Follow-Up*

Parameter	Fixed effects	
	Unconditional model Unstandardized coefficient (SE)	Treatment model Unstandardized coefficient (SE)
Average distress S15, $\gamma_{00}$	-3.35 <sup>***</sup> (1.26)	-3.00 <sup>†</sup> (1.78)
Treatment type, $\gamma_{01}$		-.75 (2.53)
Piece 1 linear distress change at S15, $\gamma_{10}$	-1.16 <sup>***</sup> (.31)	-.83 <sup>†</sup> (.44)
Treatment type, $\gamma_{11}$		-.65 (.61)
Piece 2 linear distress change at S15, $\gamma_{20}$	-.01 (.02)	.05 (.03)
Treatment type, $\gamma_{21}$		-.12* (.05)
Piece 1 quadratic distress change, $\gamma_{30}$	-.02 (.02)	.01 (.03)
Treatment type, $\gamma_{31}$		-.06 (.04)
Deviance statistic	4109.42	4095.53
Improvement in model fit	$\Delta\chi^2(4) = 13.90, p = .008$	
Variance components	Random effects	
	<i>df</i> = 74	<i>df</i> = 73
Intercept, $u_0$	106.63 <sup>***</sup>	106.72 <sup>***</sup>
Linear Piece 1, $u_1$	3.31 <sup>***</sup>	3.18 <sup>***</sup>
Linear Piece 2, $u_2$	.02 <sup>***</sup>	.02 <sup>***</sup>
Quadratic Piece 1, $u_3$	.009 <sup>**</sup>	.008 <sup>**</sup>
Level 1, $r$	49.44	49.36

Note. DASS = Depression Anxiety Stress Scales; SE = standard error; S = session; Treatment type coded as 0 = CBT alone, 1 = MI-CBT; S = session.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### Why Would Integrated MI-CBT Be More Beneficial Than CBT Alone?

On a basic level, it may be that having the opportunity to openly explore and resolve one's ambivalence about change, as it arises during treatment, may confer greater resilience to relapse after treatment ends. That is, resolving ambivalence and becoming more committed to change may inoculate the individual against responding with worry in future situations where it may be tempting to do so. Although this explains why MI-CBT clients would not relapse, it does not fully explain why the MI-CBT group would continue to improve.

One possible reason for continued improvement in MI-CBT versus CBT alone clients is enhanced client agency derived from the MI spirit. That is, the therapist operating from this "client-as-expert" stance may promote greater client self-trust and self-reliance (Bohart & Tallman, 1997; Rogers, 1959); the advantages of which may be particularly evident after treatment ends and the client must cope independently of therapist guidance. In other words, the MI-CBT therapist's constant search for opportunities to find, call forth, and foster client agency (at all stages of change), together with the therapist's inherent belief in the client's capabilities, may lead clients to internalize a belief in, and an increasing reliance on, their own inner resources (Faris, Cavell, Fishburne, & Britton, 2009).

Moreover, MI-CBT therapists are explicitly trained to identify, welcome, and actively defer to client assertions of autonomy and difference of opinion/direction (i.e., they "roll with" client resistance to the direction of therapy), while the more directive approach of CBT generally tries to limit and overcome resistance to therapist direction (e.g., Aspland et al., 2008). Recent evidence

indicates that client resistance to the direction of the therapist is a powerful factor that can derail CBT therapists (Zickgraf et al., 2015). Rolling with resistance in an autonomy supportive manner then may not only confer a sense of client mastery in influencing the direction of their treatment, but may also further reinforce a broader, more enduring sense of being able to trust one's own direction, even when (or especially when) it collides with another's preferences. In short, the major process enhancements that accompany the integration of MI with CBT may very well confer additional benefits beyond symptom reduction, to include greater self-trust or agency.

This interpretation is consistent with another line of research on the role of client attributions for improvement in maintenance of treatment gains. For example, Powers, Smits, Whitley, Bystritsky, and Telch (2008) found markedly higher return of fear rates when participants were told that a pill accompanying exposure was sedating and would make exposure easier versus conditions in which they were told that the pill would make exposure more difficult or was a placebo. Powers et al. interpreted their findings to reflect the importance of client internal attributions for improvement, which is consistent with a large body of evidence suggesting that changes in self-efficacy operate as a cognitive mediator of outcomes (e.g., Bandura & Adams, 1977). Taken together with the findings of the present study, this suggests that the integration of the "client as expert" stance of the therapist in client-centered approaches like MI may effectively promote internal attributions for progress in CBT (vs. attributing progress to the therapist), and thus foster maintenance and even enhancement of treatment gains over time.

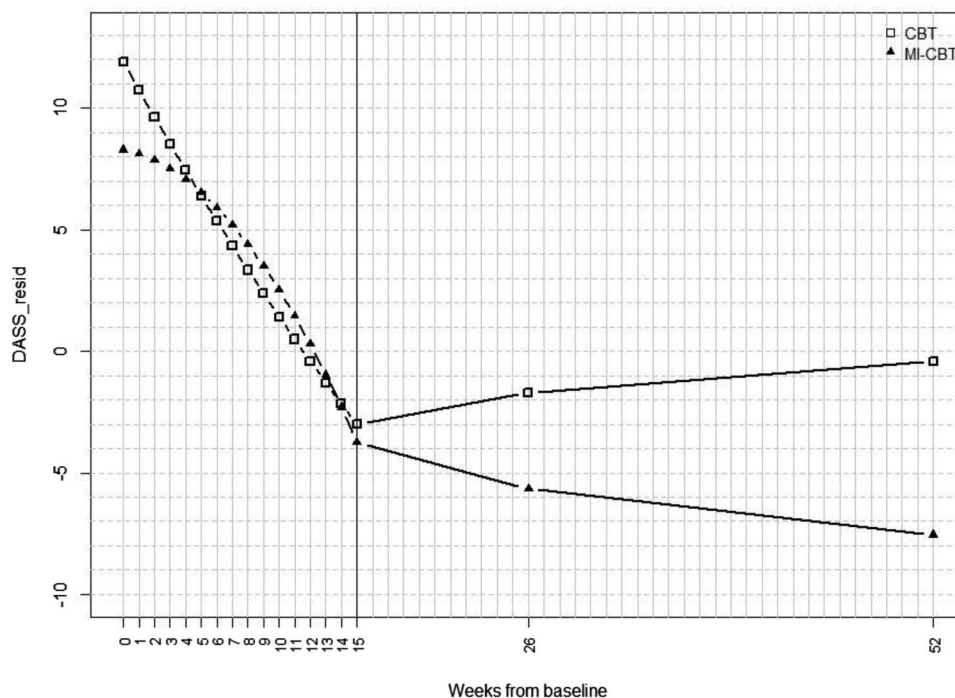


Figure 3. Depression Anxiety Stress Scale (DASS; general distress) change over acute treatment (piece 1) and follow-up (piece 2) by treatment condition. CBT = cognitive-behavioral therapy; MI = motivational interviewing.

### Process Enhancements

Marked differences in process between groups were observed on the dimensions of empathy and MI spirit. Much of this difference was, of course, expected (higher MI fidelity in MI-CBT) and reflects the successful creation of two distinct clinical styles underlying the treatments in this study. However, it is somewhat surprising to find such large differences on empathy, for example, given the recognition of the importance of empathy to successful CBT (e.g., Burns & Nolen-Hoeksema, 1992). Somewhat lower empathy ratings might be explained by a heavier emphasis on teaching and psychoeducation in CBT, but nevertheless the findings indicate that CBT alone therapists spent substantially less time than MI-CBT therapists on the empirically supported process of being empathic. And notably, the MI-CBT therapists managed to achieve and maintain high empathy scores *during* the CBT treatment, and at no major cost to the implementation of CBT skills.

These findings suggest that explicit training in empathy (i.e., MI-CBT therapists) greatly improves performance on this vital dimension compared to standard CBT training (CBT alone group). That is, a high level of skill in empathic listening (or other related facilitative dimensions such as collaboration, autonomy support, etc.) cannot be assumed through training in CBT alone, but rather explicit attention in training can markedly improve performance. Such findings are consistent with recent recommendations that psychotherapy training place greater emphasis on integrating humanistic skills (Angus, Watson, Elliott, Schneider, & Timulak, 2015; Wampold, 2012).

More broadly, the present findings support the importance of training in context-responsive intervention (Constantino, Boswell, Bernecker, & Castonguay, 2013; Stiles, Honos-Webb, & Surko, 1998). Process researchers have long argued that psychotherapy process is not homogenous, but rather consists of key events, markers, or contextual cues that can and should inform clinical intervention on a moment-to-moment basis (Greenberg, 1986; Stiles et al., 1998). Moreover, resistance and client motivational language are increasingly being supported as key process markers (e.g., Aviram & Westra, 2011; Beutler et al., 2011; Lombardi, Button, & Westra, 2014) and ones that therapists struggle to recognize and navigate effectively (Hara et al., 2015). Accordingly, Aviram, Westra, Constantino, and Antony (in press) have recently found that within CBT, “natural,” untrained variability in therapist ability to navigate specific moments of disagreement in a more MI-like fashion is strongly associated with improved CBT outcomes. Moreover, in the Aviram et al. study, being MI-like in the presence of disagreement was substantively more powerful than being more MI-like generally or at randomly selected times. Taken together with the present findings, this suggests that training should include guidance in systematic process observation and ongoing identification of motivational markers that indicate the need for responsive intervention using MI spirit and skills.

### Limitations

The major limitation of this study is that we do not know what would have happened if groups were equal on motivation at baseline or if we had used a fully responsive intervention design



Table 4  
*Multilevel Logistic Regression Predicting Diagnostic Status and Clinically Significant Change on the Worry (PSWQ) and General Distress (DASS) From Treatment Condition, Controlling for Medication Status and Baseline Motivation*

Predictor	<i>B</i> ( <i>SE</i> )	Odds ratio	95% CI
Predicting diagnostic status			
Recovery at 12-month follow-up, $\gamma_{00}$	-.90* (.43)	.41	[.17, .96]
Treatment type, $\gamma_{01}$	1.70** (.64)	5.49	[1.55, 19.46]
Medication status, $\gamma_{02}$	-.06 (.31)	.94	[.51, 1.74]
Motivation, $\gamma_{03}$	.04 (.03)	1.04	[.98, 1.10]
Linear slope follow-up, $\gamma_{10}$	-.008 (.007)	.99	[.98, 1.01]
Treatment type, $\gamma_{11}$	.02 <sup>†</sup> (.01)	1.02	[1.00, 1.05]
Medication status, $\gamma_{12}$	-.007 (.01)	.99	[.98, 1.00]
Motivation, $\gamma_{13}$	-.0004 (.001)	1.00	[1.00, 1.001]
Predicting clinically significant change (PSWQ)			
Recovery at 12-month follow-up, $\gamma_{00}$	.07 (.42)	1.07	[.47, 2.48]
Treatment type, $\gamma_{01}$	2.00** (.69)	7.43	[1.89, 29.23]
Medication status, $\gamma_{02}$	.29 (.28)	1.34	[.77, 2.33]
Motivation, $\gamma_{03}$	.05 (.03)	1.05	[.98, 1.12]
Linear slope follow-up, $\gamma_{10}$	-.01* (.01)	.99	[.97, 1.00]
Treatment type, $\gamma_{11}$	.021 (.01)	1.02	[.99, 1.05]
Medication status, $\gamma_{12}$	.002 (.01)	1.00	[.99, 1.01]
Motivation, $\gamma_{13}$	-.001 (.0007)	1.00	[1.00, 1.00]
Predicting clinically significant change (DASS)			
Recovery at 12-month follow-up, $\gamma_{00}$	-.10 (.39)	.90	[.42, 1.97]
Treatment type, $\gamma_{01}$	1.70** (.60)	5.50	[1.67, 18.05]
Medication status, $\gamma_{02}$	.52 <sup>†</sup> (.28)	1.68	[.96, 2.92]
Motivation, $\gamma_{03}$	.02 (.03)	1.02	[.96, 1.08]
Linear slope follow-up, $\gamma_{10}$	-.01 (.01)	.99	[.97, 1.00]
Treatment type, $\gamma_{11}$	.02* (.01)	1.03	[1.00, 1.05]
Medication status, $\gamma_{12}$	.01* (.01)	1.01	[1.00, 1.02]
Motivation, $\gamma_{13}$	-.001* (.001)	1.00	[1.00, 1.00]

*Note.* PSWQ = Penn State Worry Questionnaire; DASS = Depression Anxiety Stress Scales; *SE* = standard error; CI = confidence interval; Recovery (no longer meeting GAD diagnostic criteria) coded as 0 = no, 1 = yes; Clinical significant change on PSWQ and DASS coded as 0 = no, 1 = yes Treatment type coded as 0 = CBT alone, 1 = MI-CBT.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ .

(i.e., instead of forcing all clients, even highly motivated ones, to have MI initially). It is possible that we might have seen differences even earlier (e.g., at posttreatment). Second, although nesting of therapists within treatment condition for allegiance control is a major strength of the present study, we cannot rule out that there was something about the particular therapists, other than their training and treatment delivery, in the MI-CBT condition that accounted for the superior treatment effects at follow-up. It is notable, however, that there was little evidence of therapist effects on the various outcomes, meaning that therapists were homogeneous in their efficacy across the respective treatment conditions, thereby increasing the likelihood that differences in outcome reflect the impact of the treatment and training differences. Third, our measure of therapist protocol delivery for CBT is typically viewed as a measure of competence (while competence encompasses adherence, it also measures skill of execution vs. simple fidelity to the manual's techniques). And although MI-CBT therapist's own reports were consistent with delivering the intended treatment in that group, we did not have an observer-rated measure of CBT adherence. And more broadly, we did not employ measures of MI-CBT adherence and competence that truly captured how adherent and skilled the clinicians were at the integrating these approaches as intended. Instead, we relied on two separate, and different, measures of "pure" MI and CBT delivery to deter-

mine treatment distinctiveness. A final limitation is that the conclusions are limited to GAD and the integration of MI with CBT. Future research should investigate whether the findings generalize to other populations and to the integration of MI with other approaches to treatment.

Limitations notwithstanding, the current findings are compelling considering the rigorous experimental design and the fact that MI-CBT clients demonstrated continued improvement after treatment ended. This speaks to the possibility of not only maintenance of treatment gains, but also further extension of these gains at long-term follow-up with the integration of MI. This is particularly important in that many good treatments can produce acute effects, but the greater challenge is ensuring adequate long-term functioning beyond treatment's end (e.g., Westen & Morrison, 2001). There is already a corpus of studies in the addictions domain that supports delayed or continued improvement with MI, and if future studies continue to demonstrate this effect, it would suggest a very important advantage of integrating MI into treatment. It will also be important for future research to investigate both mediators and moderators of these treatment effects to facilitate our understanding of the mechanisms underlying these changes and determine for whom these effects are the most relevant. Moreover, not all therapists who were trained in MI-CBT were able to achieve competence and go on to see study cases. Future research to identify the

characteristics of therapists who more easily “take to” this often challenging integration (i.e., integrating more directive and more supportive methods) would be valuable. An additional interesting future direction would be to compare and even combine the complementary motivational methods with other promising recent advancements in CBT for GAD.

In short, although the integration of MI into CBT has long been widely recommended for anxiety, and for GAD in particular, evidence from well-controlled clinical trials has lagged behind this recommendation. The results of the present study not only contribute to the evidence base for such integration, but also have important implications for the future of training in CBT.

## References

- Altman, D. G., Schulz, K. F., Moher, D., Egger, M., Davidoff, F., Elbourne, D., . . . the CONSORT GROUP (Consolidated Standards of Reporting Trials). (2001). The revised CONSORT statement for reporting randomized trials: Explanation and elaboration. *Annals of Internal Medicine*, *134*, 663–694. <http://dx.doi.org/10.7326/0003-4819-134-8-200104170-00012>
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Arlington, VA: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Angus, L., Watson, J. C., Elliott, R., Schneider, K., & Timulak, L. (2015). Humanistic psychotherapy research 1990–2015: From methodological innovation to evidence-supported treatment outcomes and beyond. *Psychotherapy Research*, *25*, 330–347. <http://dx.doi.org/10.1080/10503307.2014.989290>
- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, *10*, 176–181. <http://dx.doi.org/10.1037/1040-3590.10.2.176>
- Aspland, H., Llewelyn, S., Hardy, G. E., Barkham, M., & Stiles, W. (2008). Alliance ruptures and rupture resolution in cognitive-behavior therapy: A preliminary task analysis. *Psychotherapy Research*, *18*, 699–710. <http://dx.doi.org/10.1080/10503300802291463>
- Aviram, A., & Westra, H. A. (2011). The impact of motivational interviewing on resistance in cognitive behavioural therapy for generalized anxiety disorder. *Psychotherapy Research*, *21*, 698–708. <http://dx.doi.org/10.1080/10503307.2011.610832>
- Aviram, A., Westra, H. A., Constantino, M. J., & Antony, M. M. (in press). Testing the context responsivity hypothesis: Responsive management of early resistance in cognitive behavioral therapy for generalized anxiety disorder. *Journal of Consulting and Clinical Psychology*.
- Bagøien, G., Bjørngaard, J. H., Østensen, C., Reitan, S. K., Romundstad, P., & Morken, G. (2013). The effects of motivational interviewing on patients with comorbid substance use admitted to a psychiatric emergency unit - a randomised controlled trial with two year follow-up. *BMC Psychiatry*, *13*, 93. <http://dx.doi.org/10.1186/1471-244X-13-93>
- Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research*, *1*, 287–310. <http://dx.doi.org/10.1007/BF01663995>
- Beck, J. S. (2005). *Cognitive therapy for challenging problems: What to do when the basics don't work*. New York, NY: Guilford Press.
- Beutler, L. E., Harwood, T. M., Michelson, A., Song, X., & Holman, J. (2011). Resistance/reactance level. *Journal of Clinical Psychology*, *67*, 133–142. <http://dx.doi.org/10.1002/jclp.20753>
- Bohart, A. C., & Greaves Wade, A. (2013). The client in psychotherapy. In M. J. Lambert (Ed.), *Handbook of psychotherapy and behavior change* (6th ed., pp. 219–257). Hoboken, NJ: Wiley.
- Bohart, A. C., & Tallman, K. (1997). Empathy and the active client: An integrative, cognitive-experiential approach. In L. S. Greenberg & A. C. Bohart (Eds.), *Empathy reconsidered: New directions in psychotherapy* (pp. 393–415). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10226-017>
- Borkovec, T. D., & Costello, E. (1993). Efficacy of applied relaxation and cognitive-behavioral therapy in the treatment of generalized anxiety disorder. *Journal of Consulting and Clinical Psychology*, *61*, 611–619. <http://dx.doi.org/10.1037/0022-006X.61.4.611>
- Borkovec, T. D., Mathews, A. M., Chambers, A., Ebrahimi, S., Lytle, R., & Nelson, R. (1987). The effects of relaxation training with cognitive or nondirective therapy and the role of relaxation-induced anxiety in the treatment of generalized anxiety. *Journal of Consulting and Clinical Psychology*, *55*, 883–888. <http://dx.doi.org/10.1037/0022-006X.55.6.883>
- Brown, T. A., Antony, M. M., & Barlow, D. H. (1992). Psychometric properties of the Penn State Worry Questionnaire in a clinical anxiety disorders sample. *Behaviour Research and Therapy*, *30*, 33–37. [http://dx.doi.org/10.1016/0005-7967\(92\)90093-V](http://dx.doi.org/10.1016/0005-7967(92)90093-V)
- Buffett-Jerrott, S. E., & Stewart, S. H. (2002). Cognitive and sedative effects of benzodiazepine use. *Current Pharmaceutical Design*, *8*, 45–58. <http://dx.doi.org/10.2174/1381612023396654>
- Burns, D. D., & Nolen-Hoeksema, S. (1992). Therapeutic empathy and recovery from depression in cognitive-behavioral therapy: A structural equation model. *Journal of Consulting and Clinical Psychology*, *60*, 441–449. <http://dx.doi.org/10.1037/0022-006X.60.3.441>
- Campbell-Sills, L., & Brown, T. A. (2010). Generalized anxiety disorder. In M. M. Antony & D. H. Barlow (Eds.), *Handbook of assessment and treatment planning for psychological disorders* (pp. 224–266). New York, NY: Guilford Press.
- Carney, C. E., & Edinger, J. D. (2010). *Insomnia and anxiety*. New York, NY: Springer. <http://dx.doi.org/10.1007/978-1-4419-1434-7>
- Constantino, M. J., Boswell, J. F., Bernecker, S. L., & Castonguay, L. G. (2013). Context-responsive integration as a framework for unified psychotherapy and clinical science: Conceptual and empirical considerations. *Journal of Unified Psychotherapy and Clinical Science*, *2*, 1–20.
- Coté, G., & Barlow, D. H. (1992). Combined treatment for generalized anxiety disorder: Albany comparative treatment study of generalized anxiety disorder. Unpublished manuscript, University at Albany, State University of New York, Albany, NY.
- Covin, R., Ouimet, A. J., Seeds, P. M., & Dozois, D. J. A. (2008). A meta-analysis of CBT for pathological worry among clients with GAD. *Journal of Anxiety Disorders*, *22*, 108–116. <http://dx.doi.org/10.1016/j.janxdis.2007.01.002>
- Craske, M. G., & Barlow, D. H. (2006). *Mastery of your anxiety and worry* (Workbook; 2nd ed.). New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/med:psych/9780195300017.001.0001>
- Cuijpers, P., Sijbrandij, M., Koole, S., Huibers, M., Berking, M., & Andersson, G. (2014). Psychological treatment of generalized anxiety disorder: A meta-analysis. *Clinical Psychology Review*, *34*, 130–140. <http://dx.doi.org/10.1016/j.cpr.2014.01.002>
- Dugas, M. J., Brillon, P., Savard, P., Turcotte, J., Gaudet, A., Ladouceur, R., . . . Gervais, N. J. (2010). A randomized clinical trial of cognitive-behavioral therapy and applied relaxation for adults with generalized anxiety disorder. *Behavior Therapy*, *41*, 46–58. <http://dx.doi.org/10.1016/j.beth.2008.12.004>
- Durham, R. C., Fisher, P. L., Dow, M. G. T., Sharp, D., Power, K. G., Swan, J. S., & Morton, R. V. (2004). Cognitive behaviour therapy for good and poor prognosis generalized anxiety disorder: A clinical effectiveness study. *Clinical Psychology & Psychotherapy*, *11*, 145–157. <http://dx.doi.org/10.1002/cpp.405>
- Faris, A. S., Cavell, T. A., Fishburne, J. W., & Britton, P. C. (2009). Examining motivational interviewing from a client agency perspective. *Journal of Clinical Psychology*, *65*, 955–970. <http://dx.doi.org/10.1002/jclp.20599>

- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured Clinical Interview for DSM-IV Axis I Disorders—Patient ed.* (SCID-I/P, Version 2.0). New York, NY: New York Psychiatric Institute, Biometrics Research Department.
- Gillis, M. M., Haaga, D. A. F., & Ford, G. T. (1995). Normative values for the Beck Anxiety Inventory, Fear Questionnaire, Penn State Worry Questionnaire, and Social Phobia and Anxiety Inventory. *Psychological Assessment, 7*, 450–455. <http://dx.doi.org/10.1037/1040-3590.7.4.450>
- Greenberg, L. S. (1986). Change process research. *Journal of Consulting and Clinical Psychology, 54*, 4–9. <http://dx.doi.org/10.1037/0022-006X.54.1.4>
- Haby, M. M., Donnelly, M., Corry, J., & Vos, T. (2006). Cognitive behavioural therapy for depression, panic disorder and generalized anxiety disorder: A meta-regression of factors that may predict outcome. *Australian and New Zealand Journal of Psychiatry, 40*, 9–19. <http://dx.doi.org/10.1080/j.1440-1614.2006.01736.x>
- Hara, K. M., Westra, H. A., Aviram, A., Button, M. L., Constantino, M. J., & Antony, M. M. (2015). Therapist awareness of client resistance in cognitive-behavioural therapy for generalized anxiety disorder. *Cognitive Behaviour Therapy, 44*, 162–174. <http://dx.doi.org/10.1080/16506073.2014.998705>
- Hayes-Skelton, S. A., Roemer, L., & Orsillo, S. M. (2013). A randomized clinical trial comparing an acceptance-based behavior therapy to applied relaxation for generalized anxiety disorder. *Journal of Consulting and Clinical Psychology, 81*, 761–773. <http://dx.doi.org/10.1037/a0032871>
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology, 44*, 227–239. <http://dx.doi.org/10.1348/014466505X29657>
- Hunot, V., Churchill, R., Teixeira, V., & Silva de Lima, M. (2007). Psychological therapies for generalised anxiety disorder. *Cochrane Database of Systematic Reviews* 2007, Issue 1. Art. No.: CD001848. The Cochrane Collaboration: Wiley and Sons. <http://dx.doi.org/10.1002/14651858.CD001848.pub4>
- Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology, 59*, 12–19. <http://dx.doi.org/10.1037/0022-006X.59.1.12>
- Kazantzis, N., & Shinkfield, G. (2007). Conceptualizing patient barriers to nonadherence with homework assignments. *Cognitive and Behavioral Practice, 14*, 317–324. <http://dx.doi.org/10.1016/j.cbpra.2006.08.003>
- Lombardi, D. R., Button, M. L., & Westra, H. A. (2014). Measuring motivation: Change talk and counter-change talk in cognitive behavioral therapy for generalized anxiety. *Cognitive Behaviour Therapy, 43*, 12–21. <http://dx.doi.org/10.1080/16506073.2013.846400>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33*, 335–343. [http://dx.doi.org/10.1016/0005-7967\(94\)00075-U](http://dx.doi.org/10.1016/0005-7967(94)00075-U)
- Lundahl, B. W., Kunz, C., Brownell, C., Tollefson, D., & Burke, B. L. (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practice, 20*, 137–160. <http://dx.doi.org/10.1177/1049731509347850>
- Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy, 28*, 487–495. [http://dx.doi.org/10.1016/0005-7967\(90\)90135-6](http://dx.doi.org/10.1016/0005-7967(90)90135-6)
- Miller, W. R., Benefield, R. G., & Tonigan, J. S. (1993). Enhancing motivation for change in problem drinking: A controlled comparison of two therapist styles. *Journal of Consulting and Clinical Psychology, 61*, 455–461. <http://dx.doi.org/10.1037/0022-006X.61.3.455>
- Miller, W. R., & Johnson, W. R. (2008). A natural language screening measure for motivation to change. *Addictive Behaviors, 33*, 1177–1182. <http://dx.doi.org/10.1016/j.addbeh.2008.04.018>
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York, NY: Guilford Press.
- Molina, S., & Borkovec, T. D. (1994). The Penn State Worry Questionnaire: Psychometric properties and associated characteristics. In G. C. L. Davey & F. Tallis (Eds.), *Worrying: Perspectives on theory, assessment, and treatment* (pp. 265–283). Oxford, UK: Wiley and Sons.
- Moyers, T. B., Martin, T., Manuel, J. K., Hendrickson, S. M. L., & Miller, W. R. (2005). Assessing competence in the use of motivational interviewing. *Journal of Substance Abuse Treatment, 28*, 19–26. <http://dx.doi.org/10.1016/j.jsat.2004.11.001>
- Munder, T., Brüttsch, O., Leonhart, R., Gerger, H., & Barth, J. (2013). Researcher allegiance in psychotherapy outcome research: An overview of reviews. *Clinical Psychology Review, 33*, 501–511. <http://dx.doi.org/10.1016/j.cpr.2013.02.002>
- Murphy, D. A., Chen, X., Naar-King, S., & Parsons, J. T., & the Adolescent Trials Network. (2012). Alcohol and marijuana use outcomes in the Healthy Choices motivational interviewing intervention for HIV-positive youth. *AIDS Patient Care and STDs, 26*, 95–100. <http://dx.doi.org/10.1089/apc.2011.0157>
- Newman, M. G., Castonguay, L. G., Borkovec, T. D., Fisher, A. J., Boswell, J. F., Szkodny, L. E., & Nordberg, S. S. (2011). A randomized controlled trial of cognitive-behavioral therapy for generalized anxiety disorder with integrated techniques from emotion-focused and interpersonal therapies. *Journal of Consulting and Clinical Psychology, 79*, 171–181. <http://dx.doi.org/10.1037/a0022489>
- Powers, M. B., Smits, J. A. J., Whitley, D., Bystritsky, A., & Telch, M. J. (2008). The effect of attributional processes concerning medication taking on return of fear. *Journal of Consulting and Clinical Psychology, 76*, 478–490. <http://dx.doi.org/10.1037/0022-006X.76.3.478>
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Raudenbush, S. W., & Xiao-Feng, L. (2001). Effects of study duration, frequency of observation, and sample size on power in studies of group differences in polynomial change. *Psychological Methods, 6*, 387–401. <http://dx.doi.org/10.1037/1082-989X.6.4.387>
- Riper, H., Andersson, G., Hunter, S. B., de Wit, J., Berking, M., & Cuijpers, P. (2014). Treatment of comorbid alcohol use disorders and depression with cognitive-behavioural therapy and motivational interviewing: A meta-analysis. *Addiction, 109*, 394–406. <http://dx.doi.org/10.1111/add.12441>
- Rogers, C. R. (1959). A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of a science* (Vol. 3, pp. 184–246). New York, NY: McGraw-Hill.
- Shaw, B. F., Elkin, I., Yamaguchi, J., Olmsted, M., Vallis, T. M., Dobson, K. S., . . . Imber, S. D. (1999). Therapist competence ratings in relation to clinical outcome in cognitive therapy of depression. *Journal of Consulting and Clinical Psychology, 67*, 837–846. <http://dx.doi.org/10.1037/0022-006X.67.6.837>
- Stiles, W. B., Honos-Webb, L., & Surko, M. (1998). Responsiveness in psychotherapy. *Clinical Psychology: Science and Practice, 5*, 439–458. <http://dx.doi.org/10.1111/j.1468-2850.1998.tb00166.x>
- Wampold, B. E. (2012). Humanism as a common factor in psychotherapy. *Psychotherapy: Theory, Research, & Practice, 49*, 445–449. <http://dx.doi.org/10.1037/a0027113>
- Waters, A. M., & Craske, M. G. (2005). Generalized anxiety disorder. In M. M. Antony, D. R. Ledley, & R. G. Heimberg (Eds.), *Improving outcomes and preventing relapse in cognitive behavioral therapy* (pp. 77–127). New York, NY: Guilford Press.

- Wells, A., Welford, M., King, P., Papageorgiou, C., Wisely, J., & Mendel, E. (2010). A pilot randomized trial of metacognitive therapy vs applied relaxation in the treatment of adults with generalized anxiety disorder. *Behaviour Research and Therapy, 48*, 429–434. <http://dx.doi.org/10.1016/j.brat.2009.11.013>
- Westen, D., & Morrison, K. (2001). A multidimensional meta-analysis of treatments for depression, panic, and generalized anxiety disorder: An empirical examination of the status of empirically supported therapies. *Journal of Consulting and Clinical Psychology, 69*, 875–899. <http://dx.doi.org/10.1037/0022-006X.69.6.875>
- Westra, H. A. (2012). *Motivational interviewing in the treatment of anxiety*. New York, NY: Guilford Press.
- Westra, H. A., & Arkowitz, H. (2010). Combining motivational interviewing and cognitive behavioural therapy to increase treatment efficacy for generalized anxiety disorder. In D. Sookman & B. Leahy (Eds.), *Resolving treatment impasses with resistant anxiety disorders* (pp. 199–232). New York, NY: Routledge.
- Westra, H. A., Arkowitz, H., & Dozois, D. J. A. (2009). Adding a motivational interviewing pretreatment to cognitive behavioral therapy for generalized anxiety disorder: A preliminary randomized controlled trial. *Journal of Anxiety Disorders, 23*, 1106–1117. <http://dx.doi.org/10.1016/j.janxdis.2009.07.014>
- Westra, H. A., Aviram, A., & Doell, F. K. (2011). Extending motivational interviewing to the treatment of major mental health problems: Current directions and evidence. *The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie, 56*, 643–650. <http://publications.cpa-apc.org/media.php?mid=1246>
- Young, J., & Beck, A. (1980). *Cognitive Therapy Scale: Rating manual*. Unpublished manuscript, Center for Cognitive Therapy, Philadelphia, PA.
- Zickgraf, H. F., Chambless, D. L., McCarthy, K. S., Gallop, R., Sharpless, B. A., Milrod, B. L., & Barber, J. P. (2015). Interpersonal factors are associated with lower therapist adherence in cognitive-behavioural therapy for panic disorder. *Clinical Psychology & Psychotherapy*. [Advance online publication]. <http://dx.doi.org/10.1002/cpp.1955>
- Zinbarg, R. E., Craske, M. G., & Barlow, D. H. (2006). *Mastery of your anxiety and worry* (Therapist guide; 2nd ed.). New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/med:psych/9780195300024.001.0001>

Received September 15, 2015

Revision received February 15, 2016

Accepted February 18, 2016 ■