

ABSTRACT

Exploring Whether the Working Alliance is a Mediator Between Client Resistance, Therapist Directiveness, and Drinking Outcomes in an Alcohol Dependent Population

Sean P. McGowan, Psy.D.

Dissertation Chairperson: Sara L. Dolan, Ph.D.

This study aims to elucidate whether the working alliance mediates the relationship between client resistance, therapist directiveness, and short and long-term drinking outcomes in an alcohol dependent population. The relationship between client resistance, therapist directiveness, and drinking outcomes has recently been examined in working with an Alcohol Use Disordered (AUD) population (Karno & Longabaugh, 2005a; Karno & Longabaugh, 2005b; Karno, Longabaugh, & Herbeck, 2010). For instance, Karno and Longabaugh (2005a, 2005b) found that levels of therapist directiveness differentially affect client resistance which, when taken together, predicts treatment outcomes, such as drinks per drinking day (D/DD) and percentage of days abstinent (PDA). The current study builds on the research of Karno and Longabaugh (2005a, 2005b) in proposing that therapist directiveness and client resistance affect client drinking outcomes through a mediator: the working alliance. This study found that the working alliance does not mediate the relationship between client resistance and short and long-term drinking outcomes, and between therapist directiveness and short and long-term drinking outcomes.

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by

Sean P. McGowan, B.S., M.S.

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Jaime L. Diaz-Granados, Ph.D. Chairperson

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Approved by the Dissertation Committee

Sara L. Dolan, Ph.D., Chairperson

Matthew S. Stanford, Ph.D.

Keith Sanford, Ph.D.

Gary R. Brooks, Ph.D.

James W. Ellor, Ph.D.

Suzy B. Gulliver, Ph.D.

Accepted by the Graduate School
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J. Larry Lyon, Ph.D., Dean

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CHAPTER ONE

Introduction

Approximately 80% of psychotherapy clients have been found to significantly benefit from psychotherapy in comparison to either wait-list or matched control clients (Lambert & Barley, 2002; Lambert & Ogles, 2004); however, researchers are still trying to determine the essential components or change mechanisms in therapy that contribute to positive and negative treatment outcomes (Kazdin, 2005). Researchers interested in identifying change mechanisms have developed randomized controlled trails that compare one treatment with a control treatment, one effective treatment with a component of another effective treatment, or one effective treatment with another effective treatment. However, these studies have merely shown that there are differences between the groups, not *why* there are difference or *how* there are differences. Therapists cannot know how to identify and implement strategies that will produce clinically meaningful change without knowing the specific mechanisms of change across treatments that are touted to produce meaningful and lasting change.

To determine how change occurs, some researchers examine variables in the psychotherapeutic interaction, and this sometimes leads them to hypothesize about which variables act as mediators. According to Kazdin (2009), mediators are intervening variables that produce changes in outcome, but mediators alone cannot explain why the change occurs. Mediators oftentimes tell researchers about important variables involved in the change process, and this can then lead researchers to examine these variables in

more detail in order to propose *how* and *why* the change occurs. One of the purposes of this study is to determine whether the working alliance acts as a mediator in a sample of alcohol dependent, adult clients who received two empirically supported therapeutic treatments for Alcohol Use Disorders (AUD).

Therapist components that have been studied in relation to treatment outcomes include empathy, warmth, genuineness, positive regard, and therapist ability to manage countertransference (Elliot et al., 2011; Kolden et al., 2011; Farber & Doolin, 2011; Hayes, Gelso, & Hummel, 2011). Client components that have been studied include catharsis, identification with the therapist, trust in the therapist, insight, motivation to change, and degree of participation (Lambert & Bergin, 1994; Prochaska, DiClemente, & Norcross, 1992). The current study proposes that the working alliance is also an essential component that can positively contribute to psychotherapy outcomes. Further, it is proposed that the working alliance mediates the relationship between specific client variables, therapist variables, and treatment outcomes in the Alcohol Use Disordered population.

In this study, the therapist variable that will be examined is therapist directiveness. Therapist directiveness will be defined as the extent to which the therapist provides direction and structure to the client in the session. A few examples of directive interventions include: introducing new topics, initiating discussion topics or tasks, discouraging certain responses, changing topics or redirecting the client, and teaching or giving the client psychoeducational information (Fisher et. al, 1995). Therapists who are directive have been described as authoritarian, teaching, confrontive, and active with their patients in session (Karno & Longabaugh, 2005b). Nondirective interventions include:

reflections, mirroring (i.e., repeating what the client says with an emphasis on certain words), making observations about what the client is or is not doing in the session, paraphrasing, and summarizing. According to Beutler and colleagues (1994), therapists who have a behavioral, cognitive, cognitive-behavioral, action oriented, or solution-focused theoretical orientation are generally considered to be relatively more directive than therapists who are dynamic, analytic, or relationship-oriented.

The client variable that will be examined in this study is client resistance. Client resistance will be defined as a client's overt reluctance or opposition to engage in the process of psychotherapy (Bischoff & Tracey, 1995). A few examples of client resistance include the following: translating painful emotions into cognitions (intellectualizing), laughing to cover painful affect, abruptly changing the topic, being conversational, focusing on other people (i.e., externalizing), offering minimal responses, providing material that is only tangentially relevant, and not responding to the therapist (Mahalik, 1994).

Finally, the working alliance, also called the therapeutic alliance, will be defined according to the definition established by Bordin (1994) as the degree to which the client and the therapist form a working partnership and bond with a mutual understanding and agreement about the tasks and goals of psychotherapy. Essentially, the alliance is a collaborative stance in therapy between the therapist and the client (Horvath et al., 2011). Bordin proposed that a client's ability to change is a function of the strength of the working alliance (1994). Bordin argued that developing a strong working alliance is the therapy and that this on-going, sometimes tumultuous, process is the mechanism of change in a psychotherapeutic treatment. In this study, it is proposed that the working

alliance may not be a mechanism of change, but that it is a significant intervening variable involved in psychotherapeutic change in the AUD population.

The primary aim of this study is to evaluate whether the working alliance mediates the relationship between therapist directiveness and drinking outcomes, and between client resistance and drinking outcomes in an AUD population. The central focus of this study will be placed on how the quality of the working alliance mediates treatment outcomes since the working alliance has been found to be predictive of treatment retention, engagement, and outcomes (e.g., Percentage of Days Abstinent [PDA] and Drinks per Drinking Days [DDD]) in the AUD population (Connors et al., 1997). Confirming the hypothesis that the working alliance is a mediator can then lead researchers to examine how and why the working alliance acts as a mediator. This would then help clinicians learn how to modify this factor, and other related variables, in order to help their clients produce clinically meaningful change.

Why It Is Important to Study the Working Alliance

There has been a debate in the last several decades of psychotherapy research about the effectiveness of certain therapeutic, empirically supported modalities in comparison to other modalities. Horvath and Greenberg (1994), along with other researchers (see Luborsky et al., 2002; Messer & Wampold, 2002; Lambert & Ogles, 2004), concluded that despite different theoretical orientations and modalities, divergent therapies produce comparable outcomes, and these therapies are better than the effects of a placebo. Estimates from such studies demonstrate that differences between treatments account for approximately 10% of the variance in client change (Lebow et al., 2006). Based on this conclusion, some psychotherapy researchers have shifted their efforts from demonstrating

that specific treatments are more effective than control groups or placebos for a specified clinical population to researching variables across most treatments that may contribute to therapeutic change. This research approach was largely initiated and sustained by the robust finding that "common factors" across therapeutic modalities account for significant proportions of the observed therapeutic gains (Lambert & Bergin, 1994, Beutler & Castonguay, 2006).

Common factors are variables that are present in many different forms of therapy which are known to contribute to client change (Kazdin, 2005; Castonguay & Holtforth, 2005). Some examples of common factors are the *working alliance*, expectations of change, and delivery of the treatment rationale (Kazdin, 2005). Common factors are contrasted with "specific factors," which have been defined as technical maneuvers that therapists' implement as a result of their identified psychological theory (Butler & Strupp, 1986). Some researchers argue that certain common factors, like the working alliance, are more important than the type of treatment or the specific factors in a treatment modality (Safran & Muran, 1995). It has also been argued that there is more empirical support for the effectiveness of the common factors in therapy in comparison to the effectiveness of techniques from manualized treatments (Messer & Wampold, 2002). Support for this came in a review of over 100 studies where the authors averaged the effect sizes of predictor variables to treatment outcomes (Lambert & Barlay, 2002). It was demonstrated in this study that 40% of the variance in client improvement was found to be due to client variables and extratherapeutic factors (e.g., self-help remedies/literature, friends, families, clergy members, etc.), 30% to the common factors (e.g., working alliance), 15% to expectancy, and 15% to therapist techniques (Lambert &

Barlay, 2002). It is important to note that, in this study, common factors accounted for twice as much variance as specific factors, namely therapist techniques. However, it should also be noted that common factors did not account for as much variance in outcome when compared to factors outside the therapy session.

In light of these conclusions, some researchers have turned to studying common factors that are significantly correlated with positive or negative treatment outcomes in the hopes of identifying and understanding the underlying mechanisms of change in psychotherapy. The present study will attempt to clarify how the strength of a common factor, namely the working alliance, mediates the relationship between client resistance, therapist directiveness, and drinking outcomes in an AUD population. Identifying mediator variables that contribute to positive and negative treatment outcomes may assist clinicians and researchers alike to develop interventions that capitalize on these variables in order to improve psychotherapy outcomes. In addition, identifying mediator variables may assist researchers to determine what variables influence the development of the mediator, and how this is related to change in the client. However, before detailing how these variables relate to treatment outcomes, mediation will be defined and applied to the context of this study.

What Is a Mediator Variable?

According to Baron and Kenny (1986), a variable is considered a mediator if the following criteria are met: (1) the independent variable significantly predicts the dependent variable, (2) the independent variable significantly predicts the mediating variable, and (3) the mediating variable significantly predicts the dependent variable when controlling for the independent variable. In other words, a mediator variable is a

variable that accounts for the relationship between the predictor variable(s) and the outcome variable(s) (Baron & Kenny, 1986). In mediation models, the predictor variables are thought to cause changes in the mediator variable which, subsequently, causes changes in the outcome variables (Preacher & Hayes, 2004). The predictor variable, or independent variable, indirectly affects the outcome variable through a mediator variable. Applying these definitions to this study, the predictor variables are client resistance and therapist directiveness, the mediator variable is the working alliance, and the outcome variables are PDA and D/DD. In terms of a conceptual model of this study, client resistance is hypothesized to cause changes in the strength of the working alliance which then causes changes in PDA and D/DD in an AUD sample. In addition, it is hypothesized that client resistance will also differentially predict treatment outcomes. Similarly, it is hypothesized that the level of therapist directiveness causes changes in the strength of the working alliance which then causes changes in PDA and D/DD in an AUD sample. Also, it is hypothesized that therapist directiveness will differentially predict treatment outcomes. See Figures 1 and 2 for a visual depiction of these conceptual models.

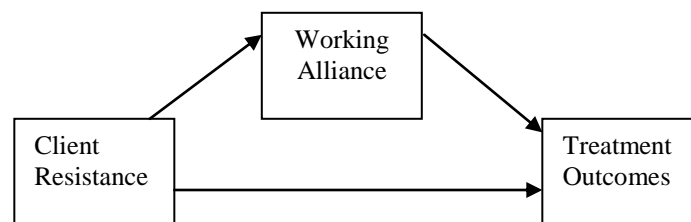


Figure 1. The working alliance mediates the relationship between client resistance and treatment outcomes.

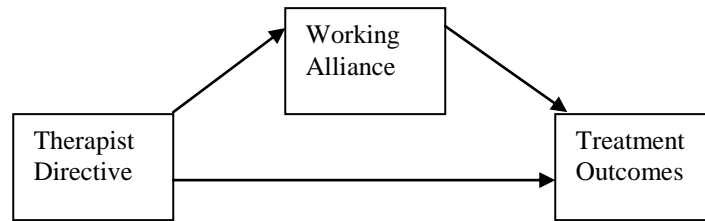


Figure 2. The working alliance mediates the relationship between therapist directiveness and treatment outcomes.

The available empirical evidence for these models will be examined separately in the following paragraphs. First, the recent research on the relationship between the working alliance and treatment outcomes will be presented. Then, a summary of the literature that examined the relationships between client resistance and the working alliance, and client resistance and treatment outcomes will be discussed. Finally, the available literature on the relationship between therapist directiveness and the working alliance, and therapist directiveness and treatment outcomes will be summarized. These discussions will establish the context and the rationale for the current study.

A thorough literature review of the available empirical literature was conducted through PsychInfo and PsychArticles from 1980 to 2011 resulting in 74 relevant, peer-reviewed, English journal articles, 12 books, 17 book chapters, one paper presented at a conference, and one unpublished document. Search terms used included the following terms separately and jointly: client resistance, client reactance, client opposition, therapist directiveness, therapist technique, working alliance, therapeutic alliance, therapeutic bond, treatment outcomes, drinking outcomes, and Alcohol Use Disorder treatment outcomes. It should be noted that there are no studies to this researcher's knowledge that examine how the working alliance mediates the relationship between therapist

directiveness and drinking outcomes, and client resistance and drinking outcomes in an AUD treatment.

Working Alliance and Treatment Outcomes

The working alliance has been found to be an important process variable to study in psychotherapy research (Horvath et al., 2011; Horvath & Greenberg, 1994; Bordin, 1975; Luborsky, 1976). This finding has been confirmed in psychotherapy research with substance abusers (Connors et al., 1997) and in other heterogeneous adult psychotherapy populations (Horvath et al., 2011). For instance, Bethea, Acosta, and Haller (2008) note in their review of the working alliance that the quality of the working alliance significantly affects retention, treatment engagement and completion, and outcomes in the substance abusing population. Similarly, in their review of the substance abuse treatment literature, Meier and colleagues (2005) found that the working alliance consistently explained around 5-15% (with $r = .15-.30$) of the outcome variance. It is important to note that the magnitude of this effect is one of the strongest and most robust predictors of treatment outcomes in the psychotherapy literature (Horvath et al., 2011, Messer & Wampold, 2002). Further, how the alliance is measured (e.g., which alliance instrument is used), who rates the alliance (i.e., therapist, client, or observer), when the alliance is assessed, or what therapy modality is used does not significantly moderate the effect the alliance has on treatment outcomes (Horvath et al., 2011). Based on these findings, it is hypothesized that the working alliance will predict drinking outcomes (both PDA and D/DD) in an AUD population.

Variables that Affect the Strength of the Working Alliance

Some researchers have found that various client and therapist variables may affect the development of the working alliance in substance abuse treatment. For instance, Belding and colleagues (1997) found that the client's substance abuse severity is negatively correlated with the working alliance. Connors and colleagues (1997) found a similar relationship among clients who displayed low motivation to change in that the lower the motivation, the worse the quality of the working alliance. However, patient recognition of client-related problems (Broome et al., 1997) and therapist education and credentials (Connors et al., 2000; Meier, Barrowclough, & Donmall, 2005) have both been positively correlated with a strong working alliance. No relationship has been found between the working alliance and client demographic variables, such as: gender, age, race, or psychiatric severity (Meier, Barrowclough, & Donmall, 2005). A meta-analysis of the studies that examined how the aforementioned client variables affect the working alliance found that client characteristics (not including client demographic variables) affect the working alliance (Horvath, 1994a). The average correlation coefficient between these client variables and the working alliance was $r = .32$ (Horvath, 1994a). Horvath and Greenberg suggest that studying therapeutic technique and client variables will be important to determine the “true significance of alliance in therapy” (Horvath & Greenberg, 1994, p. 2). This study will be utilizing Horvath and Greenberg’s suggestion by examining how therapist directiveness and client resistance is related to the working alliance.

The Relationship Between Client Resistance and the Working Alliance

Client resistance is an inevitable behavior in psychotherapy (Beutler, Moleiro, & Talebi, 2002a, Streaan, 1985). Resistance has been defined as “any action or attitude of the client’s that impedes the course of therapeutic work” (Streaan, 1985, p. 1). Research suggests that client resistance hinders clients from obtaining their treatment goals and it disrupts the client's relationships, especially the working alliance (Beutler, Moleiri, & Talebi, 2002a). There have been few empirical studies to the authors’ knowledge that have confirmed this finding. However, clinical wisdom has postulated since Sigmund Freud that resistance is important to the development of the working alliance (Grabhorn et al., 2005). Grabhorn and colleagues (2005) argue that the development of client resistance plays an important role in determining the quality of the working alliance.

One empirical study by Watson and McMullen (2005) supported this argument by showing that client resistance was higher in low-alliance sessions when compared to high-alliance sessions across two different treatments (Process-Experiential Therapy and Cognitive Behavioral Therapy). This study included 24 clients that were randomly selected from a database of a clinical trial that treated adults with Major Depression (Watson & McMullen, 2005). The findings from this study suggest that when clients manifested higher levels of resistance, the alliance was also found to be weaker. The opposite was also true in that when clients from this study manifested lower levels of resistance, the alliance was found to be stronger. Based on the findings from this study and the theoretical ideas of Grabhorn and colleagues (2005), it is hypothesized that client resistance will have a negative, but small, correlation with the working alliance. This hypothesized relationship will be examined in this study.

The Relationship Between Client Resistance and Treatment Outcomes

It has been demonstrated that certain levels of client resistance across therapy sessions may result in poor treatment outcomes or attrition for certain adult clinical populations (Beutler, Moleiro, & Talebi, 2002b). For instance, Miller and Rollnick (2002) demonstrated that high levels of client resistance have been correlated with less favorable treatment outcomes in the adult AUD population. Further, in their review of the resistance-outcome literature, Beutler, Moleiro, and Talebi (2002b) found eleven studies that directly focused on examining the relationship between client resistance and treatment outcomes. Nine of the eleven available studies found that higher levels of client resistance were significantly correlated with poorer treatment outcomes (2002b). Based on these findings, it has been suggested that effective psychotherapy will have the aim to induce as little resistance by the client as possible while still motivating the client to move towards his or her treatment goals (Beutler, Moleiro, & Talebi, 2002a).

Some researchers have utilized this suggestion in relation to a treatment strategy for therapists who are working with highly resistant clients. For instance, Tennen and colleagues (1981) provided a framework for using resistance therapeutically through the use of paradoxical interventions. Paradoxical interventions are interventions where the therapist recommends that the client engage in symptomatic behaviors rather than overcoming it in some way (Brehm & Brehm, 1981). One example of a paradoxical intervention is “prescribing the symptom.” A therapist who uses this intervention may recommend to his or her resistant, AUD client to continue drinking as much as (or even more than) what the client has been drinking. In so doing, it is hypothesized that the client will not follow the prescription and a decrement of the symptom (abusive drinking)

will ensue (Brehm & Brehm, 1981). However, using paradoxical interventions have been demonstrated to diminish treatment outcomes with particularly oppositional, highly resistant clinical populations (Brehm & Brehm, 1981). Thus, paradoxical interventions are cautioned against when working with certain clients (Brehm & Brehm, 1981).

Much of the research on resistance has focused on the client's contribution to resistance in psychotherapy outcomes (Beutler, Moleiro, & Talebi 2002b). However, as demonstrated by the work on paradoxical interventions and the work of Miller and Rollnick (2002), the therapist also contributes, exacerbates, or reduces the resistance that is made manifest in interactions with the client. Based on these findings, it seems that understanding how the alliance between the client and therapist mediates client resistance and treatment outcomes should be a priority in psychotherapy research. Examining this relationship may help clinicians, researchers, and educators develop tailored interventions that capitalize on the nuances of these interactions. In so doing, the clinician may be able to capitalize on the working alliance and introduce interventions that decrease levels of client resistance thereby improving treatment retention, engagement, and outcomes. In this study, it is hypothesized that client resistance will be negatively correlated with PDA and positively correlated with D/DD.

The Relationship Between Therapeutic Directiveness and Working Alliance

Therapists can intervene in ways that build or deteriorate the working alliance (Luborsky, 1994). There are several studies that indicate that therapist characteristics, such as empathy, warmth, flexibility, honesty, confidence, and openness, have been positively correlated with a good working alliance (Ackerman & Hilsenroth, 2003). These same authors also found a negative correlation between less positive therapist

characteristics and the quality of the working alliance, such as being uncertain, critical, tense, distracted, less engaged, overly structured, and using silence, advice, and self-disclosure in an inappropriate manner (Ackerman & Hilsenroth, 2003; Hilsenroth & Cromer, 2007). Lichtenberg and colleagues (1988) found similar results in that therapists who were overly controlling and overly directive of the session had poorer working alliances with their clients; whereas, clients who had more control of the session and were matched with therapists who were less directive had better working alliances.

Based on the results of these studies, it appears that therapist interventions during sessions affect the strength of the working alliance. Until present, there have been a few studies that included therapist characteristics as a predictor of the working alliance in the substance abuse literature (see Meier, Barrowclough, & Donmall, 2005; Ackerman & Hilsenroth, 2003; Ackerman & Hilsenroth, 2001; Connors et al., 2000). These studies have only examined the relationship between therapist demographics, training, job satisfaction, substance use/dependence history, experience-related variables and the working alliance. However, there have been other studies that examined how therapist characteristics and interventions relate to the strength of the working alliance. In one study by Hill and colleagues (1988), it was found that the most helpful therapist responses to anxious or depressed clients who manifested resistance were self-disclosures, interpretations, statements of approval, and paraphrasing, as compared with providing information or direct guidance, asking closed-ended questions, or asking open-ended questions. This study, which examined 127 sessions of eight, adult, anxious or depressed participants, suggested that therapist directive behavior, including criticism, negatively impacts the alliance.

This is in contrast to a study by Watson and McMullen (2005) who found that there was no significant difference between levels of therapist directiveness and high or low-alliance sessions in a study of 24 adult, depressed participants. In yet another recent study, it was demonstrated that therapists' nondefensive responses to client negativity, hostility, or resistance was critical for maintaining a strong working alliance (Horvath et al., 2011). The present study hopes to clarify this relationship in the AUD population by examining how therapist directiveness relates to the quality of the working alliance. It is hypothesized that for an AUD sample, therapist directiveness will be negatively correlated with levels of the working alliance.

The Relationship Between Therapist Directiveness and Treatment Outcomes

The therapist and his or her techniques are important factors to consider in assessing the effectiveness of a psychotherapy modality (Najavits & Weiss, 1994; Imhof, 1991; Luborsky et al., 1985; Flores, 1988). What the therapist does, whether it results from training, manuals, supervision, personal psychotherapy, or personal characteristics affects client change in psychotherapy (Najavits & Weiss, 1994; Luborsky et al., 1985). One component of therapist technique is therapist directiveness.

Therapist directiveness has been recently studied in working with an AUD population (Karno & Longabaugh, 2005b; Karno & Longabaugh, 2005a). Karno and Longabaugh (2005a) studied data from one clinical research unit of Project MATCH (Matching Alcohol Treatments to Client Heterogeneity) and found that clients who were high in anger and resistance who were matched with more directive therapists tended to have higher post-treatment D/DD ($F(2, 132) = 5.08, P < .01$) and higher percentage of drinking days (PDD; $F(2, 132) = 8.90, P < .001$). In addition, correlations between therapist

directiveness and D/DD for individuals rated in resistance as low, medium, and high was $r = .03$, $r = .43$, $r = .61$, respectively (Karno & Longabaugh, 2005a). However, clients who were low in anger and resistance that were matched with more directive therapists tended to have lower post-treatment drinking frequencies (Karno & Longabaugh, 2005a). These results suggest that clients who are more angry and resistant fare better if they are matched with therapists who are more nondirective. On the other hand, clients who are less angry and resistant appear to fare better post-treatment if they are matched with therapists who are more directive.

According to Karno, Longabaugh, and Herbeck (2010), for patients high in resistance, more directiveness by the therapist may be perceived as a challenge to their autonomy. This may decrease their willingness to follow through on behaviors and thought processes outside of session, and this may ultimately result in worse treatment outcomes. This conclusion indicates the importance of examining therapeutic technique, especially the level of therapist directiveness, in contributing to subsequent treatment outcomes when treating clients with AUDs. These results also emphasize the importance of the interaction of both client resistance and therapist directiveness on treatment outcomes, which is a focus of the current study. It is hypothesized in this study that higher levels of therapist directiveness will be negatively correlated with PDA and positively correlated with D/DD. Although client trait anger appears to be an important client factor associated with treatment matching and outcomes in the AUD treatment field, examining how anger interacts with client resistance, therapist directiveness, working alliance, and treatment outcomes is beyond the scope of this study.

Study Aims

This study aims to examine whether the working alliance mediates the relationship between client resistance and drinking outcomes, and between therapist directiveness and drinking outcomes in an AUD population. The results of this study will help clarify how therapist directiveness and client resistance affect the working alliance, which has been found to be predictive of treatment retention and treatment outcomes in the substance use disorder population (Bethea, Acosta, & Haller 2008; Meier et al., 2006). This will be the first study, to the authors' knowledge, that investigates the relationship between therapist directiveness and the working alliance in the AUD population. Similarly, this will be the first study to investigate the relationship between client resistance and the working alliance in the AUD population. Furthermore, this study will be the first to examine how the working alliance mediates the relationship between therapist directiveness and drinking outcomes, and between client resistance and drinking outcomes in an AUD population. Taken together, this study will highlight and elucidate the role of the therapist in developing a strong or weak working alliance with an alcohol dependent client and how this working alliance mediates drinking outcomes in an AUD population.

Hypotheses

To test whether the working alliance is a mediator variable in an AUD sample, the relationship between the predictor variables (i.e., client resistance and therapist directiveness) and the mediator (i.e., the working alliance), the relationship between the predictor variables and outcome variables (i.e., PDA and D/DD), and the relationship between the mediator and outcome variables should all be significant. Thus, the following are our hypotheses:

- 1.) When controlling for therapist directiveness and treatment modality, levels of client resistance will be significantly, and negatively, correlated with the working alliance in an AUD population. This correlation will be small.
- 2.) When controlling for client resistance and treatment modality, levels of therapist directiveness will be significantly, and negatively, correlated with the working alliance in an AUD population.
- 3.) Client resistance will significantly, and negatively, correlate with PDA for an AUD sample at 84, 168, and 336 days post-treatment. Client resistance will also be significantly, and positively, correlated with D/DD at 84, 168, 336 days post-treatment.
- 4.) Therapist directiveness will be significantly, and negatively, correlated with PDA for an AUD sample at 84, 168, and 336 days post-treatment. Therapist directiveness will also be significantly, and positively, correlated with D/DD at 84, 168, 336 days post-treatment.
- 5.) Levels of the working alliance will predict short-term and long-term drinking (i.e., 84, 168, and 336 days post-treatment) outcomes in an AUD population.
- 6.) The working alliance will mediate the relationship between therapist directiveness and short and long-term drinking outcomes when examined in the same model.
- 7.) The working alliance will also mediate the relationship between client resistance and short and long-term drinking outcomes when examined in the same model.

CHAPTER TWO

Methods

Participants

One hundred eighty-two participants who were diagnosed with Alcohol Dependence based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV; APA, 1994) criteria were screened for participation in a previous study that took place from 2001 to 2005 (Davidson et al., 2007). The previous study was designed to test the treatment effectiveness of Broad Spectrum Treatment (BST) in comparison to Motivational-Enhancement Treatment (MET) for individuals who were diagnosed with Alcohol Dependence, when both treatments were used in conjunction with Naltrexone. Naltrexone is an opioid receptor antagonist used to prevent relapse for individuals who are Alcohol Dependent (Gueorguieva et al., 2010).

The participants (ages 21 or older) from this prior study were recruited through the newspaper, radio advertising, hospital referrals, and an outpatient treatment clinic (Davidson et al., 2007). Research assistants from this prior study initially screened participants over the phone. Participants who were enrolled were abstinent from alcohol three to 21 days before treatment began (Davidson et al., 2007). Participants who were diagnosed with Major Depressive Disorder were permitted to participate in this study as long as they were stable and on antidepressant medication. Exclusion criteria included meeting criteria for another Axis I disorder, being on prescribed medications for mental disorders other than Major Depressive Disorder, having abnormal liver functioning as

demonstrated by a liver enzyme analysis, having a medical history of Hepatitis C, having unstable housing, being pregnant, testing positive for illicit drugs through urine toxicology, or needing inpatient care for detoxification. Out of the 182 participants that were initially screened, 29 of these participants were excluded from this study based on the following: comorbid Axis I diagnoses (11), unwillingness to commit to medication or behavioral treatment (1), medical and housing instability (16), and failure to meet criteria for Alcohol Dependence (1) (Davidson et al., 2007). This left a maximum potential sample size of 153 participants.

Procedures

In the previous study by Davidson and colleagues (2007), patients were randomly assigned to either a three month controlled trial of BST and Naltrexone (NAL) or a three month controlled trial of MET and NAL. All subjects received either 50 mg of NAL or a placebo (PLA) for the first 12 weeks. Then, half of the subjects were crossed over to the PLA for the second 12 weeks of the trial.

After the participants were enrolled in the trial, a baseline assessment was conducted over the course of two days. Patients were paid \$50 for each assessment visit (Davidson et al., 2007). On day one of baseline assessment, the Structured Clinical Interview for Alcoholism-DSM-IV (First et al., 1996), a demographic questionnaire, the Decision Ladder (Abrams & Beiner, 1992), a liver enzyme analysis, a urine sample for a toxicology screen, and, for women, a urine-based pregnancy test was administered (Davidson et al., 2007). On day two of baseline assessment, assessments for cognitive functioning, social support, occupational functioning, housing stability, and investment in social network were conducted. These assessments were administered to help determine

which module of BST the participant would be assigned to, if the participant was randomly assigned to BST (Davidson et al., 2007).

On both days of baseline assessment, the Timeline Followback Interview (TLFB; Sobell & Sobell, 1992, Sobell et al., 1988) was also conducted to determine alcohol consumption; TLFB measures served as the clinical trial outcomes in the archival study. The TLFB provided information regarding participants' PDA, D/DD, number of drinking days, and number of heavy drinking days. It is important to note that TLFB data were obtained up to 504 days post-treatment, though this study will only examine data up to 336 days post-treatment in order to include participants that had completed the majority of the post-treatment drinking assessments. Following the baseline assessments, the participant was randomized to either MET or the BST treatments, as well as to NAL or PLA. The first psychotherapy session occurred two weeks after the last baseline assessment session (Davidson et al., 2007). Each session within these treatments was audio recorded.

Treatments

MET treatment consisted of a maximum of 15 sessions. BST treatment consisted of a maximum of 12 sessions. It should be noted that both treatments were identical in content in the first two sessions, which is one reason why tapes of session three were used for the current study. Since the first two sessions are identical in terms of structure and modality, the third session will offer more variability in the type of interventions offered.

Motivational-Enhancement Treatment

MET consisted of individual psychotherapy based on a modified manual of Motivational Interviewing from Project MATCH (Miller et al., 1992). The primary goal of MET is to motivate the participant to use his or her own resources and willingness to sustain and maintain abstinence (Miller & Rollnick, 2002). The treatment is a collaborative approach where the therapist facilitates and evokes the client's own intrinsic motivation to change (Miller & Rollnick, 2002). In MET, clinicians ask questions and reflectively listen in order to support client change talk (Crits-Christoph et al., 2009). Research suggests that MET is an effective treatment for individuals who have Alcohol Dependence and a variety of other clinical disorders (Heather, 2005).

The first session of MET (and BST) was 90 minutes. During this first session, the participants were provided with feedback from the assessments at baseline. In addition, the participants were provided with a summary of their own drinking in relation to individuals from the general population and a change plan worksheet at the end of the session (Davidson et al., 2007). The feedback session was given in order to bolster the motivation of the participant to actively reduce and abstain from drinking. Personalized feedback, which compares drinking quantity, frequency, intensity, and social, emotional, occupational, and relational consequences of the individual to a set of standardized norms, is a critical motivational factor of change in Motivational Interviewing (Juarez et al., 2006).

The next three sessions were 30 minutes each and were held monthly. In these sessions, the therapist used motivational interviewing techniques to develop the participant's discrepancies between their goals for abstinence and their actual behavior.

The therapist would encourage the client to modify their original goals if needed. A maximum of 11 additional sessions was permitted beyond the four core sessions of this condition. Sixty participants were randomly assigned to this condition. Of these 60 participants, only eight required extra sessions in the MET treatment condition. The mean number of extra sessions for these participants was 5.38 sessions (SD = 2.83). Mean number of total sessions from the study sample in this treatment condition was 4.3 sessions (SD = 2.4).

Broad Spectrum Treatment

BST is a manualized, but flexible, therapy used to treat outpatient individuals who have been diagnosed as Alcohol Dependent (Gulliver et al., 2005). BST is based on the principles of Cognitive-Behavioral Therapy (CBT), but it also includes components of MET and the Community Reinforcement Approach (Gulliver et al., 2005). BST was developed in order to tailor specific interventions to Alcohol Dependent clients based on their strengths and weaknesses that are assessed prior to treatment (Gulliver et al., 2005). The philosophy of BST is based on the finding that no one intervention for Alcohol Dependence is suitable for the diverse population who has Alcohol Dependence (Project MATCH, 1997). Thus, in BST the individual is matched to a manualized treatment based on an assessment of their unique strengths and weaknesses in their goal of reducing their drinking or becoming abstinent. The assessment includes evaluations of the individuals' cognitive functioning, spousal/family functioning and support, interpersonal functioning, job satisfaction and support, and residence stability and support (Gulliver et al., 2005). The end point of the assessment is a mutually agreed upon, manualized treatment intervention, or set of modules, that are tailored to the individual based on his

or her psychosocial resources (Gulliver et al., 2005). The number and order of sessions are dependent on the classification of the individual found in the BST manual (Davidson et al., 2007). In all, 25 treatment modules are available in the BST manual.

In the BST treatment condition, each participant could receive at least eight core sessions and up to four additional sessions. The initial BST session lasted 90 minutes. At the end of the session, feedback was provided to the participant in MET fashion. The following sessions lasted 60 minutes each, which were guided by material from the BST manual (Davidson et al., 2007). Seventy-one participants were randomly assigned to this condition. Of these participants, 36 participants had extra sessions in the BST treatment condition. Mean number of extra sessions for these participants was 2.75 ($SD = 1.59$) sessions. Mean number of total sessions for the participants in this treatment condition was 7.7 ($SD = 3.8$) sessions.

It is important to note that BST includes a pharmacological regimen with behavioral contracting to increase treatment compliance. In addition, BST uses numerous extra-therapeutic psychosocial resources (such as self-help groups like AA and counselor "hot lines") to treat these individuals since it has been demonstrated that subgroups of individuals diagnosed with Alcohol Dependence are treated more or less effectively depending on the complement to the treatment modality and the treatment modality itself (Longabaugh & Morgenstern, 1999). This is one reason why BST utilizes other treatment modalities in order to assist the client to abstain from using alcohol. See Gulliver and colleagues (2005) for a more detailed description of BST.

Therapist Selection and Training

Four therapists with master's degrees, a minimum of two years of experience in treating individuals with AUD, and experience using CBT with this population were selected for the prior study (Davidson et al., 2007). Study therapists received didactic training in both treatment modalities. Prior to the beginning of the treatment, each therapist treated two pilot participants, one per condition, to establish treatment competence and adherence. All sessions were audiotaped and reviewed by an investigator of the study and the therapist. Post-session checklists were completed throughout the study by the patient, therapist, and study supervisor to ensure treatment integrity. The majority of patients (89%) were treated by one therapist who remained in the study for its duration (Davidson et al., 2007).

Independent and Dependent Variables

Client Resistance

The Client Resistance Scale (CRS) was theoretically developed in using the salient dimensions proposed by Greenson (1967) after surveying the literature to determine the observable aspects of the dimensions, and redefining the scales through application of the scales to therapy session tapes (Mahalik, 1994). The CRS is a measure of five dimensions of resistance. Raters evaluate the five items: opposing expression of painful affect, opposing recollection of material, opposing therapist, opposing change, and opposing insight, on 7-point Likert scales (Mahalik, 1994). Higher ratings reflect greater amounts of in-session resistance. It has been concluded that the CRS is reliable in measuring more observable parts of client resistance in adult psychotherapy sessions

(Mahalik, 1994). Also, results from Mahalik (1994) indicate that the subscales have strong inter-rater reliability for two judges (α has a range from .71 to .92 for the five scales) and for three judges (α has a range from .79 to .95 for the five scales). Based on these findings, the CRS will be used by the research assistants to measure in-session client resistance. Total scores from the scale will be used in the analysis.

Therapist Directiveness

Therapist directiveness will be measured with the Directiveness Subscale of the Therapy Process Rating Scale-Revised, also called the Therapist Directiveness Scale (TDS) for short (Fisher et al., 2000). This scale has eleven, 5-point Likert scale items that are rated after listening to an audiotaped therapy session. These items evaluate the following therapist interventions: closed-ended questions, open-ended questions, interpretations, confrontations, interpreting in-session resistance, therapist passivity, therapist reflections, therapist advice giving, therapist directives, initiation of topics, and teaching or providing information (Karno & Longabaugh, 2005b). Higher scores on the scales are indicative of a therapist who is more directive. Karno and Longabaugh (2005b) demonstrated that this scale has good interrater reliability (intraclass correlation = .75) and good internal consistency (coefficient α = .77). Item-to-item correlations of this scale tended to be low ($r = .18-.32$) when utilized with a substance abusing sample. It should also be noted that Karno stated that past studies using this scale with the CRS have obtained high interrater reliability (personal communication on 11/11/2009). Thus, each item addresses a different domain of therapist directiveness. Total scores will be used from the TDS for the data analysis.

Working Alliance

The Working Alliance Inventory- Observer scale (WAI-O) is based on Bordin's pantheoretical model of the working alliance (Horvath, 1994). The WAI-O is the observer rating form that permits an independent observer to rate the interaction between the therapist and the client. The WAI-O is a 36-item instrument that consists of three subscales: the goal subscale, the task subscale, and the bond subscale. The goal subscale measures the extent to which therapy goals are addressed, are mutual, and are reasonable (Fenton et al., 2001). The task subscale measures the therapist and client agreement about the steps that need to be taken in order to achieve their agreed upon goal(s) (Fenton et al., 2001). The bond subscale measures the mutual liking and attachment of the therapist and client by coding the tone of voice, degree of empathy, and comfort when exploring intimate issues (Fenton et al., 2001). It should be noted that the WAI has been used as a research and clinical instrument for the past 20 years (Horvath et al., 2011).

There are currently at least 11 instruments that vary in perspective (therapist, client, and observer) and theoretical orientation when it comes to measuring the working alliance (Fenton et al., 2001). However, Horvath and Symonds (1991) and Tichenor and Hill (1989) suggest that the different instruments that measure the working alliance in general adult psychotherapy (including the WAI-O) overall have good interrater reliability (.92) and have high internal consistency ($\alpha = .98$). In addition, Tichenor and Hill (1989) found that the WAI-O had a high correlation with other measures of the working alliance. Further, Fenton et al. (2001) found that the WAI-O has an intraclass correlation of .70 when measured in a substance abusing population. Finally, Horvath

(1994b) found that reliability estimates for the WAI-O ranged from .84 to .93, and test-retest reliability across a three week interval was .80 in a general psychiatric population.

There has been some discussion and debate regarding which rater, the therapist, client, or observer, provides the most accurate and reliable rating of the therapist-client interaction. Fenton and colleagues (2001) attempted to provide an answer to this by obtaining ratings from the therapist, client, and observer using the WAI-T (therapist rating form), WAI-C (client rating form), or the WAI-O. These researchers found that only the observer ratings from the WAI-O significantly predicted outcomes in comparison to the therapist and client ratings in the substance abusing population (Fenton et al., 2001). Based on these studies, it was concluded that in comparison to therapist and patient ratings of the working alliance, observer ratings provided the most reliable information regarding the interaction between the therapist and substance abusing client. Therefore, the WAI-O will be used for this study. Total scores for the WAI-O will be used in the analysis.

Another complication in studying the working alliance is identifying and defining the window in which the working alliance is measured. Many studies have "summed over" many sessions and have, at the end, rated the working alliance over the course of therapy. Horvath and Greenberg (1994) found that most of the data reported in the literature (until 1994) on the working alliance is of this sort. An advantage of using this approach is that a researcher can then easily correlate the data from the working alliance with the client's outcome measures. However, using this approach suggests that the development of the working alliance is a static phenomenon (Horvath & Greenberg, 1994). According to this notion, once the therapist and the client have a strong working alliance they will continue

to have a strong working alliance despite relational ruptures throughout the course of treatment. However, this is not the case since the working alliance has been demonstrated to change throughout the course of therapy (Horvath & Greenberg, 1994). This is why researchers use another method where they rate the working alliance for individual sessions. This method has offered useful sequential information that has not been found in the aggregate approach (Horvath & Greenberg, 1994), and this method will be used for the purposes of this study.

The working alliance has been found to form relatively early in psychological treatment (Hilsenroth & Cromer, 2007; Barber et al., 1999; Martin, Garske, & Davis, 2000; Zuroff & Blatt, 2006). For instance, ratings of the working alliance in the initial sessions of treatment have been found to be more predictive of treatment outcome in comparison to ratings of later sessions (Connors et al., 1997). In addition, development of a good working alliance early in treatment has been shown to contribute to the “working space” between the client and therapist, which permits room to creatively and safely address and resolve the client’s concerns (Horvath et al., 2011). Therefore, this study will measure the working alliance during the third session of the treatment.

Outcome Measures

The Time Line Followback (TLFB) is an instrument that measures daily alcohol consumption over a specified time period. Frequency and quantity of drinking is collected using a calendar and other memory prompts. The TLFB collects a range of drinking data including the number of drinks consumed within a specified period of time (e.g., number of drinks on a specific day of the month) and the number of days a participant was abstinent within a specified period of time. Good test- retest reliability up

to one year has been found in both in-patient and out-patient psychiatric groups (Maisto et al., 1979). Also, the TLFB has been shown to have a high correlation for total drinking days (O'Farrell et al., 1984; Maisto et al., 1979). The TLFB was used in the original study to collect drinking data, one time each assessment visit up to 504 days post-treatment. In this study, percentage of days abstinent (PDA) and drinks per drinking day (D/DD) from the TLFB will be used as the outcome data.

Covariates

In this study, baseline drinking, treatment modality, and length of treatment (number of sessions) will all be controlled as covariates for all the proposed analyses. Baseline drinking will be controlled as a covariate because it has been shown that baseline alcohol use severity predicts drinking post-treatment up to one year (Staines et al., 2003; McCaul, Skivis, & Moore, 2001). Baseline drinking severity will be controlled in order to account for this effect in the treatment outcomes. Treatment modality will also be used as a covariate prior to the analyses in order to control for the variance between the two treatment modalities: BST and MET. It should be noted that 13 participants in the BST condition and 52 participants in the MET condition had four or fewer sessions. It will be important to distinguish the effects of the treatments on outcomes, especially for participants who had more than four sessions, and this is why treatment modality will be controlled. Finally, length of treatment will also be used as a covariate because BST and MET had different prescribed length of treatments, with BST providing almost twice as many sessions to participants as MET on average. Furthermore, the BST session was twice as long as the MET session (60 minutes vs. 30 minutes) after the second session.

In order to control for the dose-response effect, length of treatment will also be used as a covariate in the analyses.

Sampling of Treatment Audiotapes

Out of the 153 participants from the archival study, only 131 participants had intact, audible audiotapes for session three. Thus, 131 audiotapes from the third session of the Davidson and colleagues (2007) study were selected for this study. Based on the work of Meier and colleagues (2005, 2006) and Connors et al. (1997), early measures of the working alliance are important for treatment retention, engagement, and post-treatment outcomes. Furthermore, the third session was chosen because it has been demonstrated that the strength of the working alliance in the early sessions are predictive of treatment outcomes (Horvath & Bedi, 2002; DeRubeis & Feely, 1991; Hartley & Strupp, 1983) and early sessions are predictive of treatment retention in the substance abusing population (Meier et al., 2006). This finding and the finding that the behaviors of therapists early in treatment plays a role in patient-treatment matching (Karno, Beutler, & Harwood, 2002; Karno & Longabaugh, 2005a) supports the rationale for selecting the third session for all therapist-client interactions to be coded by the independent raters.

Rater Training and Qualifications

Three graduate research assistants (RAs) were selected to code the audiotaped sessions. The research assistants were recruited from Baylor University's Departments of Sociology, as well as the School of Social Work. RA's took either "Abnormal Psychology/Psychopathology" or some variation of "Theories of Psychotherapy/Counseling," received an A in the course, and, at the time of the study,

received extensive clinical experience through either volunteer or clinical job opportunities. Two of the three RA's were trained didactically by the author of the present study (SM) in order to only reliably code for therapeutic directiveness and client resistance. Only two of the three RA's coded for therapeutic directiveness and client resistance in order to control for potential sequencing effects of coding all three instruments after listening to one session. In other words, the rating of the WAI-O will be independent of the ratings of the therapist directiveness and client resistance. The remaining research assistant was trained by SM and another Clinical Psychology doctoral student to code the WAI-O.

Before the didactic training began, Mitchell Karno, PhD, who has used all the aforementioned rating scales in studies with substance abusers, rated two pilot therapy sessions from the original study to allow for the establishment of local reliability ratings. The criterion for reliability was an intra-class correlation of .70 between SM and Dr. Karno. SM and Dr. Karno received an average intraclass correlations of .88 (with a range of .86-.89), .78 (with a range of .72 to .84), and .88 (with a range of .84-.92) for the TDS, CRS, and WAI-O, respectively. SM then didactically trained the independent raters on the scales that they coded. The authors did not share any hypotheses of the study with the independent raters.

Didactic training included reviewing and discussing each item of the scales, offering examples for each item, listening to and coding segments of a pilot tape, listening and coding a whole session, and comparing responses throughout based on a pre-scored transcript of the pilot tape. In the didactic training, the authors provided a theoretical overview of the constructs of the scales that they will be coding and how these variables

may present themselves in psychotherapy sessions. The goal of the didactic training was to teach the constructs and come to a shared strategy and approach to rating the items. Finally, the raters were asked to rate pilot tapes for the scales that they have been trained on until each independent rater and SM obtain an intraclass correlation of .70. The intraclass correlations for the pilot tape were: .86, .91, and .86 for the TDS, CRS, and WAI-O, respectively. The RA's were then permitted to code the remainder of the tapes included in the current study.

SM then coded every 15th tape (approximately after 10% of the tapes have been coded) in order to ensure reliability and check for coder drift. The rater's reliability did not fall below .70 at any point. Average intraclass correlations for the raters were .89 (with a range of .78 to .97), .87 (with a range of .72 to .98), and .93 (with a range of .78 to .98) for the TDS, CRS, and WAI-O, respectively. This method of training RA's was adapted by the suggestions of Dr. Karno through personal communication on 11/11/2009.

Data Analysis

The following are our hypotheses and proposed statistical analysis:

- 1.) When controlling for therapist directiveness and treatment modality, levels of client resistance will be negatively correlated with the working alliance in an AUD population.

A hierarchical multiple regression was calculated for this hypothesis using SPSS (PASW Statistics 18).

- 2.) When controlling for client resistance and treatment modality, levels of therapist directiveness will be negatively correlated with the working alliance in an AUD population.

A hierarchical multiple regression was calculated for this hypothesis using SPSS (PASW Statistics 18).

- 3.) After controlling for the effects of the working alliance, therapist directiveness, baseline drinking, treatment modality, and number of sessions, client resistance will be significantly, and negatively, correlated with PDA for an AUD sample at 84, 168, and 336 days post-treatment. Client resistance will also be significantly, and positively, correlated with D/DD at 84, 168, 336 days post-treatment.

Hierarchical multiple regressions were utilized to test this hypothesis using SPSS (PASW Statistics 18).

- 4.) After controlling for the effects of the working alliance, client resistance, baseline drinking, treatment modality, and number of sessions, therapist directiveness will be significantly, and negatively, correlated with PDA for an AUD sample at 84, 168, and 336 days post-treatment. Therapist directiveness will also be significantly, and positively, correlated with D/DD at 84, 168, 336 days post-treatment.

Hierarchical multiple regressions were utilized to test this hypothesis using SPSS (PASW Statistics 18).

- 5.) Levels of the working alliance will be negatively correlated with short-term and long-term drinking outcomes in an AUD population, after controlling for the effects of baseline drinking, treatment modality, number of sessions, client resistance, and therapist directiveness.

Hierarchical multiple regressions were utilized to test this hypothesis using SPSS (PASW Statistics 18).

- 6.) The working alliance will mediate the relationship between therapist directiveness and short and long-term drinking outcomes, after controlling for the effects of baseline drinking, treatment modality and number of sessions, when examined in the same model.
- 7.) The working alliance will also mediate the relationship between client resistance and short and long-term drinking outcomes, after controlling for the effects of treatment modality and number of sessions, when examined in the same model.

A Sobel Mediation Longitudinal Model via the statistical program SAS was used to test hypotheses six and seven (MacKinnon, 2008). The Sobel Longitudinal Mediation test (Sobel test) was used to determine if the working alliance mediates the relationship between client resistance and drinking outcomes, and therapeutic directiveness and drinking outcomes (Baron & Kenny, 1986; Preacher & Hayes, 2004). The Sobel test provides a test of the indirect effect of an intermediate variable (e.g., the working alliance) (Preacher & Hayes, 2004). It should be noted that one of the assumptions necessary for the Sobel test is that the sample size is large (Preacher & Hayes, 2004). As the sample size decreases, the Sobel test becomes unstable (Preacher & Hayes, 2004). The utility and performance of the Sobel test has been demonstrated in the literature (Stone & Sobel, 1990; Hoyle & Kenny, 1999).

CHAPTER THREE

Results

Sample Characteristics

Of the 153 available participants, only 146 individuals completed at least three treatment sessions. Of this sample only 131 individuals had audible, intact audiotapes that could be coded. This was the sample used for this study. In this sample, there were 80 males (61.1%) and 51 females. The mean age of all the participants was 44 years ($SD = 15.6$). There were 117 Caucasians (89.3%), six African Americans (4.6%), three Native Americans or Alaskans (2.3%), one Asian American or Pacific Islander (0.8%), three Hispanic Americans (2.3%), and one participant who was of mixed ethnicity (0.8%). Of the 131 participants selected for this study, 11 did not graduate from high school (8.4%), 48 graduated from high school (36.6%), 18 graduated from a trade or certificate program (13.7%), 35 graduated from college (26.7%), 15 had a graduate degree (11.5%), and four individuals were classified as "other" (3.1%).

Means and standard deviations for the independent variables (client resistance, therapist directiveness, and working alliance) and the baseline drinking data for both PDA and D/DD are shown in Table 1.

Table 1

Means and Std Deviations of Independent Variables and Baseline Drinking

Variable	<i>M</i>	SD	Range
Client Resistance	15.80	3.30	19.00
Therapist Directiveness	27.36	3.71	24.30
Working Alliance	206.71	18.23	128.00
Baseline D/DD	11.52	7.15	46.00
Baseline PDA	30.53	28.67	97.00

Missing Data

Of the 131 participants, there were no missing data among the independent variables. However, there were missing data among the dependent variables (PDA and D/DD), the therapist ratings, and the client ratings of the working alliance found in the archival study. The therapist and client ratings of the working alliance were used in an ad-hoc analysis. Specifically, 1.3% of the data points among the outcome variables were missing, all of which were in day 168 post-treatment for D/DD. In addition, there were 10 data points missing among the client ratings of the working alliance and 15 data points missing among the therapist ratings of the working alliance. The data points appear to be missing at random. For the regression and meditational analyses, the statistical programs (SPSS and SAS, respectively), used listwise deletion by only deleting data from participants with missing data so that complete data sets were analyzed. According to Allison (2002), listwise deletion is an appropriate method for handling missing data, especially for regression analyses.

Hypothesis 1: Client Resistance and Working Alliance Will Be Negatively Correlated

When controlling for therapist directiveness and treatment modality, there was a small to medium significant and negative relationship between client resistance and the

working alliance ($\beta = -.28, p \leq .003$). For this analysis, treatment modality and therapist directiveness were entered in the first block. Client resistance was entered in the second block. Results from the hierarchical multiple regression are presented in Table 2.

Hypothesis 2: Therapist Directiveness and Working Alliance Will Be Negatively Correlated

When controlling for client resistance and treatment modality, there was no significant relationship between therapist directiveness and the working alliance ($\beta = -.09, p \leq .444$). For this analysis, treatment modality and client resistance were entered in the first block and therapist directiveness was entered in the second block. Results from this multiple regression are presented in Table 3.

Table 2

Relationship Between Client Resistance and Working Alliance After Controlling for Therapeutic Directiveness and Treatment Modality

Variables	B	SE B	β	P	R^2
Model 1					
TDS	-1.13	.52	-.23	.03**	.05
TX Modality	1.25	3.82	.03	.75	--
Model 2					
TDS	-.42	.55	-.09	.44	.11
TX Modality	-2.15	3.86	-.06	.58	--
CRS	-1.56	.51	-.28	.003**	--

Note. * $p < .05$; ** $p < .01$

Table 3

Relationship Between Therapist Directiveness and Working Alliance After Controlling for Client Resistance and Treatment Modality

Variables	B	SE B	β	P	R^2
Model 1					
CRS	-1.73	.46	-.31	.000**	.11
TX Modality	-3.96	3.05	-.11	.20	--

<i>(Continued)</i>					
Variables	B	SE B	β	P	R^2
Model 2					
CRS	-1.56	.51	-.28	.003**	.11
TX Modality	-2.15	3.86	-.06	.58	--
TDS	-.42	.55	-.09	.44	--

Note. * p<.05; ** p<.01

Hypothesis 3- Client Resistance Will Differentially Predict Drinking Outcomes

When controlling for baseline drinking, treatment modality, number of sessions, working alliance, and therapist directiveness, there was no significant relationship between client resistance and drinking outcomes (both PDA and D/DD) at any of the three time points. Baseline drinking, treatment modality, and number of sessions were placed in the first block. Working alliance and therapist directiveness were placed in the second block, and client resistance was placed in the third block for all of the analyses. Results from the hierarchical multiple regressions are presented in Table 4, 5, and 6.

Hypothesis 4- Therapist Directiveness Will Differentially Predict Drinking Outcomes

When controlling for baseline drinking, treatment modality, number of sessions, working alliance, and client resistance, there was no significant relationship between therapist directiveness and drinking outcomes (both PDA and D/DD) at any of the three time points. Baseline drinking, treatment modality, and number of sessions were placed in the first block. Working alliance and client resistance were placed in the second block, and therapist directiveness was placed in the third block for all of the analyses. Results from the hierarchical multiple regressions are presented in Table 7, 8, and 9.

Table 4

Relationship Between Client Resistance and 84 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.37	.09	.34	.000**	.15	.33	.08	.37	.00**	.13
TX Length	2.14	.82	.25	.01**	--	-.08	.17	-.04	.66	--
Modality	-8.34	5.85	-.14	.16	--	.08	1.23	.01	.95	--
Model 2										
Baseline Drink	.36	.09	.33	.000**	.16	.33	.08	.36	.00**	.14
TX Length	2.10	.83	.24	.01**	--	-.06	.18	-.04	.72	--
Modality	-7.88	6.81	-.13	.25	--	-.03	1.42	-.00	.99	--
WAI-O	.11	.14	.06	.46	--	-.03	.03	-.09	.30	--
Therapist Direct.	.03	.85	.00	.98	--	-.01	.18	-.01	.94	--
Model 3										
Baseline Drink	.36	.09	.34	.000**	.16	.32	.08	.36	.00**	.15
TX Length	2.02	.84	.23	.02*	--	-.02	.18	-.01	.93	--
Modality	-6.70	7.22	-.11	.36	--	-.75	1.51	-.06	.62	--
WAI-O	.13	.15	.07	.40	--	-.04	.03	-.13	.16	--
Therapist Direct.	-.15	.92	-.02	.87	--	.09	.19	.05	.64	--
Client Resist.	.45	.90	.05	.62	--	-.27	.19	-.14	.16	--

Note. * $p < .05$; ** $p < .01$

Therapist Direct = Therapist Directiveness

Client Resist. = Client Resistance

Table 5

Relationship Between Client Resistance and 168 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.54	.11	.40	.000**	.25	.21	.09	.19	.03*	.05
TX Length	4.11	.96	.38	.000**	--	-.09	.22	-.04	.68	--
Modality	-13.32	6.89	-.17	.06	--	-1.58	1.49	-.11	.29	--
Model 2										
Baseline Drink	.53	.11	.39	.000**	.27	.21	.10	.19	.03*	.06
TX Length	4.09	.97	.37	.000**	--	-.09	.22	-.04	.67	--
Modality	-7.70	7.96	-.10	.34	--	-2.53	1.74	-.17	.15	--
WAI-O	.13	.17	.06	.45	--	-.01	.04	-.03	.72	--
Therapist Direct.	-1.20	.99	-.12	.23	--	.21	.22	.11	.33	--

(Continued)

Variables	B	SE B	β	P	R^2					
Model 3										
Baseline Drink	.55	.11	.40	.000**	.25	.19	.10	.18	.05*	.09
TX Length	3.81	.98	.35	.000**	--	-.00	.22	-.00	.99	--
Modality	-3.43	8.37	-.04	.68	--	-3.63	1.82	-.24	.05*	--
WAI-O	.20	.17	.09	.25	--	-.03	.04	-.08	.38	--
Therapist Direct.	-1.84	1.07	-.18	.09	--	.38	.23	.19	.11	--
Client Resist.	1.63	1.05	.14	.12	--	-.45	.24	-.19	.07	--

Note. * $p < .05$; ** $p < .01$

Therapist Direct= Therapist Directiveness

Client Resist.= Client Resistance

Table 6

Relationship Between Client Resistance and 336 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	B	SE B	PDA			D/DD				
			β	P	R^2	B	SE B	β	P	R^2
Model 1										
Baseline Drink	.63	.12	.43	.000**	.22	.12	.06	.19	.03*	.04
TX Length	2.97	1.07	.25	.01**	--	-.01	.13	-.01	.93	--
Modality	-15.01	7.63	-.18	.051	--	-.20	.92	-.02	.83	--
Model 2										
Baseline Drink	.62	.12	.43	.000**	.23	.12	.06	.19	.03*	.04
TX Length	2.91	1.08	.25	.01**	--	-.01	.13	-.00	.97	--
Modality	-13.91	8.87	-.17	.12	--	-.16	1.07	-.02	.88	--
WAI-O	.15	.19	.06	.43	--	-.01	.02	-.05	.56	--
Therapist Direct.	-.07	1.11	-.01	.95	--	-.03	.13	-.02	.85	--
Model 3										
Baseline Drink	.63	.12	.43	.000**	.23	.13	.06	.20	.03*	.05
TX Length	2.85	1.10	.24	.01**	--	-.04	.13	-.03	.79	--
Modality	-13.02	9.42	-.16	.17	--	.32	1.13	.04	.78	--
WAI-O	.16	.20	.07	.40	--	-.01	.02	-.05	.56	--
Therapist Direct.	-.21	1.20	-.02	.86	--	-.10	.14	-.08	.51	--
Client Resist.	.34	1.18	.03	.77	--	.18	.14	.13	.22	--

Note. * $p < .05$; ** $p < .01$

Therapist Direct= Therapist Directiveness

Client Resist.= Client Resistance

Table 7

Relationship Between Therapist Directiveness and 84 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.366	.09	.34	.000**	.15	.33	.08	.37	.00**	.13
TX Length	2.14	.82	.25	.010**	--	-.08	.17	-.04	.66	--
Modality	-8.34	5.85	-.14	.16	--	.08	1.23	.01	.95	--
Model 2										
Baseline Drink	.36	.09	.34	.000**	.12	.32	.08	.36	.00**	.15
TX Length	2.02	.84	.23	.02*	--	-.02	.18	-.01	.92	--
Modality	-7.36	6.0	-.12	.22	--	-.36	1.25	-.03	.78	--
WAI-O	.13	.15	.08	.39	--	-.05	.03	-.13	.15	--
Client Resist.	.39	.83	.04	.64	--	-.23	.17	-.12	.18	--
Model 3										
Baseline Drink	.36	.09	.34	.000**	.16	.32	.08	.36	.00**	.16
TX Length	2.02	.84	.23	.02*	--	-.02	.19	-.01	.93	--
Modality	-6.70	7.22	-.11	.36	--	-.75	1.51	-.06	.62	--
WAI-O	.13	.15	.07	.40	--	-.04	.03	-.13	.16	--
Client Resist.	.45	.90	.05	.62	--	-.27	.19	-.14	.16	--
Therapist Direct.	-.15	.92	-.02	.87	--	.09	.19	.05	.64	--

Note. * $p < .05$; ** $p < .01$

Therapist Direct = Therapist Directiveness

Client Resist. = Client Resistance

Table 8

Relationship Between Therapist Directiveness and 168 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.54	.11	.40	.000**	.25	.21	.09	.19	.03*	.05
TX Length	4.11	.96	.38	.000**	--	-.09	.22	-.04	.68	--
Modality	-13.32	6.89	-.17	.06	--	-1.58	1.49	-.10	.29	--
Model 2										
Baseline Drink	.54	.11	.40	.000**	.26	.19	.10	.17	.05*	.07
TX Length	3.87	.98	.35	.000**	--	-.01	.22	-.01	.96	--
Modality	-11.42	7.03	-.15	.11	--	-2.00	1.52	-.13	.19	--
WAI-O	.22	.18	.10	.21	--	-.04	.04	-.09	.33	--
Client Resist.	.93	.97	.08	.34	--	-.30	.22	-.13	.19	--

(Continued)

Variables	B	SE B	β	P	R^2	
Model 3						
Baseline Drink	.55	.11	.40	.000**	.28	.19 .10 .18 .05* .09
TX Length	3.81	.98	.35	.000**	--	-.00 .22 -.00 .99 --
Modality	-3.43	8.37	-.04	.68	--	-3.63 1.82 -.24 .05* --
WAI-O	.20	.17	.09	.25	--	-.03 .04 -.08 .38 --
Client Resist.	1.63	1.05	.14	.12	--	-.45 .24 -.19 .07 --
Therapist Direct.	-.18	1.07	-.18	.09	--	.38 .23 .19 .11 --

Note. * $p < .05$; ** $p < .01$
 Therapist Direct = Therapist Directiveness
 Client Resist. = Client Resistance

Table 9

Relationship Between Therapist Directiveness and 336 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R^2	B	SE B	β	P	R^2
Model 1										
Baseline Drink	.63	.12	.43	.000**	.22	.12	.06	.19	.03*	.03
TX Length	2.97	1.07	.25	.01**	--	-.01	.13	-.01	.93	--
Modality	-15.01	7.63	-.18	.051	--	-.20	.92	-.02	.83	--
Model 2										
Baseline Drink	.63	.12	.43	.000**	.23	.13	.06	.20	.03*	.05
Modality	-13.92	7.82	-.17	.08	--	-.09	.94	-.01	.92	--
WAI-O	.17	.19	.07	.40	--	-.00	.02	-.02	.86	--
Client Resist.	.26	1.09	.02	.81	--	.14	.13	.10	.28	--
Model 3										
Baseline Drink	.63	.12	.43	.000**	--	.13	.06	.20	.03*	.05
TX Length	2.85	1.10	.24	.01**	--	-.04	.13	-.03	.79	--
Modality	-13.02	9.42	-.16	.17	--	.32	1.13	.04	.78	--
WAI-O	.16	.20	.07	.40	--	-.01	.02	-.02	.83	--
Client Resist.	.34	1.18	.03	.77	--	.18	.14	.13	.22	--
Therapist Direct.	-.21	1.20	-.02	.86	--	-.10	.14	-.08	.51	--

Note. * $p < .05$; ** $p < .01$
 Therapist Direct = Therapist Directiveness
 Client Resist. = Client Resistance

Hypothesis 5- Working Alliance Will Predict Drinking Outcomes

Hierarchical Multiple Regression analyses were used to determine which variable best predicted drinking outcomes (both PDA and D/DD) at 84, 168, and 336 days post-treatment. When controlling for baseline drinking, treatment modality, number of sessions, therapist directiveness, and client resistance, there was no significant

relationship between working alliance and drinking outcomes (both PDA and D/DD) at any of the three time points. Baseline drinking, treatment modality, and number of sessions were entered in the first block. Therapist directiveness and client resistance were entered in the second block, and working alliance was entered in the third block for all of the analyses. Baseline drinking and treatment intensity (number of sessions) were the only significant predictors of PDA at all follow-up time points. Similarly, baseline drinking was the only significant predictor of D/DD at all follow-up time points. These findings are contrary to the hypotheses in that the working alliance did not predict drinking outcomes after accounting for the variance attributable to baseline drinking, treatment intensity, and treatment modality. Results from the hierarchical multiple regressions are presented in Tables 10, 11, and 12.

Table 10

Relationship Between Working Alliance and 84 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.37	.09	.34	.000**	.15	.33	.08	.37	.00**	.13
TX Length	2.14	.82	.25	.01**	--	-.08	.17	-.04	.66	--
Modality	-8.34	5.85	-.14	.16	--	.08	1.23	.01	.95	--
Model 2										
Baseline Drink	.37	.09	.34	.000**	.15	.33	.08	.37	.00**	.14
TX Length	2.11	.84	.24	.01**	--	-.05	.18	-.03	.79	--
Modality	-7.32	7.18	-.12	.31	--	-.53	1.51	-.04	.73	--
Therapist Direct.	-.21	.92	-.03	.82	--	.11	.19	.06	.58	--
Client Resist.	.25	.87	.03	.78	--	-.19	.18	-.10	.30	--
Model 3										
Baseline Drink	.36	.09	.38	.000**	.16	.32	.08	.36	.00**	.15
TX Length	2.02	.84	.23	.02*	--	-.02	.18	-.01	.90	--
Modality	-6.70	7.22	-.12	.36	--	-.75	1.51	-.06	.62	--
Therapist Direct.	-.15	.92	-.02	.87	--	.09	.19	.05	.64	--
Client Resist.	.45	.90	.05	.62	--	-.27	.19	-.14	.16	--
WAI-O	.13	.15	.07	.40	--	-.04	.03	-.13	.16	--

Note. * $p < .05$; ** $p < .01$
 Therapist Direct = Therapist Directiveness
 Client Resist. = Client Resistance

Table 11

Relationship Between Working Alliance and 168 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.54	.11	.40	.000**	.25	.21	.09	.19	.03*	.05
TX Length	4.12	.96	.38	.000**	--	-.09	.22	-.04	.68	--
Modality	-13.32	6.89	-.17	.06	--	-1.58	1.49	-.12	.29	--
Model 2										
Baseline Drink	.56	.11	.41	.000**	.24	.20	.09	.19	.04*	.08
TX Length	3.95	.97	.36	.000**	--	-.03	.22	-.02	.88	--
Modality	-4.42	8.34	-.06	.60	--	-3.45	1.81	-.23	.06	--
Therapist Direct.	-1.93	1.10	-.18	.07	--	.39	.23	.19	.10	--
Client Resist.	1.30	1.01	.11	.20	--	-.38	.23	-.16	.10	--
Model 3										
Baseline Drink	.55	.11	.40	.000**	.28	.19	.10	.18	.05* .09	
TX Length	3.81	.98	.35	.000**	--	-.00	.22	-.00	.99	--
Modality	-3.43	8.37	-.04	.68	--	-3.63	1.82	-.24	.05*	--
Model/Variables	B									
Therapist Direct.	-1.84	1.07	-.18	.09	--	.38	.23	.19	.11	--
Client Resist.	1.63	1.05	.14	.12	--	-.45	.24	-.19	.07	--
WAI-O	.20	.17	.09	.25	--	-.03	.04	-.08	.38	--

Note. * $p < .05$; ** $p < .01$
 Therapist Direct = Therapist Directiveness
 Client Resist. = Client Resistance

Table 12

Relationship Between Working Alliance and 336 Days Post-Treatment Drinking Outcomes After Controlling for Covariates and Independent Variables

Model/Variables	PDA					D/DD				
	B	SE B	β	P	R ²	B	SE B	β	P	R ²
Model 1										
Baseline Drink	.63	.12	.43	.000**	.22	.12	.06	.19	.03*	.04
TX Length	2.97	1.07	.25	.00**	--	-.01	.13	-.01	.93	--
Modality	-15.01	7.63	-.18	.051	--	-.20	.92	-.02	.83	--
Model 2										
Baseline Drink	.64	.12	.43	.000**	.22	.13	.06	.20	.03*	.05
TX Length	2.96	1.09	.25	.01**	--	-.04	.13	-.03	.76	--
Modality	-13.83	9.36	-.16	.14	--	.34	1.12	.04	.76	--
Therapist Direct.	-.28	1.20	-.02	.82	--	-.09	.14	-.08	.52	--
Client Resist.	.07	1.13	.01	.95	--	.18	.14	.13	.17	--

(Continued)

Variables	B	SE B	β	P	R^2
Model 3					
Baseline Drink	.63	.12	.43	.000**	.22
TX Length	2.85	1.10	.25	.01**	--
Modality	-13.02	9.42	-.16	.17	--
Therapist Direct.	-.21	1.20	-.02	.86	--
Client Resist.	.34	1.18	.03	.77	--
WAI-O	.16	.20	.07	.40	--

Note. * $p < .05$; ** $p < .01$

Therapist Direct = Therapist Directiveness

Client Resist. = Client Resistance

Hypotheses 6 and 7- The Working Alliance Will Mediate the Relationship Between Client Resistance and Treatment Outcomes, and the Relationship Between Therapist Directiveness and Treatment Outcomes

To test whether the working alliance mediates the relationship between client resistance and drinking outcomes (for both PDA and D/DD), and whether the working alliance mediates the relationship between therapist directiveness and drinking outcomes at 84, 168, and 336 days post-treatment, a Longitudinal Sobel Mediation analysis was used (MacKinnon, 2008). Baseline PDA and D/DD, number of sessions, and treatment modality were controlled by using these variables as covariates in the analyses. The working alliance was not a significant mediator of the relationship between client resistance and drinking outcomes, nor was it a mediator of the relationship between therapist directiveness and drinking outcomes at 84, 168, and 336 days post-treatment. Results from the Sobel tests are shown in Tables 13, 14, 15, and 16.

Table 13

The Relationship Between Client Resistance, Working Alliance, and Drinking Outcomes (PDA): Mediation Analyses

Post-Treatment Time Point	Sobel Value	SE	CI	P-value (2-tail)
84	-.19	.31	-.8 to -.42	.54
168	-.43	.36	-1.14 to .27	.23
336	-.35	.37	-1.07 to .38	.34

Note. *p<.05; **p<.01; CI= Confidence Interval

Table 14

The Relationship Between Therapist Directiveness, Working Alliance, and Drinking Outcomes (PDA): Mediation Analyses

Post-Treatment Time Point	Sobel Value	SE	CI	P-value (2-tail)
84	-.02	.19	-.40 to .35	.90
168	-.11	.22	-.53 to .32	.62
336	-.12	.23	-.57 to .32	.59

Note. *p<.05; **p<.01

Table 15

The Relationship Between Client Resistance, Working Alliance, and Drinking Outcomes (D/DD): Mediation Analyses

Post-Treatment Time Point	Sobel Value	SE	CI	P-value (2-tail)
84	.01	.08	.07-.17	.86
168	.00	.04	-.85-.08	.96
336	.02	.04	-.05-.09	.63

Note. *p<.05; **p<.01

Table 16

The Relationship Between Therapist Directiveness, Working Alliance, and Drinking Outcomes (D/DD): Mediation Analyses

Post-Treatment Time Point	Sobel Value	SE	CI	P-value (2-tail)
84	.01	.03	-.04-.06	.81
168	.01	.03	-.05-.06	.85
336	.01	.03	-.04-.06	.72

Note. *p<.05; **p<.01

CHAPTER FOUR

Discussion

The purpose of this study was to determine whether the working alliance mediated the relationship between therapeutic directiveness and drinking outcomes, and between client resistance and drinking outcomes in an AUD population. It was hypothesized that both client resistance and therapeutic directiveness would significantly predict the strength of the working alliance, and the strength of the working alliance would, in turn, predict drinking outcomes (i.e., D/DD and PDA) in an Alcohol Dependent, adult sample. It was also hypothesized that both client resistance and therapeutic directiveness would significantly predict short and long-term drinking outcomes in the Alcohol Dependent sample. In summary, it was hypothesized that the working alliance would act as a mediator between client resistance, therapeutic directiveness, and consequent drinking outcomes in an Alcohol Dependent sample.

As predicted, client resistance was found to be negatively correlated with the working alliance; though, therapist directiveness was not found to be significantly correlated with the working alliance. Similarly, the results of the hierarchical multiple regression analyses did not support the hypothesis that client resistance and therapist directiveness predicted the working alliance, nor that client resistance and therapist directiveness predicted drinking outcomes. The finding that client resistance, therapist directiveness, and the working alliance did not predict the different drinking outcomes contradicted

prior findings in the alcohol use disorder literature. Similarly, the results from the Longitudinal Sobel Mediation analyses did not support the hypothesis that the working alliance acts as a mediator between client resistance and drinking outcomes, or between therapist directiveness and drinking outcomes in this alcohol dependent sample.

Interpretation of the Relationship between Client Resistance and Working Alliance

The results from the first hierarchical multiple regression indicated that there was a small to medium, negative relationship between the working alliance and client resistance when controlling for therapist directiveness and treatment modality. This finding suggests that when the working alliance improves, client resistance diminishes. Or, when client resistance increases, the working alliance is weakened. This finding supports the thoughts of Grabhorn and colleagues (2005) in that these variables are interrelated in an important way. Grabhorn and colleagues (2005) found that client resistance as manifested by speech patterns of the client (e.g., speech activity, pauses in speech, interrupting, not using personal pronouns, and use of the passive voice) was found to be predictive of the strength of the working alliance throughout the beginning, middle, and end phase of a psychoanalytically oriented, short-term single case study of an adult female who was diagnosed with chronic Bulimia Nervosa. This finding also confirms the “clinical lore” of the field in that the working alliance and client resistance are closely connected, and both should be monitored continuously by the therapist throughout psychotherapy. When client resistance increases, it is likely that the working alliance diminishes. Thus, constant monitoring on how the therapists’ interventions are affecting the client’s level of resistance is recommended. It also seems to be prudent for the therapist to be mindful of how he or she is eliciting resistance and how this interaction

may negatively affect the working alliance. This is a core theme of motivational interviewing, that is: rolling with client resistance in order to maintain rapport and not exacerbate client resistance (see Miller & Rollnick, 2002).

Interpretation of the Relationship between Therapist Directiveness and Working Alliance

The results from the second hierarchical multiple regression analysis indicated that there is no significant relationship between therapist directiveness and the working alliance, after controlling for the effects of client resistance and the treatment modality. This suggests that the working alliance does not necessarily improve when the therapist is less (or more) directive, or that the therapist is less (or more) directive when the working alliance is strong (or weak). This finding confirmed the results of Watson and McMullen (2005) who found in their study that there was no significant difference between levels of therapist directiveness and high or low-alliance sessions. It should be noted, though, that in this study 24 adult clients were selected from a randomized controlled trial for the treatment of Major Depressive Disorder, a different clinical population than what was used in the present study. The sessions from these selected clients were then transcribed and coded by independent raters. These raters coded the transcripts using the WAI, though the raters used different scales for client resistance and therapist directiveness than what was used in the current study (see Watson and McMullen, 2005 for more details).

The results from this study indicate that the degree of directiveness from the therapist does not mitigate the strength of the working alliance. This makes sense when examining studies that compare more directive therapies to non-directive therapies across different clinical populations (see Messer & Wampold, 2002; Lambert & Ogles, 2004). Therapies

offered to treat most clinical disorders that differ in terms of therapist directiveness appear to be more or less equivalent. For the most part, the directiveness inherent in the empirically supported therapy modality seems to not differentially impact the working alliance or treatment outcomes, unless directive and nondirective therapists are matched to clients based on certain characteristics (anger, level of reactance/resistance, etc.) prior to treatment. For instance, Karno and Longabaugh (2005b) found that clinicians who treated individuals with an AUD likely had better outcomes if a less directive therapist was matched with highly resistant, angry clients prior to the beginning of treatment. It was also found in this study that clinicians treating individuals with an AUD likely had better outcomes if the therapist is more directive with less resistant clients. From this study, it appears that the modality of therapy should be selected based on personality traits and type of client instead of one modality being used for all of the heterogeneous clients in a clinical population.

Interpretation of the Relationship between Baseline Drinking, Length of Treatment, and Treatment Outcomes

This study found that baseline drinking significantly predicted treatment outcomes (both for PDA and D/DD) for all three drinking outcome time points. Furthermore, number of sessions provided to the participant significantly predicted PDA outcomes for 84, 168, and 336 days post-treatment. What do these findings mean? The finding that baseline drinking significantly predicted drinking outcomes (for both PDA and D/DD) is consistent with the findings that baseline alcohol use severity predicts drinking post-treatment up to one year (see Staines et al., 2003; McCaul, Skivis, & Moore, 2001). Staines and colleagues (2003) similarly found that the number of drinking days in the

past month (e.g., D/DD), money spent on alcohol in the past month, and the number of days with alcohol problems in the past month all predicted drinking outcomes at both 3 and 12 months post-treatment. This relationship was also found to be true in this study.

The finding that the number of sessions provided to the participant predicted treatment outcomes at 84, 168, and 336 days post-treatment (for PDA only) was also consistent with the findings in the AUD treatment literature, and the psychotherapy literature in general. The finding that the number of sessions predicted participant's percentage of days abstinent substantiates psychotherapy outcome studies demonstrating the "dose-response" relationship. In the psychotherapy literature, dose is referred to as the number of sessions, and response is referred to as an outcome that has been measured, in this study's case PDA and D/DD (Hansen, Lambert, & Forman, 2002). It has been shown that the effect of psychotherapy is great in the earlier phase of psychotherapy and that the effect continues to gradually grow with additional sessions (Kopta, 2003; Howard et al., 1986). Similarly, in a review of 156 peer-reviewed journal articles on the dose-response effect in psychotherapy, 100 studies demonstrated a positive correlation between length of therapy and positive therapeutic outcomes (Orlinsky, Grawe, & Parks, 1994).

This study confirms the findings of Kopta (2003) and Howard and colleagues (1986) in that the more sessions a participant had, the more days the participant reported as being abstinent at 84, 168, and 336 days post-treatment. The dose-response finding from this study was suggested in an earlier paper by Longabaugh and colleagues (2009) who compared the results of BST and MET with naltrexone in the archival study. These authors hypothesized that since BST had more sessions than MET in the archival study,

this difference may have accounted for BST's significantly greater treatment outcomes when compared to the outcomes of MET. What may also be added to this conclusion is the fact that the BST treatment session, after the second session, was twice as long in length than the MET session (60 minutes vs. 30 minutes, respectively). The dose-response effect seems to be the case in this study's analyses, especially since treatment modality was found to not differentially predict any treatment outcomes.

It is hypothesized that the number of sessions did not predict participants' drinks per drinking day because of the "abstinence violation effect" (Marlatt & Gordon, 1984). Once a participant relapsed and drank after a period of abstinence, the participant possibly continued to drink throughout the day and on subsequent days, and this is referred to as the "abstinent violation effect" (Marlatt & Gordon, 1984). This may occur in spite of participation in psychotherapy or interaction with other modes of support. Thus, number of sessions may not be significantly correlated with participants' drinks per drinking day due to possible abstinent violation effects that may have been activated in some of the participants from the archival study.

Interpretation of the Relationships between Working Alliance, Client Resistance, Therapist Directiveness Ratings and Treatment Outcomes

What is most surprising about the hierarchical multiple regression results is the finding that the working alliance did not predict drinking outcomes (both PDA and D/DD) at any time point, based on session three observer alliance rating. This was also found to be true for client and therapist ratings of the working alliance, which were taken from the archival study (see Table 8 for the results of these post-hoc analyses). This is most surprising finding because this finding contradicts prior findings that supported the

hypothesis that the working alliance predicts treatment outcomes in substance abusers, and in other clinical populations (see Bethea, Acosta & Haller, 2008; Meier et al., 2006; Connors et al., 2000; Connors et al 1997). One explanation for this finding is that the working alliance did not account for as much variance as some other extratherapeutic factors (e.g., “time,” AA involvement, sponsor-participant contact, etc.), which would echo the findings of Lambert and Barlay (2002). Lambert and Barlay (2002) found that in a review of over 100 studies, extratherapeutic factors accounted for 40% of the variance in treatment outcomes while the working alliance only accounted for 30% of outcome variance. Perhaps, other client, therapist, or other aspects of treatment not examined in this study accounted for changes in drinking outcomes. It would be difficult to verify this explanation in this study since these variables were not all recorded and measured. Though, it is clear that the participant’s baseline drinking accounted for the most variance in drinking outcomes, above and beyond all the independent variables in this study, and this finding is commensurate with other research findings in the AUD treatment literature (Staines et al., 2003; McCaul, Skivis, & Moore, 2001).

Another possible explanation for this finding is that the WAI-O was not sensitive enough to be able to effectively predict and differentiate treatment outcomes for this sample. Although the standard deviation of the working alliance in this sample is large ($SD = 18.23$), when plotted on a histogram graph the results indicated a negatively skewed distribution which could suggest some bias in the instrument or bias in the rating of the instrument (see Figure 3). Further, there is one outlier (that had a score of 111) which significantly altered the range of scores for the WAI-O. If this outlier is removed, the range decreases dramatically from 128 to 78, and this limited range suggests that the

ratings of the WAI-O could have a restricted range. A restricted range in rating the WAI-O could confound the regression results between the working alliance and the treatment outcomes.

However, it should be noted that when session three WAI-O scores were correlated with the therapist and client ratings of the working alliance from the archival study, both correlations were significant. Notably, when correlating the WAI-O scores and the client ratings of the working alliance scores from the archival data, there was a medium and significant correlation ($r = .45, p \leq .001$). Though, it should be noted that there were 10 data points missing from the client ratings of the working alliance which could have altered the strength of this correlation. Similarly, when correlating the WAI-O scores and the therapist ratings of the working alliance from the archival data, there was a small, but significant, correlation ($r = .20, p \leq .04$). Again, there were 15 data points missing from the archival data which could have changed the strength of this correlation. This is all to say that the observer raters from the current study did not vastly disagree with the ratings of both the therapist and the client ratings of the working alliance from the archival study. This could also indicate that the WAI-O and the client and therapist ratings of the WAI-O were reliable and valid in depicting the working alliance for this study.

Nevertheless, all three ratings failed to significantly predict treatment outcomes at any time point for either PDA or D/DD (see Table 17). Therefore, the lack of a significant finding of the working alliance predicting treatment outcomes may be the result of other variables accounting for more variance in the outcome in comparison to the WAI-O, client ratings of the working alliance (WA-C), or the therapist ratings of the working

alliance (WA-T). In this study, these variables are baseline drinking and number of sessions.

Yet another explanation for this finding is that the working alliance between a therapist and a client with Alcohol Dependence takes longer than three sessions to develop in a clinically meaningful and significant way. In other words, perhaps with this clinical population, it takes longer to develop a strong working alliance that would then be significantly related to treatment outcomes. This hypothesis could be tested by rating the working alliance in every session throughout treatment and then statistically determining at what point, or points, the therapeutic alliance becomes a significant predictor of treatment outcomes. Horvath and Symonds (1991) and Constantino and Smith-Hansen (2008) conducted studies to examine this and found mixed results. Horvath and Symonds (1991) found that when compared to the middle and late phases of individual, adult psychotherapy, the alliance that is established at the beginning phase of therapy (between sessions three and five) is more predictive of outcome and dropout than alliance in later phases of treatment. However, Constantino and Smith-Hansen (2008) found in a study treating individuals with Bulimia Nervosa that there are also significant patterns of alliance-outcome relationships where low-alliance ratings in the earlier phase of treatment do not necessarily predict treatment outcomes due to significant improvements in the working alliance, and subsequently outcomes, in later phases of treatment. Despite these mixed findings, one could still argue that a strong working alliance is necessary, but not sufficient, in producing positive therapeutic changes in the AUD population and other clinical populations.

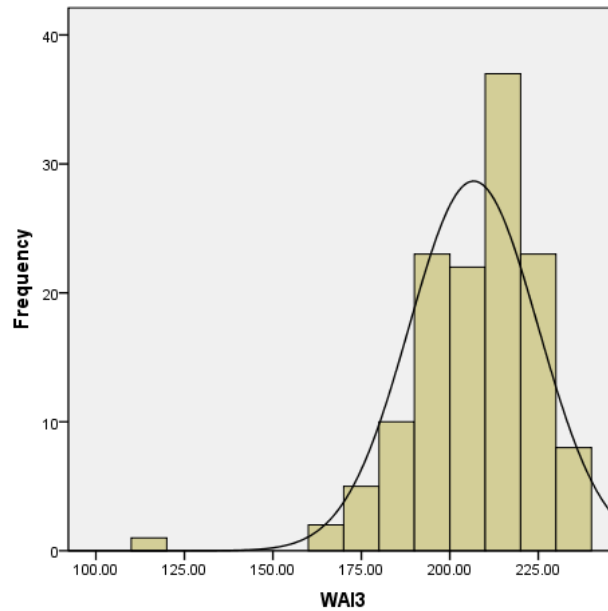


Figure 3. Histogram graph detailing the WAI-O ratings from the study sample. Note the negatively skewed distribution line.

Client resistance ratings also did not predict treatment outcomes (both PDA and D/DD) at any time point. Similar to the working alliance-outcome relationship, this finding contradicted previous research by Beutler, Moleiro, and Talebi (2002b) and Miller and Rollnick (2002). Again, it is possible that the CRS was not a sensitive enough instrument to differentiate differences in treatment outcomes among the participants. Another possibility could be that resistance, although an ever-present variable in psychotherapy, is not a major factor that predicts, or causes, changes in treatment outcomes in an alcohol dependent population. Future studies need to confirm this hypothesis.

Therapist directiveness ratings also did not predict treatment outcomes (both PDA and D/DD) at any time point. This finding contradicted the recent findings of Karno and Longabaugh (2005a, 2005b) and Karno, Longabaugh, and Herbeck (2010). However, the relationship between therapist directiveness and treatment outcomes in this study may

have been confounded since the participants in the archival study were not matched to directive or nondirective therapists based on their level of resistance and anger, which Karno and Longabaugh did in prior studies. Since therapist and client were not matched based on these variables in the prior study, it is difficult to conclude that therapist directiveness is significantly related to treatment outcomes, as it was in prior studies in an AUD population.

Table 17

Hierarchical Multiple Regression Results: Relationship Between Client and Therapist Ratings of the Working Alliance and Drinking Outcomes

Variable	<i>PDA Treatment Outcomes</i>					<i>D/DD Treatment Outcomes</i>				
	Time	B	SE B	β	P-value	B	SE B	β	P-value	
C-WA	84	-.26	.38	-.06	.50	-.05	.08	-.05	.58	
C-WA	168	-.37	.45	-.07	.41	.03	.10	.03	.76	
C-WA	336	-.01	.51	-.00	.99	-.04	.06	-.06	.48	
T-WA	84	.94	.60	.14	.12	-.11	.14	-.07	.43	
T-WA	168	.41	.72	.05	.57	-.02	.17	-.01	.91	
T-WA	336	.21	.79	.02	.79	-.02	.10	-.02	.87	

*p<.05;

**p<.01

Note: C-WA: Client rating of the Working Alliance; T-WA: Therapist rating of the Working Alliance

Interpretation of the Mediation Analyses Results

The results of the mediation analyses suggests that the working alliance does not mediate the relationship between client resistance and treatment outcomes (PDA and D/DD), nor does it mediate the relationship between therapist directiveness and treatment outcomes. Recalling the definition from Baron and Kenny (1986), a mediating variable significantly predicts the dependent variable when controlling for the independent variable(s). Based on the results of the hierarchical multiple regression analyses and the post-hoc analyses, in this sample, the working alliance from session three rated by either

an observer, the therapist, or the client does not significantly predict PDA or D/DD. Thus, the working alliance could not have acted as a mediating variable in this study and the mediation tests should not be significant. Similarly, client resistance and therapist directiveness did not predict drinking outcomes, nor did therapist directiveness significantly correlate with the working alliance in this study. Though, client resistance did significantly correlate with the working alliance in this study. Therefore, two out of the three criteria for a mediation variable, as outlined by Baron and Kenny (1986), were not met in this study for the working alliance. The absence of criteria necessary for the working alliance to be a mediating variable is consistent with the results of the Sobel tests outlined in the results section.

In summary, the hypothesized relationships between client resistance and working alliance were supported. However, therapist directiveness and the working alliance were not found to be significantly correlated after controlling for the effects of treatment modality and client resistance. Further, it was found in this study that the working alliance, whether it was rated by an observer, the therapist, or the client, did not significantly predict treatment outcomes at 86, 168, and 336 days post-treatment. Similarly, client resistance and therapist directiveness also did not significantly differentiate treatment outcomes. In addition, the results from the longitudinal mediational analyses did not support the hypothesis that the working alliance acts as a mediator between client resistance and drinking outcomes, and between therapist directiveness and drinking outcomes in this alcohol dependent sample.

Limitations

This study had several limitations. First, the alliance raters were not doctoral-level clinical or counseling students or licensed psychologists that have several years' experience in psychotherapy, as raters were in prior studies. This may have impacted their ability to distinguish the nuances of the alliance throughout an audiotaped session. Though, again, it should be noted that the ratings of the WAI-O were significantly correlated with the client and therapist ratings of the alliance from the archival study which had master and doctoral-level raters. Second, the archival study matched one therapist for 89% of all the participants. This could have restricted the range of the possible interventions and ratings from all of the scales of the independent variables.

Third, the sample used was relatively smaller than its potential sample size due to missing or inaudible tapes. A larger sample size may have modified the results, especially if the missing tapes were not missing at random but were intentionally not recorded, left out, or destroyed for some other reason. Similarly, the client and therapist ratings had multiple data points missing which could have altered the correlations between these ratings and the observer ratings. If these variables were not significantly correlated with the ratings of the WAI-O, then the authors may have used the other ratings (i.e., the client or therapist ratings of the working alliance from the archival study) as the mediator variable in post-hoc Sobel analyses to determine if these variables mediated the relationship between client resistance and drinking outcomes, and between therapist directiveness and drinking outcomes in this study's sample.

Fourth, the interactions from this study did not fully elucidate the relationship between the independent variables because correlations cannot demonstrate a cause-

effect relationship. Future studies need to better control these variables in order to demonstrate such an effect. Fifth, therapists and clients were not matched prior to the archival study. Matching client and therapist based on level of resistance and anger may have produced different results, especially between therapist directiveness and the working alliance, and between therapist directiveness and treatment outcomes. Finally, the results from this study cannot be generalized to other clinical populations since the results were based on an alcohol-dependent sample. For instance, it is unclear whether the results from this study would be generalized to a depressed, adolescent or even a depressed, adult sample. Thus, interpretation and generalization of the results should be made with caution.

Future Directions

Again, the cause-effect relationship between the independent variables in this study is still unclear. Therefore, it is recommended that future research focus on the moment-to-moment interactions that occur in the psychotherapy session in order to better elucidate the findings and relationships of this study. Moment-to-moment interactions may include interactions that span a minute or less. Moyers and colleagues (2009) have recently explored this avenue in their research on the active ingredients of Motivational Interviewing. Moyers and colleagues (2009) argue that clients who frequently talk in favor of change have better treatment outcomes. Essentially, they posit that clients are able to talk themselves into changing; thus, these researchers encourage Motivational Interviewing therapists to elicit change talk from their clients. In their recent study, Moyers et al. (2009) found that specific therapist verbalizations and behaviors predict favorable change talk in their clients. They utilized a behavioral coding system called

SCOPE, an exhaustive behavioral coding system designed to evaluate the verbal utterances and behaviors of both the client and therapist in the session (Moyers et al., 2009). SCOPE provides frequency counts for specific therapist and client verbal behaviors and utterances, which can then be correlated with treatment outcomes (Moyers et al., 2009). Future research studies should continue to mimic this methodological approach in an attempt to determine whether a specific cause-effect, or even a predictive, relationship actually exists in psychotherapy relationships between client resistance, therapist directiveness, and the working alliance and in which direction(s) the effect occurs. In order to do this, the raters would have to code the instruments for just those moments instead of for the entire session.

Along these same lines, it is also recommended that more sensitive working alliance and client resistance instruments be developed to more fully capture the nuances of these variables. For instance, the WAI has several general and vague therapist-client dyad statements, such as: “There is a sense of discomfort in the relationship,” “There is a sense of confusion between the client and therapist about what they are doing in therapy,” and “The client and therapist respect each other”(Horvath,1994). These general and vague therapist-client statements can be interpreted differently by the independent raters when specific examples of these items are not included. Perhaps in a future study, researchers could develop comprehensive lists of examples of common behavioral, overt interactions that would represent “discomfort,” “confusion,” or “disrespect” between the therapist and client so that the coders could base their ratings on how frequently the therapist or client manifest similar behaviors in the session. Further, when rating the WAI-O in this study, the raters would oftentimes disagree on frequency of the statement (e.g., often, very

often, or always). In a future study, researchers could determine and establish frequency cut-offs for each rating level, depending on how much of the session is coded. The same recommendation could also be made for the CRS. To be able to accurately determine the examples and frequency cut-offs for the different rating levels of these scales, researchers will need to conduct qualitative research where they view or listen to a large sample of psychotherapy sessions with a diverse, adult clinical population in order to establish sufficient examples and a frequency baseline that other coders would find pragmatic and helpful. This will be time intensive; however, researchers could then be more confident that the scales they are using are accurately capturing the essence of the working alliance and client resistance.

Regarding the Therapist Directiveness Scale, it is recommended that future researchers determine which interventions from the scale specifically predict both a stronger working alliance and better treatment outcomes for diverse clinical populations. In so doing, researchers will be able to make practical recommendations about what therapists should be doing, or not doing, in the session with specific clients who present with certain personality traits and problems. Questions such as “How confrontational should I be with more resistant or less resistant substance abusers?,” “How much emphasis should be placed on the intervention of interpretation with more resistant and less resistant substance abusers?,” and “If resistance is frequently interpreted, does this translate into fewer client drop-outs and premature terminations in comparison to when resistance is not interpreted when working with substance abusers?” could be more fully explored and answered.

What may be the most important recommendation is that future research should aim to determine whether the working alliance is a predictor of treatment outcome, at what phase or phases of therapy does the working alliance predict treatment outcomes, and whether the working alliance is causally involved in treatment outcomes for diverse clinical populations. In future studies, researchers may want to determine whether the working alliance in later sessions of therapy, either in the middle or end phases, predict treatment outcomes when working with the substance abusing population. In ascertaining this relationship, researchers should also determine how and why the working alliance produces the change if it is causally involved.

Similarly, future researchers should determine the importance of a strong working alliance by comparing individuals in the same study who had significantly better drinking outcomes with individuals who had worse drinking outcomes. Researchers could split a sample of substance abusers into these two groups and then compare the working alliance ratings between the groups. An important question that needs to be answered in a future study is: do substance abusers with lower working alliance ratings have significantly poorer treatment outcomes when compared to substance abusers with higher working alliance ratings? If substance abusers with lower working alliance ratings have significantly worse treatment outcomes when compared to substance abusers with higher working alliance ratings, then the working alliance could be seen as an important variable to consider and modify despite whether the variable predicts treatment outcomes.

When contrasted with the empirical research to date, the relationship between the working alliance and drinking outcomes from this study do not fit with the statistical trends in the substance abusing populations. Notably, three rigorous studies that

examined the relationship between the working alliance and treatment outcomes in an alcohol and substance dependent population that controlled for baseline drinking, in addition to other variables, still found that the working alliance across therapy time points predicted treatment outcomes (Connors et al., 1997; Crits-Cristoph et al., 2009; Ilgen et al., 2006). Thus, it is also recommended that future research attempt to replicate the results from this study after controlling for baseline drinking, length of treatment, and treatment modality. In addition, it is recommended that future studies use three doctoral level alliance raters, multiple therapists who are used throughout the study, and a large sample size in order to confirm or disconfirm these findings.

Although the working alliance-outcome literature is rife with data suggesting that the strength of the working alliance “accounts” for differences in treatment outcomes, it is difficult to interpret these findings if it is not clear whether the alliance is actually a proxy for another variable or follows, rather than precedes, symptomatic change (Kazdin, 2009). Therefore, direct tests of the working alliance, after controlling for other variables in a clear timeline (moment-to-moment analysis of therapy interactions) is necessary to determine if the working alliance accounts for variance in treatment outcomes. This would likely rule out whether some other intervention created symptom relief before the client and therapist was able to develop a strong working alliance, and this, in fact, actually accounted for the variance in treatment outcomes. As recommended by Kazdin (2009), assessment of client change throughout the therapy is necessary to determine if improvements occurred prior to changes in the proposed mediator (e.g., the working alliance). Thus, continued assessment of client change, including relapses, AUD symptom changes, and other psychiatric or quality of life changes should be conducted in

future research when determining whether the working alliance acts as a mediator variable.

Finally, the longitudinal mediation results could also have been confounded by not examining how the working alliance affects the *joint* relationship of the client resistance and therapist directiveness on treatment outcomes. Future studies should test this hypothesis with a reliable statistical method in an alcohol or substance dependent population. Further, future studies should examine which variables predict the working alliance and whether client resistance and therapist directiveness predict the working alliance in different clinical samples and in different phases of treatment.

The results from the aforementioned studies could provide pertinent clinical recommendations for therapists who are treating, or who are planning to treat, clients with specific disorders, personality traits, or varying degrees of willingness to engage in the process of psychotherapy. What we do know from the results from this study is that, in this sample, levels of client resistance predict the strength of the working alliance. Future studies should attempt to replicate these findings and, if these findings are consistent with findings from other studies, then an attempt to match therapists differentially based on the client's level of resistance should be made prior to treatment. In addition, other client and therapist variables should be examined, especially in terms of how they impact the working alliance and how they relate to treatment outcomes. In the words of Horvath and Greenberg (1994, p. 2), it is still important "to determine the true significance" of the working alliance, especially whether the working alliance actually explains how, and why, certain therapy clients obtain better treatment outcomes in the alcohol dependent population and in other adult clinical populations.

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