

THE IMPACT OF CLIENT MOTIVATIONAL LANGUAGE
ON THE THERAPEUTIC ALLIANCE
IN COGNITIVE-BEHAVIOURAL THERAPY

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A THESIS SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF ARTS

GRADUATE PROGRAM IN PSYCHOLOGY
YORK UNIVERSITY,
TORONTO, ONTARIO

AUGUST 2018

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Abstract

Though client motivation for change is widely regarded as an important predictor of psychotherapy outcomes, little research has investigated its impact on the working alliance. Further, although motivational interviewing (MI) involves specific strategies for managing ambivalence, research has not yet examined whether receiving MI can alter the impact of motivation on the alliance. Using data from a recent randomized controlled trial of cognitive behavioural therapy (CBT) for 85 individuals with generalized anxiety disorder, this study tested whether observed client motivational language against change (counter-change talk; CCT) and in support of change (change talk; CT) at the outset of therapy affects alliance quality over time and whether this relationship varies as a function of treatment group (MI integrated with CBT, compared with CBT alone). Results indicated that CCT, but not CT, significantly predicted lower client alliance ratings at the early, middle, and late stages of therapy. At the late stage of therapy (but not the early and middle stages), treatment group significantly moderated this relationship such that CCT was associated with significantly lower alliance ratings for clients receiving CBT alone, whereas it did not significantly predict alliance ratings for clients receiving MI integrated with CBT. Thus, this study suggests that, without specific strategies for managing client ambivalence (such as those in MI), early ambivalence about change can be associated with subsequent alliance problems. In addition, the more directive and action-oriented nature of CBT may exacerbate early ambivalence, ultimately producing interpersonal disharmony. Overall, this research highlights the need for clinician responsivity to early markers of client motivation.

Acknowledgements

I gratefully acknowledge financial support for this project from the Joseph-Armand Bombardier Canada Graduate Scholarship from the Social Sciences and Humanities Research Council; and the Canadian Institute of Health Research Operating Grant (114909) awarded to my supervisor, Dr. Henny A. Westra, Dr. Michael J. Constantino, and Dr. Martin M. Antony.

I would like to thank my graduate supervisor and mentor Dr. Henny Westra for the outstanding guidance and support she provided over the course of this project. I also thank my committee members, Dr. Karen Fergus, Dr. Joel Katz, and Dr. Caroline Davis for their constructive and thoughtful feedback. I would also like to sincerely thank Dr. David Flora for his assistance with the statistical analyses of this project.

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The Impact of Client Motivational Language on the Therapeutic Alliance in Cognitive-Behavioural Therapy

Motivation for change is widely regarded as a key client factor in psychotherapy (Engle & Arkowitz, 2006). This is especially true for action-oriented treatments such as cognitive-behavioural therapy (CBT), in which client readiness for change is necessary in order to attain positive treatment outcomes (Antony, Roth Ledley, & Heimberg, 2005; Arkowitz, Westra, Miller, & Rollnick, 2008; Westra, 2012). In addition to the widespread recognition of its importance, a wealth of empirical research has linked motivation to specific therapy outcomes. For example, in the context of CBT, low motivation or ambivalence (opposing feelings regarding change, such as simultaneous desire and reluctance to change) has been identified as a significant predictor of treatment dropout (e.g., Brogan, Prochaska, & Prochaska, 1999; Dozois, Westra, Collins, Fung, & Garry, 2004; Keijsers, Kampman, & Hoogduin, 2001) and poorer treatment outcomes (e.g., de Haan et al., 1997; Lombardi, Button, & Westra, 2014; Keijsers, Hoogduin, & Schaap, 1994a, 1994b).

Given the detrimental impact of low motivation for change on psychotherapy outcomes, motivational interviewing (MI; a client-centered, directive therapy with a primary focus on “enhancing intrinsic motivation to change by exploring and resolving ambivalence”; Miller & Rollnick, 2013, p. 25), is increasingly being recommended as a way to adapt or augment existing treatments, such as CBT, in order to improve their effectiveness (Westra & Arkowitz, 2010; Westra, 2012). Evidence on this approach has been largely supportive thus far. For example, in the domain of generalized anxiety disorder (GAD), two randomized controlled trials (RCTs) have demonstrated that adding or integrating MI with CBT produces superior outcomes relative to CBT alone (Westra, Arkowitz, & Dozois, 2009; Westra, Constantino, & Antony, 2016). Client ambivalence has also been identified as a significant moderator of treatment outcomes such that, for clients who are more ambivalent at the outset of treatment, receiving MI integrated with CBT (MI-CBT), relative to CBT alone, results in greater

symptom reduction at 1-year follow-up (Button, Westra, Constantino, & Antony, 2016). In contrast, for clients who were highly motivated initially, CBT alone was equivalent to or even slightly better than MI-CBT. In other words, MI-CBT appears to be especially beneficial for less motivated clients.

Although there is substantive evidence that ambivalence can have a detrimental effect on CBT outcomes and that adding or integrating MI with treatment may ameliorate the negative impact of ambivalence, the processes underlying both of these effects is currently unclear. That is, research has not yet identified whether and which therapy processes are disrupted by high levels of ambivalence that may subsequently affect treatment outcomes, nor the potential pathways through which MI may reduce the negative impact of ambivalence on outcomes. One possible candidate is the therapeutic alliance. Specifically, client ambivalence about change may strain the client-therapist relationship, which in turn would likely have negative implications for treatment outcome given the established relationship between alliance and therapy outcomes (e.g., Horvath, Del Re, Fluckiger, & Symonds 2011). As well, MI, an approach with a focus on supporting the alliance and providing a safe context in which clients can explore conflicting feelings about change (Miller & Rollnick, 2002; Westra, 2012), reasonably could reduce the likelihood of alliance tensions due to ambivalence.

The aim of the present study was to investigate the impact of motivation on the therapeutic alliance in general, and to examine whether this effect varies as a function of treatment (MI-CBT compared with CBT alone). This is particularly needed because little research has examined the relationship between motivation and the alliance, and no study has examined this relationship in a CBT for anxiety context. This will be examined using an observational measure of motivational language (Motivational Interviewing Skill Code 1.1; MISC 1.1; Glynn & Moyers, 2009) in the context of CBT for GAD, given evidence of the relevance of client motivation in this domain (e.g., Lombardi et al., 2014, Button et al., 2016). Before further detailing the specific aims of the current study, I will first review existing research on client motivation and discuss methods of measuring motivation. Next, I

will discuss research regarding the therapeutic alliance and the relationship between motivation and the alliance. Lastly, I will compare CBT and MI in terms of their divergent attitudes and responses towards varying levels of client motivation and the impact this may have on the alliance.

Client Motivation

Client motivation is increasingly viewed as essential to good outcomes in therapy since lasting therapeutic change is most likely to occur when clients are personally invested and actively engaged in the process of change (Overholser, 2005; Ryan & Deci, 2008). Moreover, it is well-established in the literature that higher levels of motivation are associated with better treatment outcomes across a variety of client populations such as alcohol use disorders (Carbonari & DiClemente, 2000; DiClemente, Carbonari, Zweben, Morrel, & Lee, 2001; McKay & Weiss, 2001), eating disorders (see Clausen, Lübeck, & Jones, 2013 for a review), and dysthymia (Ibáñez, Vallespi, Sevillano, & Hernando, 2016). For example, in the eating disorders domain, there is evidence that greater pretreatment motivation is associated with therapeutic change in binge eating and restrictive eating behaviours (Clausen et al., 2013). Additionally, Ibáñez et al. (2016) found that higher levels of client motivation predicted better treatment response in a sample of adults receiving brief interpersonal psychotherapy for dysthymia. Proximal therapy outcomes such as treatment retention and engagement have also been linked to motivation for change (Alfonsson, Olsson, Hursti, & 2016; Hiller, Knight, Leukefeld, & Simpson, 2002; Longshore & Teruya, 2006). For instance, in a sample of drug-using offenders referred to treatment during probation, higher treatment readiness was strongly related to greater treatment retention over a 6-month period (Longshore & Teryuva, 2006). As well, Hiller et al. (2002) found that greater desire for help and treatment readiness were associated with increased engagement with a mandated residential substance abuse treatment for felony probationers.

Despite the centrality of motivation to psychotherapy outcomes, it is important to note that therapists routinely encounter clients who are ambivalent about or less motivated for change at the start

of therapy (Engle & Arkowitz, 2006; Greenberg, 2004; MacKinnon, Michaels, & Buckley, 2006) and that many therapists are aware of the potential of low motivation to cause problems in therapy. For example, in a survey of clinician-identified obstacles to the implementation of evidence-based treatments for panic disorder, 67% of therapists identified low client motivation at the outset of therapy as a problem (American Psychological Association, 2010). As well, a recent survey of practicing psychologist's perspectives on therapy termination found that a lack of readiness for change was viewed as the most important reason for early (i.e., before the third session) unilateral client termination (Westmacott & Hunsley, 2017).

In addition to being acknowledged by many therapists as an important client factor, numerous studies have demonstrated that low motivation or ambivalence is associated with less desirable therapy outcomes including client dropout (Alfonsson et al., 2016; Brogan et al., 1999; Dozois et al., 2004; Keijsers et al., 2001), and poorer therapy outcomes (de Haan et al., 1997; Lewis et al., 2009; Lombardi et al., 2014; Keijsers et al., 1994a, 1994b; Sijercic, Button, Westra, & Hara, 2016). For example, in a study investigating an internet-based cognitive-behavioural relaxation program for individuals with mild to moderate stress and anxiety symptoms, lower levels of intrinsic motivation for therapy predicted a higher risk of dropout (Alfonsson et al., 2016). As well, Lewis et al. (2009) reported that low motivation was significantly associated with negative treatment outcomes in a CBT treatment for adolescent depression. There is also evidence linking ambivalence to lower levels of homework compliance. In particular, Button, Westra, and Hara (2014) reported that higher ambivalence at the outset of therapy predicted lower client- and therapist-rated homework compliance, as well as poorer treatment outcomes, across two separate clinical trials of CBT for GAD.

Some studies have also investigated a particular kind of client motivation: autonomous motivation, defined as the degree to which clients experience participation in therapy as a freely made choice emanating from themselves (Deci & Ryan, 2000). In contrast, controlled motivation refers to

when clients feel that their participation in treatment is not a freely made choice and instead reflects internal (e.g., guilt) or external (e.g., pressure from others) forces. The former is generally believed to be more desirable in clinical contexts (e.g., DiClemente, 1999). As well, it has been demonstrated that clients whose motivation for therapy is more autonomous have higher levels of satisfaction with therapy, are less distracted and tense during sessions, and have a greater intention to persist with treatment (Pelletier, Tuson, & Haddad, 1997). Moreover, higher levels of autonomous motivation for engaging in therapy have been associated with better treatment outcomes across a range of domains including opiate addiction (Zeldman, Ryan, & Fiscella, 2004), alcohol dependence (Ryan, Plant, & O'Malley, 1995), and depression (Zuroff et al., 2007). For example, in a study that randomly assigned depressed outpatients to receive CBT, interpersonal psychotherapy, or pharmacotherapy with clinical management, Zuroff et al. (2007) found that autonomous motivation was a stronger predictor of lower posttreatment depression severity and of achieving remission than the therapeutic alliance across all three treatments. Thus, in this study, the predictive capacity of client motivation to predict treatment outcomes rivaled even that of the therapeutic alliance, a factor that is generally considered to be an important nonspecific factor associated with therapy effectiveness (e.g., Ackerman et al., 2001).

Measuring Motivation

Though motivation is considered a critical client factor, research on client motivation in the domain of CBT has been hindered by an over-reliance on self-report assessments, as well as shifting and inconsistent operational definitions of motivation (Drieschner, Lammers, & van der Staak, 2004; Keijsers, Schaap, Hoogduin, Hoogsteins, & de Kemp 1999; Rosenbaum & Horowitz, 1983). Furthermore, although existing self-report measures of motivation have consistently been associated with treatment dropout (e.g., Brogan et al., 1999; Dozois et al., 2004; Keijsers et al., 2001), their relationship to treatment outcome is unreliable. Specifically, while some studies have found significant, albeit small, associations between self-reported client motivation and CBT outcomes (e.g., de Haan et

al., 1997; Keijsers et al., 1994a, 1994b), other studies have reported no significant relationship (e.g., Dozois et al., 2004; Kampman, Keijsers, Hoogduin, & Hendriks, 2008; Vogel, Hansen, Stiles, & Gotestam, 2006). Further, research has found that self-report measures of motivation are susceptible to ceiling effects and response bias since clients may believe that it is undesirable to admit that they are ambivalent about change (Miller & Johnson, 2008; Westra, 2011). Overall, existing instruments of self-reported client motivation are inadequate since they do not seem to accurately measure client motivation, are limited in their ability to predict outcomes due to insufficient variability, and lack a clinically useful relationship with treatment outcome.

In light of these measurement problems with self-report assessments of motivation, observational measures of client motivation have been developed. These measures, such as the MISC 1.1 (Glynn & Moyers, 2009), are predicated on the idea that in-session client language may reveal concerns, fears, or other forms of ambivalence about change in a way that self-report measures cannot (e.g., because clients may be reluctant to report ambivalence on a questionnaire; Westra, 2011). In particular, the MISC 1.1 is used to code change talk (CT; i.e., statements in support of therapeutic change) and counter-change talk (CCT; i.e., statements against change, or in favour of staying the same). This includes a range of client language including statements that express the presence (or absence) of ability, commitment, desire, need, or reason for change, as well as language discussing actions toward (or away from) changing specific symptoms (Hallgren & Moyers, 2011). Importantly, existing research has demonstrated that these observational measures of client motivational language (as opposed to self-report measures) may be better suited to assessing individual differences in ambivalence, especially when assessed at the outset of therapy (e.g., Magill, Apodaca, Barnett, & Monti, 2010; Poulin, Westra, Constantino, & Antony, 2017). For example, Poulin et al. (2017) found that motivational language indices measured in the first session of therapy consistently predicted both

posttreatment and 1-year follow-up outcomes, whereas self-reported motivation was not significantly related to outcomes at either time point.

In the substance abuse domain, in which the MISC 1.1 was originally developed, research has consistently demonstrated the strong predictive capacity of client motivational language, measured early in treatment, to predict therapy outcomes (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Baer et al., 2008; Miller, Benefield, & Tonigan, 1993; Moyers et al., 2007; Vader, Walters, Prabhu, Houck, & Field, 2010). For instance, in a sample of adolescents receiving a brief motivational intervention for substance abuse, statements expressing lack of desire for or inability to change were significantly associated with negative treatment outcomes at both 1-month and 3-month follow-up (Baer et al., 2008). As well, Baer et al. (2008) found that verbalizations in support of change were a substantive predictor of subsequent treatment success. Relatedly, Amrhein et al., 2003 reported that client language indicating stronger levels of commitment to changing drinking behaviour were related to positive treatment outcomes (i.e., reduced drinking). Similar findings have also emerged in the context of CBT. For example, Aharonovich, Amrhein, Bisaga, Nunes, and Hasin (2008) demonstrated that increases in the strength of language expressing commitment to changing drug behaviours during early CBT treatment for substance use (second or third session) were associated with better substance use outcomes and greater treatment retention. Additionally, in a study comparing the efficacy of three different treatments for alcohol abuse (motivational enhancement therapy, CBT, and twelve-step facilitation), both CT and CCT were identified as unique predictors of drinking outcomes up to 15-month follow-up across all intervention types (Moyers et al., 2007).

Of relevance to the present study, the MISC 1.1 has recently been adapted to the context of CBT for GAD (Lombardi et al., 2014). Thus far, this adapted measure has demonstrated promise in predicting CBT outcomes (Button et al., 2014; Goodwin, Constantino, Westra, Button & Antony, 2015; Lombardi et al., 2014, Poulin et al., 2017). For instance, Lombardi et al. (2014) found that CCT

measured during initial therapy sessions was a robust predictor of outcomes, even after accounting for baseline symptom severity and self-reported client motivation prior to therapy. Additionally, in a sample of clients with severe GAD receiving CBT, higher levels of CT in session 1 were associated with greater worry reduction over the course of treatment (Goodwin et al., 2015). Further, using the same sample, Poulin et al. (2017) found that, among ambivalent clients (i.e., those with higher levels of CCT), CT measured during session 1 was negatively associated with mid-treatment resistance and symptom severity at both post-treatment and 1-year follow-up. Thus, these findings demonstrate the relevance of using observational measures of client motivational language to further explore the impact of motivation in the context of CBT for anxiety.

Therapeutic Alliance

The therapeutic alliance is composed of three main components: 1) the strength of the affective bond (i.e., the extent to which there is mutual trust and liking between client and therapist); 2) the level of agreement between client and therapist regarding therapy goals; 3) the extent to which both are aware of and committed to the tasks necessary to achieve those goals (Bordin, 1979). The alliance is a critical variable in psychotherapy since it is widely accepted as crucial to good outcomes (Castonguay, Constantino, & Holtforth, 2006; Horvath et al., 2011; Smith & Glass, 1977; Wampold, 2001). In fact, in a list of nonspecific factors associated with therapy effectiveness released by an American Psychological Association (APA) Division 29 Task Force, the therapeutic alliance was ranked as the most important (Ackerman et al., 2001). As well, it is estimated that 30% of the variability in therapy outcomes is due to the therapeutic relationship (Lambert & Barley, 2001; Wampold, 2001).

Furthermore, the alliance is well-established as a consistent predictor of therapy outcomes, such that a stronger alliance predicts superior outcomes regardless of the treatment modality used (Horvath, 2001; Horvath et al., 2011; Martin, Gaske, & Davis, 2000). As well, in line with theoretical conceptualizations of the alliance as an active ingredient in treatment (Norcross, 2011; Rogers, 1951),

there is evidence that the alliance may be a curative factor in and of itself (i.e., capable of directly inducing symptom improvement). In particular, Zilcha-Mano and Errázuriz (2015) reported that session-to-session increases in client ratings of the alliance are associated with symptom reduction, even when accounting for symptom severity in the previous session. Apart from predicting changes in client symptoms, the alliance has also been linked to compliance with treatment tasks and homework assignments (e.g., Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997; Dunn, Morrison, & Bentall, 2006). For instance, in the context of cognitive therapy for psychosis, Dunn et al. (2006) found that better client ratings of the therapeutic alliance predicted higher levels of both client- and therapist-rated homework compliance.

Research further indicates that poor alliances are associated with negative outcomes such as unilateral client termination (Samstag, Batchelder, Muran, Safran, & Winston, 1998; Tryon & Kane, 1995). Notably, alliance ruptures (i.e., deteriorations in the relationship between client and therapist resulting from negative process; Safran & Muran, 1996) have been shown to exert a harmful effect on therapy (e.g., repeated alliance ruptures, unilateral termination) when they are inadequately managed or left unresolved (Aspland, Llewelyn, Hardy, Barkham, & Stiles, 2008; Binder & Strupp, 1997; Coutinho, Ribeiro, Hill, & Safran, 2011; Rhodes, Hill, Thompson, & Elliot, 1994; Safran & Muran 1996). Additionally, in the context of CBT, alliance ruptures have been shown to demoralize clients through reducing client expectations for a positive therapy outcome (Westra, Constantino, & Aviram, 2011). In line with this finding, a qualitative study that investigated client experiences of alliance ruptures found that, after an alliance rupture, clients reported feeling less confident in their therapist and in the likelihood that therapy would be effective (Coutinho et al., 2011).

Relationship between Client Motivation and the Therapeutic Alliance

A few studies to date have examined the role of client motivation for change as a predictor of the alliance. In a study investigating predictors of the working alliance for male clients receiving group

CBT for partner violence, higher self-reported motivation emerged as a robust, consistent predictor of a more positive working alliance (Taft, Murphy, Musser, & Remington, 2004). In fact, compared to all other examined predictors (demographic variables, interpersonal problems, psychopathic personality traits, and borderline personality characteristics), motivation was the only variable which significantly predicted all four sets of working alliance ratings measured in this study (client's and therapist's early and late ratings of the alliance). In addition, Meier, Donmall, Barrowclough, McElduff, and Heller (2005) found that higher self-reported readiness for treatment among clients receiving treatment for drug misuse predicted stronger client- and counsellor-rated early alliance scores. Thus, there is some evidence to date that client motivation can impact the alliance.

Considering Bordin's (1979) conceptualization of the alliance, there are several different ways in which the level of client motivation may be related to the quality of the alliance. First, motivation may contribute to the goal and task components of the alliance since motivated clients may be more likely to be in agreement with their therapist regarding therapy goals and to be engaged with therapy tasks. Second, the degree of client motivation may directly impact the quality of the relational bond between therapist and client. In support of the former, research has shown that client motivation is associated with greater persistence with therapy tasks (Vallerand & Bissonnette, 1992) and increased engagement with treatment materials (Curry, Wagner, & Grothaus, 1991). As well, both client motivation (e.g., Button et al., 2014, Helbig & Felm, 2004) and the alliance (e.g., Dunn et al., 2006) are associated with greater engagement with therapy tasks including homework. Thus, it seems reasonable to infer that this is at least partly due to the relationship between motivation and the alliance. That is, one reason that higher levels of motivation predict task engagement may be because of its positive impact on the goals and task components of the alliance. Alternatively, the alliance may predict compliance with therapy tasks at least in part because of its relationship with increased client motivation. This also fits with Rogers (1957) proposition that clients' intrinsic motivation and efforts

towards therapeutic change are facilitated by a therapeutic relationship involving empathy, genuineness, and unconditional positive regard.

Regarding the second way in which motivation may impact the alliance, there is evidence that low motivation or ambivalence about change may be linked to later alliance ruptures. In a study by Hunter, Button, and Westra (2014), client statements regarding change (CT and CCT) were coded in early therapy sessions (either session 1 or 2) for clients receiving CBT for GAD. They observed that CCT was significantly more frequent among dyads that subsequently experienced an alliance rupture, relative to dyads that never experienced an alliance rupture over the course of therapy. This finding was also recently replicated using a different sample (Hara, Westra, Constantino, & Antony, 2016). Moreover, it has been theorized that resistance (client opposition to the direction of the therapist; Chamberlain, Patterson, Reid, Kavanagh, & Forgatch, 1984) arises from low motivation or ambivalence about change, as clients who are more ambivalent may be more likely to oppose advice, homework, or other therapist demands for change (Engle & Arkowitz, 2006). In line with this conceptualization of ambivalence and resistance as interrelated, there is evidence that higher ambivalence at the outset of therapy is associated with increased resistance at early and mid-treatment (Button, Westra, Hara, & Aviram, 2015). As well, Aviram and Westra (2011) reported that, when clients received an MI pretreatment which is intended to reduce their ambivalence about change, they displayed less resistance and higher engagement in subsequent sessions of CBT.

Motivation and the Alliance in CBT and MI

The extant literature suggests several reasons why client motivation may differentially impact therapy processes, such as the alliance, when CBT is augmented with MI as opposed to when CBT is used as a standalone treatment. First, therapy may be more effective in general when it is tailored to a given client's current level of readiness for change (Prochaska & DiClemente, 1986). Second, and related to the first point, researchers have suggested that therapist directiveness in the context of client

ambivalence may lead to disharmony in the therapeutic relationship (Miller & Rollnick 2013; Westra, 2012, Westra & Norouzian, 2017). Third, therapists' differing attitudes regarding client ambivalence about or opposition to change in CBT (e.g., as a problem to be solved; Beck, 1995; Garland & Scott, 2007; Goldfried, 1982; Kazantzis & Shinkfield, 2007) as opposed to MI (e.g., as a normal part of therapy; Miller & Rollnick, 2002) may influence the likelihood that alliance tensions will occur. Each of these points will be elaborated upon below.

Tailoring therapy according to the level of motivation. According to the transtheoretical model, therapeutic change is optimally achieved when the intervention provided matches the client's current stage of change (Prochaska & DiClemente, 1986). In particular, this model suggests that more client-centred and experiential approaches are indicated for clients who are in the earlier, more ambivalent stages (i.e., precontemplation or contemplation) stages, whereas behavioural, action-oriented approaches are better suited to clients in the latter, more motivated stages of change (i.e., action or maintenance). Though investigations of this model have produced mixed results to date (Armitage, 2009; Bridle et al., 2005; Lewis et al., 2009), many consider it vital to tailor psychotherapy interventions based on client characteristics (e.g., Beutler, Someah, Kimpara, & Miller, 2016; DeRubeis et al., 2014). This is also consistent with evidence that individual difference variables such as client motivation can moderate treatment-outcome relationships (e.g., Button et al., 2016), as well as relationships between key therapy processes (e.g., the alliance) and outcomes (e.g., Ilgen, McKellar, Moos, and Finney, 2006). In terms of matching treatment to a client's level of motivation in the context of CBT, researchers have suggested that incorporating MI may be a valuable approach when clients are ambivalent about change (e.g., Westra, 2012). This ties in with findings from Button et al. (2016) that highly ambivalent clients achieve better long-term outcomes when they receive MI-CBT as opposed to CBT alone. Since better outcomes tend to imply stronger alliances, it is plausible that clients with

higher levels of ambivalence tend to experience more positive alliances when they receive MI-CBT, relative to CBT alone.

Directiveness and client motivation. According to a meta-analysis conducted by Beutler, Harwood, Michelson, Song, and Holman (2011), it is critical to match the level of therapist directiveness to a client's level of ambivalence about or resistance to change. Specifically, interventions that are more directive and action-oriented (as opposed to more supportive and process-oriented) such as CBT were found to result in poorer treatment outcomes for clients who were not yet ready for change. In addition, research has demonstrated that therapist directiveness is consistently related to higher levels of resistance. For instance, in a study which randomized clients with problem drinking to clinicians with either a client-centered or directive-confrontational therapeutic style, Miller et al. (1993) found that the directive-confrontational style predicted significant increases in client resistance. Relatedly, Patterson and Forgatch (1985) instructed therapists to switch between “facilitating and supporting” versus “teaching and confronting” during a single therapy session and reported that the more supportive attitude evoked increased client cooperation while the more confrontational stance increased resistance.

In action-oriented therapies such as CBT, therapist responses to moments of client ambivalence are thought to play a key role in whether ambivalence will progress into resistance against the direction of the therapist or therapy (Miller & Rollnick, 2013; Westra, 2012; Westra & Norouzian, 2017). For example, Miller and Rollnick (2013) argue that pushing for change in the context of CCT will make it more likely for mere disclosures of ambivalence to evolve into more oppositional behaviours (i.e., resistance). There is also evidence from Aspland et al. (2008) that alliance strains tend to occur when CBT therapists persist in the direction of change despite clients' negative reactions or visible disengagement. Furthermore, the therapeutic relationship only returned to a more harmonious state once the therapist shifted to understanding the client's point of view. Relatedly, Aviram, Westra,

Constantino and Antony (2016) found that CBT therapists who were more MI-like (e.g., empathic, supportive), despite not receiving explicit training in MI, at moments in which clients express ambivalence or disagreement had significantly better outcomes than therapists who were more directive and less empathic at these times.

Not only is there evidence that resistance can arise when therapists are directive in the face of client ambivalence, research further suggests that CBT therapists tend to become even more directive during such moments. In particular, Castonguay, Goldfried, Wiser, Raue, and Hayes (1996) reported that when clients expressed concerns about treatment, CBT therapists often did not respond in a supportive manner, instead demonstrating increased adherence to the CBT model (e.g., offering a treatment rationale, continuing with therapy tasks such as thought records). This makes sense given that CBT therapists are often trained to persist with manualized CBT approaches when they encounter resistance (Burns, 1989; Ellis, 1985; Leahy, 2001; Stevens, Muran, & Safran, 2003). Relatedly, Castonguay et al. (1996) reported that increased adherence in these moments was associated with a weakening of the alliance and a reduced likelihood of therapeutic change. In line with these findings, Sue and Sue (2008) stipulated that inadequate levels of attention to the therapeutic relationship is a common problem for novice CBT therapists and that this may be due to the emphasis on techniques as opposed to interpersonal dynamics in this model of therapy. Similarly, researchers have argued that CBT manuals offer insufficient guidance regarding the management of client opposition (Boswell et al., 2013; Westra, 2012; Zickgraf et al., 2016). This may be especially relevant for clients who are highly ambivalent given that the alliance seems to be especially important for such clients (e.g., Ilgen et al., 2006).

Different attitudes regarding motivation in CBT versus MI. In CBT, “motivation or ‘readiness’ for treatment is often considered a prerequisite to entry or is assumed” (Ryan, Lynch, Vansteenkiste, & Deci, 2011, p. 216). Accordingly, ambivalence about or opposition to change (e.g.,

disagreement with therapist suggestions) tend to be viewed as obstacles to successful treatment that need to be overcome (Beck, 1995; Garland & Scott, 2007; Goldfried, 1982; Kazantzis & Shinkfield, 2007). This is contrary to recent research that, while ambivalent statements in the context of client opposition are negatively associated with treatment outcomes, mere disclosures of ambivalence in a context of a harmonious therapeutic relationship are not related to outcomes and therefore not inherently problematic (Sijercic et al., 2016). In contrast to CBT's stance on client motivation, MI views ambivalence as a natural part of the process of therapy and change in general. Rather than advocating for change, as is common in CBT, MI therapists are trained to 'roll with resistance' and encourage clients to talk about their conflicting feelings about change (Miller & Rollnick, 2002); a feat that is normally difficult for clients given the perceived risk of jeopardizing the therapeutic relationship (Rennie, 1993). As such, clients may feel more comfortable and not likely to be judged negatively for disclosures of ambivalence in an MI context, thereby strengthening the therapist-client relationship.

Another way in which MI and CBT diverge in terms of their views on client motivation is in MI's emphasis on fostering autonomous or intrinsic, rather than controlled or extrinsic, motivation for change. While clinicians can help clients raise their overall motivation through targeting either kind of motivation, DiClemente (1999) argues that only the former type is desirable. This is supported by research demonstrating that autonomous, as opposed to controlled, motivation is substantively associated with more positive outcomes in a range of contexts including depression (Zuroff et al., 2007), substance dependence (Zeldman et al., 2004), and smoking cessation (Curry et al., 1991; Williams et al., 2006). Importantly, autonomous motivation is more likely to arise in the context of autonomy support, in which pressure and control is minimized while choice is emphasized (e.g., Ryan and Deci, 2000). Although autonomous motivation is generally regarded as preferable in CBT as well, more directive and controlling approaches that emphasize extrinsic motivation (e.g., contracts regarding treatment adherence, rewards or approval provided by the therapist) are encouraged when

clients do not comply with homework or other tasks (Beck, Emery, & Greenberg, 1985). As such, it is possible that client language in favour of change (i.e., CT) in MI-CBT may be more likely to represent autonomous motivation whereas, in CBT alone, CT may be more indicative of extrinsic motivation. Considering the relationship between autonomous motivation and superior treatment outcomes, it is conceivable that differences in the composition of CT may alter the relationship between client motivation and the alliance depending on treatment group.

Given the association between therapy directiveness and increased client resistance (e.g., Patterson and Forgatch, 1985), it is likely that more directive approaches that tend to support controlled as opposed to autonomous motivation could disrupt the alliance. In contrast, fostering client autonomy and facilitating intrinsic motivation for change are considered to be vital components of MI (e.g., Markland, Ryan, Tobin, & Rollnick, 2005). In fact, this seems to be so critical that altering this aspect of MI can prevent MI from positively impacting therapy outcomes. For example, in a study examining a more authoritarian version of MI, Kuchipudi, Hobein, Fleckinger, and Iber (1990) found that this nontraditional approach failed to reduce drinking behaviour in a sample of alcoholics with gastrointestinal disease. Overall, it is plausible that the relationship between client motivation and the therapeutic alliance may differ in the context of the more positive and autonomy-supportive attitudes regarding client motivation in MI, relative to the more negative and directive attitudes in CBT.

Aims of the Present Study

While numerous studies have examined the link between client motivation and psychotherapy outcomes, little research has investigated the relationship between motivation and therapy process variables, such as the therapeutic alliance. Further, despite promising evidence of the interrelatedness of client motivation and the alliance in other contexts (e.g., Meier et al., 2005), to my knowledge, no past study has specifically explored the association between client motivation and the alliance in the area of CBT for anxiety disorders. Considering this, the goals of the present study were twofold. First,

this study aimed to explore the impact of motivation on the therapeutic alliance in the context of CBT for GAD. Specifically, the relationship between individual differences in early client motivational language indices and the working alliance were examined over the course of therapy (i.e., in the early, middle, and late stages of therapy). Second, in light of previous research demonstrating that treatment type may moderate the effect of client motivation on treatment outcomes (Button et al., 2016), the current study examined whether the relationship between motivation and the alliance varies according to the therapy modality used (MI-CBT compared with CBT alone).

To investigate these goals, data for the present study were derived from a larger RCT (Westra et al., 2016) comparing the efficacy of two types of CBT for severe GAD: 1) MI-CBT and 2) CBT alone. Regarding the primary aim of this study, it was hypothesized that higher levels of counter change talk (CCT) and lower levels of change talk (CT) would be associated with lower working alliance ratings over the early, middle, and late stages of therapy, even while accounting for initial symptom severity. For the second aim, it was expected that treatment group would moderate the relationships between CT and the alliance and between CCT and the alliance over the course of therapy. Specifically, it was hypothesized that, relative to clients in the CBT alone group, the theorized positive association between CT and the alliance would be stronger among clients in the MI-CBT group while the expected negative association between CCT and the alliance would be weaker among clients in the MI-CBT group.

Method

Participants

Participants were recruited using community advertisements in the greater Toronto area over the course of a 15-month period. Individuals who responded to the advertisements were first required to complete a phone screen which utilized the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). Individuals who scored above the cutoff score for high GAD severity (68 or higher out of a possible 80) on the PSWQ were then invited to complete 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 was used to identify individuals meeting criteria for a principal diagnosis of GAD according to both DSM versions IV (DSM–IV; American Psychiatric Association, 1994) and 5 (DSM–5; American Psychiatric Association, 2013). Next, the PSWQ was re-administered and only those individuals with both a principal diagnosis of GAD and a score above the cutoff for high severity GAD were deemed eligible to participate in the study. Since GAD is highly comorbid with depression and other anxiety disorders, participants with these other disorders remained eligible to participate as long as GAD was their principal diagnosis based on level of impairment. Exclusion criteria included cognitive impairment (e.g., head injury, neurodegenerative illness), below criterion proficiency in English, significant current suicidal ideation, current or history of a psychotic spectrum disorder or bipolar disorder, or substance dependence within the past 6 months, or current use of benzodiazepine medications.

Current use of antidepressant medication was not included as an exclusion criterion, though it was ensured that participants who were using antidepressants agreed to continue using the same medication and dose for a minimum of 3 months prior to study entry. These participants also agreed to maintain this regimen over the course of the study. For participants who had recently stopped using an antidepressant medication, a washout period of at least 3 months was required prior to inclusion. As well, all participants agreed to refrain from using benzodiazepine medications or from receiving any concurrent therapy throughout the study. Based on a random sample of 25% of audiotaped diagnostic interviews for those participants who comprised the final sample, the inter-rater reliability indicated good consistency, with an overall kappa of .87 for all diagnoses and .95 for GAD diagnosis.

Therapists. After self-selecting into one of the two treatment conditions, therapists delivered *either* CBT alone or MI-CBT. In the RCT, this approach of nesting therapists within treatment groups was utilized in order to control for allegiance effects, which past research has shown to have a robust

impact on psychotherapy outcome research (see Munder, Brüttsch, Leonhart, Gerger, & Barth, 2013 for a review). In other words, because therapists self-selected the treatment they wished to deliver and exclusively delivered this treatment, it was ensured that therapists did not have to deliver treatments in which they did not believe or two treatments that differed in credibility for them. It also ensured that their knowledge of the hypotheses (i.e., which treatment ‘should’ do better) did not differentially influence the treatment. Rather, both groups of therapists were attempting to deliver the very best treatment possible in their condition.

All therapists were either doctoral candidates in clinical psychology or postdoctoral psychologists, and all were female. In the CBT alone group, there were 13 therapists (12 doctoral candidates in clinical psychology and one postdoctoral psychologist). Each therapist saw between one and seven clients (median of 5). The vast majority ($n = 12$) of therapists in the CBT alone group identified cognitive-behavioural as their primary orientation. As well, all therapists in this group were required not to have any formal training in MI. In the MI-CBT group, there were nine therapists (eight doctoral candidates in clinical psychology and one postdoctoral psychologist). The number of cases seen by each therapist ranged between 3 and 14, with a median of 5 cases per therapist. Roughly half ($n = 5$) of therapists in the MI-CBT group identified their primary orientation as integrative, while the remainder reported their primary orientation as client-centered ($n = 2$) and cognitive-behavioural ($n = 2$).

Across both conditions, therapists’ training consisted of: a four-day workshop, which included roleplay and discussion, readings, and at least one practice case with video supervision and extensive feedback. Therapists did not progress from practice cases to seeing study cases until they were deemed competent by their supervisor. Supervisors assessed competence via various treatment competence measures and video review of therapy sessions. Therapists continued to receive supervision for all study cases, in the form of weekly individual supervision meetings and regular review of session

videotapes. CBT training (for both groups), as well as supervision of therapists in the CBT alone group, was conducted by an expert in CBT and a postdoctoral fellow specializing in CBT. For therapists in the MI-CBT group, training and supervision was conducted by an expert in MI-CBT.

Treatment Conditions

All clients received 15 weekly sessions of individual therapy. For clients in the MI-CBT group, these 15 sessions consisted of up to 4 initial sessions of MI alone, followed by 11 sessions of CBT integrated with MI. In the CBT alone group, all clients received 15 weekly sessions of CBT.

CBT Alone. Several established, evidence-based CBT protocols (e.g., Côté & Barlow, 1992; Craske & Barlow, 2006; Zinbarg, Craske, & Barlow, 2006) were used to construct the treatment manual for CBT in this study. The adapted treatment involved progressive muscle relaxation, self-monitoring training, psychoeducation regarding worry and anxiety, cognitive restructuring, behavioural interventions (e.g., imaginal exposure to feared outcomes, behavioural experiments). Therapists were instructed to deliver three of these treatment components (progressive muscle relaxation, cognitive restructuring, and behavioural interventions) in a specific order, but it was up to therapists to decide how much time they wished to spend on each element (i.e., based on their judgement of their client's needs and interest in each component). As needed, sleep strategies, drawn from research by Carney and Edinger (2010), were also integrated into the treatment. In addition, at session 14, therapists discussed relapse prevention and created a relapse plan with their clients. Homework (e.g., relaxation practice, thought records, etc.) was also a major component of this treatment. For the management of homework noncompliance in the CBT alone condition, therapists received instruction in specific strategies for preventing (e.g., collaborating with clients to develop homework activities) and responding to (e.g., delivering psychoeducation about the importance and effectiveness of homework) noncompliance drawn from the CBT literature (e.g., Beck, 2005; Kazantzis & Shinkfield, 2007; Tompkins, 2004;

Waters & Craske, 2005). Explicitly outlining these strategies in the manual ensured consistency among CBT alone therapists in their approach to managing homework noncompliance.

MI-CBT. This treatment was based on guidelines from Westra (2012) which adapted the principles and methods of MI delineated by Miller and Rollnick (2002) to the context of anxiety treatment. These guidelines provided instruction in delivering both MI alone and MI-CBT. During the first four sessions of MI alone, therapists communicated to clients that these first sessions will be focused on exploring feelings about change (e.g., ambivalence about reducing worry/anxiety). A treatment rationale was provided for this exploratory approach and clients were informed that, after session four, sessions would be more action-oriented (i.e., focused on specific practical strategies for changing). MI-CBT therapists were instructed to avoid using any change-oriented strategies during the first four sessions. Throughout all 15 sessions, therapists utilized the principles of MI (rolling with resistance, empathizing, etc.) and embodied the qualities of the MI spirit (collaboration, evocation, empathy, and autonomy support). The principles and spirit of MI were used in order to assist clients with processing and resolving their ambivalence about changing through therapy (e.g., reducing worry) before taking action towards changing. CBT approaches began to be incorporated after the first four sessions, though MI-CBT therapists continued to manage client ambivalence as needed. This was achieved through a focus on identifying and responding to in-session process markers of ambivalence or resistance. In particular, when such markers emerge, therapists were instructed to move back to the more exploratory, supportive mode and methods of MI. As well, throughout all MI-CBT sessions, the principles and spirit of MI were consistently utilized and served as a backdrop for all CBT strategies that were delivered.

Measures

Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990). The PSWQ is a widely used 16-item instrument assessing trait worry on a 5-point Likert scale. Total scores on this measure range

between 16 and 80, with higher scores indicating greater levels of trait worry. The PSWQ possesses high temporal stability and internal consistency (Cronbach's α of .93 for all anxiety disorders, and .86 for GAD), as well as good convergent and discriminant validity (Brown, Antony, & Barlow, 1992; Meyer et al., 1990). This measure has also been shown to effectively discriminate individuals with GAD from healthy controls and from those with other anxiety disorders (Brown et al., 1992). In the present study, participant's baseline PSWQ scores (average Cronbach's α of .62) were used as a control variable, given past research that initial symptom severity is strongly associated with CBT outcomes (e.g., Kampman et al., 2008).

Motivational Interviewing Skill Code Version 1.1, (MISC 1.1; Glynn & Moyers, 2009). The MISC 1.1 is an observational measure of client motivational language. Using this measure, a target behaviour must first be identified since client speech was subsequently categorized as movement toward or away from this target behaviour. Next, client language regarding change was coded as either CT (statements indicating support for and/or movement towards change) or CCT (statements indicating arguments against and/or movement away from change). For instance, client statements such as, "I want to change so that I can go back to work" would be considered CT, while statements like "Therapy seems like way too much work" would be coded as CCT.

The MISC 1.1 coding manual (Glynn & Moyers, 2009) was the primary source of instruction for coding client statements regarding change. But, since the MISC 1.1 was originally created for the treatment context of MI for substance abuse, it was necessary to use an adapted version developed by Lombardi et al. (2014) which is tailored to the treatment context of the current study (CBT for GAD). Accounting for differences between these two treatment contexts was essential since substance abuse tends to involve a single, consistent target behaviour (i.e., reducing substance abuse), whereas clients with anxiety tend to present with a multitude of target behaviours (e.g., reducing worry, decreasing reassurance-seeking, socializing more, etc.) that are often idiographic in nature and which tend to shift

over the course of therapy sessions. As such, the original version requires the identification of a single target behaviour, whereas the adapted version allows a range of target behaviours.

Working Alliance Inventory - Short Form (WAI; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). The WAI is a widely used, pantheoretical measure assessing the quality of the alliance from the perspective of clients (only the client version of the WAI was used in this study). The WAI consists of 12-items and three subscales (4 items per subscale) that assess Bordin's (1979) three proposed elements of the alliance: bond between client and therapist, agreement on therapy tasks, and agreement on therapy goals. Each item is rated on a 7-point Likert scale ranging from 1 (never) to 7 (always), with higher scores reflecting higher perceived alliance quality. Total scores on the WAI range from 12 to 84. The WAI possesses sound psychometric properties (Horvath & Bedi, 2002), including internal consistency estimates of .93 for the total score and α ranging from .85 to .88 for the subscales (Horvath & Greenberg, 1986, 1989). In the present study, the average Cronbach's α for the total WAI score was .85. The WAI has also demonstrated high convergent validity with the Empathy Scale of the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 1962) and has been shown to be a strong predictor of therapy outcomes (Horvath & Greenberg, 1986, 1989).

Procedure

Clients completed the WAI after every session, with the exception of session 15. For all clients, videotapes of the first therapy session were coded by a team of trained coders using the MISC 1.1. The PSWQ was completed at various time points throughout the RCT, though only baseline scores were used in the present study in order to control for symptom severity. All study measures and procedures were approved by a local Institutional Ethics Review Board for research involving human participants. Informed consent was obtained from participants at study intake.

MISC 1.1 Coding. A team of three coders (two upper level undergraduate students in psychology and a Master's level graduate student in clinical psychology), blind to the outcome status of

clients, coded first session videos in their entirety for client CT and CCT. Two of these coders received training (two 3-hour training workshops followed by independent practice with test materials) over a period of four months, by which point they were trained to criterion and allowed to progress to coding study materials. To be deemed proficient, coders had to achieve a minimum of 85 percent observed agreement against the test materials. The third coder was significantly involved in developing the adapted version of the MISC and led the training. Over the course of coding therapy sessions from the present study, the team of coders had weekly meetings to resolve any coding issues. To determine reliability, 25% of all materials were double-coded. For each pair of coders, kappa coefficients ranged from 0.75 to 0.95, with a mean of 0.86, reflecting good to excellent agreement (Fleiss, 1981).

Results

Sample Characteristics

The sample consisted of 85 clients with a mean age of 33.33 years ($SD = 11.23$). Participants were mostly female (88%), Caucasian (75%), and well-educated, with the majority (67%) reporting that their highest level of education was postsecondary or higher. Many clients met criteria for comorbid anxiety disorders (71%) and/or comorbid depression/dysthymia (35%). Almost a quarter of participants ($n = 20$) were using psychotropic medication (mostly antidepressants) throughout the treatment phase of the RCT. The means and standard deviations for all study measures, as well as all sample demographics, are presented in Table 1.

For the vast majority of variables, there were no significant differences between treatment groups¹. Further, for all outcome and predictor variables in this study (CT, CCT, and early, middle, and late WAI ratings), there were no significant differences between treatment groups (all p 's < 0.16). However, the groups did significantly differ with respect to sex, with more male clients in MI-CBT

¹ Though not significant, there were twice as many dropouts in the CBT alone group (23%, $n = 10$) than in the MI-CBT group (10%, $n = 4$), $\chi^2(1) = 2.91$, $p = .09$. There were also no significant differences between dropouts and completers for CCT and early, middle, and late WAI ratings. However, completers had significantly higher CT (18.9% of all utterances) than completers (12.3% of all utterances), $t(83) = 2.06$, $p < .05$.

(19%, $n = 8$) than CBT alone (5%, $n = 2$), $\chi^2(1) = 4.24, p < .05$. As well, there was a significant difference in the degree of psychotropic medication usage, with fewer medicated clients in MI-CBT (14%, $n = 6$) than CBT alone (33%, $n = 14$), $\chi^2(1) = 3.94, p < .05$. When including medication status and sex as covariates in the analyses, all results reported below remain unchanged (i.e., all slope coefficients and p -values are virtually identical).

Indices

In order to examine relationships with WAI ratings at different stages of therapy, average WAI scores were calculated for the early (sessions 1 to 4), middle (sessions 5 to 9), and late stages of therapy (sessions 10 to 14). Since the degree of client verbosity was highly variable among clients, raw CCT and CT scores were divided by the total number of client utterances in the session. This value was then multiplied by 100 in order to obtain the percent of CCT and CT statements for each client.

Intercorrelations of Measures

Correlations between all of the measures used in the present study are presented in Table 2. Notably, CCT was significantly negatively correlated with the WAI at all three stages of therapy (i.e., early, middle, and late). However, neither CT nor baseline PSWQ scores were significantly associated with the WAI at any stage of therapy. As well, CCT and CT were significantly positively associated with each other.

Analytical Approach

Multilevel Modeling (MLM) was used to examine the relationship between motivational language indices and the working alliance at the early, middle, and late stages of therapy. MLM was also used to assess the potential moderating effect of treatment group on this relationship at each of the three stages of therapy. MLM was chosen as the appropriate parametrical procedure for these analyses due to the hierarchical nature of the data. Specifically, clients were nested within therapists. Regression diagnostics were conducted for the random-intercepts models used in all MLM analyses (i.e., models

for both Hypothesis 1 and 2) and there was no evidence to suggest significant departures from model assumptions. For example, the residuals for all models were found to be approximately normal. As well, multicollinearity was unlikely to be a problem for any of the models since tests for multicollinearity indicated that only a low level of multicollinearity was present (*VIF* values ranged between 1.01 and 3.00).

Hypothesis 1: Higher levels of CCT and lower levels of CT would be associated with lower working alliance ratings over the early, middle, and late stages of therapy, even while accounting for initial symptom severity.

Early stage of therapy. In order to assess the degree of variability in outcome that occurred at the therapist level, an intraclass correlation (ICC) was calculated from the two-level unconditional model using maximum likelihood (ML). The ICC was .309 which indicates that 30.9% of the total variance in early WAI scores was due to differences between therapists. Thus, a two-level random intercepts model, which accounted for differences between therapists, was appropriate.

A two-level random intercepts model was examined for the regression of early WAI scores on the two Level 1 variables, CCT and CT, while controlling for baseline PSWQ. When the random-intercepts model was fit to the data using ML, only CCT was found to be significantly associated with early working alliance ratings. The estimated fixed Level 1 slope for CCT was $\hat{\gamma}_{10} = -.33$ which indicates that, while accounting for baseline PSWQ scores, each 10% increase in the proportion of CCT was associated with a 3.3 point decrease in early WAI ratings. This effect was significant, $t(61) = -2.76, p < .001, 95\% \text{ CI } [-.56, -.10]$. The estimated fixed Level 1 slope for CT was $\hat{\gamma}_{10} = .11$ which was non-significant, $t(61) = 1.44, p = .15$. An R^2 measure, using within residual variance and intercept between residual variance, demonstrated that CCT and CT together accounted for 9.84% of the variance in WAI ratings, over and above baseline PSWQ.

Middle stage of therapy. An ICC of .297, calculated from the two-level unconditional model using maximum likelihood (ML), demonstrated that 29.7% of the variance in mid-treatment alliance scores was accounted by differences between therapists. Thus, a two-level random intercepts model was assessed for the regression of mid-treatment WAI scores on the two Level 1 variables, CCT and CT, while controlling for baseline PSWQ scores.

When the model was fit to the data using ML, only CCT was found to be a significant predictor of mid-treatment alliance ratings. For CCT, the estimated fixed Level 1 slope was $\hat{\gamma}_{10} = -.47$, indicating that, while accounting for baseline PSWQ scores, each 10% increase in the proportion of CCT predicted a 4.7 point decrease in mid-treatment WAI scores. This effect was significant, $t(53) = -3.82$, $p < .001$, 95% CI $[-.71, -.23]$. The estimated fixed Level 1 slope for CT ($\hat{\gamma}_{10} = .08$) was not significant, $t(53) = 1.08$, $p = .29$. A calculation of R^2 , using within residual variance and intercept between residual variance, indicated that CCT and CT together accounted for 17.57% of the variance in WAI, over and above baseline PSWQ.

Late stage of therapy. An ICC of .284, calculated from the two-level unconditional model using maximum likelihood (ML), demonstrated that 28.4% of the variance in late alliance scores was due to differences between therapists. Accordingly, a two-level random intercepts model was assessed for the regression of late WAI scores on the two Level 1 variables, CCT and CT, while controlling for baseline PSWQ scores.

Using ML, the model was fit to the data and only CCT was identified as a significant predictor of late alliance ratings. The estimated fixed Level 1 slope for CCT was $\hat{\gamma}_{10} = -.45$, which suggests that, while keeping baseline PSWQ scores constant, each 10% increase in the proportion of CCT predicted a 4.5 point decrease in late WAI scores. This effect was significant, $t(47) = -3.98$, $p < .001$, 95% CI $[-.57, -.23]$. The estimated fixed Level 1 slope for CT was $\hat{\gamma}_{10} = .09$ which was non-significant, $t(47) = 1.21$, $p = .23$. An R^2 measure, calculated from within residual variance and intercept between residual

variance, demonstrated that CCT and CT together accounted for 18.92% of the variance in WAI, over and above baseline PSWQ.

Hypothesis 2: Treatment group would moderate the relationships between CT and the alliance and CCT and the alliance over the course of therapy.

Possible interaction between CT and treatment group. Three separate moderation analyses were conducted for the early, middle, and late stages of therapy. Two-level random intercept models were assessed for the regression of WAI scores on three Level 1 variables (CT, treatment group, and the interaction between CT and treatment group), while including baseline PSWQ scores as a covariate. When the random-intercepts models were fit to the data using ML, no evidence of moderation was found since the estimated fixed Level 1 slope for the interaction term was not significant for all three models (early: $p = .94$; middle: $p = .45$; late: $p = .97$). Moreover, within each treatment group, there was a non-significant relationship between CT and WAI at all stages of therapy (all p 's $> .54$).

Possible interaction between CCT and treatment group – early treatment. The potential moderating effect of treatment group on the relationship between CCT and alliance ratings was assessed using a two-level random intercepts model for the regression of early WAI scores on three Level 1 variables (CCT, treatment group, and the interaction between CCT and treatment group), while controlling for baseline PSWQ scores. The random-intercepts model was fit to the data using ML and the estimated fixed Level 1 slope for the interaction term was not significant ($p = .62$). This suggests that the relationship between CCT and early alliance ratings did not vary as a function of treatment group. Specifically, the estimated fixed Level 1 slopes within the CBT alone and MI-CBT groups were $\hat{\gamma}_{10} = -.35$ and $\hat{\gamma}_{10} = -.24$, respectively. This slope was significant for the CBT alone group, $t(61) = -2.11$, $p < .05$, indicating that, among clients receiving CBT alone, each 10% increase in the proportion of CCT predicts a 3.5 point decrease in their early WAI ratings. Within the MI-CBT group, the estimated fixed Level 1 slope was not significant, $t(61) = -1.59$, $p = 0.12$.

Possible interaction between CCT and treatment group - mid-treatment. A moderation analysis was conducted using a two-level random intercepts model for the regression of mid-treatment WAI scores on three Level 1 variables (CCT, treatment group, and the interaction between CCT and treatment group), while including baseline PSWQ scores as a covariate. The estimated fixed Level 1 slope for the interaction term was not significant ($p = .29$), when the random-intercepts model was fit to the data using ML, suggesting that the relationship between CCT and mid-treatment alliance ratings did not vary as a function of treatment group. The estimated fixed Level 1 slopes within the CBT alone and MI-CBT groups were $\hat{\gamma}_{10} = -.58$ and $\hat{\gamma}_{10} = -.32$, respectively. This slope was significant for the CBT alone group, $t(53) = -3.13$, $p < .01$, suggesting that, among clients receiving CBT alone, each 10% increase in the proportion of CCT predicted a 5.8 point decrease in their mid-treatment WAI ratings. Within the MI-CBT group, the estimated fixed Level 1 slope was also significant, $t(53) = -2.14$, $p < .05$. This indicates that for clients receiving MI-CBT, each 10% increase in the proportion of CCT is associated with a 3.2 point decrease in mid-treatment WAI scores.

Possible interaction between CCT and treatment group - late treatment. A moderation analysis was conducted using a two-level random intercepts model for the regression of late WAI scores on three Level 1 variables (CCT, treatment group, and the interaction between CCT and treatment group), while accounting for baseline PSWQ scores. When ML was used to fit the random-intercepts model to the data, the results indicated that the estimated fixed Level 1 slope for the interaction term was significant, $t(47) = 2.19$, $p < .05$. As well, when the interaction term was included in the random intercepts model, significantly more variance in late alliance scores was explained ($\Delta R^2 = 9.54\%$, $p < .05$).²

² Since testing three separate models for each hypothesis (i.e., for the early, middle, and late stages of therapy) can inflate the Type 1 error rate, a more stringent threshold for significance ($\alpha = .01$) was also used. With this threshold, all of the reported results for Hypothesis 1 and 2 remain the same except for the interaction between CCT and treatment group at late treatment which is no longer significant ($p = .03$).

Together, this indicates that the relationship between CCT and late alliance ratings was significantly moderated by treatment group (see Figure 1). The estimated fixed Level 1 slopes within the CBT alone and MI-CBT groups were $\hat{\gamma}_{10} = -.72$ and $\hat{\gamma}_{10} = -.23$, respectively. This slope was significant for the CBT alone group, $t(47) = -4.13, p < .001$, suggesting that, among clients receiving CBT alone, each 10% increase in the proportion of CCT was associated with a 7.2 point decrease in their late WAI ratings. Within the MI-CBT group, the estimated fixed Level 1 slope was not significant, $t(47) = -1.67, p = 0.10$.

Overall, although the interaction between CCT and WAI ratings was only significant for late WAI ratings, the fixed Level 1 slopes for the CBT condition steadily increased over time whereas the fixed Level 1 slopes for the MI-CBT condition remained roughly the same over time (see Figure 2).

Discussion

The present study examined the relationship between client motivational language indices (CCT and CT) and the working alliance, as well as the possibility that treatment group would moderate these relationships. The results provide partial support for the hypothesized relationship between observed motivational language and the alliance. Specifically, although CT was not a significant predictor of the alliance at any stage of therapy (early, middle, and late), CCT consistently predicted lower alliance ratings at all three stages of treatment, over and above baseline symptom severity. Moreover, the strength of this relationship increased over time such that a 10% increase in the proportion of CCT predicted roughly a 3-point decrease in early WAI scores, relative to predicting an approximately 5-point drop in middle and late WAI scores. As well, though largely due to the contribution of CCT, both motivational language indices together were found to account for approximately 10% of the variance in early WAI scores and almost 20% of the variance in middle and late WAI scores.

The results also partially supported the hypothesis that treatment group would moderate the relationship between motivational language indices and working alliance ratings. Contrary to the

hypothesis, there was no evidence that treatment group significantly moderated the CT-alliance relationship at any stage of therapy. Furthermore, within both treatment groups, there was no significant relationship between CT and alliance ratings at any stage. However, the relationship between CCT and the working alliance was found to vary significantly as a function of treatment group at the late stage of therapy (but not at the early and middle stages). More specifically, in the CBT group, higher CCT was significantly associated with lower late WAI ratings whereas, in the MI-CBT group, CCT did not significantly predict late WAI ratings. In other words, the results suggest that receiving MI-CBT attenuated the negative impact of CCT on late alliance ratings. As well, although treatment group did not significantly moderate the CCT-alliance relationship at the early and middle stages of treatment, the results suggest that, within the CBT group, CCT was more strongly associated with lower alliance ratings over time, whereas, within the MI-CBT group, this relationship remained roughly constant over time (see Figure 2). That is, receiving CBT may have intensified the detrimental impact of CCT on the working alliance such that this relationship grew stronger over time, ultimately diverging significantly from the MI-CBT group by late treatment.

CCT is associated with Lower Alliance Ratings

The results of the current study provide strong evidence for the hypothesized link between observed client ambivalence (i.e., CCT) at the outset of therapy and the formation and maintenance of the working alliance in CBT for GAD. Empirically, this study's finding that CCT is associated with a more negative working alliance over the course of therapy is consistent with studies demonstrating that early CCT predicts subsequent alliance problems including ruptures (Hara et al., 2016; Hunter et al., 2014) and resistance (Button et al., 2015). The present study's findings also corroborate evidence that initial self-reported client motivation predicts subsequent client alliance ratings (Meier et al., 2005; Taft et al., 2004). Regarding the specific components of the working alliance (i.e., agreement between client and therapist regarding therapy goals, commitment to engage with therapy tasks, and the relational

bond), the current findings are in line with studies indicating that client motivation is associated with engagement with therapy tasks and materials (e.g., Curry et al., 1991; Vallerand & Bissonnette, 1992) as well as research demonstrating that ambivalence is associated with subsequent interpersonal disharmony in the therapist-client relationship (e.g., Button et al., 2015). The current study extends these findings by demonstrating a link between the working alliance and observational measures of client motivation; measures that have been shown to be superior to self-report measures of client motivation (e.g., Magill et al., 2010). Overall, this study provides suggestive evidence that individual differences in client ambivalence at the outset of therapy have important implications for the quality of the working alliance.

Why is CT not associated with Alliance Ratings?

Contrary to the hypothesis, the current study found that observed client motivational language in favour of change (i.e., CT) was not significantly associated with client ratings of the working alliance at any stage of therapy. This finding diverges from evidence that higher self-reported client motivation is associated with a more positive working alliance (Meier et al., 2005; Taft et al., 2004). However, given that the present study examined the CT-alliance relationship in the context of CBT, it is instructive that research in this domain has also identified CCT as a more potent predictor of psychotherapy process and outcomes than CT which often displays a non-significant association with outcomes, such as alliance ruptures and treatment outcomes (Hunter et al., 2014; Lombardi et al., 2014). As well, in the addictions domain where CT and CCT have been intensively studied, researchers have noted that CT is typically a less significant predictor of outcomes (Apodaca et al., 2014; Magill et al., 2014).

While it is unclear why exactly the prognostic capacity of CT is lower relative to that of CCT, one plausible explanation suggested by Lombardi et al. (2014) is that CT may be more likely to be influenced by factors beyond a client's internal level of motivation such as social desirability bias. For

example, similar to issues with self-report measures of client motivation, clients may believe that it is more desirable to articulate their commitment and desire to change, especially given the demand characteristics of an initial therapy session (i.e., the context in which CT was measured in the present study). This is in line with findings that CT statements occur more frequently than CCT statements (Lombardi et al., 2014; Poulin et al., 2017) and research suggesting that clients have difficulty expressing reservations regarding treatment (Rennie, 1994; Rhodes et al., 1994). Assuming this is true, this suggests that CT may offer a less valid reflection of a client's motivational status, relative to CCT which may be more representative of a client's degree of ambivalence about change.

Treatment Group Moderates the Relationship between CCT and Late Alliance Ratings

The present study found that the negative impact of observed early client ambivalence on late alliance ratings was weakened for clients who received MI-CBT, as opposed to CBT alone. In addition, in the CBT group, initial ambivalence predicted larger decreases in alliance ratings at late therapy relative to early therapy whereas, in the MI-CBT group, the impact of ambivalence on alliance ratings did not escalate over time. This is a novel finding since previous research has not examined how the relationship between ambivalence and alliance varies between treatment groups over the course of therapy.

One possible explanation for the results of the current study is that the higher level of therapist directiveness in CBT relative to MI-CBT may exacerbate early client ambivalence about change, ultimately straining the alliance over the course of therapy. This explanation is consistent with theoretical (Miller & Rollnick 2013; Westra, 2012, Westra & Norouzian, 2017) and empirical evidence (Aspland et al., 2008; Beutler et al., 2011; Patterson & Forgatch, 1985) that directive, as opposed to supportive, therapist behaviours in the context of client reservations about change may lead to subsequent disharmony in the therapist-client relationship. In contrast, MI encourages the development of a supportive therapy context in which clients can safely express and explore their ambivalence about

change without prejudice or demands for change (Miller & Rollnick, 2002; Westra, 2012). Furthermore, MI-CBT involves explicit training in identifying and managing ambivalence. As a result, MI-CBT may facilitate appropriate management of client ambivalence about change, thereby preventing subsequent alliance difficulties. This is also in line with research demonstrating that both single and repeated alliance ruptures are significantly less common in MI-CBT than in CBT alone, and that these ruptures are more likely to be repaired (Hara et al., 2016). This may also explain why treatment group did not emerge as a significant moderator until the late stage of therapy since alliance strains, especially when they are repeated, are demoralizing through their negative impact on subsequent client and therapist outcome expectations (Mamedova, Westra, Constantino, & Antony, 2015).

Another related explanation for the present study's findings is that MI-CBT's emphasis on supporting the alliance (in contrast to CBT's relative emphasis on intervention techniques; Sue & Sue, 2008) may mitigate the negative effect of ambivalence on the alliance. This aligns with evidence that the alliance can moderate the impact of low client motivation on treatment outcomes. Specifically, in a sample of outpatients receiving treatment for alcohol use, Ilgen et al. (2006) reported that more positive therapist-ratings (although not client-rating) of the alliance were a stronger predictor of treatment outcomes (6-month and 1-year alcohol use) among patients with low motivation, compared to those with high motivation. In other words, a high-quality therapeutic alliance was found to be especially beneficial for clients with low motivation, even though low motivation in this population is typically associated with poorer drinking outcomes (e.g., Moyers et al., 2007). In the context of the current study, treatment group may moderate the ambivalence-alliance relationship in a similar way. That is, MI-CBT's explicit focus on enhancing interpersonal harmony may obviate the otherwise negative impact of ambivalence on the alliance. This is also in line with the viewpoint that clients with low motivation are especially sensitive to the quality of the therapeutic relationship (Miller & Rollnick, 2002; Lebow, Kelly, Knobloch-Fedders, & Moos, 2006) since it follows that a positive therapeutic relationship may

be particularly advantageous for such clients. Moreover, though not related to ambivalence specifically, there is evidence that MI-CBT, as opposed to CBT alone, is associated with greater interpersonal harmony in general (Constantino, Westra, & Antony, 2015; Hara et al., 2016).

Why is Treatment Group not a Significant Moderator of the CT-Alliance Relationship?

In contrast to the hypothesis that higher initial client CT would have a more positive impact on the alliance in MI-CBT as opposed to CBT, the current study found no evidence that the relationship between CT and the alliance varies as a function of treatment group. Since significant interactions may still emerge despite non-significant main effects, the lack of evidence for moderation cannot be attributed to the present study's finding that CT was a non-significant predictor of alliance ratings. Instead, the results suggest that initial CT is neither beneficial for, nor detrimental to, the alliance irrespective of treatment group. This finding diverges from the idea that CT may be more likely to represent intrinsic (as opposed to extrinsic) motivation, thereby being more likely to positively impact the alliance, in MI-CBT relative to CBT alone. This would be expected given the relative emphasis on the support of client autonomy in MI (Markland et al., 2005). One possible explanation for this divergence is measurement error, given conceptualizations of CT as potentially less indicative of a client's genuine level of motivation (Lombardi et al., 2014). Alternatively, since MI-CBT is intended to enhance CBT by identifying and managing client ambivalence when it emerges (i.e., as CCT), it is possible that MI-CBT only impacts the effect of CCT on therapy processes and outcomes. That is, MI-CBT may not alter the impact of CT on therapy process since its primary purpose is to appropriately manage CCT, not CT³.

Clinical Implications

³ In a more recent conceptualizations of MI (Miller & Rose, 2009), there is greater emphasis on CT as a key change mechanism and, therefore, on directly facilitating the evocation of CT. However, in the present study's MI-CBT treatment, a prior version of MI (i.e., Miller & Rollnick, 2002) was integrated with CBT instead. As such, therapists were primarily trained to manage CCT, not CT.

Overall, the findings of the current study highlight the importance of early client motivational language as a key variable in CBT for GAD with substantial implications for the quality of the working alliance. In terms of clinical implications, the results of this study underscore the value of tailoring therapy to a client's level of motivation since motivational language at the outset of therapy may be an important early marker of the need for different therapeutic styles. Specifically, these results support the integration of MI with CBT since MI-CBT may be especially beneficial for clients who express ambivalence about change since this treatment is more in line with their stage of change (Prochaska & DiClemente, 1986). In particular, integrating MI with CBT may reduce the negative impact of ambivalence on the working alliance, thereby resulting in a more harmonious and likely more productive therapy relationship.

The present findings also highlights the need for therapist responsivity (Stiles, Honos-Webb, & Surko, 1998) to motivational markers as they arise in session (e.g., Constantino, Boswell, Bernecker, & Castonguay, 2013; Miller & Rollnick, 2013; Westra, 2012). Specifically, identifying and effectively responding to moment-to-moment shifts in client motivation may improve the alliance. For example, therapists can engage clients in a discussion regarding the client's reservations, concerns, or doubts about treatment (e.g., "You seem a little skeptical about therapy, can you tell me more about that?"). Most importantly, during moments when clients express ambivalence, therapists should shift the focus to supporting the alliance, rather than simply proceeding with therapy tasks or providing additional treatment rationale. Further, these moments appear to be an especially important phenomenon for clinicians to consider during initial therapy sessions since the current study found that alliance problems may worsen over time if ambivalence is not managed effectively early on in therapy. Related to this, the present study suggests that issues with client motivation do not disappear on their own without direct therapist intervention. Rather, these issues resurface and continue to strain the alliance unless ambivalence is appropriately addressed early on. This is especially critical given evidence that

alliance strains can be demoralizing through their capacity to reduce hope for change in both clients and therapists (Mamedova et al., 2015).

Another implication of the current study is that treatments may differ in subtle ways that cannot be captured by average differences between groups and these subtle differences nonetheless have strong impacts on therapy processes. More specifically, the present study found that the CCT-alliance relationship varied as a function of treatment group at late therapy despite the non-significant between-groups differences in average early, middle, and late alliance ratings. In fact, alliance ratings were roughly the same for both groups at all stages of therapy (see Table 1). If these results alone were examined, key differences between the groups (e.g., that ambivalence differentially impacts the alliance depending on treatment group) would have been obscured. Thus, it is vital for clinicians and researchers to go beyond examining average differences between treatment groups by also examining moderators and the impact of client characteristics on therapy process.

Strengths, Limitations, and Future Directions

The present study has several strengths. First, adding to the existing literature on the link between client motivation and the working alliance in other contexts (e.g., Meier et al., 2005), this study provides an initial examination of the association between motivation and the alliance in the context of CBT for GAD. Second, in contrast to prior research on this topic which largely relied on self-report measures of client motivation, the current study used a novel observer-rated measure of client motivational language and adds to preliminary evidence that this is a robust and clinically useful measure of client feelings about change. Third, this is the first study to examine treatment group as a possible moderator of the relationship between client motivational language at the outset of therapy and the alliance. In addition, by exploring the impact of early motivational language indices on alliance ratings over the course of therapy, this study provides a unique perspective on how initial motivation for change may differentially impact the alliance over time and how these trends may vary depending

on the specific treatment delivered. Lastly, a key strength of the present study was its analytical approach which controlled for the hierarchical nature of the data (i.e., clients nested within therapists) through the use of MLM.

The current study also has several important limitations. The sample size of the present study was relatively small and only included individuals with severe GAD receiving CBT. As well, there was limited sex and cultural diversity as both clients and therapists were predominately Caucasian and female. Future research should investigate whether the present findings generalize to other clinical and demographic populations, ideally with a larger sample size in order to provide a more rigorous examination of the phenomena under study. In addition, the inclusion of male clients in the sample (as opposed to an entirely female sample) can be considered a limitation since this may have confounded the results. Though clients were randomly assigned to treatment group, there were significantly more male clients in the MI-CBT group than in the CBT alone group (though all results reported above remained virtually the same when sex was included as a covariate). As well, since all male clients were paired with therapists of the opposite sex (as opposed to the female clients who all saw female therapists), it is possible that this sex difference for some of the dyads may have influenced the results.

Another limitation is that the relative inexperience of the therapists in this study, who were largely doctoral candidates, may have impacted the results since novice CBT therapists may be especially likely to emphasize techniques over supporting the therapeutic alliance (Sue & Sue, 2008). However, it should be noted that therapists in this study received high treatment competence ratings (Westra et al., 2016) and client ratings of the working alliance were high in both the CBT alone and MI-CBT groups at all stages of therapy (see Table 1). Further, all clinicians in this study were supervised by experienced psychotherapists, and previous research suggests that level of experience does not affect therapy outcomes (Leon, Martinovich, Lutz, & Lyons, 2005).

An additional limitation is that the present study only measured motivational language indices during session 1. However, since the degree of client motivation may shift over the course of therapy, it is possible that a client's more immediate level of motivation would have a greater bearing on alliance quality than their initial level of motivation. For example, it is possible that mid-treatment CCT may have a stronger association with alliance ratings during the middle stage of therapy, perhaps even fully mediating the relationship between early CCT and middle alliance ratings. Thus, future studies should consider measuring motivational language at multiple time points in therapy when examining the relationship between motivation and the alliance. A final limitation is that possible overlap in the constructs of motivational language and the working alliance may have impacted the results of this study. Namely, since measures of both motivational language and the working alliance capture the degree of engagement in therapy tasks (i.e., client actions away from or towards change captured by the MISC 1.1 and the Task subscale of the WAI), it is possible that these two measures are partially capturing the same construct and, therefore, any relationships between them may have been artificially inflated. However, there was no evidence of significant multicollinearity in any of the models examined. Thus, measurement overlap does not appear to fully explain the relationship between CCT and WAI ratings. Nonetheless, future studies should endeavour to use more refined measures that can better parse this distinction.

Beyond these limitations, there are several additional directions for future research to explore. Since this study found that CT was unrelated to alliance ratings, future studies may wish to empirically examine why CT has a lower predictive capacity relative to CCT in this and other studies. It may also be helpful to refine existing measures in order to obtain a more valid measure of a client's level of motivation, perhaps by accounting for demand characteristics of the therapy context in order to parse intrinsic versus extrinsic client motivation. Another possibility for future research is to examine whether the relationship between CCT and the working alliance translates to an impact on treatment

outcomes. For example, it is possible that the negative impact of CCT on the alliance in turn has a detrimental effect on symptoms post-treatment.

Conclusions

This study provides an initial examination of treatment type as a possible moderator of the relationship between client motivational language and the working alliance in the area of CBT for severe GAD. Initial client statements against change, though not client statements in favour of change, were found to be significantly negatively associated with client ratings of the alliance at the early, middle, and late stages of therapy. Further, at the late stage of therapy, this relationship varied as a function of treatment group such that early ambivalence about change had no bearing on the working alliance for clients receiving MI integrated with CBT while it was associated with significantly lower alliance ratings for clients receiving CBT alone. This study underscores the centrality of client motivation for change to psychotherapy processes such as the alliance in CBT. Moreover, in line with conceptualizations of client oppositional behaviours as arising from ambivalence about change (Engle & Arkowitz, 2006), there is a strong need for clinicians to be attentive and effectively responsive to early ambivalence since the present study suggests that this phenomenon can produce subsequent disharmony in the therapeutic relationship if it is left unmanaged.

References

- Apodaca, T. R., Borsari, B., Jackson, K. M., Magill, M., Longabaugh, R., Mastroleo, N. R., & Barnett, N. P. (2014). Sustain talk predicts poorer outcomes among mandated college student drinkers receiving a brief motivational intervention. *Psychology of Addictive Behaviors*, 28(3), 631-638.
- Ackerman, S. J., Beutler, L. E., Gelso, C. J., Goldfried, M. R., Hill, C., Lambert, M. J., et al. (2001). Empirically supported therapy relationships: Conclusions and recommendations of the Division 29 taskforce. *Psychotherapy*, 38, 495-497.
- Aharonovich, E., Amrhein, P. C., Bisaga, A., Nunes, E. V., & Hasin, D. S. (2008). Cognition, commitment language, and behavioral change among cocaine-dependent patients. *Psychology of Addictive Behaviors*, 22(4), 557-562.
- Alfonsson, S., Olsson, E., & Hursti, T. (2016). Motivation and treatment credibility predicts dropout, treatment adherence, and clinical outcomes in an internet-based cognitive behavioral relaxation program: A randomized controlled trial. *Journal of Medical Internet Research*, 18(3):e52.
- 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.
- American Psychological Association (2010). Division 12 Committee on building a two-way bridge between research and practice: clinicians' experiences in using an empirically supported treatment for panic disorder. *The Clinical Psychologist*, 64(4), 10-20.
- Amrhein, P. C., Miller, W. R., Yahne, C. E., Palmer, M., & Fulcher, L. (2003). Client commitment language during motivational interviewing predicts drug use outcomes. *Journal of Consulting and Clinical Psychology*, 71, 862-878.

- Antony, M. M., Roth Ledley, D., & Heimberg, R. G. (Eds.). (2005). *Improving outcomes and preventing relapse in cognitive behavioral therapy*. New York, NY: Guilford Press.
- Arkowitz, H., Westra H. A., Miller W. R., & Rollnick, S. (2008). *Motivational interviewing in the treatment of psychological problems*. New York, NY: Guilford Press.
- Armitage, C. J. (2009). Is there utility in the transtheoretical model? *British Journal of Health Psychology*, 14(2), 195-210.
- 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.
- 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.
- Aviram, A., Westra, H. A., Constantino. M. J., & Antony, M. M. (2016). Responsive management of early resistance in cognitive behavioral therapy for generalized anxiety disorder. *Journal of Consulting and Clinical Psychology*, 84(9), 783-794.
- Baer, J. S., Beadnell, B., Garrett, S. B., Hartzler, B., Wells, E. A., & Peterson, P. L. (2008). Adolescent change language within a brief motivational intervention and substance use outcomes. *Psychology of Addictive Behaviors*, 22 (4), 570-575.
- Barrett-Lennard, G. T. (1962). Dimensions of therapist response as causal factors in therapeutic change. *Psychological Monographs: General and Applied*, 76(43), 1-36.
- Beck, J. S. (1995). *Cognitive therapy: Basics and beyond*. New York, NY: The Guilford Press.
- Beck, J. S. (2005). *Cognitive therapy for challenging problems: What to do when the basics don't work*. New York, NY: Guilford Press.

- Beck, A. T., Emery, G., & Greenberg, R. L. (1985). *Anxiety disorders and phobias*. New York, NY: Basic Books.
- Beutler, L. E., Harwood, T. M., Michelson, A., Song, X., & Holman, J. (2011). Resistance/reactance level. *Journal of Clinical Psychology*, 67, 133-142.
- Beutler, L. E., Someah, K., Kimpara, K., & Miller, K. (2016). Selecting the most appropriate treatment for each patient. *International Journal of Clinical and Health Psychology*, 16, 99-108.
- Binder, J. L. & Strupp, H. H. (1997). “Negative process”: A recurrently discovered and underestimated facet of therapeutic process and outcome in the individual psychotherapy of adults. *Clinical Psychology: Science and Practice*, 4, 121-139.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research, & Practice*, 16(3), 252-260.
- Boswell, J. F., Gallagher, M. W., Sauer-Zavala, S. E., Bullis, J., Gorman, J. M., Shear, M. K., Barlow, D. H. (2013). Patient characteristics and variability in adherence and competence in cognitive-behavioral therapy for panic disorder. *Journal of Consulting and Clinical Psychology*, 81, 443–454.
- Bridle, C., Riemsma, R. P., Pattenden, J., Soeden, A. J., Watt, I. S., & Walker, A. (2005) Systematic review of the effectiveness of health behavior interventions based on the transtheoretical model. *Psychology and Health*, 20, 283-301.
- Brogan, M. M., Prochaska, J. O., & Prochaska, J. M. (1999). Predicting termination and continuation status in psychotherapy using the transtheoretical model. *Psychotherapy: Theory, Research, Practice, Training*, 35(2), 105-113.
- 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.

- Burns, D. D. (1989). *The feeling good handbook: Using the new mood therapy in everyday life*. New York, NY: William Morrow and Company.
- Button, M. L., Westra, H. A., Constantino, M. J., & Antony, M. M. (2016). *Client Ambivalence as a Moderator of Treatment Outcomes in MI and CBT for Generalized Anxiety*. Paper presented at the annual meeting of the Society for the Exploration of Psychotherapy Integration, Dublin, Ireland.
- Button, M. L., Westra, H. A., & Hara, K. M. (2014). *Ambivalence and homework compliance in CBT*. Paper presented at the Society for the Exploration of Psychotherapy Integration (SEPI) 30th Annual International Meeting, Montreal, Canada.
- Button, M. L., Westra, H. A., Hara, K. M., & Aviram, A. (2015). Disentangling the impact of client resistance and ambivalence on therapy outcomes in cognitive behavioural therapy for generalized anxiety disorder. *Cognitive Behaviour Therapy*, 44(1), 44-53.
- Carbonari, J. P., & DiClemente, C. C. (2000). Using transtheoretical model profiles to differentiate levels of alcohol abstinence success. *Journal of Consulting and Clinical Psychology*, 68, 810–817.
- Carney, C. E., & Edinger, J. D. (2010). *Insomnia and anxiety*. New York, NY: Springer.
- Castonguay, L. G., Goldfried, M. R., Wiser, S., Raue, P. J., & Hayes, A. M. (1996). Predicting the effect of cognitive therapy for depression: A study of unique and common factors. *Journal of Consulting and Clinical Psychology*, 64, 497-504.
- Castonguay, L. G., Constantino, M. J., & Holtforth, M. G. (2006). The working alliance: Where are we and where should we go? *Psychotherapy: Theory, Research, Practice, Training*, 43, 271–279.
- Chamberlain, P., Patterson, G. R., Reid, J. B., Kavanagh, K., & Forgatch, M. S. (1984). Observation of Client Resistance. *Behavior Therapy*, 15, 144–155.
- Clausen, L., Lübeck, M., & Jones, A. (2013). Motivation to change in the eating disorders: A systematic review. *International Journal of Eating Disorders*, 46(8), 755-763.

- Connors, G. J., Carroll, K. M., DiClemente, C. C., Longabaugh, R., & Donovan, D. M. (1997). The therapeutic alliance and its relationship to alcoholism treatment participation and outcome. *Journal of Consulting and Clinical Psychology, 65*, 588– 598.
- 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), 1–20.
- Constantino, M. J., Westra, H. A., & Antony, M. M. (2015, June). *Mediators of treatment effects in a randomized controlled trial testing the efficacy of augmenting CBT with motivational interviewing for severe generalized anxiety disorder*. Paper presented at the meeting of the Society for Psychotherapy Research, Philadelphia, PA.
- 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.
- Coutinho, J., Ribeiro, E., Hill, C., & Safran, J. (2011). Therapists' and clients' experiences of alliance ruptures: A qualitative study. *Psychotherapy Research, 21*(5), 525–540.
- Craske, M. G., & Barlow, D. H. (2006). *Mastery of your anxiety and worry* (Workbook; 2nd ed.). New York, NY: Oxford University Press.
- Curry, S. J., Wagner, E. H., & Grothaus, L. C. (1991). Evaluation of intrinsic and extrinsic motivation interventions with a self-help smoking cessation program. *Journal of Consulting and Clinical Psychology, 59*(2), 318-324.
- de Haan, E., van Oppen, P., van Balkom, A. J. L. M., Spinhoven, P., Hoogduin, K. A. L., & Van Dyck, R. (1997). Prediction of outcome and early vs. late improvement in OCD patients treated with cognitive behaviour therapy and pharmacotherapy. *Acta Psychiatrica Scandinavica, 96*(5), 354-361.

- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- DeRubeis, R. J., Cohen, Z. D., Forand, N. R., Fournier, J. C., Gelfand, L. A., & Lorenzo-Luaces, L. (2014). The Personalized Advantage Index: Translating research on prediction into individualized treatment recommendations. A demonstration. *PLoS ONE*, 9, e83875.
- DiClemente, C. C. (1999). Motivation for change: Implications for substance abuse treatment. *Psychological Science*, 10, 209-213.
- DiClemente, C. C., Carbonari, J. P., Zweben, A., Morrel, T., & Lee, R. E. (2001). Motivation hypothesis causal chain analysis. In R. Longabaugh, & P. W. Wirtz (Eds.), *Project match hypotheses: Results and causal chain analyses*, (Vol. 8, pp. 206– 222). Bethesda, MD: Project MATCH Monograph Series NIH Pub No. 01-4238.
- Dozois, D. J. A., Westra, H. A., Collins, K. A., Fung, T. S., & Garry, J. K. F. (2004). Stages of change in anxiety: Psychometric properties of the University of Rhode Island Change Assessment (URICA) Scale. *Behaviour Research and Therapy*, 42(6), 711-729.
- Drieschner, K. H., Lammers, S. M. M., & van der Staak. C. P. F. (2004). Treatment motivation: An attempt for clarification of an ambiguous concept. *Clinical Psychology Review*, 23(8), 1115-1137.
- Dunn, H., Morrison, A. P., & Bentall, R. P. (2006). The relationship between patient suitability, therapeutic alliance, homework compliance and outcome in cognitive therapy for psychosis. *Clinical Psychology and Psychotherapy*, 13, 145-152.
- Ellis, A. (1985). *Overcoming resistance: Rational-emotive therapy with difficult clients*. New York, NY: Springer.
- Engle, D., & Arkowitz, H. (2006). *Ambivalence in psychotherapy: Facilitating readiness to change*. New York, NY: Guilford Press.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996) *Structured Clinical*

Interview for DSM-IV Axis I Disorders – Patient edition (SCID-I/P, Version 2.0). New York, NY: New York Psychiatric Institute, Biometrics Research Department.

Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2nd ed.). New York, NY: Wiley.

Garland, A., & Scott, J. (2007). The obstacle is the path: Overcoming blocks to homework assignments in a complex presentation of depression. *Cognitive and Behavioural Practice*, 14(3), 278–288.

Glynn, L., & Moyers, T. B. (2009). *Manual for the motivational interviewing skill code (MISC), version 1.1: Addendum to MISC 1.0*. Retrieved from the University of New Mexico Center on Alcoholism, Substance Use and Addictions Website: <http://casaa.unm.edu>. Retrieved December 20, 2013.

Goldfried, M. R. (1982). Resistance and clinical behaviour therapy. In P. L. Watchel (Ed.), *Resistance: Psychodynamic and behavioural approaches* (pp. 95–114). New York, NY: Plenum Press.

Goodwin, B. J., Constantino, M. J., Westra, H. A., Button, M. L. & Antony, M. M. (2015). *Motivational language as a predictor of change and time to response in psychotherapy for generalized anxiety disorder*. Paper presented at the Annual Meeting of the Society for Psychotherapy Research, Philadelphia, PA.

Greenberg, R. P. (2004). Essential ingredients for successful psychotherapy: Effects of common actors. In M. J. Dewan, B. N. Steenbarger, & R. P. Greenberg (Eds.), *The art and science of brief psychotherapies* (pp. 231-242). Washington, DC: APPI.

Hallgren, K. A., & Moyers, T. B. (2011). Does readiness to change predict in-session motivational language? Correspondence between two conceptualizations of client motivation. *Addiction*, 106(7), 1261-1269.

Hara, K. M., Westra, H. A., Constantino, M. J., & Antony, M. M. (2016). *Therapist Awareness of Client-Identified Alliance Ruptures in Cognitive-Behavioral Therapy*. Paper presented at the annual meeting of the Society for the Exploration of Psychotherapy Integration, Dublin, Ireland.

- Helbig, S., & Fehm, L. (2004). Problems with homework in CBT: Rare exception or rather frequent? *Behavioural and Cognitive Psychotherapy*, 32(3), 291-301.
- Hiller, M. L., Knight, K., Leukefeld, C., & Simpson, D. D. (2002). Motivation as a predictor of therapeutic engagement in mandated residential substance abuse treatment. *Criminal Justice and Behavior*, 29(1), 56–75.
- Horvath, A. O. (2001). The alliance. *Psychotherapy: Theory, Research, Practice, Training*, 38, 365–372.
- Horvath, A. O. & Bedi, R. P. (2002). The alliance. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 37–69). London, England: Oxford University Press.
- Horvath, A. O., Del Re, A. C., Fluckiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy*, 48(1), 9-16.
- Horvath, A. O., & Greenberg, L. S. (1986). The development of the Working Alliance Inventory. In L. Greenberg & W. Pinsoff (Eds.), *The psychotherapeutic process: A research handbook* (pp. 529–556). New York, NY: Guilford Press.
- Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, 36(2), 223-233.
- Hunter, J. A., Button, M. L., & Westra, H. A. (2014). Ambivalence and alliance ruptures in cognitive behavioral therapy for generalized anxiety. *Cognitive Behavioral Therapy*, 43(3), 201-208.
- Ibáñez, A. F., Vallespi, L. G., Sevillano, C. P., & Hernando, N. F. (2016). Motivation for change as a predictor of treatment response for dysthymia. *Psicothema*, 28(2), 156-160.
- Ilgen, M. A., McKellar, J., Moos, R., & Finney, J. W. (2006). Therapeutic alliance and the relationship between motivation and treatment outcomes in patients with alcohol use disorder. *Journal of Substance Abuse Treatment*, 31(2), 157-162.

- Kampman, M., Keijsers, G. P. J., Hoogduin, C. A. L., & Hendriks, G. (2008). Outcome prediction of cognitive behaviour therapy for panic disorder: Initial symptom severity is predictive for treatment outcome, comorbid anxiety or depressive disorder, cluster C personality disorders and initial motivation are not. *Behavioural and Cognitive Psychotherapy*, 36(1), 99-112.
- Kazantzis, N., & Shinkfield, G. (2007). Conceptualizing patient barriers to adherence with homework assignments. *Cognitive and Behavioural Practice*, 14(3), 317-324.
- Keijsers, G. P. J., Hoogduin, C. A. L., & Schaap, C. P. D. R. (1994a). Predictors of treatment outcome in the behavioural treatment of obsessive-compulsive disorder. *The British Journal of Psychiatry*, 165(6), 781-786.
- Keijsers, G. P. J., Hoogduin, C. A. L., & Schaap, C. P. D. R. (1994b). Prognostic factors in the behavioral treatment of panic disorder with and without agoraphobia. *Behavior Therapy*, 25(4), 689-708.
- Keijsers, G. P. J., Kampman, M., & Hoogduin, C. A. L. (2001). Dropout prediction in cognitive behavior therapy for panic disorder. *Behavior Therapy*, 32(4), 739-749.
- Keijsers, G. P. J., Schaap, C. P. D. R., Hoogduin, C. A. L., Hoogsteijns, B., & de Kemp, E. C. M. (1999). Preliminary results of a new instrument to assess patient motivation for treatment in cognitive-behaviour therapy. *Behavioural and Cognitive Psychotherapy*, 27(2), 165-179.
- Kuchipudi, V., Hobein, K., Fleckinger, A., & Iber, F. L. (1990). Failure of a 2-hour motivational intervention to alter recurrent drinking behavior in alcoholics with gastrointestinal disease. *Journal of Studies on Alcohol*, 51, 356-360.
- Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy*, 38(4), 257-361.
- Leahy, R. L. (2001). *Overcoming resistance in cognitive therapy*. New York, NY: Guilford Press.

- Lebow, J., Kelly, J. F., Knobloch-Fedders, L. M., & Moos, R. (2006). Relationship factors in treating substance use disorders. In L. B. Castonguay, & L. E. Beutler (Eds.), *Principles of therapeutic change that work* (pp. 293–317). New York, NY: Oxford University Press.
- Leon, S. C., Martinovich, Z., Lutz, W., & Lyons, J. S. (2005). The effect of therapist experience on psychotherapy outcomes. *Clinical Psychology & Psychotherapy*, 12, 417-426.
- Lewis, C. C., Simons, A. D., Silva, S. G., Rohde, P., Small, D. M., Murakami, J. L., et al. (2009). The role of readiness to change in response to treatment of adolescent depression. *Journal of Consulting and Clinical Psychology*, 77, 422-428.
- Lombardi, D., Button, M., & Westra, H. A. (2014). Measuring Motivation: Change Talk and Counter-Change Talk in Cognitive Behavioral Therapy for Generalized Anxiety. *Cognitive Behavioural Therapy*, 43, 12-21.
- Longshore, D., & Teruya, C. (2006). Treatment motivation in drug users: A theory based analysis. *Drug and Alcohol Dependence*, 81, 179–188.
- MacKinnon, R. A., Michaels, R., & Buckley, P. J. (2006). *The psychiatric interview in clinical practice*. Washington, DC: American Psychiatric Publishing.
- Magill, M., Apodaca, T. R., Barnett, N. P., & Monti, P. M. (2010). The route to change: Within-session predictors of change plan completion in a motivational interview. *Journal of Substance Abuse Treatment*, 38, 299–305. doi:10.1016/j.jsat.2009.12.001
- Mamedova, K., Westra, H. A., Constantino, M. J., & Antony, M. M. (2015). *The impact of resistance on client and therapist's outcome expectations in cognitive-behavioral therapy*. Paper presented at the Annual Meeting of the Society for Psychotherapy Research, Philadelphia, USA.
- Markland, D., Ryan, R. M., Tobin, V. J., & Rollnick, S. (2005). Motivational interviewing and self-determination theory. *Journal of Social and Clinical Psychology*, 24, 811-831.

- Martin, D. J., Graskie, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*(3), 438–450.
- McKay, J. R., & Weiss, R. V. (2001). A review of temporal effects and outcome predictors in substance abuse treatment studies with long-term follow-ups: Preliminary results and methodological issues. *Evaluation Review, 25*, 113–161.
- Meier, P. S., Donmall, M. C., Barrowclough, C., McElduff, P., & Heller, R. F. (2005). Predicting the early therapeutic alliance in the treatment of drug misuse. *Addiction, 100*(4), 500-511.
- 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.
- Miller, W. R., Benefield, R. G., & Tonigan, J. S. (1993). Enhancing Motivation for Change in Problem Drinking: A Controlled Comparison of Two Counselor Styles. *Journal of Consulting and Clinical Psychology, 61*, 455-461.
- Miller, W. R., & Johnson, W. R. (2008). A natural language screening measure for motivation to change. *Addictive Behaviors, 33*, 1177–1182.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York, NY: Guilford Press.
- Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Helping people change* (3rd ed.). New York, NY: Guilford Press.
- Miller, W. R., & Rose, G. S. (2009). Toward a theory of motivational interviewing. *American Psychologist, 64*, 527-537.
- Moyers, T. B., Martin, T., Christopher, P. J., Houck, J. M., Tonigan, J. S., & Amrhein, P. C. (2007). Client language as a mediator of motivational interviewing efficacy: Where is the evidence? *Alcoholism: Clinical and Experimental Research, 31*, 40s–47s.

- 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.
- Norcross, J. C. (2011). *Psychotherapy relationships that work: Evidence-based responsiveness*. New York, NY: Oxford University Press.
- Overholser, J. C. (2005). Contemporary psychotherapy: Promoting personal responsibility for therapeutic change. *Journal of Contemporary Psychotherapy, 35*, 369-376.
- Patterson, G. R., & Forgatch, M. S. (1985). Therapist Behavior as a Determinant for Client Noncompliance: A Paradox for the Behavior Modifier. *Journal of Consulting and Clinical Psychology, 53*, 845–851.
- Pelletier, L. G., Tuson, K. M., & Haddad, N. K. (1997). Client motivation for therapy scale: A measure of intrinsic motivation, extrinsic motivation, and amotivation for therapy. *Journal of Personality Assessment, 68*, 414-435.
- Poulin, L. E., Westra, H. A., Constantino, M. J., & Antony, M. M. (2017). *Examining the impact on motivational language when motivational interviewing is integrated with CBT for generalized anxiety disorder*. Paper presented at the Annual Meeting of the Society for Psychotherapy Research, Toronto, Canada.
- Prochaska, J. O., & DiClemente, C. C. (1986). Toward a comprehensive model of change. In W. R. Miller & N. Heather (Eds.), *Treating addictive behaviors: Processes of change* (pp. 3-27). New York, NY: Plenum.
- Rennie, D. (1993). Clients' deference in psychotherapy. *Journal of Counseling Psychology, 41*(4), 427–437.
- Rhodes, R. H., Hill, C. E., Thompson, B. J., & Elliott, R. (1994). Client retrospective recall of resolved and unresolved misunderstanding events. *Journal of Counseling Psychology, 47*(4), 473-483.

- Rogers, C. R. (1951). *Client-Centered Therapy*. Boston, MA: Houghton Mifflin.
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, 21, 95-103.
- Rosenbaum, R. L., & Horowitz, M. J. (1983). Motivation for psychotherapy: A factorial and conceptual analysis. *Psychotherapy: Theory, Research, & Practice*, 20(3), 346-354.
- Ryan, R. M., & Deci, E. L. (2000). Self determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Ryan, R. M., & Deci, E. L. (2008). A self-determination approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, 49, 186-193.
- Ryan, R. M., Lynch, M. F., Vansteenkiste, M., & Deci, E. L. (2011). Motivation and autonomy in counselling, psychotherapy, and behavior change: A look at theory and practice. *The Counselling Psychologist*, 39(2), 193-260.
- Ryan, R. M., Plant, R. W., & O'Malley, S. (1995). Initial motivations for alcohol treatment: Relations with patient characteristics, treatment involvement and dropout. *Addictive Behaviors*, 20, 279-297.
- Safran, J. D., & Muran, J. C. (1996). The resolution of ruptures in the therapeutic alliance. *Journal of Consulting and Clinical Psychology*, 64(3), 447-458.
- Samstag, L. W., Batchelder, S., Muran, J. C., Safran, J. D., & Winston, A. (1998). Predicting treatment failure from in-session interpersonal variables. *Journal of Psychotherapy Practice and Research*, 5, 126-143.
- Sijercic, I., Button, M. L., Westra, H. A., & Hara, K. M. (2016). The interpersonal context of client motivational language in cognitive behavioral therapy. *Psychotherapy*, 53, 13-21.
- Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist*, 32(9), 752-760.

- Stevens, C. L., Muran, J. C., Safran, J. D. (2003). Obstacles or opportunities? A relational approach to negotiating alliance ruptures. In R. L. Leahy (Ed.), *Roadblocks in cognitive-behavioural therapy: Transforming challenges into opportunities for change* (pp. 274–294). New York, NY: The Guilford Press.
- Stiles, W. B., Honos-Webb, L., & Surko, M. (1998). Responsiveness in psychotherapy. *Clinical Psychology: Science and Practice*, 5(4), 439–458.
- Sue, D., & Sue, D. M. (2008). *Foundations of counseling and psychotherapy*. New York, NY: Wiley.
- Taft, C. T., Murphy, C. M., Musser, P. H., & Remington, N. A. (2004). Personality, interpersonal, and motivational predictors of the working alliance in group cognitive-behavioral therapy for partner violent men. *Journal of Consulting and Clinical Psychology*, 72(2), 349–354.
- Tompkins, M. (2004). *Using homework in psychotherapy: Strategies, guidelines and forms*. London, England: The Guilford Press.
- Tracey, T. J., & Kokotovic, A. M. (1989). Factor structure of the working alliance inventory. *Psychological Assessment*, 1, 207–210.
- Tryon, G. S., & Kane, A. S. (1995). Client involvement, working alliance, and type of therapy termination. *Psychotherapy Research*, 5, 189–198.
- Vader, A. M., Walters, S. T., Prabhu, G. C., Houck, J. M., & Field, C. A. (2010). The language of motivational interviewing and feedback: Counselor language, client language, and client drinking outcomes. *Psychology of Addictive Behaviors*, 24, 190–197.
- Vallerand, R. J., & Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. *Journal of Personality*, 60(3), 599–620.
- Vogel, P. A., Hansen, B., Stiles, T. C., & Gotestam, K. G. (2006). Treatment motivation, treatment expectancy, and helping alliance as predictors of outcome in cognitive behavioral treatment of OCD. *Journal of Behavior Therapy and Experimental Psychiatry*, 37(3), 247–255.

- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- 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.
- Watson, J. C., & McMullen, E. J. (2005). An examination of therapist and client behavior in high- and low-alliance sessions in cognitive-behavioral therapy and process experiential therapy. *Psychotherapy: Theory, Research, Practice, Training*, 42, 297-310.
- Westmacott, R., & Hunsley, J. (2017). Psychologists' perspectives on therapy termination and the use of therapy engagement/retention strategies. *Clinical Psychology and Psychotherapy*, 24(3), 687-696.
- Westra, H. A. (2011). Comparing the predictive capacity of observed in-session resistance to self-reported motivation in cognitive behavioral therapy. *Behaviour Research and Therapy*, 49(2), 106-113.
- 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-behavioral therapy to increase treatment efficacy for generalized anxiety disorder, (pp. 199-231). New York, NY: Routledge/Taylor & Francis Group.
- 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.

- Westra, H. A., Aviram, A., Connors, L., Kertes, A., & Ahmed, M. (2012). Therapist Emotional Reactions and Client Resistance in Cognitive Behavioral Therapy. *Psychotherapy: Theory, Research, Practice, Training*, 46, 163-172.
- Westra, H. A., Constantino, M. J., & Antony, M. M. (2016). Integrating motivational interviewing with cognitive-behavioral therapy for severe generalized anxiety disorder: An allegiance-controlled randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 84, 768-782.
- Westra, H. A., Constantino, M. J., & Aviram, A. (2011). The Impact of Alliance Ruptures on Client Outcome Expectations in Cognitive Behavioral Therapy. *Psychotherapy Research*, 21(4), 472-481.
- Westra, H. A., Norouzian, N. (2018). Using motivational interviewing to manage process markers of ambivalence and resistance in cognitive behavioral therapy. *Cognitive Therapy and Research*, 42(2), 193-203.
- Williams, G. C., McGregor, H. A., Sharp, D., Levesque, C., Kouides, R. W., Ryan, R. M., et al. (2006). Testing a self-determination theory intervention for motivating tobacco cessation: Supporting autonomy and competence in a clinical trial. *Health Psychology*, 25, 91-101.
- Zeldman, A., Ryan, R. M., & Fiscella, K. (2004). Client motivation, autonomy support and entity beliefs: Their role in methadone maintenance treatment. *Journal of Social and Clinical Psychology*, 23, 675-696.
- Zickgraf, H. F., Chambless, D. L., McCarthy, K. S., Gallop, R., Sharpless, B. A., Milrod, B. L., & Barber, J. P. (2016). Interpersonal factors are associated with lower therapist adherence in cognitive-behavioural therapy for panic disorder. *Clinical Psychology and Psychotherapy*, 23(3), 272-284.
- Zilcha-Mano, S., & Errázuriz, P. (2015). One size does not fit all: Examining heterogeneity and identifying moderators of the alliance-outcome association. *Journal of Counseling Psychology*, 62(4), 579-591.

- 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.
- Zuroff, D. C., Kostner, R., Moskowitz, D. S., McBride, C., Marshall, M., & Bagby, R. M. (2007). Autonomous motivation for therapy: A new common factor in brief treatments for depression. *Psychotherapy Research, 17*(2), 137-147.

Table 1

Sample Characteristics by Treatment Condition

Measure	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>
PSWQ (baseline)	75.05	3.43		74.69	3.44	
Observed CCT (session 1)	12.25	6.86		10.55	7.62	
Observed CT (session 1)	16.28	7.72		19.38	13.81	
WAI Early (sessions 1-4)	74.23	7.65		71.65	7.99	
WAI Middle (sessions 5-9)	74.31	9.45		75.75	6.72	
WAI Late (sessions 10-14)	76.41	9.01		77.00	6.27	
Sex						
Female			41			34
Male			2			8
Age	34.19	11.92		32.45	10.54	
Ethnicity						
Caucasian			33			31
Asian			5			6
Hispanic			2			1
African Canadian			0			2
Multiracial			3			2
Marital status						
Cohabiting/married			23			24
Single			16			17
Divorced/widowed/separated			3			1
Highest level of education						
Elementary			1			0
High school			16			11
Postsecondary			18			19
Graduate school			8			12
Comorbidity						
Anxiety disorder			31			29
Depression/dysthymia			17			13

Note. PSWQ = Penn State Worry Questionnaire; Observed CCT = Observed counter-change talk; Observed CT = Observed change-talk; WAI = Working Alliance Inventory.

Table 2

Correlations among All Measures

Measure	1	2	3	4	5	6
1. CCT	---	.32** $p = .003$	-.27* $p = .014$	-.40** $p = < .001$	-.41** $p = < .001$.06 $p = .561$
2. CT		---	.06 $p = .613$	-.02 $p = .879$.01 $p = .937$	-.04 $p = .719$
3. Early WAI			---	.83** $p = < .001$.76** $p = < .001$.07 $p = .514$
4. Mid WAI				---	.94** $p = < .001$.09 $p = .421$
5. Late WAI					---	.09 $p = .436$
6. Pre PSWQ						---

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; 1: Observed counter-change talk (session 1), 2: Observed change talk (session 1), 3: Early Working Alliance Inventory (WAI) score (between session 1 and session 4), 4: Middle WAI score (between session 5 and session 9), 5: Late WAI score (between session 10 and session 14), 6: Baseline Penn State Worry Questionnaire score.

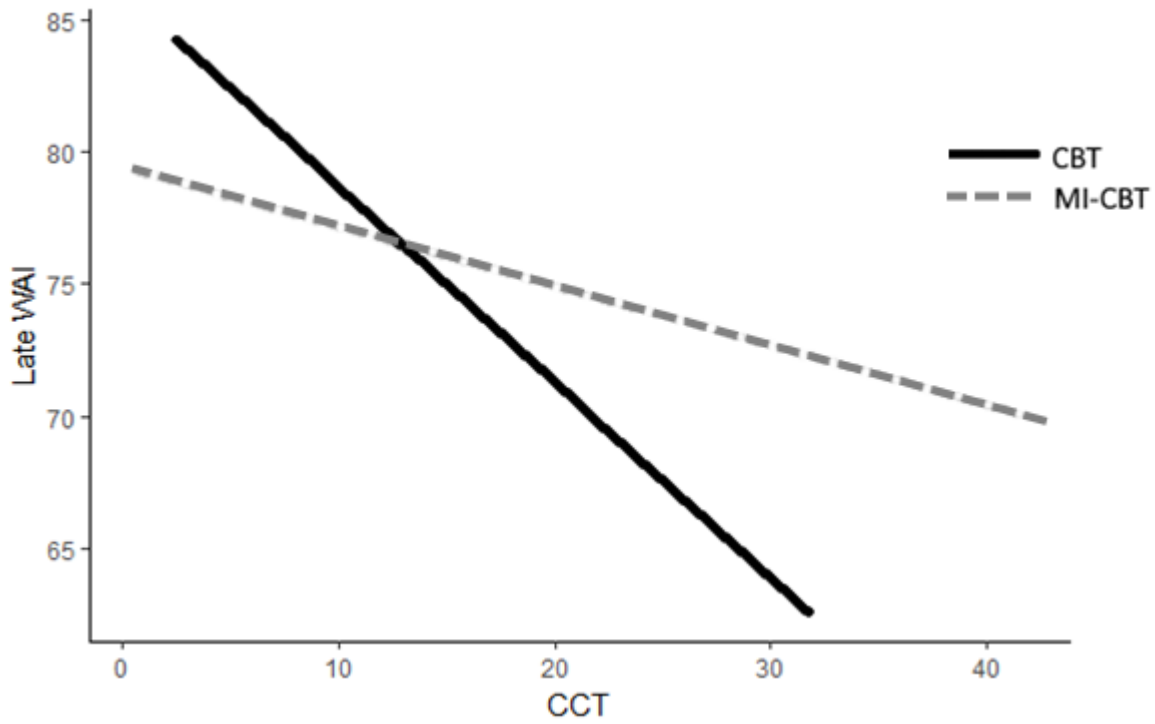


Figure 1. The interaction between CCT (observed counter-change talk in session 1) and treatment group for late WAI (Working Alliance Inventory) ratings.

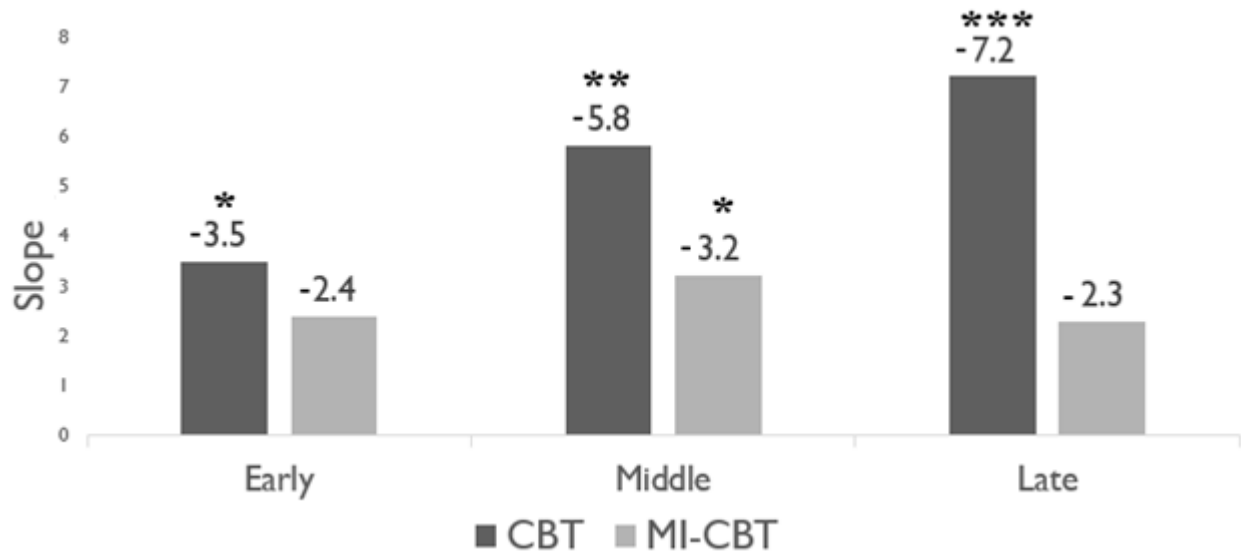


Figure 2. The strength (i.e., fixed Level 1 slope for each 10% increase in the proportion of counter-change talk) of the relationship between counter-change talk and alliance, by treatment group, over time.

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix A: Working Alliance Inventory – Short Form (WAI)

Instructions: Below is a series of statements about experiences people might have with their therapy or therapist. Some items refer directly to your therapist with an underlined space -- as you read the sentences, mentally insert the name of your therapist in place of _____ in the text. For each statement, please take your time to consider your own experience and then fill in the appropriate bubble.

Important: The rating scale is not the same for all the statements. **PLEASE READ CAREFULLY!**

1. As a result of these sessions I am clearer as to how I might be able to change.

① ② ③ ④ ⑤

Seldom Sometimes Fairly Often Very Often Always

2. What I am doing in therapy gives me new ways of looking at my problem.

① ② ③ ④ ⑤

Seldom Sometimes Fairly Often Very Often Always

3. I believe _____ likes me.

⑤ ④ ③ ② ①

Always Very Often Fairly Often Sometimes Seldom

4. _____ and I collaborate on setting goals for my therapy.

① ② ③ ④ ⑤

Seldom Sometimes Fairly Often Very Often Always

5. _____ and I respect each other.

⑤ ④ ③ ② ①

Always Very Often Fairly Often Sometimes Seldom

6. _____ and I are working towards mutually agreed upon goals.

⑤ ④ ③ ② ①

Always Very Often Fairly Often Sometimes Seldom

7. I feel that_____appreciates me.

⑤

④

③

②

①

Always**Very Often****Fairly Often****Sometimes****Seldom**

8. _____and I agree on what is important for me to work on.

①

②

③

④

⑤

Seldom**Sometimes****Fairly Often****Very Often****Always**

9. I feel _____ cares about me even when I do things that he/she does not approve of.

⑤

④

③

②

①

Always**Very Often****Fairly Often****Sometimes****Seldom**

10. I feel that the things I do in therapy will help me to accomplish the changes that I want.

①

②

③

④

⑤

Seldom**Sometimes****Fairly Often****Very Often****Always**

11. _____ and I have established a good understanding of the kind of changes that would be good for me.

①

②

③

④

⑤

Seldom**Sometimes****Fairly Often****Very Often****Always**

12. I believe the way we are working with my problem is correct.

⑤

④

③

②

①

Always**Very Often****Fairly Often****Sometimes****Seldom**