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The Relative Effects Of Mindfulness And Values On Therapeutic Relationship: Developing Methods Of Manipulating Alliance

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THE RELATIVE EFFECTS OF MINDFULNESS AND VALUES ON THERAPEUTIC

RELATIONSHIP: DEVELOPING METHODS OF MANIPULATING ALLIANCE

A Thesis
presented in partial fulfillment of requirements
for the degree of Master of Arts in Psychology
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by

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ABSTRACT

Common factors research indicates that there is a positive relationship between therapeutic relationship and improved client outcomes. However, little research has been done to examine the nature of this relationship. The current study examined the relationship between mindfulness, values, and working alliance. Participants were 59 undergraduate students who were randomly assigned to one of three conditions: mindfulness plus values, mindfulness, or control. Depending on condition, participants engaged in a mindfulness plus values exercise, a mindfulness exercise, or a wait control. All participants then engaged in a conversation with the experimenter regarding a recent disagreement. Mindfulness and values connectedness were assessed pre-intervention, post-intervention, and post-conversation. Working alliance was assessed post-conversation. Values connectedness increased in the mindfulness plus values condition. There were no statistically significant differences among conditions on ratings of mindfulness and working alliance. Future research in the areas of mindfulness, values, and working alliance is discussed.

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INTRODUCTION

Common Factors

Saul Rosenzweig first used the term "dodo bird verdict" in 1936 (Rosenzweig, 1936).

This term comes from the book *Alice's Adventures in Wonderland* in which the Dodo bird says,

"everyone has won, so all must have prizes" (Carroll, 1865). Rosenzweig discussed this verdict

in terms of psychotherapy factors that contribute to client improvement. Rosenzweig's use of this

phrase suggested that any theoretical orientation for psychotherapy may produce client

improvement, therefore, all such orientations had "won." He suggested that client improvement

arose from factors that were common across orientations and therapies. Rosenzweig (1936)

stated, "besides the intentionally utilized methods and their consciously held theoretical

foundations, there are inevitably certain unrecognized factors in any therapeutic situation –

factors that may be even more important than those being purposely employed" (p. 412).

Imel and Wampold (2008) have suggested that 30% to 70% of therapy outcome is due to

common factors. Researchers and theorists have identified various categories of common factors

thought to be important to therapeutic outcomes (see Wampold, 2000, for a review). In a meta-

analysis of 50 publications, Grencavage and Norcross (1990) identified five categories of

common factors: client qualities and behaviors, therapist attributes, principles of change,

treatment structure, and development of the therapeutic relationship. The therapeutic relationship

was discussed in 56% of the included publications and was the most frequently identified

category (Grencavage & Norcross, 1990, p. 376).

Therapeutic Relationship

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Overall, one of the most frequently examined common factors is the therapeutic relationship (Lambert & Barley, 2002). Because of its presence in all theoretical orientations and types of treatment, Wolfe and Goldfried (1988) referred to the therapeutic relationship as the "quintessential integrative variable" (p. 449). Most of the systems of categorization of common factors address the interpersonal nature of therapy (i.e., therapeutic relationship), yet there is little consensus on what factors comprise this category. For example, Fiedler (1950) identified tolerance, empathy, understanding, and openness, while Lambert (1986) included trust, acceptance, respect and warmth.

Gelso and Carter (1994) identified three aspects of the therapeutic relationship: the working alliance, transference/countertransference, and the real relationship. These concepts are somewhat intertwined, but Gelso and Samstag (2008) stated that the "working alliance is the one that is most clearly operationalized and, consequently, has been studied most extensively" (p. 268). Gelso and Samstag (2008) used this description to illustrate the collaborative aspect of therapy.

Bordin (1979) discussed the concept of the working alliance, and proposed that this alliance was made of three parts: "agreement on goals, assignment of tasks, and development of bonds" (including trust and attachment) (p. 253). Agreement on goals describes the goals and purpose of therapy, agreed upon by the therapist and client, in order to address the client's psychological difficulties. Assignment of tasks describes the development of the specific behaviors that the client will engage in to work toward the outcome of addressing psychological difficulties. Development of bonds describes the connection that develops between the therapist and client during therapy, including trust, respect, and liking of one another. This concept of the working alliance is the definition that Gelso and Carter (1994) integrated into their three-part

definition of the therapeutic relationship.

Throughout the literature, several different terms are used to refer to the relationship that develops between client and therapist: therapeutic relationship, helping alliance, therapeutic working alliance, working alliance, therapeutic alliance. Within this paper, the experimenters will refer to this as the working alliance. For the purposes of this research, the experimenter will use Bordin's (1979) definition of the working alliance, since it excludes some of the less clearly-defined aspects of the working relationship (e.g., personality variables, therapist/client attributes) and emphasizes more operationally defined aspects (i.e., goals, tasks, and bond).

Overview of findings. Measures of working alliance have been developed from a variety of perspectives, including psychodynamic, cognitive, and experiential orientations. The nature of measuring client outcome also varies across studies, and includes several different types of outcomes: specific disorder scales, symptomatology, global assessment, specific outcome (i.e., drug use or target complaints), and therapy termination.

Horvath and Symonds (1991) conducted a meta-analysis in an attempt to determine the association between the quality of the therapeutic relationship and client outcome. The analysis included 24 studies (20 data sets) that examined individual therapy with a clinical population. The highest correlation ($r = .31$) was from the client's rating of both the therapeutic alliance and therapy outcome (p. 144). The overall correlation between therapeutic alliance and therapy outcome, considering both therapist and client ratings, was .26 (p. 146). The authors also reviewed studies rating the therapeutic relationship during different time points in therapy. Earlier ratings of therapeutic relationship (11 studies) were more predictive of client outcome (.30) than those ratings (8 studies) that were averaged over the course of treatment (.21) (p. 145).

Horvath, Gaston, and Luborsky (1993) conducted a review of the literature of the association between the therapeutic relationship and client outcome. The authors found differences in the correlations between the therapeutic relationship and client outcome depending on the measure of outcome (i.e., individual client complaints, overall symptoms, or global functioning). The correlation for studies using change in client complaints to measure outcome ($N = 8$) was .30 (p. 256). The correlation for studies using overall symptoms to measure outcome ($N = 6$) was .09 (p. 256).

Martin, Garske, and Davis (2000) conducted a meta-analysis in an attempt to "identify underlying patterns" (p. 438) within the therapeutic relationship literature. The analysis included 79 studies (21 unpublished) that examined individual therapy with a clinical population. The overall correlation between therapeutic alliance and therapy outcome was .22 within a homogenous population (Q value of 57.89) (p. 445). The authors concluded that the therapeutic alliance was moderately and consistently correlated with outcome. Based on the results of the meta-analysis, the authors suggest that the WAI "is likely to be appropriate for most research projects" (p. 447) due to its fit with a variety of theoretical orientations.

Safran and Wallner (1991) conducted a study to examine the association between therapeutic relationship and client outcome. The study was conducted with nine therapists and 22 individual therapy clients with an Axis I depressive disorder and/or anxiety disorder. The clients rated therapeutic relationship using the WAI and the California Psychotherapy Alliance Scales (CALPAS). The WAI is based on Bordin's operational definition of the working alliance, while the CALPAS measures aspects of the therapeutic relationship, such as working capacity, commitment, disagreement, contribution, and understanding/involvement. The researchers used complaints, depression and anxiety scores, symptoms, and global success to measure client

outcomes. Therapeutic relationship ratings in session three were predictive of client outcomes. The strongest correlations of working alliance and client outcome were between the WAI and global ratings of success. The correlation between client-rated WAI and client-rated global success was .64 ($p < .001$) (p. 192). The correlation between client-rated WAI and therapist-rated global success was .50 ($p < .05$) (p. 192). The correlation between client-rated WAI and therapist-rated client complaints was .42 ($p < .05$) (p. 192). Client WAI ratings were not significantly correlated with client outcome measured by client-rated complaints, client-rated disorder scores, or client-rated symptoms.

Castonguay and colleagues (1996) compared psychopharmacological treatment to cognitive therapy for clients with depression. The clients completed depression symptom measures at pre-treatment, six weeks, and 12 weeks. Independent assessors conducted interviews to measure client global functioning. Therapeutic relationship was measured by observers' ratings of audiotapes and transcripts. Significant correlations were found post-treatment between therapeutic relationship and client outcome of depression symptoms on the Beck Depression Inventory ($r = -.42$) and Hamilton Depression Rating Scale ($r = -.59$), as well as global functioning ($r = .45$) (p. 500). The authors concluded that the observers' ratings of the therapeutic relationship were related to client outcome.

Crits-Cristoph and colleagues (2006) examined whether therapists could be trained to improve the therapeutic relationship using a manualized eclectic therapy to enhance alliance. The study consisted of five therapists (two cognitive-behavioral, two psychodynamic, and one family systems) conducting individual therapy with 45 clients with depression for 16 weeks. Each therapist saw three clients pre-treatment; three clients during alliance-fostering training with supervision; and three clients post-treatment using alliance-fostering therapy but without

supervision. Therapeutic alliance was measured by two client-rated scales, and client outcome was measured by self-report assessments of depression symptoms and quality of life. There were no significant differences found in treatment outcome over the course of study. However, the ratings of the therapeutic relationship did increase over the course of the study. The therapeutic relationship therapy consisted of 12 specific techniques, and therapists were rated according to their adherence to the techniques. In measuring therapist compliance, the average number of techniques used during training was 7.81 out of 12 (p. 274). During the post-training phase, the average number of techniques used was 7.26 (p. 274). This low rating of treatment compliance was one of several limitations that the authors discussed.

Difficulties with research. A major limitation of most studies in this area is that they did not use an experimental manipulation of the working alliance. The benefit of the Crits-Cristoph and colleagues' (2006) study is that the authors may have produced a method of systematically manipulating the level of the working alliance. If we are to have an experimental analysis of the working alliance as a cause of clinical improvement, we need to be able to manipulate levels of the working alliance as an independent variable. However, this study is not without its limitations. The authors produced a manualized relationship-enhancing therapy, but the therapy was used as a stand-alone treatment. This new treatment may be viable on its own to improve client outcomes. This therapy could then be compared to treatments of known efficacy. However, to date, no studies have produced specific techniques that could be used within treatments of known efficacy to systematically manipulate the level of working alliance.

Henry and Strupp (1994) suggested that due to the association between the working alliance and client outcome, the alliance "should rightly be seen as a technique in and of itself" (p. 61). However, the research discussed in the above studies does not give us a clear picture of

the nature of the relationship between these variables. It is possible, as some have asserted, that working alliance alone accounts for treatment improvement. It is also possible that most treatment procedures, with the exception of those that foster alliance, are inert. Further, it is possible that working alliance plays a causal role as a moderator of treatment outcome. That is, the interventions contain active ingredients; however, the active ingredients are potentiated or strengthened by the presence of a good working alliance. However, to date, not a single study has (1) systematically manipulated level of working alliance, (2) assigned clients to high or low levels of that variable, and (3) examined the impact of that variable alone or in combination with an effective treatment. Without such experimental evidence, no causal conclusions about the direct or moderating effects of working alliance can be made with confidence.

Testing a theoretically derived method for enhancing alliance. A reliable method of manipulating working alliance is necessary for causal analyses. Direct manipulation of alliance would allow for mediational and moderational analyses. Within current psychological models, we can isolate specific aspects of treatment that may make development of a strong working alliance more or less likely. Crits-Cristoph and colleagues (2006) introduced a relationship-enhancing treatment, which could be conceived of as a stand-alone treatment to be tested against existing treatments. While it could be tested as a stand-alone treatment, it does not provide a practical method to examine the additive benefits of working alliance in treatments of known efficacy. If we are able to isolate specific interventions, which are sufficiently compact as to be added to treatments of known efficacy, we would be able to use them to manipulate working alliance and examine potential moderating and/or mediating impact. The first step in such a program would be to test brief alliance-enhancing interventions.

In order to study working alliance from an experimental standpoint, it may be possible to look within contemporary psychotherapy models for an analysis of factors that could enhance working alliance. This factor has been deemed as important in variants of treatment such as traditional cognitive-behavioral therapy (CBT; Beck, Rush, Shaw, & Emery, 1979) and third generation behavior therapies, such as acceptance & commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999; 2011). Some contemporary therapies such as ACT, have made direct assertions as to the elements that, theoretically, ought to foster good working alliance. Among these elements are components often identified with mindfulness.

Mindfulness and alliance. Kabat-Zinn (1994) described mindfulness as "paying attention in a particular way: on purpose, in the present moment, nonjudgmentally" (p. 4). Within therapy sessions, clients will often discuss difficult and painful content with regard to their experiences. In accordance with Kabat-Zinn's definition of mindfulness, the therapist can adopt a purposeful, nonjudgmental, and accepting stance toward difficult content. The therapist is able to display empathy, openness and presence toward the client and toward the difficult experiences, while also modeling this perspective for the client. In this way, clients may be shown a different pattern of responding toward their own experiences.

Marlatt and colleagues (2008) stated that "embodied in traditional mindfulness practice is a sense of interconnectedness and compassion, both for one's own and for others' experiences. The experience of attachment and suffering is seen as common to all beings" (p. 113-114). Marlatt and colleagues (2008) also state that the use of the word "we" rather than "you" within therapy reinforces the shared bond between therapist and client. It is this "stance of shared process, cooperation, nonjudgmental openness, and respect" (p. 115) that may then serve to strengthen the working alliance between therapist and client. Concerning the relationship

between mindfulness and empathy, Block-Lerner and colleagues (2007) stated, "by introducing mindfulness practice as a means to suspend judgments and evaluations…this potentially crucial skill of empathic responding may be developed" (p. 509).

   Breathing meditation. Within the larger scope of mindfulness meditation, *Full Catastrophe Living* (1990) is one book in which Kabat-Zinn described several types of mindfulness exercises. Such exercises may be practiced while sitting, lying down, walking, or even eating. They may be done on one's own, or with guided direction from another. The main component in a breathing meditation is that attention is purposefully directed to the inflow and outflow of breath, enabling one to engage in the present moment.

   Using Jon Kabat-Zinn's definition above, attention is given to the breath in a deliberate manner. When a person is bringing attention to breathing, the mind may start to wander and become distracted by thoughts, perhaps about the past or the future. The second part of the definition gives instruction on what to do when this occurs: gently bring attention back to the breath on purpose, holding a nonjudgmental stance toward any thoughts that may arise when paying attention to the breath. Rather than thinking that a thought is "good" or "bad," a person would be instructed to just notice the thought, and come back to the breath. In this way, use of a breathing meditation is wholly sensible in the cultivation of mindfulness within a therapy session.

   Wilson and DuFrene (2009) outline specific mindfulness exercises as well as how to implement them in therapy. One of these is an eyes-closed noticing exercise. The therapist and client engage in this exercise to practice noticing the environment around them. This includes external sensory stimuli, as well as internal bodily states, thoughts, and feelings. Directing attention in this way may help clients to be more present in session, particularly when they are

ruminating over the past and worrying about the future. It will likely also have the effect of helping the therapist to be more present to clients and their difficulties. And, likewise, this may help the client to become more engaged with the therapist.

Values and alliance. From an ACT perspective, explicit values work also plays an important part in the formation of working alliance. ACT involves the therapist and client discussing values not only with regard to the client's presenting difficulties, but in the client's life overall. The concept of values in ACT corresponds with Bordin's tasks and goals aspects of working alliance. In ACT, values are distinguished from goals. Values differ from goals in the sense that goals are finite milestones to be accomplished, while values are similar to directions taken rather than milestones achieved (Hayes et al., 1999; 2011). Wilson and Sandoz (2008) asserted, "deliberate, mindful insertion of therapist's values and vulnerability into the interaction can produce a potent connection" (p. 95). Wilson and Sandoz described simple brief mindfulness interventions, as well as brief interventions that combine mindfulness and values. This convergence of shared mindfulness and values between therapist and client is thought to produce better working alliance (Hayes et al., 2011; Wilson & Sandoz, 2008).

ACT contains both simple brief mindfulness interventions, as well as brief interventions that combine mindfulness and values. If these brief interventions could be demonstrated to reliably enhance alliance, they have potential to serve as amendments to treatment that would allow for testing of the impact of alliance on treatment outcome. If these interventions then reliably altered levels of working alliance, the stage would be set for causal analyses of treatment outcome. For example, a next step might be to use a simple treatment, such as exposure for a small animal phobia. In the course of treatment for this phobia, components producing working alliance could be inserted within the established treatment to test the effects on working alliance.

Ideally, a relatively simple treatment would be used initially, since it may be more difficult to separate the independent effects of alliance building within a more complex treatment protocol. This would enable researchers to use as structured and compact a treatment as possible, while implementing processes that have been suggested as alliance-enhancing, rather than producing a stand-alone manualized relationship-enhancing therapy, as Crits-Cristoph and colleagues (2006) did.

The Sweet Spot. The Sweet Spot is an exercise described by Wilson and Sandoz (2008) that may be sufficiently brief and self-contained as to be useful in such an experimental protocol. The authors described using this exercise "as an example of how values work can target the mindfulness processes in ACT, and how doing so fosters a close working alliance" (Wilson & Sandoz, 2008, p. 99). The exercise involves a guided mindfulness meditation that contains elements of a client selected valued domain. In it, the therapist guides the client to recall a sweet moment in life and express it to the therapist. When guiding the client to recall this sweet moment, the therapist asks the client to mindfully engage in aspects of this moment, including sensory stimuli, bodily states, and emotions during that moment. It is a way for the client to become present to that sweet moment from the past and to be able to contact and experience it again in the present. In expressing and appreciating the sweetness of the moment, the therapist and client can discuss and experience values in the client's life directly. In using this technique, the client is able to communicate to the therapist what is valued in the client's life, which facilitates contact with these values in therapy. The therapist and client can then make use of values to strengthen the working alliance in addressing the client's specific difficulties.

Experimental Manipulation of Values and Mindfulness

In order to determine the effects that mindfulness and values have in altering subsequent

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interactions with the therapist and enhancing working alliance, we can conduct research using mindfulness and values exercises followed by a therapy session. To conduct an experiment where only the client engages in an exercise is an artificial manipulation, and it would likely not be the way it would be done in therapy. Typically, the therapist would lead the client through an exercise of this sort, and both parties would participate. However, in an experimental preparation, if we were to measure the effect of a mindfulness exercise done by both therapist and client, it would not be possible to determine what aspect of that intervention was effective. An experiment of that sort would not be able to distinguish between the impacts of the exercise on therapist alone, the client alone, or the impact of both therapist and client. One way to parse the effects of the exercises would be to assign participants to either an experimental condition where they would participate in an exercise, or to a control condition for purposes of comparison. In this way, we can determine the effects of the experimental condition of mindfulness plus values or mindfulness alone as compared to a control condition.

CURRENT STUDY

The purpose of the current study was to evaluate the effects of specific, teachable, techniques on working alliance. These specific techniques are sufficiently compact that they could be added to treatments of known efficacy without unduly extending the duration of treatment. If found to be effective, this study could set the stage for an experimental analysis of the additive benefit of alliance enhancing procedures.

Because of expense, logistics, and ethical concerns, the current study did not involve actual therapy clients. Instead, we interviewed undergraduate participants about an interpersonal conflict they experienced as a proxy for a therapeutic interaction. The principal investigator served as interviewer in this study for all participants in order to eliminate the potential confound of varying interpersonal characteristics and interviewing skills among different interviewers.

In the current study, the participant was alone in the experimental room during the intervention, either exercise or control. This eliminated several potential experimental confounds. We wished to examine the effect of the intervention independent of the effect on the interviewer. By removing the confound of the interviewer, we blinded the interviewer to the participant's engagement in mindfulness or mindfulness plus values in the exercise This also controlled for the interviewer's allegiance effects and belief in strategy. Therefore, this experiment was a preliminary examination of the effect on the client.

METHODS

Participants

Undergraduate students at a large southeastern public university were recruited online and in psychology classes through classroom announcement. Participants received course credit or extra credit in psychology classes in exchange for participation. Participants were all age 18 or over. There were no other exclusion criteria. Sixty-six students participated in this study. Fifty-nine participants were included in analyses (see data analyses section for explanation of case deletion).

Experimental Conditions

Mindfulness plus values. In the mindfulness plus values condition, participants were guided through a 10-minute audio recording of the Sweet Spot exercise. Participants listened to and engaged in this exercise focused on mindfulness and values adapted from *Mindfulness for Two* (Wilson & DuFrene, 2008; see Appendix A for exercise instructions). Participants engaged in the exercise either with their eyes closed, or with soft, fixed focus on a specific point in front of them. The Sweet Spot is an exercise in which participants are asked to recall a sweet moment from their past. According to Wilson and DuFrene (2008), exercises involving values and mindfulness should enhance the participant's sense of interpersonal engagement.

Mindfulness. In the mindfulness condition, participants were guided through a 10-minute audio recording of a breathing meditation (see Appendix B for exercise instructions). Participants listened to and engaged in this exercise either with their eyes closed, or with soft, fixed focus on a specific point in front of them. The breathing meditation was an exercise in

which participants were asked to purposefully and nonjudgmentally direct attention to their breath. Marlatt and colleagues (2008) have asserted that mindfulness alone ought to produce a greater sense of interpersonal connection. Additionally, this condition allowed examination of potential additive effects of values over mindfulness alone.

Control. Control condition participants were instructed to sit quietly in the experimental room for 10 minutes. This condition controlled for the relatively quiet 10-minute time period preceding the conversation experienced by participants in the two experimental conditions.

Procedure

Prior to the experiment, participants were randomized to one of the above three conditions described above. The interviewer was blind to condition.

The chairs in the experimental room were placed facing each other at a 45-degree angle. The experimental room was equipped with a computer and a video camera.

Following the consent procedures, the participant completed the pre-intervention assessment (see Table 1 for assessments). For participants in the active conditions, the research assistant started the appropriate audio-recorded exercise (mindfulness or mindfulness plus values) and instructed participants to follow the instructions throughout the recording. Control participants were asked to sit quietly in the room until the research assistant returned. After providing these instructions, the research assistant left the room.

Following the 10-minute time period, the research assistant returned to the experimental room, and the participant completed the post-intervention assessment. Following the post-intervention assessment, the interviewer entered the room and conducted a 10-minute conversation with the participant. In this conversation, participants were asked to describe an interpersonal conflict they have experienced during the past year (see Appendix C for general

conversation guidelines). The interviewer attempted to continue this conversation for the full 10 minutes. The research assistant timed the conversation, and knocked on the door when 10 minutes had expired.

The interviewer left the room and the research assistant instructed the participant to complete the post-conversation assessment. The participant was then debriefed and had an opportunity to ask questions. The participant was then given credit online or by notification to their course instructor.

Measures

Participants completed measures at three time points (see Table 1): pre-intervention, at the beginning of the study; post-intervention, after the 10-minute exercise or sitting quietly; and post-conversation, after the conversation with the interviewer (see Appendices D through H for measures).

Table 1

Timing and Content of Assessments

Pre-Intervention	Post-Intervention	Post-Conversation
Toronto Mindfulness Scale	Toronto Mindfulness Scale	Toronto Mindfulness Scale
Values Connectedness	Values Connectedness	Values Connectedness
Friendliness Subscale		Working Alliance Inventory
		Counselor Rating Form

Friendliness. The Friendliness Subscale (FS of the International Personality Item Pool (http://ipip.ori.org/, n.d.; Goldberg et al, 2006) is a measure assessing trait friendliness, including the ability to make friends easily, warm up to others, and to feel comfortable around others (see Appendix D for measure). The FS was thought to conceptually capture capacity for interpersonal connections like those endorsed in the working alliance measures. Pre-intervention differences in friendliness could be a potential confound with relationship enhancing interventions. There are

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10 items in the FS. Each of the 10 items (e.g., "Feel comfortable around people," "Am not really interested in others") was rated on a 5-point Likert-type scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*). The measure asked each participant to rate themselves honestly on each item in relation to their same-gender and same-age peers. Reliability estimates indicate good internal consistency for the overall IPIP (α = .87) and good internal consistency for the FS (α = .86) (http://ipip.ori.org/, n.d.).

Mindfulness. The Toronto Mindfulness Scale (TMS; Lau et al., 2006) is a measure assessing state mindfulness, including attention, awareness, acceptance and openness (see Appendix E for measure). The TMS was used in this study as a manipulation check to assess whether the mindfulness plus values intervention and the mindfulness intervention increased mindfulness relative to the control condition. There are 13 items in the TMS, and two subscales: Curiosity and Decentering. Each of the 13 items (e.g., "I was receptive to observing unpleasant thoughts and feelings without interfering with them," "I was aware of my thoughts and feelings without overidentifying with them") was rated on a 5-point Likert-type scale ranging from 0 (*not at all*) to 4 (*very much*). The measure asked each participant to rate each item based on what they had just experienced. Reliability estimates indicate that the subscales of Curiosity and Decentering have good internal consistency (α = .86 and α = .87, respectively) (Lau et al., 2006, p. 1453). Previous research has found that the Decentering subscale of the TMS was more predictive of mindfulness than the Curiosity subscale (Erisman & Roemer, 2010). Due to procedural error, there was one item missing from the TMS in this study. All participants completed 12 items of the TMS rather than the full 13 items, which was not noticed until after the study was completed. The missing item was part of the Curiosity subscale, affecting both the

full scale score and the Curiosity subscale score. However, the Decentering subscale score was able to be computed.

Values connectedness. We constructed a one-item values process measure specifically for use in this study (see Appendix F for measure). To date, there is not an established values process measure that assesses momentary connection to valued living. This single item asked participants to rate their general level of connectedness with values. It should be noted that this item is not designed to serve as a values measure. Rather, it was designed as a manipulation check to assess whether the values intervention increased a sense of values connectedness. The measure gave a short description of values, and then asked "In this moment, how connected do you feel with your values?" This item was rated on a 10-point Likert-type scale ranging from 1 (*completely disconnected from my values*) to 10 (*completely connected with my values*).

Working Alliance Inventory. The Working Alliance Inventory-Client, Short Form (WAI-C-SF; Tracey & Kokotovic, 1989) is a measure assessing Bordin's three-part definition of the working alliance, including Tasks, Bond, and Goals (see Appendix G for original measure and adapted measure). The WAI-C-SF developed by Tracey and Kokotovic (1989) is a shortened version of Horvath and Greenberg's (1989) 36-item measure. There are 12 items in the WAI-C-SF, and three subscales: Task, Bond, and Goals. Each of the 12 items was rated on a 7-point Likert-type scale ranging from 1 (*never*) to 7 (*always*). Reliability estimates indicate high internal consistency for the overall WAI ($\alpha = .93$) and good internal consistency for the subscales ($\alpha = .85$ to .88) (Tracey & Kokotovic, 1989, p. 208). The WAI-C-SF was adapted in order to be consistent with the 10-minute conversation, rather than focused on therapy, and is referred to as the WAI in this study. For example, the original item "What I am doing in *therapy* gives me new ways of looking at *my problem*" has been adapted to "What I am doing in *the conversation* gives

me new ways of looking at *the conflict.*"

Counselor Rating Form. The Counselor Rating Form-Short Version (CRF-S; Corrigan & Schmidt, 1983) is a measure used widely in assessing client opinions of therapist characteristics (see Appendix H for measure). There are 12 items in the CRF-S, and three subscales: Attractiveness, Expertness, and Trustworthiness. Each of the 12 items (e.g., friendly, experienced, trustworthy) was rated on a 7-point Likert-type scale ranging from 1 (*not very*) to 7 (*very*). Reliability scores indicate high internal consistency for the Attractiveness (α = .91) and Trustworthiness (α = .91) subscales, and good internal consistency for the Expertness subscale (α = .85) (Corrigan & Schmidt, 1983, p. 67).

RESULTS

Prior to analyses, the experimenter examined the data for missing data, procedural errors, and outliers. Three participants were removed because of missing data or procedural errors. One participant did not complete the pre-intervention assessment, one had prior experience with the experimental exercises, and the experimental condition of one case was revealed inadvertently, thereby unblinding the experimenter to condition. Data were then screened for univariate and multivariate outliers. Two cases in the mindfulness plus values condition, one in the mindfulness condition, and one in the control condition were identified as univariate outliers based on having a z-score greater than 3.26 ($p < .001$, two-tailed test) on one or more variables. These cases were deleted from the analyses. Multivariate outliers were also examined and no additional cases had a Mahalanobis distance exceeding the critical value of 27.877 ($p = .001$). The deletion of cases due to missing values, procedural errors, and outliers left 18 participants in the mindfulness plus values condition, 21 participants in the mindfulness condition, and 20 participants in the control condition. All study variables were screened for normality, homogeneity of variance, and independent errors. All variables except for the values connectedness appear to meet these assumptions of parametric tests. The standard deviation for values connectedness in the mindfulness plus values condition was bigger than the other two conditions, potentially resulting in distorted alphas. To address this, Pillai's trace was used. Pillai's trace is robust when there are assumption violations and unequal ns (Tabachnick & Fidell, 2007, p. 269).

Data Analysis

A one-way ANOVA was conducted to examine any pre-intervention differences among groups on mindfulness, values connectedness, and friendliness. A repeated measures ANOVA was conducted to determine differences among conditions on level of values connectedness post-intervention. A second repeated measures ANOVA was conducted to determine differences among conditions on mindfulness levels post-intervention. A one-way MANOVA was conducted to examine the effects of the mindfulness plus values exercise and the mindfulness exercise on working alliance.

Pre-Intervention Comparison of Conditions

A one-way ANOVA was conducted to compare groups on the pre-intervention FS, TMS, and values connectedness question. No statistically significant group differences were found for values connectedness ($F(2, 56) = 2.49$, $p = .092$, partial $\eta^2 = .093$), mindfulness ($F(2, 56) = 2.78$, $p = .071$, partial $\eta^2 = .117$), or friendliness ($F(2, 56) = 2.27$, $p = .113$, partial $\eta^2 = .108$). The means and standard deviations by condition are presented in Table 2.

Table 2

Pre-intervention Scores by Condition

	Values Connectedness Mean (SD)	Mindfulness Mean (SD)	Friendliness Mean (SD)
Mindfulness plus Values	7.06 (1.92)	30.11 (7.90)	37.11 (5.61)
Mindfulness	8.10 (1.30)	28.29 (6.94)	40.00 (5.74)
Control	7.75 (1.12)	33.55 (6.89)	36.90 (4.05)

Analyses of Mindfulness and Values Connectedness

To examine the effects of the experimental manipulations on values connectedness and mindfulness, two 3 (conditions) by 2 (time) repeated measures ANOVAs were conducted on the values connectedness and mindfulness manipulation checks. The main time points of interest

were pre-intervention and post-intervention.

      Mindfulness. A repeated measures one-way ANOVA was conducted to assess the impact of the experimental manipulations on mindfulness. The means and standard deviations by condition are presented in Table 3. Box's M Test of Equality of Covariance Matrices was not statistically significant, Box's M = 10.79, $F(6, 69636.71) = 1.71$, $p = .115$, indicating no violation of the homogeneity assumption of ANOVA. There was a significant main effect for time, $F(1, 56) = 19.15$, $p < .001$, partial $\eta^2 = .26$, indicating an overall increase in mindfulness. There was no significant interaction for time by condition $F(2, 56) = 1.69$, $p = .193$, partial $\eta^2 = .06$ (see Table 3 and Figure 1). The non-significant time by condition interaction suggests that mindfulness scores did not differ significantly by condition from pre-intervention to post-intervention.

Table 3

Mindfulness Pre-intervention and Post-intervention Scores by Condition

	Mindfulness Pre-intervention Mean (SD)	Mindfulness Post-intervention Mean (SD)
Mindfulness plus Values	30.11 (7.90)	35.67 (9.00)
Mindfulness	28.29 (6.94)	35.38 (9.74)
Control	33.55 (6.89)	35.75 (7.55)

Figure 1

Mindfulness from Pre-intervention to Post-intervention by Condition
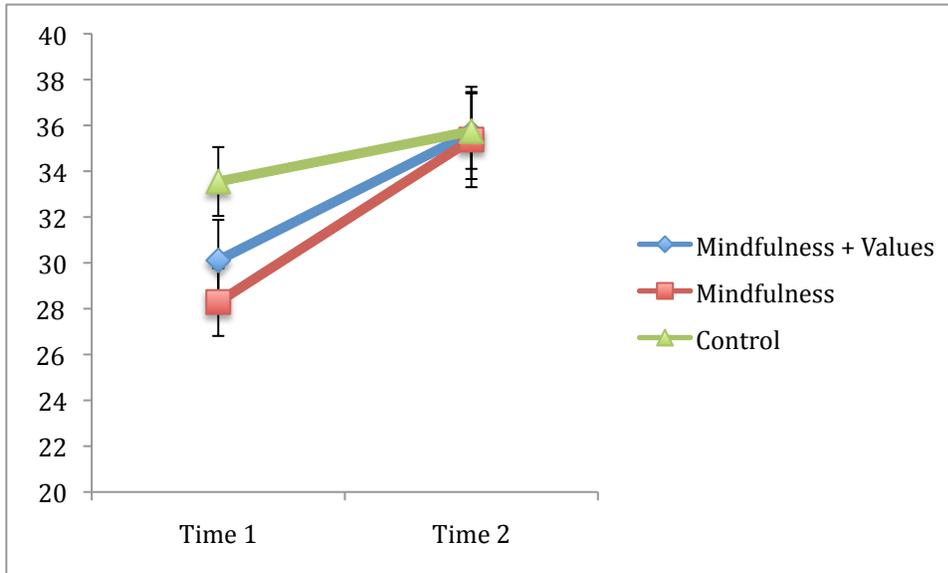
Decentering subscale. A repeated measures one-way ANOVA was conducted to assess the impact of the experimental manipulations on the decentering aspect of mindfulness. Previous research has found that the Decentering subscale of the TMS was more predictive of mindfulness than the Curiosity subscale (e.g., Erisman & Roemer, 2010; Feldman, Greeson, & Senville, 2010; Green & Bieling, 2012). The means and standard deviations by condition are presented in Table 4. Box's M Test of Equality of Covariance Matrices was not statistically significant, Box's $M = 10.842$, $F(6, 69636.71) = 1.71$, $p = .113$, indicating no violation of the homogeneity assumption of ANOVA. There was a significant main effect for time, $F(1, 56) =$, $p < .001$, partial $\eta^2 = .21$, indicating overall increase in decentering. The interaction for time by condition approached significance, $F(2, 56) = 2.41$, $p = .099$, partial $\eta^2 = .08$ (see Table 4 and Figure 2). The non-significant time by condition interaction suggests that Decentering scores did not differ significantly by condition from pre-intervention to post-intervention.

Table 4

Decentering Pre-intervention and Post-intervention Scores by Condition

	Decentering Pre-intervention Mean (SD)	Decentering Post-intervention Mean (SD)
Mindfulness plus Values	17.39 (4.85)	20.28 (4.87)
Mindfulness	16.19 (3.97)	20.43 (5.78)
Control	19.15 (3.68)	19.85 (3.60)

Figure 2

Decentering from Pre-intervention to Post-intervention by Condition
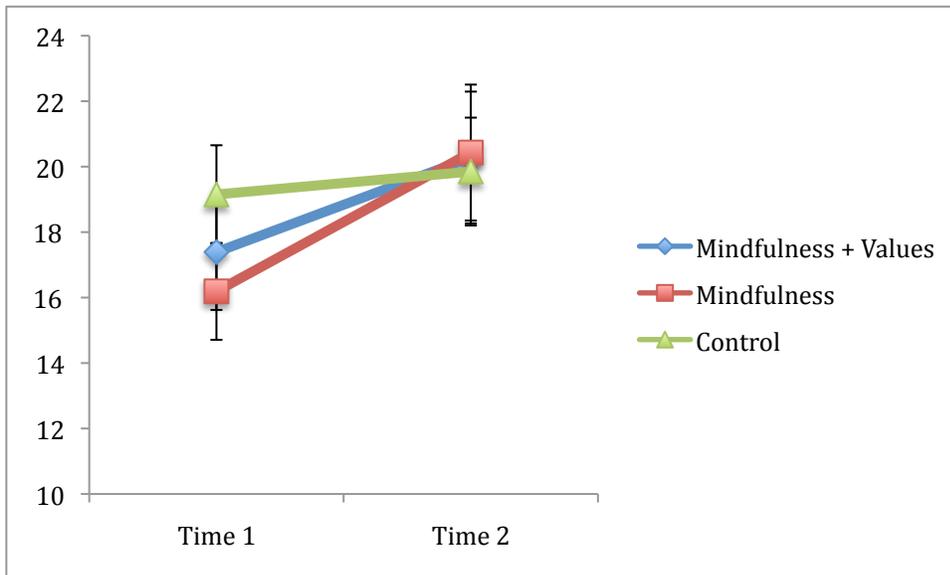
Values connectedness. A repeated measures one-way ANOVA was conducted to assess the impact of the experimental manipulations on values connectedness. The means and standard deviations by condition are presented in Table 5. Box's M Test of Equality of Covariance Matrices was statistically significant, Box's M = 24.85, $F(6, 69636.71) = 3.93$, $p = .001$, indicating a violation of the homogeneity assumption of ANOVA. The *SD* for values connectedness in the mindfulness plus values condition was bigger than the other two conditions, potentially resulting in distorted alphas. Pillai's trace is robust when there are assumption violations and unequal *n*s (Tabachnick & Fidell, 2007, p. 269). Using Pillai's trace, there was a

statistically significant main effect for time, $V = .102$, $F(1, 56) = 6.381$, $p = .014$, partial $\eta^2 =$ .102, indicating an overall increase in values connectedness. Also using Pillai's trace, there was a statistically significant interaction for time by condition, $V = .181$, $F(2, 56) = 6.198$, $p = .004$, partial $\eta^2 = .181$ (see Table 5 and Figure 3). These results indicate that the mindfulness plus values manipulation resulted in increased valued connectedness as compared to the other conditions.

Table 5

Values Connectedness Pre-intervention and Post-intervention Scores by Condition

	Values Connectedness Pre-intervention Mean (SD)	Values Connectedness Post-intervention Mean (SD)
Mindfulness plus Values	7.06 (1.92)	8.00 (1.24)
Mindfulness	8.10 (1.30)	8.14 (1.28)
Control	7.75 (1.12)	7.70 (1.03)

Figure 3

Values Connectedness from Pre-intervention to Post-intervention by Condition
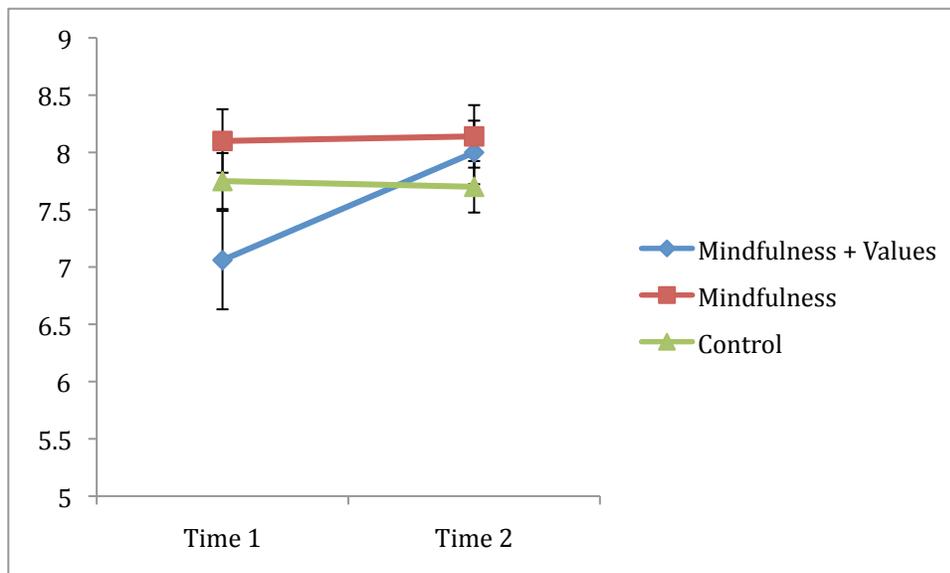
Effects of the Interventions on Working Alliance

A one-way MANOVA was conducted to assess the impact of the experimental manipulations on working alliance. Levene's Test of Equality of Error Variances was not significant for both of the dependent variables. Additionally, Box's M Test of Equality of Covariance Matrices was not statistically significant, Box's M = 5.236, $F(6, 69636.71)$ = .827, p = .548, indicating no violation of the homogeneity assumption of MANOVA. Assumptions of linearity, homogeneity of regression, multicollinearity, and singularity were not violated. Multivariate analysis results did not show a statistically significant difference among conditions on working alliance as measured by the two working alliance measures, $F(2, 55)$ = .088, p = .986, partial η^2 = .003 (see Table 6 and Figures 4 and 5).

Working Alliance Inventory

An inspection of the mean scores indicated the highest ratings of working alliance on the WAI were found in the control condition (M = 64.05, SD = 11.59), followed by the mindfulness plus values condition (M = 63.67, SD = 8.81), and the lowest scores in the mindfulness condition (M = 63.29, SD = 10.16) (see Table 6). A one-way ANOVA was conducted to compare conditions on the WAI. No statistically significant group differences were found, $F(2, 56)$ = .028, p = .972, η^2 = .001 (see Table 6 and Figure 4).

Counselor Rating Form

An inspection of the mean scores indicated the highest ratings of working alliance on the CRF were found in the mindfulness plus values condition (M = 76.94, SD = 6.39), followed by the control condition (M = 75.85, SD = 10.52), and the lowest scores in the mindfulness condition (M = 75.57, SD = 9.10) (see Table 6). A one-way ANOVA was conducted to compare

conditions on the CRF. No statistically significant group differences were found, $F(2, 56) = .125$,

$p = .882$, $\eta^2 = .004$ (see Table 6 and Figure 5).

Table 6

Comparison of WAI and CRF Scores Post-conversation by Condition

	WAI Mean (SD)	CRF Mean (SD)
Mindfulness plus Values	63.67 (8.81)	76.94 (6.39)
Mindfulness	63.29 (10.16)	75.57 (9.10)
Control	64.05 (11.59)	75.85 (10.52)
Overall	63.66 (10.12)	76.08 (8.78)

Figure 4

WAI Scores by Condition
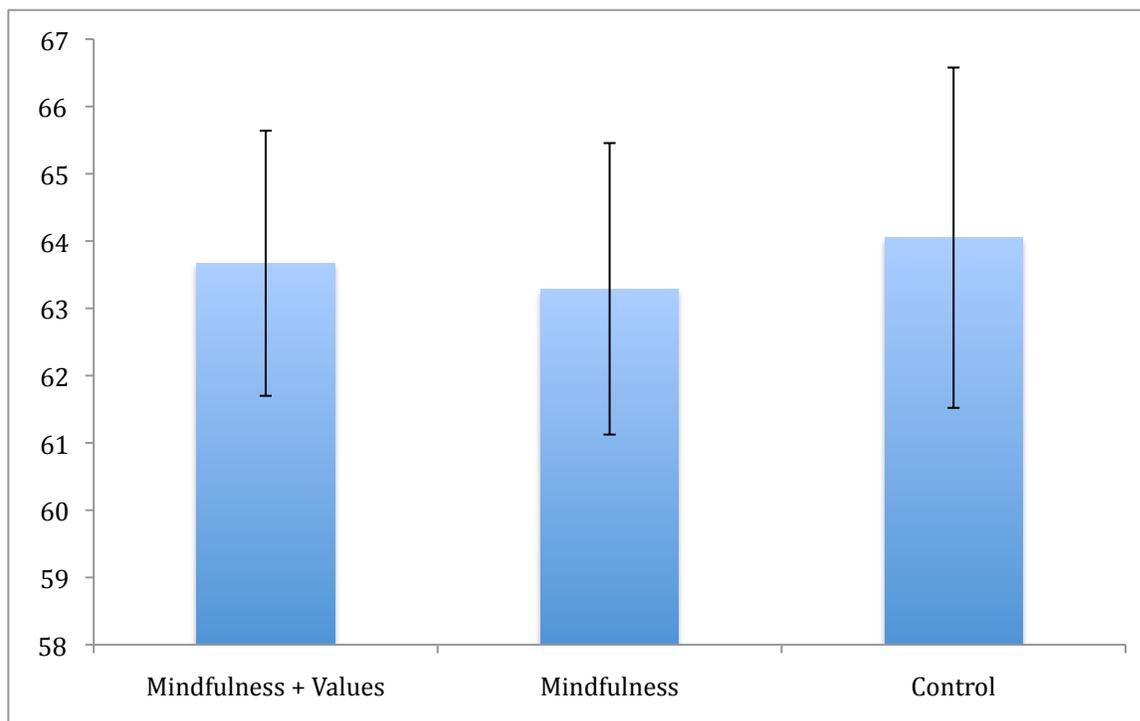
Figure 5

CRF Scores by Condition
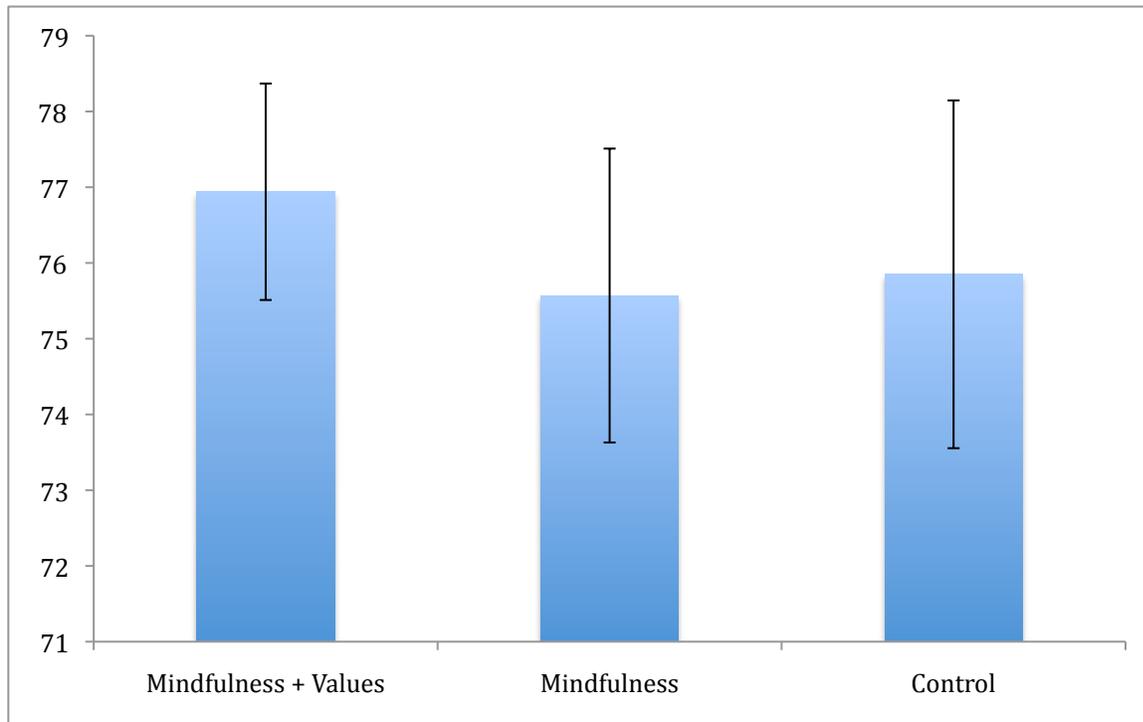
Change in Values Connectedness Predicting Working Alliance

There was a statistically significant increase in values connectedness in the mindfulness plus values condition from pre-intervention to post-intervention. Two hierarchical linear regressions were conducted as follow-up analyses to determine if changes in values connectedness from pre-intervention to post-intervention predicted working alliance.

Working Alliance Inventory. In the first regression, values connectedness change scores were entered in the first step, and condition was entered in the second step. WAI scores were entered as the dependent variable. The overall regression model was not statistically significant, $F(2, 56) = .029$, $p = .972$, $R^2 = -.035$. Change in values connectedness by condition did not predict working alliance on the WAI, $\beta = .03$, $t(57) = .207$, $p = .837$.

Counselor Rating Form. In the second regression, values connectedness change scores

were entered in the first step, and condition was entered in the second step. CRF scores were entered as the dependent variable. The overall regression model was not statistically significant, $F(2, 56) = .216$, $p = .806$, $R^2 = -.028$. Change in values connectedness by condition did not predict working alliance on the CRF, $\beta = -.079$, $t(57) = -.545$, $p = .588$.

DISCUSSION

Mindfulness

Summary. The experimental conditions were expected to produce an increase in mindfulness from pre-intervention to post-intervention. There were increases in mindfulness mean scores in each of the conditions. The increases in the experimental conditions were larger than those in the control condition: however, the small differences in change scores were not statistically significant. Additionally, there were no differences among conditions on pre- or post-intervention mindfulness scores. Using only the Decentering subscale mean scores, there were increases in mean scores in each of the conditions. As with the full TMS, the increases in Decentering mean scores were larger in the experimental conditions than in the control condition. The differences between change scores in the experimental and control conditions were approaching statistical significance.

These null findings are surprising, as other researchers have found that brief mindfulness interventions produce increases in mindfulness (e.g., Alberts & Thewissen, 2011; Erisman & Roemer, 2010; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). Alberts and Thewissen (2011) used a 12-minute recorded mindfulness intervention compared to a no-intervention control condition. The researchers found that TMS scores were higher for those participants in the mindfulness condition compared to the control condition. Erisman and Roemer (2010) used a 10-minute recorded mindfulness intervention compared to an education control. The researchers found that the Decentering subscale scores on the TMS were higher for participants in the mindfulness condition as compared to the control condition.

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Components of mindfulness. There are many different theorized components of mindfulness. These include awareness, nonjudgment, attention, and acceptance (see Baer, 2003 for a review). It is possible that the mindfulness interventions in the current study addressed some but not all of these components. If this is the case, it may be that the TMS does not detect changes in the components of mindfulness included in the experimental manipulations. Adding assessments that measure other components of mindfulness may allow researchers to detect changes not found in this study.

It may be beneficial for researchers to determine which components of mindfulness impact which particular measures of mindfulness. Such analyses may allow researchers and therapists to develop more powerful mindfulness interventions and more sensitive measures. Such component analyses may also allow researchers to design mindfulness interventions that have the potential to impact working alliance, if the theorized linkage between mindfulness and working alliance is accurate.

Measuring mindfulness. It is possible that the interventions used were effective in increasing mindfulness, but that the TMS as given was not sensitive to detecting the moment-by-moment changes produced by the experimental manipulations. The experimenter inadvertently omitted one of the TMS items, which was not detected until the conclusion of the study. The missing item affected the full scale score and the Curiosity subscale score, but not the Decentering subscale score.

It is possible that the interventions used were effective in increasing mindfulness, but that the TMS is insensitive to moment-by-moment changes produced by the experimental manipulations. The majority of mindfulness measures assess trait mindfulness; therefore, are not designed to be sensitive to changes in mindfulness due to engagement in a single mindfulness

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exercise. In research using repeated measures of mindfulness, state measures of mindfulness are likely to be more sensitive to changes in mindfulness.

Two of the measures that assess state mindfulness are the TMS and the State Mindful Attention Awareness Scale (State MAAS; Brown & Ryan, 2003). These measures assess different components of mindfulness. The TMS assesses curiosity and decentering, while the State MAAS assesses attention and awareness. It may be beneficial for researchers to use both the TMS and the State MAAS. Far less mindfulness research focuses on state measures of mindfulness than trait measures of mindfulness. The current study could be repeated with both measures to assess whether the participants experience increases in mindfulness measured in the two instruments after engaging in the experimental manipulations.

Delivery of mindfulness intervention. The experimental interventions in this study were considerably shorter than most other published mindfulness interventions, and were delivered in a different manner than typical mindfulness-based therapies (see Baer, 2003 for a review). Previous researchers have found that brief one-time mindfulness interventions produce increases in mindfulness (e.g., Alberts & Thewissen, 2011; Erisman & Roemer, 2010). Zeidan and colleagues (2010) conducted research using four 20-minute mindfulness interventions. De Petrillo and colleagues (2009) conducted research on mindfulness sports interventions with four 2-3 hour sessions. However, treatments such as mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990), mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002), and mindfulness-based relapse prevention (MBRP; Bowen, Chawla, & Marlatt, 2010) use facilitators delivering live mindfulness exercises conducted over the course of multiple therapy sessions, often two-hour sessions per week for eight weeks.

It may be that the interventions in the current study simply did not provide enough

exposure or training in mindfulness practice to increase mindfulness. It may be beneficial for researchers to systematically vary the duration and number of sessions of mindfulness interventions to determine an optimal saturation of mindfulness training. The current study could be repeated with a longer exercise or with additional sessions.

Mindfulness-based treatments occasionally use recorded exercises for the participants to engage in between sessions. During therapy, the facilitators lead the mindfulness exercise for the clients to engage in. Live interventions can be modified if it appears that the participants are not engaging in the task or are having difficulty with portions of the task. Live interventions can also be modified to include environmental stimuli (e.g., noticing specific sounds occurring moment-by-moment during the exercise). Live interventions may provide increased engagement and increased mindfulness scores. Additionally, live interventions are more similar to actual therapy and other research, providing increased ecological validity.

Recorded interventions were used in the current study to ensure standardization between the trials in the intervention and to allow the experimenter to be blind to condition. The present study did not include any participant ratings of participant engagement or task compliance. It could be that engagement and compliance among participants would be higher for those participating in live interventions rather than recorded interventions. Increased engagement and compliance may result in increased mindfulness scores. The present study could be repeated using a live intervention and measures of engagement and compliance. Future research could also directly compare recorded mindfulness interventions to live mindfulness interventions to determine if one intervention method is more effective in increasing mindfulness.

Values Connectedness

Summary. Values connectedness scores were statistically significantly higher post-

intervention for participants in the mindfulness plus values condition compared with participants in the other two conditions. The results were supportive of the hypothesis that values connectedness scores should increase in the mindfulness plus values condition. The increase in values connectedness did not predict changes on the dependent measures of working alliance.

Values assessment. The current study assessed values connectedness using a single item measure. Although statistically significant increases were found in the mindfulness plus values condition, it is unusual to assess values using a one-item measure. Discussions of values in therapy often center on a variety of valued domains (Wilson & DuFrene, 2008). Values measures typically ask about several different valued domains, and are often used as clinical tools to help the therapist identify the client's values, prompting therapeutic discussion. The Valued Living Questionnaire-II (VLQ-II; Wilson & DuFrene, 2008) asks participants to rate 12 valued domains in terms of possibility, current importance, overall importance, action, satisfaction with action, and concern. The Personal Values Questionnaire II (PVQ-II; Blackledge, Ciarrochi, & Bailey, n.d.) asks about nine valued domains. Participants give ratings of importance, commitment, and progress in these domains, as well as indicating why they value each domain. It may be beneficial for researchers to incorporate broader questions to assess multiple areas of values, and to use a well-standardized values measure.

Components of mindfulness plus values. Expanding the assessment of values may help researchers create and assess more potent values interventions. Such expanded measures would allow researchers to tailor interventions to the most important valued domains. Values focus could be broadened to include not only connectedness and importance, but also possibility and action. Examining each of these components of values in conjunction with the components of mindfulness may lead to more potent mindfulness plus values interventions.

Working Alliance

Summary. The experimental conditions were expected to produce an increase in working alliance post-conversation. There were no differences on ratings of the WAI and the CRF among the three conditions. These findings are somewhat interesting as mindfulness-based conceptualists have suggested that using values and mindfulness techniques improves working alliance (e.g., Block-Lerner, et al., 2007; Hayes et al., 2011; Wilson & DuFrene, 2009; Wilson & Sandoz, 2008).

Working alliance assessment. It is possible that the working alliance measures used in the current study were insensitive to changes in working alliance during a conversation lasting only 10 minutes. These measures have been used and validated in clinical research (e.g., Martin, Garske, & Davis, 2000; Safran & Wallner, 1991) and have been sensitive to changes in working alliance over the course of therapy. In a therapeutic setting, each session typically lasts for 50 minutes, giving the therapist and client more time to discuss the client's difficulties. It is possible that the 10-minute conversations were not long enough to establish differential working alliances, or that the dependent measures were insensitive to small differences among groups. It may be beneficial for researchers to systematically vary the duration and number of sessions to measure the development of working alliance. The current study could be repeated with a longer exercise or more sessions.

Generalization to a clinical setting. Even if hypotheses were upheld in this study, it is not clear whether these changes would occur in a therapeutic setting. In the current study, participants were undergraduate students and presented for the experiment to gain research credit or experience, rather than to discuss psychological difficulties. In therapy, clients of all ages present for therapy in order to address psychological difficulties that they are experiencing. It

would be beneficial for researchers to conduct this study in a clinical setting. Building on the mindfulness and values component analysis research, conducting this experiment in a therapeutic setting might provide information on the generalizability of these results to a clinical setting.

Working alliance-enhancing behaviors. It is possible that during the conversation, the experimenter exhibited behaviors thought to increase working alliance (e.g., tolerance, empathy, understanding, acceptance, respect, warmth; see Fiedler, 1950; and Lambert, 1986). The exhibition of these behaviors could have potentially led to the development of working alliance. It is possible that the working alliance that developed overrode the effects of the experimental manipulations, causing the participants to rate working alliance similarly among conditions.

Social desirability and demand characteristics. It is also possible that the participants were influenced by social desirability more than they would have been for longer interactions. Such social desirability may have led the participants to provide higher ratings of working alliance than they would have done with longer interactions. It is also possible that social desirability was unequally distributed among the groups. To address this, it would be helpful for the experimenters to include a measure of social desirability in the assessments.

Components of mindfulness plus values. It is possible that the values aspect alone of the mindfulness plus values intervention was not potent enough to affect working alliance. It may be beneficial to conduct component analyses for both mindfulness and values. This may enable researchers to increase the potency of the experimental manipulations, which may in turn have the effect of increasing working alliance.

It is also possible that the change in values connectedness scores was enough, but the working alliance scores were not affected because values connectedness does not have a relationship to working alliance. If values connectedness and working alliance are not related, it

would not be surprising that the increase in values connectedness did not affect working alliance scores on the WAI and the CRF measures.

Additional Limitations

Due to procedural error, there was one item missing from the TMS in this study. All participants completed 12 items of the TMS rather than the full 13 items, which was not noticed until after the study was completed. The missing item was part of the Curiosity subscale, affecting both the full scale score and the Curiosity subscale score.

The current study did not collect participant demographic data, so the experimenters were unable to analyze these data by groups. It is possible that particular demographic variables differently impacted the dependent measures and were unevenly distributed among the groups. Future research should collect participant demographic data to analyze any potential differences in values connectedness, mindfulness, and working alliance among participants of different genders, ages, or ethnic groups.

Conclusion

Researchers have theorized that mindfulness and values have a relationship with working alliance. The shared processes of values connectedness and mindfulness between therapist and client are thought to produce better working alliance (Hayes et al., 2011; Wilson & Sandoz, 2008). The current study examined the effects of mindfulness and values interventions on working alliance. Statistically significant increases in values connectedness were found in the mindfulness plus values condition. No other statistically significant differences were found among conditions for mindfulness and working alliance. There are some methodological limitations in this study that may have contributed to the non-significant findings. Continued research in this area is needed to determine the relationship of mindfulness and values to

working alliance, which could lead ultimately to experimental analyses of working alliance-

enhancing procedures within treatments of known efficacy.

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LIST OF APPENDICES

Appendix A

Mindfulness plus Values Exercise

So let me ask you to just settle in to your place and let your eyes go gently closed. And I'm going to guide you through a small exercise where I'm going to ask you to notice the small sensed details of a sweet moment in your own life. So in this exercise, you may pick any moment that you would like, and so maybe it would be the enjoyment of spending an afternoon with a friend, joking and confiding with one another. Maybe the moment would be sitting beside a pond fishing, noticing the warmth of the sun on your skin, and the sounds of nature and how good it is to just sit in that spot by that favorite fishing hole. So whatever the sweet moment is for you, large or small.

So as we begin, I'd like you to first, if you could just bring your awareness to your own breath, and its rise and fall. See if you can allow your in-breath to fill and fill, and your belly rise, and your chest rise. And notice that little place at the top of the breath, and allow that breath to gently slip away. And with each inhalation, allow yourself to rise up and with each exhalation, allow your shoulders to drop and soften. Perhaps you can notice the cool of your own breath as you inhale and the warmth of your breath as you exhale. So if you find your mind wandering, just allow yourself to notice that and come gently back to my voice, and to the instructions, and to your own breath. So now I'd like you to imagine that before you there is a cabinet. And in that cabinet are images from sweet moments in your own life. And I would like you to imagine that you could reach forward and gently draw the drawer open on that cabinet. And imagine that you could place your hand and let it come to rest on these images from your life. See if you can notice the sensation of touching those images with your fingers and gently draw one out from that drawer, bringing it to your own lap, and cradling it there. And then imagine that you could look down into that image and let an image of you begin to form on that

sheet. And it doesn't matter if there are actual photographs of these events, just let it be that there's a photograph. And breathe. And let your awareness, let your eyes move across that image and begin to notice color, and shape, and line. Let the image shift so that you can begin to see your own face in that sweet moment, and perhaps you can see something in that face that others couldn't see, that you could see in that face how sweet that moment is to you. That you could look into those eyes and see yourself in that moment knowing its completeness and its sweetness. And breathe. And now I'd like you to imagine that your awareness was like water, and that your awareness could be poured in to that you, on that particular day, in that moment. So that your awareness flowed into you on that day so you could start to feel your feet and your legs and your awareness just poured into yourself on that day. And you could feel the shape that your body took in that moment. And you could begin to feel with your hands the things that you were touching. And just allow that awareness to fill you, fill you to the top of your head and to the tips of your fingers. And imagine that this next breath, you could just fill your lungs with the sweetness of that moment, so that you were breathing the air of that moment. See if you could notice the sounds in that place. Listen. Are there voices? Are there the sounds of nature? Are there sounds that are different than any other place? Imagine that you could open your eyes in that moment and begin to look around. And notice the things that surround you there. Just let your eyes move gently among the things that surround you – faces, places, noticing color, and shape. As you breathe deeply of that moment, see if there are smells in that place that are perhaps different than any other place. And so just take these next few moments to just allow yourself to be saturated by that sweetness. Allow yourself to come to rest in the middle of that sweet moment that you have known. Let each breath fill every corner of your body with that sweetness. And in a moment, we'll allow the exercise to come to a conclusion, but before we do,

just allow yourself one last look around, one last look inside of the sweetness that you have

known. Breathing gently, gently.

Appendix B

Mindfulness Exercise

I want to ask you to allow yourself to settle into your place, and allow your eyes to come gently closed. And during the next 10 minutes, we will be doing a small exercise that involves noticing sensations that are connected to the inflow and outflow of your own breath. And so at different times during this exercise, you may notice your awareness drifting off to classes, or responsibilities, or other activities, and I would just ask that when you notice your attention drifting, you just return your attention to your own breath. And so now if you could just allow yourself to settle into your place, and see if you can get your shoulders stacked straight above your hips, and maybe you can allow your shoulders to soften. Allow your shoulder blades to slide down your back. And let me ask you to begin to notice the sensations of the rise and fall of your own breath.

See if you can notice the changes in your body as your breath rises, and allow yourself to breathe deep into the belly so that you can feel your stomach and then your chest rise as you fill your lungs to the top. And allow yourself to hesitate at the top of that breath, and notice the sensations there. And then gently allow that breath to fall away. And see if you can allow your breath to completely empty your lungs and allow that emptying to match the filling at the other end of that breath. And just follow a few breaths in and out, noticing those changes in your body, as your breath fills you and then falls away.

Maybe you can begin to notice other sensations connected to your breath. Notice the cool of your breath across your lips and in the tip of your nose as you inhale. And notice the places that warm as you exhale. And each time your mind begins to wander, see if you can allow your breath to come back to the center of your attention. See if you can allow the sensations of your own breath to welcome you into this very moment. And each time your attention drifts, just bring

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it gently to bear again on your own breath. Letting yourself be a witness to its rise and fall. Perhaps you can notice how busy the mind gets sometimes, and just allow for these few moments to let go of all of that busyness of the day. And just allow yourself in this moment to come to rest with your own breath. See if you can notice that no matter how busy your mind gets, that your breath is always there to welcome you into the moment. Noticing the cool of the inhale and the gentle warmth of the exhale.

Appendix C

General Conversation Guidelines

The conversation questions have been constructed to attain information about the interpersonal conflict that the participant has experienced. Questions have also been constructed in order to map on to the measurement items in the adapted WAI.

Interviewer: "At times, when people experience a disagreement or a conflict with someone close to them, they may find it helpful to discuss this with someone. Sometimes it is helpful to talk through interpersonal conflicts with someone objective who is not directly involved with the situation. In this conversation today, I am going to ask you about an interpersonal conflict you have had. I'll ask you to think of a conflict or disagreement that you've had with someone close to you during the past year. I would like to ask you some questions about this conflict."

The interviewer will then ask the participant questions about the interpersonal conflict, such as: "Could you please tell me about the conflict?" "What happened in the conflict?" "How do you feel about the conflict?" "Has it changed the relationship between you and _____?" (If it has changed the relationship): "How has it changed your relationship with _____?" "Has the conflict been resolved?" "How was the conflict was resolved?"

The following questions will be asked in order to map on to the measurement items in the adapted WAI: "What do you think should be done to resolve the conflict?" "Was there a specific goal you were trying to accomplish in the conflict?" "What do you think is important to learn in resolving this conflict?" "Why do you think this was a conflict?" and "What are some productive ways of handling conflicts or disagreements in the future?"

The participant will also be asked questions about the conversation: "How personal was it to discuss this with me today?" "How much have you told other people about this conflict?"

"How much have you wanted to tell another person about this conflict?" "How much have you held back from telling others about this conflict?" "Has having this conversation given you any insight or new way of looking at the conflict?" "Do you think this is a helpful way of discussing conflicts?" and "Briefly describe how you felt about discussing this today."

Appendix D

Friendliness Subscale

Instructions: The following phrases describe people's behaviors. Please use the rating scale next to each phrase to describe how accurately each statement describes you.

Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence.

1. Make friends easily.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

2. Warm up quickly to others.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

3. Feel comfortable around people.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

4. Act comfortably with others.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

5. Cheer people up.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

6. Am hard to get to know.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

7. Often feel uncomfortable around others.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

8. Avoid contacts with others.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

9. Am not really interested in others.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

10. Keep others at a distance.

Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
1	2	3	4	5

Appendix E

Toronto Mindfulness Scale

Instructions: We are interested in what you just experienced. Below is a list of things that people sometimes experience. Please read each statement. After each statement are five choices: "not at all," "a little," "moderately," "quite a bit," and "very much." Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you just experienced, just now?

1. I experienced myself as separate from my changing thoughts and feelings.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

2. I was more concerned with being open to my experiences than controlling or changing them.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

3. I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings, or sensations.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

4. I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things 'really' are.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

5. I was curious to see what my mind was up to from moment to moment.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

6. I was curious about each of the thoughts and feelings that I was having.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

7. I was receptive to observing unpleasant thoughts and feelings without interfering with them.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

8. I was more invested in just watching my experiences as they arose, than in figuring out what they could mean.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

9. I approached each experience by trying to accept it, no matter whether it was pleasant or unpleasant.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

10. I remained curious about the nature of each experience as it arose.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

11. I was aware of my thoughts and feelings without overidentifying with them.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

12. I was curious about my reactions to things.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

13. I was curious about what I might learn about myself by just taking notice of what my attention gets drawn to.

Not at all	A little	Moderately	Quite a bit	Very much
0	1	2	3	4

Curiosity subscale: 3, 5, 6, 10, 12, 13
Decentering subscale: 1, 2, 4, 7, 8, 9, 11

Appendix F

Values Measure

Instructions: At times in life, we are significantly in touch with and connected to our values. Other times, we become busy with everyday tasks of life, paying less attention to and feeling more disconnected from those values. Values are not specific goals, but broad areas of life that you find personally important. Some values may include: sense of family, social relationships, education, spirituality, and work.

In this moment, how connected do you feel with your values?

Completely disconnected from my values									Completely connected with my values
1	2	3	4	5	6	7	8	9	10

Appendix G

WAI original items and adapted items

Note: The original item is listed first, and the adapted item is listed second and is in italics.

1. _____ and I agree about the things I will need to do in therapy to help improve my situation.
Regan and I agree about the things I needed to do / will need to do to help improve the conflict.

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

3. I believe _____ likes me.
I believe Regan likes me.

4. _____ does not understand what I am trying to accomplish in therapy.
Regan does not understand what I am trying to accomplish in the conflict.

5. I am confident in _____'s ability to help me.
I am confident in Regan's ability to help me.

6. _____ and I are working towards mutually agreed upon goals.
Regan and I mutually agree upon ways to resolve the conflict / handle conflict in the future.

7. I feel that _____ appreciates me.
I feel that Regan appreciates me.

8. We agree on what is important for me to work on.
We agree on what is important for me to resolve the conflict.

9. _____ and I trust one another.
Regan and I trust one another.

10. _____ and I have different ideas on what my problems are.
Regan and I have different ideas on what the conflict is about.

11. We have established a good understanding of the kind of changes that would be good for me.
We have established a good understanding of the kind of conflict resolution that would be good for me.

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

Appendix H

Counselor Rating Form

Each characteristic is followed by a seven-point scale that ranges from "not very" to "very."

Please indicate the point on the scale that best represents how you viewed the interviewer.

1. Sincere

not very   ____ ____ ____ ____ ____ ____ ____   very

2. Skillful

not very   ____ ____ ____ ____ ____ ____ ____   very

3. Honest

not very   ____ ____ ____ ____ ____ ____ ____   very

4. Expert

not very   ____ ____ ____ ____ ____ ____ ____   very

5. Likable

not very   ____ ____ ____ ____ ____ ____ ____   very

6. Sociable

not very   ____ ____ ____ ____ ____ ____ ____   very

7. Warm

not very   ____ ____ ____ ____ ____ ____ ____   very

8. Trustworthy

not very   ____ ____ ____ ____ ____ ____ ____   very

9. Experienced

not very   ____ ____ ____ ____ ____ ____ ____   very

10. Reliable

not very   ____ ____ ____ ____ ____ ____ ____   very

11. Prepared

not very   _____ _____ _____ _____ _____ _____ _____   very

12. Friendly

not very   _____ _____ _____ _____ _____ _____ _____   very

The subscales are comprised of the following items:

Attractiveness: Friendly, Likable, Sociable, Warm
Expertness: Experienced, Expert, Prepared, Skillful
Trustworthiness: Honest, Reliable, Sincere, Trustworthy

VITA

Education

2006-Present Enrolled in Clinical Psychology Doctoral Program
University of Mississippi, University, MS

2005 *Bachelor of Arts – Major: Psychology*   *Magna cum Laude*
University of Massachusetts Boston
Thesis: *Rumination, dissociation, self-compassion, and acceptance as correlates of posttraumatic stress symptoms*
Thesis Advisor: Lizabeth Roemer, Ph.D.

1997 *Bachelor of Arts – Major: General Studies*
Central College, Pella, IA

Fall 1995 Central College Abroad program
Trinity College, Carmarthen, UK

Research Experience

Research Team Assistant, Center for Contextual Psychology, University of Mississippi, Fall 2006 – present
Assisted in the development and activities of a research team. Duties include planning studies, writing research proposals, acquiring permission from the Institutional Review Board, peer review, conducting experiments, managing and analyzing data, mentoring undergraduate research assistants, and organizing conference presentations
Supervised by Kelly G. Wilson, Ph.D.

Research Team Assistant, Psychophysiology Laboratory, University of Mississippi, Fall 2008 – Spring 2009
Assisted in an experimental laboratory devoted to the study of stress, cardiovascular reactivity, and electrophysiology. Duties include conducting experiments, managing experiment participants, and collecting, entering, managing and verifying data.
Supervised by Michael T. Allen, Ph.D.

Honors Research Project, Emotions Research Laboratory, University of Massachusetts Boston, Fall 2004 – Spring 2005
Thesis: *Rumination, dissociation, self-compassion and acceptance as correlates of posttraumatic stress symptoms*
Thesis Advisor: Lizabeth Roemer, Ph.D.

Research Team Assistant, Emotions Research Laboratory, University of
Massachusetts Boston, Fall 2002 – Spring 2003, Fall 2004 – Spring 2005
Assisted in an experimental laboratory devoted to the study of emotion and emotion
regulation in various forms of psychopathology. Duties involved transcription, pilot
testing, data collection, management, and entry.
Supervised by Lizabeth Roemer, Ph.D.

Teaching Experience

Instructor, General Psychology – Fall 2012
Instructor, Learning – Summer 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012
Instructor, Developmental Psychology – Fall 2010, Fall 2011, Spring 2012
Teaching Assistant, Learning – Spring 2008, Spring 2009, Fall 2012
Teaching Assistant, Stress in the Modern World – Fall 2011, Spring 2012
Teaching Assistant, Theories of Learning (Graduate Level) – Fall 2009
Teaching Assistant, Applied Behavior Analysis – Spring 2009
Teaching Assistant, Abnormal Psychology – Fall 2006

Clinical Experience

Clinical Psychology Trainee, Psychological Services Center, University of Mississippi, Fall
2007 – present
Duties include providing individual, family, and group psychotherapy for UM students,
faculty, and staff, and members of the surrounding community.
Supervised by Danielle J. Maack, Ph.D., Todd A. Smitherman, Ph.D., Kelly G. Wilson,
Ph.D., Scott A. Gustafson, Ph.D., and Thomas Lombardo, Ph.D.

Assistant to the Director, Psychological Services Center, University of Mississippi,
Summer 2010 – Summer 2011
Duties included assisting Director with daily management of clinic, providing quality
assurance reviews of clinic records, market and advertise service, increasing community
relations, organizing and monitor clinic duties and emergency cell phone duty, organizing
and tracking supervision teams' client flow, orienting and training graduate therapists on
clinic protocol, and streamlining clinic procedures.
Supervised by Scott A. Gustafson, Ph.D.

Behavioral Health Specialist, Oxford School District, Oxford, MS, Summer 2009 –
Summer 2010
Duties included conducting functional assessments, psychological/behavioral
consultations, interviewing parents, school personnel and children, writing behavior plans
and reports serving a population of school-age children.
Supervised by John N. Young, Ph.D.

Psychology Intern, DeSoto County School District, DeSoto County, MS, Summer
  2008 – Summer 2009
  Duties included conducting functional assessments, psychological/behavioral
  consultations, interviewing parents, school personnel and children, writing behavior plans
  and reports serving a population of school-age children.
  Supervised by Sheila Williamson, Ph.D. and Kathlene McGraw, M.Ed.

Extern, North Mississippi Regional Center, Oxford, MS, Summer 2007 – Summer
  2008
  Duties included conducting functional assessments, adaptive functioning evaluations,
  writing behavior plans and reports serving a population of clients with intellectual
  disabilities.
  Supervised by Kimberly Sallis, Ph.D., Doug Buglewicz, M.A., and Kris Riddle, M.A.

Workshops

Co-Facilitator, Stress Management for North Mississippi Regional Center Staff, conducted by J.
  Scott Bethay, Regan M. Slater, and Lindsay W. Schnetzer, at North Mississippi Regional
  Center, Oxford, MS, March 2011

Co-Facilitator, Things Might Go Terribly, Horribly Wrong, conducted by Kelly G. Wilson and
  Regan M. Slater, at the ACBS Annual World Conference VIII, in Reno, NV, June 2010

Co-Facilitator, Using the Hexaflex Functional Dimensional Experiential Interview, conducted
  by Kelly G. Wilson, Emily Sandoz, and Regan M. Slater, at the ACBS World Conference
  III, in Enschede, Netherlands, June 2009

Co-Facilitator, Acceptance and Commitment Therapy Introduction and Skill Building
  Workshop, conducted by Kelly G. Wilson, Regan M. Slater, and Maureen K. Flynn, in
  Aarhus, Denmark, June 2009

Co-Facilitator, ACT for Public Speaking, at University of Mississippi, Oxford, MS, April 2009

Attendee, A Behavioral Approach to Teaching Language and Basic Skills to Children with
  Developmental Disabilities and Autism, conducted by Vincent Carbone, Ph.D., in
  Hernando, MS, January 2009

Attendee, Acceptance and Commitment Therapy Introduction and Skill Building Workshop,
  conducted by Kelly G. Wilson, Ph.D., in Memphis, TN, August 2008

Co-Facilitator, ACT Case Conceptualization Workshop, conducted by Kelly G. Wilson, Emily
  Sandoz, Regan M. Slater, Stephanie N. Nassar, and Lindsay Martin at the annual meeting
  of the Association for Contextual and Behavioral Science, in Chicago, IL, May 2008

Co-Facilitator, Beyond Categorical Thinking: Using the Hexaflex for Diagnosis, Assessment, and Intervention at the annual meeting of the Association for Contextual and Behavioral Science, in Chicago, IL, May 2008

Co-Facilitator, ACT for Academic Success, at the University of Mississippi, in Oxford, MS, February 2007

Attendee, Acceptance and Commitment Therapy Workshop, conducted by Kelly G. Wilson, Ph.D., in Oxford, MS, October 2006

Attendee, Advanced Acceptance and Commitment Therapy Workshop, conducted by Kelly G. Wilson, Ph.D., in Oxford, MS, May 2006

Attendee, Acceptance and Commitment Therapy Workshop, conducted by Kelly G. Wilson, Ph.D., in Oxford, MS, May 2006

Publications

Wilson, K. G., Bordieri, M., Whiteman, K., & **Slater, R. M.** (2012). The self and mindfulness. In L. McHugh & I. Stewart (Eds.) *The Self and Perspective Taking: Contributions and Applications from Modern Behavioral Science*. Oakland, CA: New Harbinger.

Wilson, K. G., Bordieri, M., Flynn, M. K., Lucas, N., & **Slater, R. M.** (2010). Understanding Acceptance and Commitment Therapy in context: A history of similarities and differences with other cognitive behavior therapies. In J. Herbert & E. Forman (Eds.), *Acceptance and Mindfulness in Cognitive Behavior Therapy*. Hoboken, NJ: Wiley.

Wilson, K. G., Sandoz, E. K., Flynn, M. K., **Slater, R. M.**, & DuFrene, T. (2010). Understanding, assessing, and treating values processes in mindfulness and acceptance-based therapies. In R. Baer (Ed.), *Assessing mindfulness and acceptance: Illuminating the processes of change*. Oakland, CA: New Harbinger.

Wilson, K. G., Sandoz, E. K., & **Slater, R. M.** (2008). Acceptance and Commitment Therapy. In A. R. Roberts (Ed.) *Social Workers' Desk Reference* (2nd ed.). New York: Oxford University Press.

Presentations

2012

Lucas, N., Kurz, S., Flynn, M. K., Schnetzer, L., **Slater, R. M.**, Wilson, K. G., & Kellum, K. (2012, May). Stress in the modern world: An Acceptance and Commitment Therapy-based approach to dealing with college stressors. Paper presented at the 38th annual convention of the Association for Behavior Analysis International. Seattle, WA.

Slater, R. M. (2012, May). Thinking big: Using behavioral principles to enact prosocial change. Symposium chair at the 38th annual convention of the Association for Behavior Analysis International. Seattle, WA.

Slater, R. M., Kellum, K., & Wilson, K. G. (2012, May). The relative effects of mindfulness and values on therapeutic relationship: Developing methods of manipulating alliance. Paper presented at the 38th annual convention of the Association for Behavior Analysis International. Seattle, WA.

Slater, R. M. (2012, July). Flexing our psychological muscles in the classroom. Panel discussant at the ACBS Annual World Conference X, Bethesda, MD.

2011

Gentry, J. A., Bordieri, M., Flynn, M. K., **Slater, R. M.**, Sandoz, E. K., Kellum, K., & Wilson, K. G. (2011, May). Behavioral indices of presence. Paper presented at the 37th annual convention of the Association for Behavior Analysis International. Denver, CO.

Oliver, J., Foreman, A., **Slater, R. M.**, Flynn, M. K., Bordieri, M., Sandoz, E. K., Kellum, K., & Wilson, K. G. (2011, May). Behavioral indices of conversational engagement and content. Paper presented at the 37th annual convention of the Association for Behavior Analysis International. Denver, CO.

Rodriguez, A., Barnes, J., Flynn, M. K., **Slater, R. M.**, Bordieri, M., Sandoz, E. K., Kellum, K., & Wilson, K. G. (2011, May). Behavioral indices of core ACT processes in a values-based interview. Paper presented at the 37th annual convention of the Association for Behavior Analysis International. Denver, CO.

Slater, R. M., Lucas, N., Flynn, M. K., Kellum, K., & Wilson, K. G. (2011, May). Behaving while teaching: Measuring the effects of student feedback on new instructor behavior. Paper presented at the 37th annual convention of the Association for Behavior Analysis International. Denver, CO.

2010

Ambrose, C., Peterson, C., Carstens, B. A., **Slater, R M.**, Wilson, K. G., & Kellum, K. (2010, May). Mindfulness for two revisited: Manipulating the therapist. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Flynn, M. K., Wilson, K. G., Kellum, K., Nassar, S. L., & **Slater, R. M.** (2010, June). Exploring the use of the hexaflex functional dimensional experiential interview. Paper presented at the ACBS Annual World Conference VIII, Reno, NV.

Flynn, M. K., Wilson, K. G., Kellum, K., Nassar, S. L., **Slater, R. M.**, Lucas, N., Bordieri, M., & Bethay, S. (2010, May). Exploring the use of the hexaflex functional dimensional experiential interview. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Hamblin, R. J., Johnson, C., **Slater, R. M.**, & Young, J. (2010, May). Teacher perceptions of appropriate mental health practice. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Jeane, N., Peterson, C., Carstens, B. A., **Slater, R. M.**, Wilson, K. G., & Kellum, K. (2010, May). Mindfulness for two revisited: Manipulating the conversation. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

King, S., Peterson, C., Carstens, B. A., **Slater, R. M.**, Wilson, K. F. (2010, May). Mindfulness for two revisited: Manipulating the room. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Slater, R. M., Kellum, K., & Wilson, K. G. (2010, June). Exploring values and present moment: An examination of the sweet spot exercise. Paper presented at the ACBS Annual World Conference VIII, Reno, NV.

Slater, R. M., Kellum, K., & Wilson, K. G. (2010, May). Exploring values and present moment: An examination of the sweet spot exercise. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Slater, R. M., & Young, J. (2010, May). Exploring the collaborative impact between science and practice in a community behavioral health partnership. Paper presented at the 36th annual convention of the Association for Behavior Analysis International, San Antonio, TX.

2009

Flynn, M. K., **Slater, R. M.**, Nassar, S. L., Kellum, K. K., & Wilson, K. G. (2009, July). Values-centered exercises: Impact of values work on psychological well-being. Paper presented at the ACBS World Conference III, Enschede, Netherlands.

Howard, R. C., Nassar, S. L., Martin, L., **Slater, R. M.**, Sandoz, E. K., Kellum, K., & Wilson, K. G. (2009, May). The permanent solution: Suicidal behavior and experiential avoidance. Paper presented at the 35th annual convention for the Association for Behavior Analysis International, Phoenix, AZ.

Lucas, N. N., **Slater, R. M.**, Wilson, K. G., & Kellum, K. (2009, July). The effect of commitment and behavior change processes in ACT on public speaking anxiety. Paper presented at the ACBS World Conference III, Enschede, Netherlands.

Lucas, N. N., **Slater, R. M.**, Wilson, K. G., & Kellum, K. (2009, May). The effect of commitment and behavior change processes in ACT on public speaking anxiety. Paper presented at the 35th annual convention for the Association for Behavior Analysis International, Phoenix, AZ.

Nassar, S. L., Flynn, M. K., **Slater, R. M.**, Kellum, K. K., & Wilson, K. G. (2009, July). An improved measure of valued living: The Valued Living Questionnaire-II (VLQ-2). Paper presented at the ACBS World Conference III, Enschede, Netherlands.

Slater, R. M. (2009, July). Values in ACT: Conceptualization, clinical exercises, and assessment. Symposium chair at the ACBS World Conference III, Enschede, Netherlands.

Slater, R. M., Lucas, N. N., Wilson, K. G., & Kellum, K. (2009, July). Mindfulness at the front of the room: An evaluation of ACT for public speaking anxiety. Paper presented at the ACBS World Conference III, Enschede, Netherlands.

Slater, R. M., Lucas, N. N., Wilson, K. G., & Kellum, K. (2009, May). Mindfulness at the front of the room: An evaluation of ACT for public speaking anxiety. Paper presented at the 35th annual convention for the Association for Behavior Analysis International, Phoenix, AZ.

Slater, R. M., Nassar, S. L., Flynn, M. K., Kellum, K. K., & Wilson, K. G. (2009, July). What are values? Unpacking values as conceptualized in Acceptance and Commitment Therapy. Paper presented at the ACBS World Conference III, Enschede, Netherlands.

Slater, R. M., Wilson, K. G., Kellum, K., & Sandoz, E. K. (2009, May). Mindfulness for two (Part II): The effects of asking for permission. Paper presented at the 35th annual convention for the Association for Behavior Analysis International, Phoenix, AZ.

2008

Howard, R. C., **Slater, R. M.**, Sandoz, E. K., Armstrong, C. N., & Wilson, K. G. (2008, May). The permanent solution: Parasuicidality and experiential avoidance. Poster presented at the annual meeting for the Association for Behavior Analysis International, Chicago.

Martin, R. C., **Slater, R. M.**, Lewis, R., Drake, C. E., Kellum, K. K., & Wilson, K. G. (2008, May). Modifying the IRAP: Exploration of the training potential of a testing procedure. Paper presented at the annual meeting for the Association for Behavior Analysis International, Chicago.

Moyer, K. H., Bethay, S., Drake, C. E., **Slater, R. M.**, Kellum, K. K., & Wilson, K. G. (2008, May). When red is a shape: Challenging the stability of stimulus classes with laboratory-based procedures. Paper presented at the annual meeting for the Association for Behavior Analysis International, Chicago.

Slater, R. M. (2008, May). ACT outside the clinic: Application of Acceptance and Commitment Therapy to non-clinical populations. Symposium chair at the annual meeting for the Association for Behavior Analysis International, Chicago.

Slater, R. M. (2008, May). Extending the applications of the Implicit Relational Assessment Procedure (IRAP). Symposium chair at the annual meeting for the Association for Behavior Analysis International, Chicago.

Slater, R. M., Sandoz, E. K., Ely, L., Kellum, K. K., & Wilson, K. G. (2008, May). Acceptance and Commitment Training (ACT) for academic success. Paper presented at the annual meeting for the Association for Behavior Analysis International, Chicago.

Wilson, A. N., Armstrong, C. N., Ortkiese, C., Ball, G. A., **Slater, R. M.**, Drake, C. E., & Wilson, K. G. (2008, May). Variation of instructions and feedback on the IRAP. Paper presented at the annual meeting for the Association for Behavior Analysis International, Chicago.

2007

Slater, R. M., Smith, L., Figueroa, M., Drake, C. E., Kellum, K., Weinstein, J., & Wilson, K. G. (2007, May). A modified IRAP: Exploring the training potential of a testing procedure. Paper presented at the annual meeting for the Association for Behavior Analysis International, San Diego.

2005

Slater, R. M., Holowka, D. W., Roemer, L., & Schorr, Y. (2005, November). Rumination, dissociation, self-compassion, and acceptance as correlates of posttraumatic stress symptoms. Poster presented at the 39th annual convention of the Association for Behavioral and Cognitive Therapies, Washington, D. C.

Slater, R. M., Holowka, D. W., Roemer, L., & Schorr, Y. (2005, April). Rumination, dissociation, self-compassion, and acceptance as correlates of posttraumatic stress symptoms. Poster presented at the Massachusetts Statewide 11th Annual Undergraduate Conference, Boston.

Professional Activities

Member – Association for Behavioral Analysis International
Member – Association for Contextual Behavioral Science
Member – Association for Behavioral and Cognitive Therapies
Member – American Psychological Association
Member – Association for Contextual Behavioral Science Student Committee
Graduate Senator – University of Mississippi Graduate Student Council (GSC), 2009-2010
Member – GSC Social and Philanthropic Events Committee, 2009-2010

University of Mississippi Student Program Representative to Association for
Behavioral Analysis International (ABAI), 2009-2010
Member – Association for Behavioral Analysis International Student Committee,
2009-2010
Member – Association for Behavioral Analysis International Student Events Sub-
Committee, 2009-2010
Student Representative – Psychology Faculty Meetings, 2007-2008
Member – Psi Chi
Member – Golden Key International Honour Society

Honors & Awards

University of Mississippi Summer Graduate Research Assistantship, 2008
SABA Student Presenter Grant, 2008-2009
University of Mississippi Graduate School Honors Fellowship, 2006-2008
University of Massachusetts Boston Honors Research Grant, 2004
Dean's List – University of Massachusetts Boston, 2003