Criminal Thinking, Alliance, and Psychological Functioning of Offenders in Outpatient Substance Abuse Treatment

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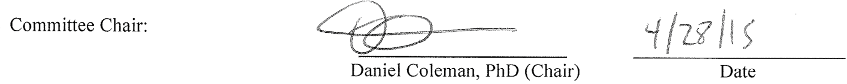

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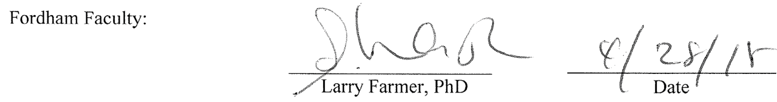

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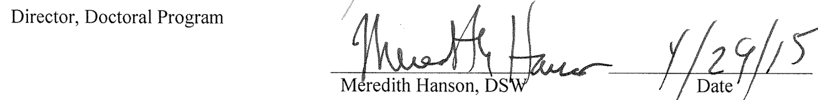

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Abstract

This dissertation analyzes the relationships between criminal thinking, alliance, and psychological functioning. Secondary data for 1,589 participants was analyzed using correlations, regressions, and path analysis. It was hypothesized that variables of criminal thinking would be associated with poorer alliance and psychological functioning, and that alliance would mediate the relationship between criminal thinking and psychological functioning. Criminal thinking was moderately correlated with alliance and outcome variables. In linear regression models, alliance and criminal thinking variables were significantly predictive of most outcome variables, controlling for sociodemographic variables. Criminal thinking showed moderate negative pathways to alliance and several of the outcome variables, but alliance partially mediated only one model. Findings indicate that offenders entering treatment with higher levels of criminal thinking are less able to develop alliance with their counselor and treatment, and will have poorer behavioral functioning and higher likelihood of relapse and recidivism post-treatment. Research and practice implications are discussed.

CHAPTER 1. INTRODUCTION

Those incarcerated for crimes involving drugs are a large proportion of the U.S. prison system. According to the Department of Justice's (DOJ) 2012 report, 48% of adult inmates were sentenced for drug offenses. In addition, 25% of those on probation are drug offenders (Motivans, 2015). The DOJ also found that drug abusers constitute an ever-growing population in the prison and court systems. In response to this rise, treatment for these individuals has increased in recent decades (Melnick, De Leon, Thomas, Kressel, & Wexler, 2001; Patra et al., 2010). Drug court programs have been expanding, as have sentencing practices such as reduced or suspended sentences if offenders attend drug treatment programs as part of their sentence (Magyar et al., 2012). The goal of these programs has been to reduce rates of re-offense and recidivism, as well as to reduce or eliminate instances of drug abuse upon treatment completion.

Given the number of drug abusers and offenders in the court system, treatment is of concern to both those delivering interventions and policy makers. Effective treatment is needed to reduce recidivism and relapse rates for offenders, and programs created to meet the needs of this specific population have been shown to reduce recidivism rates (Patra et al., 2010). One of the most important aspects of effective treatment is tailoring treatment to the specific population being treated (De Leon, 2000; Garner, Knight, Flynn, Morey, & Simpson, 2007; Knight, Garner, Simpson, Morey & Flynn, 2006). Clinicians need to be aware of the potential factors present in the clinical work to take place. For instance, if individuals arrive at treatment not believing they need to be there, treatment must start at a much different place than when individuals attend treatment because they have decided they need help with issues of substance abuse. Those creating, delivering, and monitoring drug treatment for offenders

need to be able to measure individual factors that could affect treatment efficacy for them. For offenders in drug treatment, measuring individual client characteristics means measuring psychological factors leading to criminal behaviors and drug abuse (Garner et al., 2007; Knight et al., 2006). Therefore, this study examined how criminal thinking influences the client's ability to align with the clinician and his or her level of functioning during treatment. Though alliance is a two-person process, this study only included data on the participant's view of the relationship. Therefore this study examines the relationship through that perspective. This study examined relationships between criminal thinking, therapeutic alliance, and psychological functioning. It was hypothesized that alliance was the mediating factor through which criminal thinking and psychological functioning are related. Data collected from 1,589 offenders in outpatient substance abuse treatment in the United States were analyzed.

Contextual Factors

The central focus of this dissertation is the relationship between criminal thinking, therapeutic alliance, and the outcome of psychological functioning in substance abusers with criminal histories. In order to contextualize the literature review for these topics, it is important to briefly address factors affecting this population. The following section will address the treatment currently used for substance abuse in the United States, as well as the drug court system through which increasing numbers of substance abusing defendants are placed in treatment.

Drug Treatment Approaches Used

To understand the dynamics of the treatment administered to the sample, this section focuses on the therapeutic community model, a model of psychiatric inpatient treatment

originating in England in the 1950s (De Leon, 2000). This model was then adapted for substance abuse treatment 15 years later in the United States. The model originated from the work of Jones (1953, as cited in De Leon, 2000), which promoted the idea that the institution itself can be part of the therapeutic process, and that the goal of this treatment is to promote personal recovery, health, and independence through the use of community support structures in treatment (Campbell et al., 2009; De Leon, 2000; De Leon, Melnick, Thomas, Kressel, & Wexler, 2000). In this model, the institution is seen as having a direct result in treatment outcome, and that a democratic, community-led client group will become stakeholders in determining their own success, working with staff to create behavioral changes in the individual. This model also theorizes that all relationships have therapeutic potential, creating a need for all staff and clients to be involved in every level of the treatment experience, from the preparing of meals and cleaning the community building to decisions about movies to watch in the common area to providing support for one another during therapeutic group sessions.

Drug Courts

Another important factor in treatment is how individuals come to treatment. According to the National Association of Drug Court Professionals (NADCP, 2011), 80% of offenders exhibit some form of substance and alcohol abuse behaviors, and 60% of those involved in the U.S. criminal justice system test positive for substances and/or alcohol at the time of their arrest (Tiger, 2013). As a result of such prevalence of problematic and addictive substance and alcohol use and behaviors, drug court sentencing practices are on the rise (Finigan et al., 2007; Motivans, 2011; NADCP, 2011; Tiger, 2013). These studies found that in recent years more and more offenders have been sentenced to treatment as part of their

probation, in an attempt to reduce prison populations with addiction as their primary motivation for criminal behavior, as well as to reduce recidivism rates for this population.

Although this study did not include variables related to drug court history, it is important to understand how drug courts work for conceptual reasons. How individuals come to treatment affects how they perceive treatment. For instance, if an individual is sentenced to treatment, their willingness and commitment to treatment could be less than an individual who arrives with a desperate desire to stop using substances. Given the implications of coerced treatment, this section will analyze the findings from drug court research to identify potential affects for this sample.

Drug courts in the United States are designated to deal specifically with the sentencing and treatment of individuals arrested and pleading guilty for drug charges, or offenses occurring due to the defendant's addictive behavior (Finigan, Carey, & Cox, 2007). According to the NADCP's 2011 report, 75% of those who completed drug court programs had not recidivated 2 years after program completion. Their review highlights the enormous success of these programs.

Research has found that by offering treatment to offenders rather than simply punishing them for behavior labeled immoral or bad allows for rehabilitation that leads to reduced recidivism rates for this population (Cosden et al., 2006; Motivans, 2011). In addition, several studies have found that addition of treatment to the probation/incarceration as the usual practice affected positive changes in the lives of participants beyond simply reducing recidivism rates (Bui & Morash, 2010; Cosden et al., 2006; De Leon et al., 2000; Friedman et al., 2011). Behavioral changes cited in studies as stemming from treatment rather than imprisonment include improved social networks with peers and family, more

stability in future employment, and reduced abusive drug and alcohol usage after treatment. These changes in turn have been linked to long-term positive outcomes in terms of reduced recidivism rates. The link between a better overall life and less criminal behavior points to the positive influence of drug courts in sentencing practices for this population.

However, there are also inherent problems with the drug court model. In their critiques of the drug court system, Bourgois (2000) and Tiger (2013) identify several gaps in the positive reviews of the drug court system proposed by NADCP. In order to be placed in a drug court, the defendant must first plead guilty. By pleading guilty, the judge gains power over many areas of the offender's life beyond whether or not the offender is complying with treatment attendance and clean urine tests. Both cite the convention of labeling certain peers in the defendant's social network as detrimental to the recovery process, and if the defendant has been found to have contact with these individuals, probation is revoked and the defendant is sentenced to prison. In this way, some judges have taken on roles in the defendant's life beyond the judicial process, in effect becoming the authoritative parent for the offender. These same sources cite a lack of data on individuals who fail out of drug court programs, as well as insight into the personal effect for participants.

Finally, a number of studies reported that a common court practice is to sentence offenders to local community substance abuse treatment programs, most often outpatient (Bourgeois, 2000; De Leon, 2000; Garner et al., 2007; Knight et al., 2006; Tiger, 2013). However, the implication of sentencing someone to treatment in a program not specifically designed for offenders is not often discussed in the literature. Arriving at treatment through perceived coercive measures has the potential to cause an individual to put more weight on external reasons for arriving in treatment, such as environmental factors, a judge who "had it

in" for them, or simply bad luck (Tiger, 2013). In addition, if treatment is not designed to address these factors, individuals with criminal histories or attending treatment as a result of sentencing could fare worse during treatment. The next chapter describes the literature more proximal to criminal thinking, alliance, and psychological functioning, but the contextual factors will be returned to in the Discussion chapter.

CHAPTER 2. LITERATURE REVIEW

This chapter outlines the conceptual basis of this dissertation, as well as the existing literature on the topic. The chapter begins with the purpose of the study, and then evaluates the literature and research relevant to the study. The chapter then identifies the specific studies creating the basis for this dissertation and the gaps in the literature, which motivate the current study. Contextual research will be discussed as well, in order to give the reader an understanding of the external factors related to offenders, substance abuse, and alliance.

Purpose of the Study

This study focused on criminal thinking levels, or the level to which people externalize, deny, or rationalize their understanding of why they committed a crime. It examined the criminal thinking's effect on the strength of alliance, or counseling rapport—the strength of the relationship between client and clinician. This study also examined how these two variables in turn affect psychological functioning. Specifically, it is hypothesized that alliance is the mediating factor between criminal thinking and psychological functioning for offenders in substance abuse treatment. The rationale for choosing these variables is discussed below.

There is a growing body of evidence showing that criminal thinking levels affect an individual's involvement, participation, and outcome of drug treatment. In addition, a connection between criminal thinking and rapport with one's counselor has been made (Garner et al., 2007; Johansson et al., 2010; Melnick et al., 2001). Other evidence has shown that the working alliance is a pathway to treatment outcome, and that disruptions to this pathway negatively affect treatment outcomes such as recidivism and relapse rates (Johansson et al., 2010; Marmarosh et al., 2009). For substance abuse treatment clients who

have been enrolled as a result of sentencing, noncompliance or failing out of drug treatment altogether often means not only returning to using drugs and alcohol, but also returning to prison. The current study draws from theories of criminal thinking and alliance and their effects on during-treatment behaviors found to be predictive of post-treatment relapse and recidivism rates for offenders in outpatient substance abuse treatment. Alliance was analyzed as a mediating variable, understood as a treatment process that facilitates during-treatment functioning.

Major Constructs of the Study

Criminal Thinking

This dissertation studied the role of criminal thinking and therapeutic alliance and their effect on psychological functioning. The theoretical underpinnings of criminal thinking are discussed below. At its essence, criminal thinking refers to the degree to which an individual externalizes the reasons he or she has committed a crime, through distorted psychological processes and worldview. Yang, Knight, Joe, Rowan-Szal, and Lehman (2013) further elaborate, stating, "criminal thinking represents the distorted attitudes, beliefs, and thought patterns that underlie criminal behaviors through denial, rationalization, and justification of an individual's acts" (p. 546). Reviewing the literature on criminal thinking and psychopathy, it becomes evident that criminal thinking and behavior discussions stemmed from earlier writing on psychopathy.

Based on his research on psychopaths in the prison population in Canada, in the 1970s Robert Hare created the original version of the Psychopathy Checklist (Hare, 1985, 1993, 2003). Hare (1985) describes this condition as a lack of empathic response to others, ranging from an inability to adhere to laws protecting the rights of others' property to the act

of severely harming or even killing others if it would fit one's needs. The checklist was developed as a method of assessing psychopathology in offenders. Hare (1985, 2003) hoped that this checklist would allow for prisoners to be assessed for degree of pathology and risk of recidivism. However, psychopaths make up a very small portion of the criminal justice population (Hare, 1985; Walters, Hagman, & Cohn, 2011; Wanberg & Milkman, 2008). For this reason, a more generalized tool was needed to assess a larger portion of offender population.

Measurement and conceptualization of criminal thinking came from the need for assessing all individuals involved in the criminal justice system, specifically those involved in drug treatment (De Leon, 2000; Garner et al., 2007; Knight et al., 2006; Wanberg & Milkman, 2008). Similar to levels of psychopathy, higher levels of criminal thinking serve as barriers to treatment engagement or alliance and completion (Garner et al., 2007; Knight et al., 2006; Wanberg & Milkman, 2008; Walters et al., 2011). As Yang et al. (2013) described, higher levels of these factors could disrupt one's ability to engage in and follow treatment, as well as to complete treatment (Best, Campbell, Flynn & Simpson, 2009; Garner et al., 2007; Knight et al., 2006; Wanberg & Milkman, 2008; Walters et al., 2011). Therefore, a measurement of the strength of criminal thinking would allow practitioners to tailor treatment to more effectively match the needs of this population.

Based on this literature, criminal thinking can be conceptualized as a three-fold construct: distorted views of oneself and environment through normalizing criminal behavior; rationalization of reasons for criminal involvement and substance abuse; denial of the illegality and effect on others of crimes committed. The literature also examines the likelihood of committing crime and using substances based on these factors (Garner et al.,

2006; Knight et al., 2007; Tiger, 2013; Yang et al., 2013). There are environmental contributors to substance abuse, including a history of trauma or abuse, poverty, and lack of employment or educational opportunities (Tiger, 2013).

Criminal thinking also refers to the process of these beliefs becoming so distorted that the individual thinks the beliefs are the sole cause of their own criminal behavior, rather than a factor (Melnick et al., 2001). In essence, these distorted schemas lead to the individuals believing that if their environment were different, they would not commit crimes or use substances (De Leon, 2000; Garner et al., 2007; Knight et al., 2006; Magyar et al., 2012; Melnick et al., 2001; Yang et al., 2013). They become unable to see the people around them in similar circumstances who do not engage in these behaviors, and believe that everyone acts as the criminal does. These studies also found that distorted beliefs often cause the individual to perceive their drug use as much less severe than it is in reality. Such distortions have been found to affect the individual's ability to engage in and complete the treatment process, and lead to poorer outcomes, more relapse, and increased likelihood of recidivating (Magyar et al., 2012; Melnick et al., 2001; Yang et al., 2013).

The second factor of criminal thinking is the rationalization of criminal behavior and substance abuse. Knight et al. (2006) in particular describe this process as the minimization of the effect of substance abuse and criminal behavior—on themselves and others. For instance, if a man arrives at substance abuse treatment feeling that it was a result of a judge who "had it in" for him, he would be less inclined to perceive treatment as a possibly helpful tool. That individual might also be more likely to be hostile toward a treatment that requires the participant to admit the severity of the addictive behaviors and to cease criminal behaviors. Such individuals are less likely to engage in, adhere to, and complete treatment

(Garner et al., 2007; Melnick et al., 2001; Matheson, Doherty, & Grant, 2011; Tiger, 2013). How these factors affect functioning is discussed below.

The final factor of criminal thinking lies in denial of a problem and the illegality of behavior. Magyar et al. (2012) described individuals who minimize the severity of their substance use, and Garner et al. (2007) described individuals who deny the consequences of their behaviors, such as treatment, probation, or incarceration. The study describes these individuals as more likely to engage in power struggles with staff and the criminal justice system. Studies have shown that these behaviors not only make individuals less likely to engage in treatment, but also make clinicians and court officials less receptive to helping them (Best, Campbell, Flynn, & Simpson, 2009; Janchill & De Leon, 1994; Tiger, 2013; Yang et al., 2014).

One of the current gaps in knowledge is the lack of understanding about which treatment modalities are most effective with this population. In designing the Criminal Thinking scales, Knight et al. (2006) cited the importance of measuring these factors in order to better understand which treatments are most effective and why. However, we do know some of the most important factors for positive outcomes after treatment for this population. Many studies found that a strong alliance and commitment to attending treatment coupled with strong rapport with the counselor and increased psychological functioning as a result of treatment lead to reduced recidivism and relapse rates post-treatment, as well as increased functioning (Best et al., 2009; Garner et al., 2006; Hiller, Kelly, Saum, & Knight, 2006; Knight et al., 2007; Yang et al., 2013). Higher levels of criminal thinking have the potential to disrupt alliance with the clinician and treatment itself, as well as causing lower overall psychological functioning, in turn having a negative effect on treatment outcome.

Research regarding both criminal thinking and psychopathology indicate that one of the blocks to treatment most typical of this population is the tendency to externalize (Hare, 1985, 1993; Hiller et al., 2009; McWilliams, 1994; Tiger, 2013). For offenders in substance abuse treatment, these studies found that externalization refers to the process of understanding one's current status—participating in a substance abuse treatment program, currently or previously engaged in the criminal justice system—as a result of outside causes. The offender might have been simply in the wrong place at the wrong time and would otherwise not have been arrested. They may see criminal behavior all around them, normalizing the behaviors. The structure of the criminal justice system might be faulty in that male offenders and individuals of specific ethnicities and races are more likely to be arrested. The individual then focuses on these outside reasons for treatment, which limits their ability to identify problem severity (Hiller et al., 2009). Although many of these factors are often true for individuals with criminal histories in substance abuse treatment, extreme externalization coupled with inhibited understanding of problem severity could disrupt the therapeutic process and hinder treatment.

Alliance and Counseling Rapport

"Alliance" has been defined as the strength and quality of the relationship between the clinician and the client during a psychological intervention (Abouguendia, Joyce, Piper, & Ogrodniczuk, 2004; Alves de Olivera & Vandenberghe, 2009; Coleman, 2006; Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011; Fluckiger, Del Re, Wampold, Symonds, & Horvath, 2012). This factor goes deeper than simply liking one's counselor/therapist. Though this is a mutual, two-person process, this dissertation focuses on the client-perceived side of this process. The reason for this focus is due to the fact that the

data available only captured the participant's perspective of alliance. Alliance theorists have found that in order to align with one's counselor, the client needs to feel that the clinician genuinely listens, empathizes, and has a stake in aiding the client in meeting his treatment goals (Abouguendia et al., 2004; Alves de Olivera & Vandenberghe, 2009; Coleman, 2006; Crits-Christoph et al., 2011; Fluckiger et al., 2012; Wampold, 2013). The behavioral changes associated with therapy take place only once the client has aligned in such a way. Research on criminal thinking has demonstrated that thought patterns of denial, justification, and externalization associated with criminal involvement disrupts this process (Joe, Simpson, Dansereau, & Rowan-Szal, 2001).

There is a large body of literature measuring this relationship and evaluating how the strength of the alliance affects treatment outcomes. Given the fact that the strength of alliance is so integral to good treatment outcomes, measurement of this aspect of treatment can aid successful treatment design. If we know of potential factors that could disrupt alliance, we can adapt treatment models to meet these needs and strengthen alliance. This study examines the working alliance as counseling rapport, which is an interchangeable term for alliance in terms of measuring the strength of the relationship between client and clinician. In addition, Joe et al. (2001) found that lower levels of counseling rapport during treatment led to higher rates of relapse post-treatment, specifically in regards to cocaine, and recidivism for the sample studied. These findings are consistent with alliance literature and psychotherapy outcomes.

An important connection has been made between counseling rapport and effective clinical treatment. Though there is a large body of literature assessing technique and treatment outcome, increasingly it has been focusing on the relationship between client and

clinician (Baldwin, Wampold, & Imel, 2007; Johansson et al., 2010; Marmarosh et al., 2009). These studies have found that a strong bond between client and clinician is integral to effective treatment. Without this bond, in fact, even effective treatment models will fail to produce positive change in clients (Baldwin et al., 2007; Johansson et al., 2010; Marmarosh et al., 2009).

Another factor in the alliance-outcome connection is that the working alliance in itself causes psychological and behavioral change. Ahn and Wampold (2001) and Wampold (2013) specifically found that a strong therapeutic alliance (another term for working alliance) caused positive cognitive change in clients, allowing them to experience a stronger stake in the treatment process, producing better functioning and behavior changes during treatment, leading to increased well-being post-treatment. These findings indicate that a strong therapeutic bond facilitates treatment. Substance abuse treatment research has typically conceptualized alliance as rapport and as part of the engagement and alliance process. In the case of substance abuse treatment for offenders, where outcome has such high stakes, a strong alliance that enables behavioral change is essential.

Previous research has proposed that alliance moderates the relationship of specific client characteristics to outcome (Cournoyer, Brochu, Landry, & Bergeron, 2007; Kivlighan, Patton, & Foote, 1998), or alternately that alliance is a mediator of the relationship of client characteristics to outcome (Abouguendia et al., 2004; Garner et al., 2006; Knight et al., 2006; Taxman & Ainsworthy, 2009). This study examined alliance as a mediating variable. In the majority of the literature on criminal thinking, alliance has been conceptualized as a mediating process through which psychological functioning occurs (Abouguendia et al., 2004; De Leon, 2000; Garner et al., 2006; Knight et al., 2006; Taxman & Ainsworth, 2009).

Both Garner et al. (2007) and Knight et al. (2006), the creators of this dataset and the measures used within it, conceptualized alliance as a mediating model. As this study seeks to build upon previous work, it will retain this conceptualization.

During-Treatment Client Factors

Several client factors have been shown to affect how the offender engages in treatment, and whether treatment is completed (Melnick et al., 2001; Patra et al., 2010; Strauss & Falkin, 2000). These factors include the level to which the individual engages with treatment through participation, satisfaction, adherence, and readiness. Other factors include external factors for the client, such as pressure from family, the court, or work, and levels of social and peer support available. Of these factors, one factor is of greatest interest to this study: treatment participation. There is a large body of literature demonstrating that the degree to which an offender participates in substance abuse treatment is predictive of lower likelihood of relapsing and recidivating post-treatment (e.g., Joe, Broome, Rowan-Szal, & Simpson, 2002; Kubiak, 2004; Melnick e al., 2001). These studies found that during-treatment participation led to higher levels of alliance with counselor and program and better post-treatment outcomes. However, many studies conflate participation with alliance or group the variables together, such as Yang et al. (2013), Knight et al. (2006), and Garner et al. (2007). For this reason the current study hypothesized alliance as a stand-alone mediator, and examined treatment participation during post-hoc comparative analyses.

Psychological Functioning

For this dissertation, psychological functioning was defined as the level at which an individual operates in terms of mental health and psychosocial interaction. The specific variables used to operationalize psychological functioning are reported below and are taken

from Garner et al. (2007) and Knight et al. (2006). These psychological functioning variables were derived from literature as allowing practitioners to assess the level at which the participant is able to function and perform in terms of mental health, self-esteem, and various factors of social interaction. The presence of a certain level of overall psychological health has been linked to important factors during and after treatment (De Leon, 2000; De Leon et al., 2000; Garner et al., 2007; Knight et al., 2006; Walters et al., 2011). During-treatment factors discussed in the literature include treatment participation, satisfaction, readiness, and motivation, as well as strength of relationship between counselor and client. Post-treatment factors include increased social networks and strength of support systems, reduced recidivism and relapse rates, and increased responsibility for health and well-being.

The factors present in high levels of criminal thinking have an effect on both alliance and functioning during treatment. As previous discussion has shown, psychological functioning refers to overall well-being, and can be measured during and post-treatment. During-treatment functioning has been found to be predictive of post-treatment behaviors (Patra et al., 2010). A tendency to feel that a person's environment has caused his or her involvement in the criminal justice system affects that person's sense of agency in the world (Berman, 2004, Finigan et al., 2007; Tiger, 2013). This sense of powerlessness in one's future has been linked to symptoms of depression and anxiety, as well as poorer social networks (Bui & Morash, 2010; De Leon, 1993; Hiller et al., 2006). More symptoms, coupled with poorer supports, affect the individual during treatment, making it harder to engage and complete. Hiller et al. (2006), in particular, found that this sense of powerlessness led to riskier behaviors during and after treatment, leading to increased risk of HIV, in

addition to relapse and recidivism. In this way, high levels of criminal thinking have the ability to negatively affect psychological functioning both during and after treatment.

Treatment Outcomes

When reviewing the literature on treatment outcomes, there are two distinct traditions of research in psychotherapy and substance abuse treatment research. Psychotherapy research looks at the outcome of lessened symptomatology, with better well-being and self-efficacy (Beck, 1976; Haaga, Dyck, & Ernst, 1991; Mitchell, 1988). Substance abuse research with offenders has focused predominantly on relapse and recidivism rates for offenders. The dichotomy stems from psychological well-being as a goal for therapeutic research versus relapse and recidivism rates for substance abuse and offender research.

Research on the working alliance has found that a strong relationship during treatment allows the client to exit treatment with better psychological functioning, including a better sense of well-being, improved supportive relationships, and lower symptomatology (Abouguendia et al., 2004; Baldwin et al., 2007; Coleman, 2006; Flückiger et al., 2012; Høglend et al., 2011). Such research has demonstrated that outcome is not simply measured by reduced symptomatology, but should include client assessment of overall well-being, a social functioning component, and self-efficacy as well. There is similar research on substance abuse, particularly with offenders, that offers a similar rubric for measuring outcome. Bui and Morash (2010) and Matheson et al. (2011) in particular offer a measure for outcome that includes offenders' social networks, sustained relationships, employment, and sense of well-being. These studies offer a comprehensive view of positive outcomes for offenders with substance abuse issues. In addition, they offer a manual for aftercare and supervision, aimed at stopping a relapse before the drink/drug is imbibed or ingested.

However, these studies are not the norm for research with this population.

In the literature, the majority of outcomes were measured simply by relapse and recidivism rates 1 year post-treatment (Best et al., 2009; Campbell et al., 2009; Cosden et al., 2006; Friedman et al., 2011; Hiller et al., 2009; Magyar et al., 2012; Olver, Stockdale, & Wormith, 2011). These ultimate outcomes are important for the criminal justice system and the offender. However, research also indicates that outcomes are best improved for substance abusers using a more holistic approach to treatment (Patra et al., 2010; Strauss & Falkin, 2000; Tiger, 2013; Wanberg & Milkman, 2008). These findings demonstrate that treatment is many-pronged, and that recovery begins or weakens long before the act of relapsing or reoffending.

There is a saying one hears repeated, again and again, in the substance abuse field, that "picking up a drink or a drug is the last phase of the relapse." This quote indicates that relapse—and the road to recidivism—begins long before the substance is ingested or the criminal act takes place. Research in interpersonal psychotherapy indicates that a depressive episode often begins with the individual beginning to isolate themselves from their social network (Weissman, Markowitz, & Klerman, 2000). Measuring signs of potential risks for relapse down the road allows practitioners to help their clients avoid the "endgame" of relapse or re-offense, in the case of substance abuse.

Previous Studies and Their Findings

Several studies provide a background and rationale for this study, and they will be assessed below. Seven studies in particular provide strong theoretical and methodological context. The findings can be grouped into studies that examined criminal thinking, studies that examined alliance or psychological functioning, and studies that examined multiple of

these variables.

Strauss and Falkin (2000), who do not use the term "criminal thinking," found that criminal-related thought patterns can cause an individual to leave treatment due to disagreeing with program rules, as well as not being able to form a strong alliance with the clinician. They interviewed 168 women in treatment while in prison and found that women who completed treatment felt more positive about their experiences and did better upon release. These findings indicate that any factors contributing to noncompletion need to be dealt with in treatment, such as inability to engage due to poor alliance or negative schemas of criminal thinking.

Simpson, Joe, Rowan-Szal, and Greener (1997) provide the theoretical and conceptual framework for the current study. Their study describes the naissance of the criminal thinking scales used in this study, as well as the rapport scale used to measure alliance. They delineate five dimensions of criminal thinking. The study determined that the 528 offenders sampled upon entering treatment were more likely than nonoffenders to externalize their reasons for entering treatment, to engage in power struggles in their relationships, and to rationalize criminal behavior, and that some individuals tested lower on empathy measures.

Knight et al. (2006) and Garner et al. (2007) both used the measures also utilized in this study. Using a large sample (N = 3,266), they found that all measures of criminal thinking had strong reliability (detailed in the Methods section). They also created measures of rapport, their operationalization of alliance, as well as combining several previously validated measures of psychological functioning. In addition, they found that the specific attributes associated with criminal thinking levels were important to measure near the

beginning of treatment, as they directly affected the participant's ability to engage in treatment, and in Simpson et al. they were predictive of recidivism rates post-treatment. The study proposed a path relationship from criminal thinking to treatment engagement, alliance, and outcome. They also proposed alliance as a mediating variable for future studies, which is the basis for this study.

Other studies have examined aspects of working alliance with individuals in substance abuse treatment and with individuals with histories of criminal offense. Melnick et al. (2001) explored alliance within the context of engagement as a mediating variable, measured with several other mediating variables. That study examined 715 participants in an in-prison therapeutic treatment community and found criminal thinking led to poorer treatment retention during incarceration, less likelihood of attending aftercare upon release, and increased likelihood of recidivism 1 year after release. However, the studies cite the fact that relatively few incarcerated individuals seek treatment during their time in prison and that the group that does attend is often self-selected and not always representative of the general population. Simpson et al. (1997) reported similar findings in their study containing 527 participants. These studies exploring alliance mention psychological functioning as a strong indicator of treatment retention, as well as future relapse and recidivism.

Redko, Rapp, Elms, Snyder, and Carlson (2007) provided a qualitative assessment of alliance with 26 substance abuse clients in strengths-based casework settings. The study outlined the importance of alliance and supportive counseling. Though not generalizable because of small sample size and methodology, it nevertheless demonstrated alliance and its effect during substance abuse treatment with clarity. The study provides a conceptual frame for the current study, as it also differs from previous studies in attempting to untangle the

relationship between criminal behavior/thinking and alliance. Participants who perceived their counselors as supportive of their goals and of them as individuals reported more engagement in treatment and better psychological functioning, such as self-esteem, goal completion, and self-worth.

Two studies most closely resembled the current study. The findings from these studies, as well as their limitations, provide the strongest rationale for this study. The first, Best et al. (2009), employed the measures used in this study to examine the relationship between criminal thinking and treatment engagement for 199 individuals in substance abuse treatment in the United Kingdom. The study analyzed alliance as part of a treatment engagement variable. The study used similar analysis tools as this study, and also employed a cross-sectional design. The authors compared the UK sample with the current dataset. The specific findings of the study were that poor engagement was predictive of higher levels of criminal thinking and lower levels of functioning. The authors ran a series of ANOVAs and found that those testing higher in criminal thinking (combined scale) had significantly lower rapport levels and satisfaction with treatment. Higher levels of criminal thinking were also associated with significantly higher levels of depression, anxiety, risk taking, and hostility. Finally, regression results demonstrated that lower rapport levels were predictive of higher criminal thinking levels (again, measured as a combined variable).

However, the study found that there are differences in treatment between that country and the United States, such as lack of coerced treatment in the UK. In fact, Tiger (2013) reports that coercion significantly affects the psychological makeup of individuals attending substance abuse treatment. Best et al. (2009) also state that coercion can lower engagement and lead to higher rates of criminal thinking and recidivism. Criminal thinking was

hypothesized as an independent variable because it is a psychological factor the client arrives in treatment possessing.

Finally, Yang et al. (2013) examined engagement, criminal thinking, offense history, and recidivism for 527 offenders in in-prison therapeutic communities. The study used structural equation modeling to examine the relationship between criminal history and criminal thinking, mediated by treatment engagement. Treatment engagement was a mediating variable measured as the combination of alliance, treatment participation, satisfaction, and peer support. Longer criminal history led to higher and more deeply engrained levels of criminal thinking, which was tested for mediation by treatment engagement. There was a weak (.04) path coefficient from engagement to recidivism. The results were weaker than expected based on previous studies (Melnick et al., 2001).

The current study measures alliance only, rather than engagement, because psychotherapy literature supports the hypothesis that it is a standalone variable predictive of in-treatment functioning and post-treatment outcome. These findings indicate that even with longer histories of criminal offense and higher levels of criminal thinking, a strong relationship with one's clinician reduces the likelihood of recidivism, which is the ultimate goal of all treatment for offenders.

This dissertation seeks to build upon these previous studies. It measured relationships between variables outlined in those studies. It also employed complex analysis in order to build upon previous findings. The previous studies created a strong, well-researched context to support the need for further research in this area. Previous studies measured variables in a different way, or they included samples from in-prison or therapeutic communities. Some studies measured alliance as part of a larger "engagement" variable, or did not include a

measure of alliance while analyzing criminal thinking and during-treatment functioning.

CHAPTER 3. THEORETICAL MODEL

This chapter will cover theories pertinent both to the treatment received by participants in the study and to the theories behind the measures themselves. It is important to understand the theoretical underpinnings of criminal thinking, alliance, and the treatments offered to this population. Cognitive theory will be discussed because it is the basis for many aspects of current substance abuse treatment in the United States (Miller & Rollnick, 2002; Ruiz, Douglas, Edens, Nikolva, & Littlefield, 2012; Saum et al., 2007; Tasca et al., 2010). In addition, cognitive theory allows us to better understand the construct of criminal thinking and how its measures were developed. Discussion of the theories influencing criminal thinking, alliance, and psychological functioning brings the previous sections within the context of this study. A discussion of the constructs discussed in this study follows.

Background and Theory

The treatment model used at the substance abuse programs evaluated in this dissertation is based on the therapeutic community model. A discussion of this model and its theoretical underpinnings will allow for deeper understanding of the intersection between criminal thinking and therapeutic alliance in this setting. This section first details the theoretical background for therapeutic communities, namely cognitive theory; motivational interviewing theories and techniques; and the framework for the community model. Though the model for therapeutic communities developed concurrently to cognitive theory and motivational interviewing, it is helpful to understand these theories as a framework to understanding the treatment model. This section begins with a discussion of cognitive theory, the theoretical background for current understanding of criminal thinking and substance abuse treatment.

Cognitive Theory

Cognitive theory (CT) refers to the theory developed in the 1960s by Beck (1976), which states that individuals understand the world through the lens of the structure of their thoughts and beliefs about the world. This theory also developed as a response to the prevailing psychoanalytic understanding of development and treatment of the day. Though it is individually focused for the most part, CT does identify a relationship between the individuals and their environment. This idea is conceptualized as follows: the individual, through repeated interactions with the environment, develops a pattern of thought—schemas—and a system of beliefs about how the world works. This understanding of cognitions and subsequent behaviors is present in other theories as well, but is very clearly outlined in the CT model.

In the case of mental illness, Beck argued that schemas and belief systems are skewed or biased, causing the individual to incorrectly judge the environment (Beck, 1976). Healthy individuals show more flexibility, allowing the environment to shape their understanding, whereas “disordered individuals” view the world though a negatively biased lens, searching not for reality, but to confirm their schemas (Beck, 1976; Haaga et al., 1991). This holds true for the current understanding of substance abuse, in which the individual places value on the negative coping mechanism of using substances, despite negative consequences. This also holds true for high levels of criminal thinking, in which the individual holds the belief that the environment caused them to be arrested. In this case, these schemas can become disproportionate, in that the environment always plays a role in present circumstances, but individuals still retain the ability to find healthier coping mechanisms for dealing with negative environmental effects.

Because of the active nature of treatment derived from CT, the clinician plays an important role in the treatment process, or alliance. Though treatments developed from CT have at times played down the role of alliance and the therapeutic relationship, it nevertheless remains an important factor in this treatment (Fluckiger et al., 2012; Wachtel, 2008; Wampold, 2013). The clinician's role is to identify problematic cognitions and behavior patterns in order to guide the client to the discovery of these schemas and patterns, and to determine alternatives. In this conceptualization, the clinician-client relationship is a process through which change takes place. In the case of offenders in substance abuse treatment, the externalizing nature of criminal thinking is important to identify by the clinician when aligning with the client.

In addition to schemas and sets of beliefs, Beck (1976) outlined thought as a series of negative and positive cognitions or messages they tell themselves. Trains of thought are referred to as "self-talk tapes," and thoughts that have been repeating in one's head for a long period of time are referred to as "automatic thoughts." These terms are extremely helpful to people trying to understand CT, as they define various types and patterns of thought. This straightforward set of concepts at least provides a simple model for how the mind works. While the reality is not often as rational and linear as Beck suggested, humans do engage in patterns of thinking that treatment can help identify and alter. These automatic thoughts can include desires to use substances despite negative consequences, or to feel a sense of powerlessness over one's ability to control one's environment, leading to poorer life choices, such as committing a crime.

These definitions also lead directly into creating interventions, as they clearly delineate how to identify problematic thoughts and hint at the set of actions needed to correct

them—such as supplying an alternative, positive thought for a negative automatic thought, until the positive thought becomes automatic. There has been a wide range of evidence to support CT and the therapies derived from it (Coady & Lehmann, 2008; Wachtel, 2008). While many theories examine either healthy and functional minds or those that are unhealthy or disordered, CT examines both types of minds, exploring how healthy minds can become disordered, and how minds with faulty or negatively biased schemas can become healthy. For this reason the current study measured the presence of depressive and anxiety symptoms as outcome variables.

Criminal Thinking/Behavior

Though it is rarely explicitly acknowledged, the constructs of criminal thinking develop out of a foundation of cognitive theory and theories of psychopathy. This section will give a brief history of the criminal thinking constructs, starting with Hare's theory of psychopathy, as it predates theories of criminal thinking and behavior and serves as a contextual backdrop for criminal thinking.

Around the time Hare's work (1985, 1993, 2003) began to take hold in the research world, there was an additional (though slower to emerge) trend in research to attempt to identify the nonpsychopathic from the criminally insane offender. Hare's work centered around proving that individuals with psychopathy had different brain structures and thinking patterns than average individuals, and that it is possible to predict how strongly they differed and thus how likely they were to re-offend. Hare (1985) hypothesized that individuals testing high on his scale lacked empathy and the ability to respect the rights of others. Individuals were placed on a spectrum of severity (Hare, 1985, 1993, 2003).

As opposed to Hare's objective of predicting future criminal behavior, later work sought to identify present factors of criminal thinking in order to identify the appropriate type of rehabilitative measure needed for the offender (Knight et al., 2006; Roberts, Contois, Willis, Worthington, & Knight, 2007; Skeem & Cooke, 2010). Whereas Hare's work was predominantly intended for prediction and classification, work on criminal thinking came from the view that all offenders share similar traits that make offending behaviors more likely but that can be treated and rehabilitated (Best et al., 2009; Garner et al., 2007; Knight et al., 2006; Roberts et al., 2007). The severity of these factors is much less than with theories of psychopathy. In addition, much work on psychopathy has indicated that those in the extreme part of this category are treatment resistant (Hare, 1993; Marcus, Fulton, & Edens, 2012). Theories of criminal thinking, on the other hand, propose that many people on the criminal thinking spectrum will be amenable to treatment, especially when addiction and substance abuse are part of the manifestation of their pathology (Joe et al., 2001; Kubiak, 2004; Magyar et al., 2012).

Knight et al.'s (2006) six-part construct of criminal thinking emerged from this second, more generalized theory of criminal behavior. Rather than identifying extreme criminality, sometimes entering the realm of insanity, this system sought to identify factors present to some degree in all offenders (Best et al., 2009; Garner et al., 2007; Knight et al., 2006; Roberts et al., 2007). This conceptualization attempts to capture the offender-specific schemas associated with criminal behaviors. The theoretical underpinnings of the constructs point to a spectrum of criminal thinking, rather than the presence or absence model in Hare's checklist. This spectrum delineates various levels of outward hostility, coupled with inward lack of responsibility for criminal activities. Individuals in the criminal justice system have

these psychological factors to a greater or lesser degree, but in theory all offenders will fall somewhere on this spectrum.

One major shortfall of this work is not so much the theoretical framework as it is the lack of discussion of this framework. In evaluating the available literature it becomes clear that this framework is described as a given, rather than a theory of criminal behavior. The literature also fails to explain the theory in great detail. This dissertation's description was created through reading the literature critically, rather than actually finding an overt description of the theory associated with criminal thinking. In addition, all research on this phenomenon has been limited to offenders in substance abuse treatment programs. It is unclear how this theory might help us understand and aid the general criminal justice population.

Given these pitfalls in theories of criminal behavior, it is necessary to attempt to connect the theory of criminal thinking to its possible roots. The most natural connection would be with cognitive theory. In simplest terms, cognitive theory proposes that thoughts dictate behaviors, and that specific, individual patterns of thought will predict behaviors (Beck, 1976; Bergen & Garfield, 1994; Leibrich, 1994; Matheson et al., 2011; Miller & Rollnick, 2002). This understanding of how thinking predicts behavior lends itself both to Hare's conception of psychopathy and the measures of criminal thinking used in this study.

Theories of Alliance and Rapport

Alliance

The most applicable theory that describes the clinical relationship between client and clinician comes from the psychodynamic perspective. Other treatments hold that the counselor-client dyad is important. However, those working from a psychodynamic

perspective have made the most extensive contribution in examining this relationship (Haaga et al., 1991; Muran & Barber, 2010). Therefore, it is necessary to examine psychodynamic theories of alliance in order to understand the theoretical underpinnings of this concept.

The theoretical literature on the relationship between clinician and client in the psychodynamic tradition has termed the relationship as transference, the real relationship, the working alliance, and the therapeutic alliance (Muran & Barber, 2010; Wachtel, 2008). Writing in this area dates back to Freud's 1913 discussion of the collaborative nature of the therapeutic process (in Mitchell, 1988). His work primarily focused on transference—reactions from the client toward the clinician, and countertransference—reactions of the clinician toward the client. These reactions could be based on specific behaviors of the client/clinician, or could derive from the client or clinician's outside experience. This second aspect of Freud's understanding of alliance is less helpful to the current study. It is much more difficult to operationalize and measure negative effects of the instance in which the clinician reminds the client of a hated relative, for example (Mitchell, 1988; Wachtel, 2008).

Perhaps for this reason, alliance theory has developed to deal more specifically with the client's direct reactions to the clinician, such as feeling supported or not, valued or not, and that the treatment the clinician delivers is beneficial. Beyond these emotions, alliance also seeks to capture whether the client feels this relationship allows him or her to participate in treatment. At the crux of all work on alliance is the idea that the relationship between the client and clinician allows the therapeutic process to occur (Abouguendia et al., 2004; Baldwin et al., 2007; Hoit, 1999; Horvath & Symonds, 1991). In order for the process to take hold in the client and for him or her to follow through with assignments, resolve resistance,

and engage in the recovery process, the client must have several feelings toward the clinician. Client behavioral change stems from this relationship.

Theories of alliance hold that the client must feel that the clinician has their best interests in mind, that is, that the clinician wants to help the client, cares about the outcome of treatment, and values the client's opinions (Levin, Henderson, & Ehrenreich-May, 2012). The client must have an overall positive attitude toward the clinician and the treatment the clinician delivers for therapeutic alliance to take place (Marmarosh et al., 2009; Muran & Barber, 2010). Alliance goes deeper than simple positive regard from and toward the clinician, however. In psychodynamic practice, the relationship between client and clinician is of central importance to treatment outcome (Wachtel, 2008). In ideal therapeutic conditions, the relationship with the clinician serves as an example of a healthy, positive relationship, having both a curative and modeling effect on the client. From this relationship the client learns how to have healthy relationships with others, which is the key outcome for psychodynamic work. In fact, Fluckiger et al. (2012) found that no matter what the therapeutic technique, strong alliance was necessary for a positive treatment outcome.

Another term, "mutuality," was coined in the family and group therapy community (Genero, Miller, Surrey, & Baldwin, 1992). This concept refers to the fact that relationships develop between two or more people, over time. It refers especially to the process-aspect of the alliance relationship during treatment. The term "alliance" has come to describe all of these processes, across the spectrum of treatment modalities (Marmarosh et al., 2009; Redko et al., 2007; Shedler, 2010). Given the fact that the majority of alliance literature has been focused on psychotherapy, whereas the term "rapport" has been used for substance abuse, this paper uses the term "alliance" to become even more of a catchall phrase, now including

literature on rapport. All of the literature mentioned previously on the subject has found that the process of developing a relationship and the strength of the relationship affects the client's functioning during treatment, as well as post-treatment outcomes. Building strong alliance allows the client's possibly disruptive symptoms to be mediated, and through that process alliance affects functioning during treatment, as well as the ability to develop skills to use post-treatment.

Rapport

Many treatment models and modes of service have been found to be effective in reducing mental illness and promoting well-being among recipients (Miller & Rollnick, 2002). Though there are a wide variety of theoretical orientations and types of treatment available, all of these treatments begin with the relationship between the provider and the individual seeking or sent to treatment (Wachtel, 2008). The process of creating this relationship has been called engagement, therapeutic alliance, the real relationship, and counseling rapport, depending on the treatment model. Studies have shown that the process of creating a bond between clinician and client is the first stage of treatment and is integral to good treatment outcome (Joe et al., 2001; Marmarosh et al., 2009; Melnick et al., 2001). However, the term therapeutic alliance has been used historically most often in connection to research specifically about the therapeutic process, specifically in mental health. The theoretical underpinnings of rapport, used most often in substance abuse literature, are similar, but rapport is a more widely used term to be discussed in the context of any helping relationship including clients and clinicians. Linn-Walton & Pardasani (2014) reported that many clinicians who recently attended school mention a lack of overt attention to issues of transference during the course of their education. This finding indicates the need for more

universal terminology, such as rapport, to be used in clinical studies. Increased understanding of the clinical relevance of alliance in substance abuse treatment is necessary as well. Rogers (1959) began this discussion, and as was discussed above, his techniques have influenced current substance abuse treatment. This presence speaks of the need to combine alliance and substance abuse treatment, rather than continuing to study it only in psychotherapy.

The initial building of counseling rapport becomes a pathway to treatment motivation, participation, satisfaction, and outcome (Joe et al., 2001). These same studies found that without strong rapport, even the best treatment models cannot help clients recover. In this way, the act of aligning with one's therapist becomes a behavioral pathway to developing alliance with the program, engaging in treatment, and changing behaviorally. However, Marmarosh et al. (2009) identified that clinicians often grossly misread client perception of counseling rapport. For this reason, it is necessary for clinicians to have measuring tools for use during treatment in order to assess client perception of rapport. Accurate measurement tools allow clinicians to identify problems early in treatment, address these issues with the client, and allow for stronger alliance, leading to better treatment outcomes (Hiller et al., 2009; Joe et al., 2001; Joe et al., 2002; Leibrich, 1994).

Theoretical Basis for Therapeutic Communities

This dissertation analyzed participants in outpatient substance abuse treatment programs in the United States. These programs are adapted from the therapeutic community model. This section discusses the theoretical basis for this treatment model. The main theoretical underpinning for therapeutic communities is based on CT and related theories (De Leon, 2000). The crux of this treatment is related to altering clients' substance-abuse dependent schemas and altering behaviors so that clients implement more positive coping

mechanisms. These cognitive and behavioral changes are designed to allow the client to replace unhealthy and detrimental behaviors with those that support a positive, healthy lifestyle. De Leon (2000) outlines these factors and breaks the therapeutic community's theoretical grounding into four categories: drug use disorders; the person; recovery; and right living. "Drug use disorders," such as substance abuse and dependence, is conceptualized as an illness with treatment possibilities. The "person" refers to the individual in treatment, both as part of a community, and as having the largest stake and determination of his or her own recovery. Recovery refers to the therapeutic process of weaning off substances and learning how to combat desires for destructive acts like picking up drugs or engaging in criminal behavior. Finally, "right living" refers to the process in therapeutic communities of helping the client create social networks and communities for after treatment, as well as engaging in activities such as work, family activities, and self-betterment projects. This four-angled approach is based on the premise that in order to recover one must create a life built on achievement and enjoyment, and that the therapeutic community can aid the client in determining and achieving the specifics of that outcome. The goal of clinical work in this setting is to facilitate these behaviors in the client. Through this process of alliance, the clinical relationship becomes a mediating process through which the relationship facilitates higher during-treatment functioning.

There is another aspect of the therapeutic community model and theoretical orientation that is central to this dissertation. De Leon (2000) states that the purpose of the community is to foster healthy relationships and relational behaviors for participants. These relationships between the client and counselor, the client and housemates, and the client and staff enable the individual to strengthen engagement skills, participation skills, and alliance

to these entities (De Leon, 2000; Redko et al., 2007; Strauss & Falkin, 2000). Though theorists writing about therapeutic communities and outpatient adaptations don't use the term alliance, the goal of the treatment is to facilitate the individual's ability to align with their counselor, housemates, and the program as a whole. This theoretical view of alliance understands alliance with one's counselor as part of one's alliance with the program as a whole, and that this program-level alliance leads to stronger during-treatment functioning and better post-treatment outcomes.

Adaptation for Outpatient Programs

Although the therapeutic community model was developed for inpatient settings, many outpatient programs have adapted this model to use in treatment, either after clients leave the community setting or as a stand-alone outpatient intervention (Campbell et al., 2009; De Leon, 2000; Schaffer, Hartman, & Listwan, 2009). Adapted outpatient community settings retain the theoretical and methodological underpinnings of the therapeutic community model. The difference is that clients go home at night and attend treatment only during the daytime. The use of behavioral homework assignments could be seen as even more important to this iteration of the model, as it connects the daytime treatment to the client's outside life. The treatment centers used in this dataset were outpatient settings with treatment models adapted directly from the therapeutic community model (DaytopVillage, 2012).

Constructs

Criminal Thinking

There are six variables that together make up the concept of criminal thinking. The specific items for each scale are mentioned below, and are taken from Knight et al.'s (2007)

Criminal Justice Client Evaluation of Self in Treatment questionnaire. Criminal thinking can be operationalized as the degree to which one blames or externalizes reasons for one's criminal history. While there are environmental factors impacting one's likelihood to commit a crime and be arrested, studies indicate that high levels of such beliefs interrupt the treatment process (Berman, 2004; Best et al., 2009; Cosden et al., 2006; De Leon et al., 1994; Farabee, Knight, Garner, & Calhoun, 2007). Literature that measures criminal thinking has recognized the importance of measuring the degree to which individuals in treatment externalize reasons for having been involved in the criminal justice system. This process can disrupt alliance with their counselors, as well as their stake in attending and completing treatment, leading to increased likelihood of relapse and recidivism.

Although there are six variables of criminal thinking, three were selected for use in this study: entitlement; criminal rationalization, and personal irresponsibility. Yang et al., (2013) also selected these three subscales in their analysis. Cold-heartedness and power orientation were not used, as they most likely measure characteristics of psychopathy or antisocial personality disorder, which is only relevant to a small percentage of the general population. Justification was not used, as it is similar both to entitlement and criminal rationalization. These choices were made in an effort to create a more parsimonious model and to minimize the confounding of criminal thinking with personality-level problems reflected in psychopathy or antisocial personality.

Alliance and Rapport with Offenders

Knight et al. (2006) developed a short but reliable scale for use with this specific population, which provided a valuable starting point for an expanded tool. Joe et al. (2001) identified one factor that measures the latent variable of counseling rapport. That factor is the

client's emotional reaction to the clinician. Measurement items include various questions measuring the level of positive regard that one experiences toward one's clinician. Liking one's counselor is an important component of effective treatment (Marmarosh et al. 2009; Wachtel, 2008). However, research has identified that there is a second factor that measures counseling rapport. This second construct pertains to the client's perception of progress in treatment, based on the client's perception of the counselor. The client needs to perceive the clinician as having a stake in helping the client with their goals, and that the clinician is listening and responding to the client. The rapport scale, though brief, includes items from both categories.

Psychological Functioning

Although the study used a cross-sectional design, as mentioned above, several variables have been shown to be predictive of positive treatment outcomes (Baldwin et al., 2007; Coleman, 2006). These variables include those that pertain to psychological functioning. For this study, psychological functioning was operationalized as the level of well-being reported by the participant. Lower levels of anxiety and depressive symptomatology, in conjunction with higher levels of social and emotional functioning, indicate stronger mental health. Functioning level has been associated with positive treatment outcome (Bui & Morash, 2010; Hiller et al., 2009). These studies have found the specific, easily measurable outcomes important to this population are relapse and recidivism rates. However, these same studies cite that psychological health, social functioning, and interpersonal skills are also important to continued recovery post-treatment. In addition, mental health research finds that psychological health is an important indicator during treatment, once engagement and the treatment process has begun to take hold, of outcome afterwards (Kubiak, 2004). These

findings indicate that simply measuring relapse and recidivism rates post-treatment do not give a full picture of the success level of the treatment. Further, measuring psychological functioning during treatment could be used as an indicator to predict relapse and recidivism likelihood post-treatment.

In reviewing the literature, there appears to be an emerging three-fold concept of psychological functioning (Crits-Christoph et al., 2011; Fauth, 2006; Høglend et al., 2011; Horvath & Symonds, 1991; Mitchell, 1988; Patra et al., 2010). These factors are a mental health component; a social functioning component; and a healthy behaviors component (Shaffer et al., 2009; Swift & Callahan, 2009; Wachtel, 2008). Though research does not specify these exact factors as part of a whole concept, they are always included in projecting post-treatment success. Therefore, this study measured psychological functioning in this manner. In addition, because psychological functioning levels during treatment have been found to be indicative of behaviors post-treatment, this variable served as an indicator of outcome for the sample tested. If better functioning during treatment leads to better outcomes afterwards, we can use the cross-sectional data as a discussion point for possible treatment outcomes.

Overview of the Study

This study was a secondary data analysis of data collected on 1,589 offenders in outpatient substance abuse treatment. The sample was gathered between 2002 and 2008 in the South and Southwestern United States. This section will provide a brief review of the materials discussed thus far, and will provide contextual basis for the study. Following chapters will include the methods used in this study, the analyses conducted, the results, and discussion, and a concluding chapter.

The literature on offenders in outpatient substance abuse treatment demonstrates several issues of importance. Given that nearly 50% of those involved in the criminal justice system are there for drug-related offenses, there is a clear need for treatment for those involved in crimes related to substance abuse (Motivans, 2015). Tiger (2013) cites multiple studies and statistics demonstrating a growing trend in sentencing these individuals to outpatient treatment, rather than prison. Many of these people end up in outpatient treatment programs designed for general population substance abusers, rather than programs specifically designed or tailored for offenders (De Leon, 2000; Garner et al., 2007; Knight et al., 2006).

Other research has demonstrated the importance of understanding the factors specific to this population when presenting at treatment in order to increase treatment completion and reduce relapse and recidivism rates post-treatment (Garner et al., 2007; Johansson et al., 2010; Melnick et al., 2001). This study examined criminal thinking measures, which are instruments testing levels of specific factors associated with criminal offense that disrupt the treatment process and contribute to re-offense and relapse (Garner et al., 2007; Knight et al., 2006; Wanberg & Milkman, 2008; Walters et al., 2011). Additional literature demonstrated that although measuring treatment outcomes of relapse and recidivism are important for this population, psychological functioning is a during-treatment factor predictive of outcome (Garner et al., 2007; Knight et al., 2006; Simpson et al., 1997; Strauss & Falkin, 2000). Finally, literature shows that the best way to clinically align with a client is through strong clinical engagement, or alliance. There is a large body of literature demonstrating this as an integral factor in successful treatment, and a process through which behavioral change during treatment takes place (Abouguendia et al., 2004; Alves de Olivera & Vandenberghe, 2009;

Coleman, 2006; Crits-Christoph et al., 2011; Fluckiger et al., 2012).

Several theories allow us to better understand the relationship between criminal thinking, alliance, client functioning, and treatment outcome. In order to understand the psychological factors associated with criminal thinking measures, it is important to understand cognitive theory. This theory states that individuals develop schematic ways of understanding themselves and their environments over time, and act out of these beliefs (Beck, 1976; Haaga et al., 1991). Out of this theory Robert Hare developed his theory of and measure for psychopathy (Hare, 1993; Marcus et al., 2012). However, this theory pertains to a small subsection of the offender population. Because of this, current criminal thinking theorists use cognitive theory to describe a less severe form of externalizing criminal involvement and consequence, power struggles as the focus of relationships, and less empathic response than the general population.

Alliance theory demonstrates the development and importance of a positive, supportive relationship with one's clinician, and especially that this relationship allows the client to engage with treatment, participate, and complete treatment. This study focuses on the relationship from the client's perspective. The study chronicled the development and adaptation of this theory, from Freud's theory of transference to the working alliance, the real relationship, mutuality, and counseling rapport, the term used most frequently in offender and substance abuse literature (Beck, 1976; Bergen & Garfield, 1994; Matheson et al., 2011; Miller & Rollnick, 2002; Leibrich, 1994).

The current study then outlined previous studies on criminal thinking, alliance, and psychological functioning or treatment outcome. Previous research either failed to connect these factors, or failed to measure these factors outright in their analyses. Other studies did

so, but for programs in other countries, or inside prisons, rather than in outpatient settings. This study builds on previous findings in several ways. It examines a large sample in order to allow for generalizability. Because of the groundwork set by previous studies, this study was able to use more sophisticated analyses than previous studies of this kind, allowing for deeper understanding.

This study conceptualizes alliance as a mediating variable. The rationale for this choice is based on two aspects of the theoretical basis for alliance. The first is alliance as a process in treatment. There is a large body of literature conceptualizing, measuring, and evaluating alliance as a process through which therapeutic change occurs (Ahn & Wampold, 2001; Gelso & Haynes, 2001; Haaga et al., 1991; Marmarosh et al., 2009; Muran & Barber, 2010). The second rationale for including alliance as a mediating variable is based on previous research with offenders in substance abuse treatment. These studies analyzed alliance as a mediating variable, but within the context of several variables of engagement, such as alliance and treatment process (e.g., De Leon, 2000; Garner et al., 2007; Joe et al., 2001; Knight et al., 2006; Melnick et al., 2001). Alliance literature has found that alliance is an important component of treatment and is predictive of outcome (Abouguendia et al., 2004; Alves de Olivera & Vandenberghe, 2009; Coleman, 2006; Crits-Christoph et al., 2011; Fluckiger et al., 2012). For these reasons, the current study analyzes alliance as a stand-alone, mediating variable.

Study Hypotheses

H1: Criminal thinking (entitlement, criminal rationalization, personal responsibility) will be associated with lower working alliance and lower psychological functioning (anxiety and depression severity, self-esteem, decision making, hostility, and risk taking).

H2: Greater working alliance will be associated with better psychological functioning (anxiety and depression severity, self-esteem, decision making, hostility, and risk taking), controlling for several types of covariates (sociodemographics, criminal history, and drug history, motivation, and treatment participation).

H3: The relationship of criminal thinking (entitlement, criminal rationalization, personal responsibility) to psychological functioning (anxiety and depression severity, self-esteem, decision making, hostility, and risk taking) will be mediated by working alliance, controlling for several types of covariates (sociodemographics, criminal history, drug history, motivation, and treatment participation).

CHAPTER 4. METHOD

Study Design

This dissertation utilized secondary data analysis of a cross-sectional design. Data from the Criminal Justice Drug Abuse Treatment Studies (CJDATS): Performance Indicators for Corrections (PIC), 2002–2008, conducted at Texas Christian University Institute of Behavioral Research, was analyzed (Garner et al., 2007; Knight et al., 2006). The dataset was collected in 2002 and 2006. The investigators used the same data collection methods for both waves (see below).

Participants included individuals with criminal histories enrolled at that time in eight Daytop drug treatment programs in the South and Southwestern United States. Individuals in drug treatment programs were asked by their counselors to fill out the Client Evaluation of Self and Treatment (CEST) questionnaire. Administration took place in a group setting of up to 25 participants, with an interviewer present who read the questions aloud. Those who declined to participate filled out the standard treatment satisfaction surveys provided by their treatment programs.

Sampling Plan

The target population was adult offenders in the United States receiving drug treatment. The sample was offenders in eight different Daytop day and residential drug treatment programs in the South and Southwest United States for individuals with histories of incarceration. The sampling frame was a list of all 3,266 participants enrolled in these drug treatment programs. Inclusion criteria were history of incarceration for a criminal offense, enrollment in the program for at least 2 weeks, and being able to speak English fluently. Potential participants were invited to participate by counselors at their program. There were

3,266 offenders recruited, and 1,589 participants completed a questionnaire. The response rate was 48%. Data for those who did not answer the questionnaire are not available.

Program Particulars

All eight of the treatment centers participating in data collection were part of the Daytop Treatment Program. This nationwide family of treatment centers offers a wide array of drug treatment programs including treatment community programs, outpatient drug treatment programs, and housing for individuals in treatment. Programs are available for both adolescents and adults, though minors and adults are treated separately. Offenders are treated alongside nonoffenders and nonmandated clients, rather than having a program specifically meant for those involved in the court system or with a history of offense. The program was created as an inpatient treatment center for drug abuse and addiction in 1963 (Daytop Village, 2012). The original model used was the therapeutic community model, which has been adapted for an outpatient setting. Theoretical underpinnings and adaptation of the model have been discussed above.

Daytop's mission is to provide a "continuum of care" for all individuals needing drug treatment (Daytop Village, 2012). The program works in tandem with outside programs, such as mental health providers and the court system. The program's approach is to provide drug treatment at all levels, from inpatient to outpatient, as well as therapeutic living programs. The outpatient program does not follow a specific treatment model, but uses a combination of treatment approaches found to be helpful in aiding individuals with addiction issues (Daytop Village, 2012). These approaches include psychoeducational, cognitive behavioral, motivational interviewing, twelve-step approaches, and family treatment models. See above for a detailed description of these approaches and the theories behind them. The dataset used

in this dissertation gathered responses from individuals with a history of offense and incarceration enrolled in the outpatient program at Daytop.

Measures

All of the measures used in analysis were from the Texas Christian University (TCU) Client Evaluation of Self and Treatment (CEST) questionnaire (Garner et al., 2007; Knight et al., 2006). The TCU CEST contained questions comprising five areas of treatment process, six areas of social and psychological functioning, and five areas of treatment needs and motivation. The Criminal Justice (CJ) form of this questionnaire, developed for the dataset that was used in this dissertation, included questions measuring five areas of criminal thinking. Each area was measured using a scale. Each of the scales created from the questionnaire were tested for reliability in a previous study using Cronbach's alpha, with a mean of .81 (Joe et al., 2002). Questionnaires were administered an average of 4 months after the start of treatment. Each of the scale items for the entire questionnaire had five Likert-type response categories: *disagree strongly* (= 1); *disagree; uncertain; agree; and agree strongly* (= 5). All scales were scored to have a range of 10 to 50. Higher scores indicated the presence of the attitude or disorder that the scale measured. All descriptions of scales come from Garner et al. (2007) and Knight et al. (2006), and the study's further explication. Please see Appendix A to review the study's codebook and a list of scale items. Higher scale scores indicate higher levels of the variable being tested. For example, higher scores on the Depression Scale indicate that the participant reported symptomatology of depression.

Independent Variables

The independent variables to be used in this dissertation came from the six scales measuring criminal thinking. The Personal Irresponsibility Scale (PIS) ($\alpha = .68$) and the

Entitlement Scale (ES) (α = .78) are made up of five items. The Criminal Rationalization Scale (CRS) (α = .71) and the Power Orientation Scale (POS) (α = .81) both contain seven items, while the Cold Heartedness Scale (CHS) (α = .68) and Justification Scale (JS) (α = .75) each contain six items. Each scale is scored and configured as mentioned above. These scales represent the domains of thinking specific to criminal psychology, which can affect the dependent variables. All definitions are taken from Knight et al. (2006, p.1117). Personal Irresponsibility is defined as "unwillingness to accept ownership for criminal actions." Entitlement is defined as "sense of ownership and privilege, misidentifying wants as needs." Criminal Rationalization is defined as "negative attitudes toward the law and other authority figures." Power Orientation is defined as the "need for power, control, and retribution." Cold Heartedness is defined as "callousness and lack of emotional involvement in relationships." Justification is defined as "justifying actions based on external circumstances or actions of others."

Of these, three variables were selected for the purposes of parsimony and theoretical importance: entitlement; criminal rationalization; and personal irresponsibility. Higher scores on these scales indicate higher levels of criminal thinking. Items on the Entitlement Scale included, "okay to commit crime," and "you are above the law." Examples of items from the Criminal Rationalization Scale include, "bankers/lawyers get away with breaking the law," and "police do worse things." Items on the Personal Irresponsibility Scale included, "you are not to blame for having been incarcerated," and "laws keep poor people down."

Dependent Variables

The specific scales used as dependent variables to measure psychological function were the TCU CJ CEST scales measuring anxiety severity (α = .75), depression severity (α =

.71), self-esteem (α = .72), decision-making (α = .74), hostility (α = .80), and risk taking (α = .71). Several studies have identified these specific variables as indicators of treatment outcome (Garner et al., 2007; Knight et al., 2006; Staton-Tindall et al., 2007; Taxman & Ainsworth, 2009). The scales are 5-point Likert-type and contain five to eight items scored from 10 to 50. Higher scores are indicative of higher presence or the attitude the scale measured. With the exception of the Anxiety and Depression Scales, higher scores on scales used as dependent variables indicate higher levels of psychological functioning, indicating better well-being.

Mediating Variable

The mediating variable that was used in analysis was the Counseling Rapport Scale (α = .93), which measures alliance. The scale is an 11-item scale utilizing the 5-point Likert design and scoring mentioned above. Garner et al. (2007) evaluated the Criminal Justice (CJ) Client Evaluation of Self in Treatment (CEST) Counseling Rapport Scale (CRS) for validity and reliability. For the sample tested, the CRS demonstrated a Cronbach's alpha of .95. Confirmatory factor analysis indicated a strong, single-factor solution. Some items of the alliance scale are: "counselor is sensitive to problems," and "counselor helps you develop your confidence."

Covariates

Several covariates were controlled for during analysis. This section includes a list of possible covariates. Initial analysis revealed which of these variables to include in multivariable analyses. There were several variables of participant demographics: Race/ethnicity (White as referent group, Black, Hispanic, Multi, Other); gender (Male = 0, Female = 1) as well as highest grade achieved. Criminal history was measured as well,

including number of times in jail in lifetime and history of gang membership. These variables were used to determine whether sociodemographic background had any effect on alliance or the mediating variable.

A second set of covariates was chosen for post hoc analyses. These variables were scales on the TCU CJ CEST questionnaire, adapted for the study from previous studies, and validated with the test sample. The variables included Treatment Readiness; Treatment Participation; Treatment Satisfaction; Treatment Needs; Desire for Help; and External Pressure (Knight et al., 2006). Several of these variables were collapsed into one variable with alliance, as in Yang et al. (2013) and Knight et al. (2006). The current study sought to test whether alliance was an independent mediator, as predicted by psychotherapy literature mentioned above.

Data Analysis

Preliminary Analyses

Data cleaning and assessing missing data were conducted for the dataset using the methods laid out by Tabachnick and Fidell (2012). For all of the constructs of interest, the proportion of missing data was less than 5% of cases, adequate for proceeding without imputation (Tabachnick & Fidell, 2012). Additionally, examinations of distributions of all continuous variables, frequencies of all categorical variables, and exploratory analyses were conducted using the methods explained by Levin, Fox, and Forde (2010). Setting α at .05 and β at .80, this study was powered to detect correlation as small as .10 (Cohen, 1991; Tabachnick & Fiddell, 2012). Tabachnick and Fiddell (2012) cite a rule of thumb that there should be 20 cases for each independent variable in multiple regression analyses. The size of this study's sample (N = 1,589) easily exceeded this parameter. Preliminary analyses included ANOVA,

correlations, and regression models. Methods followed those discussed in Chang (2000) and Hsu (2010).

Site Variation

The data were collected across eight Daytop treatment sites. Intraclass correlations (ICC) of all continuous study variables were examined (Cohen, 1991; Tabachnick & Fiddell, 2012). This was done to test for how much variance in each DV was accounted for by site, to determine if a nested model was necessary. The ICC coefficient was under 5% for four of the six DVs, which if exceeded indicates the need for a multilevel model, according to Heck, Thomas and Tabata (2013). ICCs ranged from .01 (Hostility Scale score) to .10 (Anxiety Scale score) and .13 (Depression Scale score). The reason for larger variance for depression and anxiety could have been that certain sites are programs for offenders with mental health problems as well as addictions. Oneway ANOVAS of all DVs were run by site to examine the patterns of mean differences. Finally, correlations were run of the principal IVs and counseling rapport with each of the DVs, broken out by site, to see how the slope of the relationship of counseling rapport to each DV varied by site. There was modest variability by site, with correlation coefficients in the same direction, with a clear central tendency. Because only two of the six DVs exceeded Heck et al.'s (2013) conservative cut-off, and mean differences and variation in slopes by site was relatively modest, it was concluded that it was not necessary to use a multilevel model.

Assumption Checking

These analyses included univariate, bivariate, and multivariate assumption checking. Of the 12 continuous study variables, 11 were roughly normally distributed. Normality was checked at the univariate and multivariate levels. Linearity and equal variance

at the bivariate and multivariate level were assessed. The majority of the variables met the univariate normality assumption as well as bivariate linearity and equal variance with only modest deviations on a small number of variables. Analysis of the residuals found that all of the final regression models met multivariate normality, linearity, and equal variance. Based on the majority of tests meeting assumptions, it was judged that proceeding with analyses was warranted.

Hypothesis Testing

The hypotheses proposed to use three criminal thinking variables, one mediator (working alliance) and six dependent variables (psychological functioning) variables and models. Covariates used are listed in Table 1.

The theorized covariates were trimmed by retaining only variables that were correlated stronger than r = +/-.10 with the DVs or the mediator (Tabachnick & Fiddell, 2012). Preliminary regression models were constructed for each DV. Simple mediation path models were run for each IV, counseling rapport, and each DV. Mediation models were constructed using path analysis in SPSS 21 with AMOS for path coefficients and indirect effects (Baron & Kenny, 1986; Cheung & Lau, 2008Hsu, 2010; IBM Corp., 2013; Kraemer et al., 2001; Tabachnick & Fiddell, 2012). Using these same guidelines, confidence intervals for bootstrapped models were tested to see whether partial mediation was significant

First the direct path from IV to DV was measured, and then compared with a mediating model with alliance as the mediator. Residuals were saved from regression models of each DV with the retained study covariates, and this was used as the dependent variable in a second series of mediation path models. This would test if the inclusion of covariates would better account for any relationships found in the simple mediation path models.

Post Hoc Analyses

Several covariates were added in post hoc analysis. First, correlations, regressions, and residuals were created for variables of client during-treatment factors of motivation and readiness. These variables were created from mean scale scores from scales adapted from previous studies by Knight et al. (2006). During-treatment scales were Desire for Help (α = .67); Treatment Readiness (α = .80); Treatment Needs (α = .60); External Pressure (α = .50); Treatment Participation (α = .86); and Treatment Satisfaction (α = .79) (Garner et al., 2007; Hiller et al., 2006). Correlations between these variables and alliance were measured in order to test for multicollinearity.

Several additional path models were run using the IVs, DVs, alliance, and Treatment Participation variables, in order to confirm previous findings and elaborate relationships found during the course of data analysis. Mediation models were run for variables of criminal thinking and alliance with Treatment Participation as an outcome variable. This set of models was run to test whether participation might be a stronger mediator than alliance. Mediation models were run for variables of criminal thinking and outcome variables with Treatment Participation as the mediating variable. Finally, mediation models were run for alliance and outcome variables, with Treatment Participation as the mediating variable. This final set of models was run to test whether alliance might be a precursor to participation in the during-treatment behavioral chain for this population.

A mean Time in Treatment variable was created and assessed and tested for correlation with the IVs, mediator, and DVs. The sample was divided into thirds based on their time in treatment, and correlations of criminal thinking, alliance and psychological

functioning were examined within each third of the sample to evaluate any differences in these relationships by time in treatment.

CHAPTER 5. RESULTS

Table 1 shows descriptives of continuous variables, and Table 2 displays frequencies for categorical variables. Tables 3 and 4 include correlations between IVs, mediating variable, and DVs, as well as the continuous during-treatment scales included in the dataset. Figures of all path models are listed in the appendices, as well as the figures discussed and listed in the body of the text. Hypotheses 1 and 2 served as preliminary analyses for the path models assessing mediation of alliance between criminal thinking and psychological functioning, the current study's focus.

Demographics and Preliminary Analyses

Table 1 shows the frequencies of continuous variables, including the independent variables of Criminal Thinking, the measure for alliance, the dependent variables of Psychological Functioning, and the variable created for Time in Treatment. Subtracting the date of administration from the date of starting treatment created the Time in Treatment variable. The mean number of days in treatment was 105 (*SD* = 69), or roughly 3.5 months. Alliance literature demonstrates that this is an adequate amount of time for alliance to be achieved, and for alliance to be meaningful in its effects on outcome (Ahn & Wampold, 2001; Alves de Olivera & Vandenberghe, 2009; Crits-Christoph et al., 2011; Fluckiger et al., 2012; Wampold, 2013).

Table 1

Descriptives of Continuous Variables

Variable Name	*N*	*Mean (SD)*
Independent Variables		
Entitlement (EN)	1554	19.57 (5.79)
Criminal Rationalization (CN)	1558	32.14 (8.00)
Personal Irresponsibility (PI)	1555	21.71 (6.59)
Mediating Variable		
Counseling Rapport (CR)	1579	37.69 (8.20)
Dependent Variables		
Depression (DP)	1576	24.83 (7.35)
Anxiety (AX)	1575	27.60 (8.12)
Self Esteem (SE)	1575	37.85 (7.23)
Decision Making (DM)	1574	37.83 (5.36)
Hostility (HS)	1578	24.71 (8.32)
Risk Taking (RT)	1571	29.32 (7.23)
Covariates		
Highest Grade (HG)	1579	10 (1.92)
# Times in Jail, Lifetime (#J):	1511	9.02 (35.735)
Treatment Readiness (TR)	1579	32.28 (8.31)
Treatment Participation (TP)	1577	41.32 (5.46)
Treatment Satisfaction (TS)	1781	31.41 (8.16)
Treatment Needs (TN)	1579	33.08 (7.84)
Desire for Help (DH)	1582	39.55 (7.31)
External Pressure (EP)	1578	32.43 (6.43)
Time in Treatment	1463	105 (69)

Table 2 shows the frequencies of dichotomous variables of race, gender, and gang membership. Fifty-six percent of the sample was male, 39% was White, 17% was Black, 37% was Hispanic, and the remaining 7% of the sample was composed of Multiracial, Asian, Native American, or Pacific Islander, or Other. Because these final categories contained such small numbers, they were dropped from analyses, while White, Hispanic, and Black were retained. Only 9.7% of the sample reported having been involved in a gang. Age was not a reported variable in this sample.

Table 2

Frequencies Categorical Variables

Variable	*N*	Percent (%)
Gender (GN):		
Male	895	56.1
Female	691	43.7
Total	1586	100
White (WH):		
Yes	628	39.5
No	961	60.5
Total	1589	100
Hispanic (HI):		
Yes	285	17.9
No	1304	82.1
Total	1589	100
Black (BK):		
Yes	603	37.9
No	986	62.1
Total	1589	100
Other:		
Yes	257	16.2
No	1332	83.8
Total	1589	100
Multi-Racial:		
Yes	49	3.1
No	1540	96.9
Total	1589	100
Ever Been in a Gang (EG):		
Yes	152	9.7
No	1420	90.3
Total	1572	100

As stated above, there is a large body of literature demonstrating that time in treatment is correlated to both alliance and psychological functioning (De Leon, 1993; Farabee et al., 2007; Friedman et al., 2011; Hiller et al., 2006; Horvath & Symonds, 1991; Joe et al., 2001; Kinlock, Sears, O'Grady, Callaman, & Brown, 2009). These studies found that individuals needed to be in treatment at least 3 months for alliance to take place, and that those who remained in treatment this long were more likely to complete treatment. However,

in this analysis, the mean Time in Treatment variable was only significantly correlated with Criminal Rationalization, Gender, Treatment Participation, and Desire for Help, and these were all weak (see Table 4). Dividing the sample into thirds by time in treatment did not find any meaningful differences in strength of relationship between the constructs of interest. Based on these null or modest effects of time in treatment, it was judged not necessary to include in subsequent analyses.

Hypothesis 1

H1: Criminal thinking (entitlement, criminal rationalization, personal responsibility) will be associated with lower working alliance and lower psychological functioning (anxiety and depression severity, self-esteem, decision making, hostility, and risk taking).

Tables 3 and 4 show the correlations for all continuous and categorical variables used in analysis. From these variables, variables that were not significant ($p < .05$) or with a correlation coefficient weaker than .10 were not included in subsequent regression and path models.

At the bivariate level, both Criminal Rationalization ($r = -.22$) and Personal Irresponsibility ($r = -.25$) were negatively moderately correlated with alliance, and moderately correlated with the dependent variables Depression, Anxiety, Decision Making, Hostility, and Risk Taking. These correlations supported the hypothesis that there would be significant correlation between the IVs and DVs, as well as the IVs and alliance. The strongest correlations of these associations were the IVs to Hostility, followed by Entitlement and Personal Irresponsibility with Decision Making and Depression. Criminal Rationalization and Personal Irresponsibility were more strongly correlated with alliance than was Entitlement. A parsimonious set of covariates were selected to construct regression

models by including variables that were correlated with the DV greater than $r = .10$ and statistically significant (see Table 3).

Table 3

Correlations of Independent Variables and Covariates to Mediating Variable and Dependent Variables Used in Models

	Counseling Rapport	Depression	Anxiety	Decision Making	Hostility	Time in Treatment
Entitlement	-.13**	.24**	.20**	.22**	-.31**	.NS
Criminal Rationalization	-.22**	.17**	.20**	-.13**	.32**	-.02*
Personal Irresponsibility	-.25**	.25**	.22**	-.26**	.39**	NS
Gender	.12***	.29**	.27**	-.11**	NS	.06*
White	-.06	.15**	.17**	-.09	-.07	NS
Hispanic	.05	NS	NS	NS	NS	NS
Black	NS	-.17**	-.19**	.11**	NS	NS
Highest Grade	NS	-.13**	-.18**	.13**	-.13*	NS
# Times in Jail, Lifetime	NS	NS	NS	-.07**	NS	NS
Ever Been in a Gang	NS	NS	.08*	-.08*	.20**	NS
Counseling Rapport	1**	-.14**	-.11**	.20**	-.17**	NS

Note. $^{**}p < .001$, $^{*}p < .05$

Table 4

Correlation Matrix (All Continuous Variables)

	EN	CN	PI	CR	DP	AX	SE	DM	HS	RT	TR	TP	TS	TN	DH	EP	TT
Entitlement (EN)	1	.32**	.67**	-.13**	.24**	.20**	.22**	-.31**	.39**	.24**	-.25**	-.33**	-.10**	NS	-.24**	NS	NS
Criminal Rationalization (CN)		1	.47**	-.22**	.17**	.20**	-.07*	-.13**	.32**	.28**	-.38**	-.22	-.36**	NS	-.20**	.08*	-.02*
Personal Irresponsibility (PI)			1	-.25**	.25	.22**	-.19**	-.26**	.39**	.22**	-.38*	-.38**	-.25**	-.07*	-.31**	NS	NS
Alliance (CR)				1	-.14**	-.11**	.12**	.20**	-.17**	-.18**	.45**	.61**	.62**	.12**	.35**	.12**	NS
Depression (DP)					1	.70**	-.60**	-.44**	.43**	.25**	NS	-.19**	-.10**	.34**	.20**	.42**	NS
Anxiety (AX)						1	-.49**	-.39**	.44**	.29**	NS	-.13**	-.10*	.39**	.22**	.43**	NS
Self Esteem (SE)							1	.49**	-.32**	-- .24**	-.06*	.26**	NS	-.29**	-.21**	-.32**	NS
Decision Making (DM)								1	-.37**	-.44**	.06*	.46**	.12**	-.10**	NS	-.19**	NS
Hostility (HS)									1	.48**	-.19**	-.24**	-.19**	.18**	-.06*	.19**	NS
Risk Taking (RT)										1	-.14**	-.26**	-.19**	.12**	NS	.24**	NS
Treatment Readiness (TR)											1	.51**	.62**	.36**	.64**	.28**	NS
Treatment Participation (TP)												1	.47**	.22**	.50**	.16**	.10**
Treatment Satisfaction (TS)													1	.16**	.38**	.12**	NS
Treatment Needs (TN)														1	.46**	.43**	NS
Desire for Help (DH)															1	.50**	NS
External Pressure (EP)																1	-.06*
Mean Time in Treatment (TT)																	1

Note. $^{**}p < .001$, $^{*}p < .05$

Alliance was correlated with the dependent variables ranging from moderately weak ($r = .12$) to moderate ($r = .20$). Alliance was negatively correlated with variables of Criminal Thinking, and outcome variables of Hostility and Risk Taking, which is consistent with the literature and study hypotheses (Garner et al., 2007, Knight et al., 2006). Alliance was weakly negatively correlated with depression ($r = -.14$) and anxiety ($r = -.11$). Specifically, Table 4 displays the correlations between the IVs, DVs, and mediating variable. Criminal Rationalization was moderately negatively correlated with alliance ($r = -.22$), Anxiety ($r = -.20$), and Hostility ($r = -.32$). Personal Irresponsibility was moderately negatively correlated with the mediating variable as well as all of the DVs. Alliance was also correlated with several covariates. Being female (1) had a weak moderate correlation with alliance ($r =.12$).

Several covariates were also tested at each level of analysis. Of the covariates, gender was correlated with Depression and Anxiety symptomatology, where being female was moderately correlated with higher rates of these symptoms ($r = .28, .27$). Having been a gang member was significantly correlated with Entitlement ($r =.11$), and Personal Irresponsibility ($r =.11$), as well as the DVs Hostility ($r =.20$) and Risk Taking ($r =.13$). Several of the variables regarding readiness and motivation for treatment were moderately or strongly negatively correlated with the IVs, which supports previous findings (Garner et al., 2007) (see Table 4). Alliance was strongly correlated with many of the variables regarding readiness and motivation for treatment, such as Treatment Satisfaction ($r =.62$) and Treatment Participation ($r =.61$).

The relationships predicted in Hypothesis 1 are a precondition for testing mediation—that the IV, mediator, and DV are all correlated (Baron & Kenny, 1986). Because the IVS were correlated with both alliance and the DVs, analysis moved forward with regressions to

test whether alliance was related to psychological functioning controlling for other constructs, and to identify covariates to include in path analyses.

Hypothesis 2

H2: Greater working alliance will be associated with better psychological functioning (anxiety and depression severity, self-esteem, decision making, hostility, and risk taking), controlling for covariates (sociodemographics, criminal history, and drug history, motivation, and treatment participation).

Linear regressions were run for each of the DVs, with sociodemographic covariates above trend level, and Alliance included for each of the six models (Table 5). The model for which the most variance was accounted was for Hostility (R^2 = .25), followed by Depression (R^2 = .22), and Anxiety (R^2 = .22). Alliance was a significant predictor in all models, but was modest in strength.

Because the variables in the regressions for Self-Esteem and Risk Taking accounted for so little variance (R^2 = .10, .15), the variables were removed from further analysis. The regression for Decision Making accounted for relatively little variance (R^2 = .14), but it was retained as a DV in path analysis due to the fact that previous literature found it to be a significant predictor of outcome post-treatment. Criminal Rationalization was cut from further analyses at this point because it was either not significant or a weak predictor in all six of the regression models.

Table 5

Regression Table, Sociodemographic Variables Only

	Self Esteem (R^2= .11)		Depression (R^2= .22)		Anxiety (R^2= .22)		Decision Making (R^2= .17)		Hostility (R^2= .25)		Risk Taking (R^2= .16)	
	B	*P*	β	*P*	β	*P*	β	*P*	β	*P*	β	*P*
Independent Variables:												
Entitlement	-.17**	.00	.14**	.00	.11**	.00	-.28**	.00	.23**	.00	.16**	.00
Criminal Rationalization	.04	.20	.08**	.00	.14**	.00	-.10	.73	.18**	.00	.23**	.00
Personal Irresponsibility	-.11**	.00	.15**	.00	.11**	.00	-.05	.15	.13**	.00	-.01**	.00
Mediating Variable:												
Counseling Rapport Scale	.10**	.00	-.10**	.00	-.06**	.00	.14**	.00	-.06*	.05	-.09**	.00
Covariates:												
Gender (Female = 1)	-.17**	.00	.30**	.00	.28**	.00	-.15**	.00	.06*	.02	.05*	.05
Hispanic	.01	.93	.03	.65	.00	.94	.01	.81	.07	.17	-.01	.86
Black	.11**	.00	-.17*	.002	-.20	.00	.13**	.00	-.01	.75	-.19**	.00
Multi	.12**	.00	-.07*	.03	-.08**	.00	.03	.27	-.01	.60	.01	.85
Other	.04	.09	-.08	.12	-.09	.09	.05	.43	-.10	.07	-.10	.08
Highest Grade	.06*	.01	-.09**	.00	-.14**	.00	.10**	.00	-.10**	.00	.03	.30
# Times in Jail, Lifetime	-.02	.41	-.01	.98	.00	.90	-.05*	.04	-.03	.22	.01	.76
Ever Been a Gang Member	-.03	.28	.02	.49	.06*	.02	-.05*	.03	.16**	.00	.11**	.00

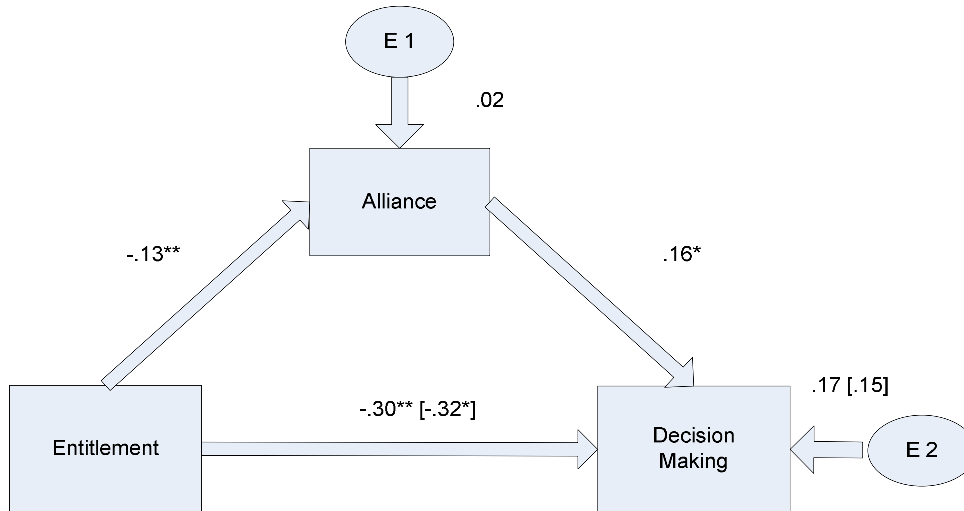
Note. All β were standardized. **$p < .001$, *$p < .05$

Hypothesis 3

H3: The relationship of criminal thinking (entitlement, personal responsibility) to psychological functioning (anxiety and depression severity, decision making, hostility, and risk taking) will be mediated by working alliance, controlling for covariates (sociodemographics, criminal history, drug history, motivation, and treatment participation).

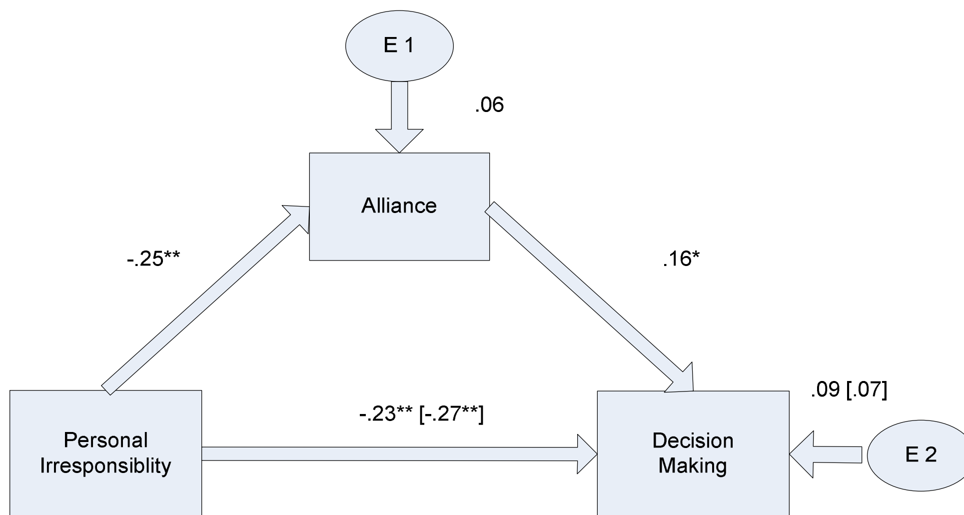
Figures 1-4 display results from path analyses discussed below (see appendices for complete results). These figures were included in the body of the text as they showed partial mediation. To test for mediation the model with the direct path of the criminal thinking variable to the dependent variable was compared with the model with the path from the criminal thinking variable through alliance to the dependent variable. If there was mediation, the strength of the direct path should become substantially weaker (indicating partial mediation) or non-significant (indicating full mediation). While all paths were significant, the change in path strength between mediated and unmediated models did not vary more than .04, for both simple mediation models and those controlling for covariates. Additionally, the bootstrapped confidence interval was checked for the statistical significance of the indirect effect. For the models of Entitlement and Personal Irresponsibility on Decision Making, the indirect effect was statistically significant, indicating alliance is a partial mediator. Unfortunately, the change in the direct path for each model was modest, suggesting that any mediation effect observed has little clinical or practical importance.

Figure 1. Path Model for Entitlement, Decision Making



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & decision making are R^2.

Figure 2. Path Model for Personal Irresponsibility, Decision Making



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & decision making are R^2.

Although alliance was not a robust mediator, the path models show several relationships of interest. The strongest paths in mediated models were from the IVs to alliance (Entitlement β= -.13; Personal Irresponsibility β= -.25), and from alliance to Decision Making (β= .16). The results for the models controlling for covariates only differed from the simple mediation models in trivial differences in path coefficients, so they are not interpreted separately. Although all paths were significant, the change in path strength between mediated and unmediated models did not vary more than .04, for both simple mediation models and those controlling for covariates. After checking confidence intervals for bootstrapped models, some of the effect of Entitlement (β= -.32, β= -.30) and Personal Irresponsibility (β= -.27, β= -.23) on Decision Making was significantly partially mediated through alliance.

In addition, the strongest paths in mediated models were from the IVs to alliance (Entitlement β= -.13; Personal Irresponsibility β = -.25), and from alliance to Decision Making (β= .16). The results for the models controlling for covariates only differed from the simple mediation models in trivial differences in path coefficients, so they are not interpreted separately. The path models demonstrate that although alliance only partially mediated criminal thinking and Decision Making, and had a small effect on psychological functioning, criminal thinking had moderate path coefficients leading both to alliance and Decision Making and Hostility. The strongest path to a dependent variable was the path from the IVs to hostility (β= .38). This was the strongest path in all hypothesis-driven models.

Post Hoc Path Models

Several post hoc models were run as well. These models were not hypothesis-driven. The rationale for these models came out of the results of the hypothesis-driven models, in an

attempt to further untangle the relationship between criminal thinking, alliance, and during-treatment behaviors associated with relapse and recidivism. Results from these regressions and models are displayed in the Appendices. The models examined Treatment Participation as an outcome variable for Entitlement and Personal Irresponsibility, mediated by alliance. Models were run for alliance and outcome variables, mediated by Treatment Participation. A final set of models was run for Entitlement and Personal Irresponsibility with the hypothesized outcome variables, looking at Treatment Participation as a mediating variable.

For models with treatment participation as the outcome variable and alliance as the mediating variable (Figures 9 and 10), partial mediation was found for both Entitlement (β= -.33, β= -.25) and Personal Irresponsibility (β= -.38, β= -.25). All of the effect of alliance on Decision Making and Hostility were mediated through alliance's effect on Treatment Participation.

Because of the high correlation between alliance and Treatment Participation (r =.61), and the hypothesis that alliance is a catalyst for participation, post hoc path models were run for each IV with alliance as the mediating and Treatment Participation as the outcome variables. Figures 9 and 10 in the Appendices show these findings. Alliance partially mediated the relationship between criminal thinking and treatment participation (β= .57, β= .54). The path changed .03, and confidence intervals showed a significant change between mediated and unmediated paths. The strength of the path from alliance to participation suggested a final set of models. Models were run with alliance as the IV and Treatment Participation as the mediating variable for each outcome variable (Appendices figures 11-14). These models showed full mediation for the models with Depression, Decision Making, and Hostility as outcome variables, and partial mediation for Anxiety.

Based on these findings and Yang et al. (2013), models were built for IVs of criminal thinking and DVs of psychological functioning, using Treatment Participation as a mediating variable (Figures 15–22). Partial mediation was found for the Decision Making model, with Entitlement (β= -.32, β= -.19) and Personal Irresponsibility (β= -.27, β= -.13) as IVs and Treatment Participation as the mediating variable. The models for hostility demonstrated partial mediation for Entitlement (β= .39, β= .35) and Personal Irresponsibility (β= .39, β= .35). Confidence intervals showed the indirect pathway was significant, supporting a mediation effect.

CHAPTER 6. DISCUSSION

This chapter reviews the results and discusses their implications in the study. Strengths, and limitations, and implications for practice and policy making follow. Bivariate analyses supported Hypothesis 1, as there were moderate correlations between criminal thinking and psychological functioning, as well as between criminal thinking, alliance, and psychological functioning. The predicted correlations were observed between the criminal thinking variables, alliance, and the psychological functioning variables. These findings were consistent with previous literature.

Regression analyses supported Hypothesis 2, that the variables of criminal thinking and alliance would account for a significant portion of the variance for each outcome variable, controlling for other variables. Again, the findings supported previous literature. Hypothesis 3 was tested using a series of path models. The prediction that alliance was a mediating variable between both variables of criminal thinking, and psychological functioning was only partially supported for the models including criminal thinking, alliance, and Decision Making as the outcome variable.

The direct effects findings not only agreed with previous findings but also further elaborated how criminal thinking disrupts specific aspects of psychological functioning and alliance (Abouguendia et al., 2004; Garner et al., 2006; Knight et al., 2006; Taxman & Ainsworth, 2009). The finding from the current study could indicate that alliance is not as important a variable in determining functioning or outcome as theorized. Because criminal thinking variables of Entitlement and Personal Irresponsibility showed stronger negative pathways to psychological functioning for all the hypothesis-driven models, it could be that this relationship is most important to treatment.

However, it was useful to analyze the relationship through a path model, as path models offer a visual understanding of these relationships. In addition, the path from Personal Irresponsibility to alliance was the strongest path, with the exception of the Hostility model. This finding can aid treatment developers and practitioners in determining which client factors to focus on and work toward changing with this population. Feeling entitled to committing crime or denying responsibility for criminal behavior were found to have moderate negative paths to Alliance (r= -.13, r= -.25, respectively), indicating these specific factors would be disruptive to alliance. However, the paths from alliance to the outcome variables were weak (r= -.07, r= -.16, respectively), indicating that either the measures were not good, or that the choice of outcome variables was not a helpful combination in attempting to tease out how alliance affects functioning.

As stated above, previous research has demonstrated that alliance does have an effect on functioning (Best et al., 2009; Garner et al., 2006; Johansson et al., 2010; Knight et al., 2007; Yang et al., 2013). One possible reason alliance had less effect than hypothesized is that the participants were in group therapy, where alliance to the group has been found to be predictive of outcome (De Leon, 2000; Hiller et al., 2006). The main importance of the findings from the path models is that criminal thinking had significant negative path results to both Alliance and Psychological Functioning. This finding suggests two ways in which treatment could be disrupted for those with higher levels of criminal thinking. Clinicians would need to be more aware of alliance with these clients, as well as more sensitive to poorer mental health associated with higher criminal thinking.

Entitlement showed a moderately strong path to Hostility (β= .38). This was the strongest path of all the models. This finding indicates that those testing higher on feeling

entitled to commit crime would be more likely to be hostile during treatment. Linn-Walton and Pardasani (2014) reviewed previous studies that demonstrate that clinicians struggle to engage hostile clients, and this process disrupts treatment. Personal Irresponsibility also had a strong path to Hostility (.38). These findings demonstrate that externalizing criminal involvement can also contribute to hostility during treatment.

Correlations

Entitlement, Criminal Rationalization, and Personal Irresponsibility were moderately negatively correlated depression and anxiety in participants. These findings indicate that individuals with higher levels of criminal thinking were more likely to exhibit symptoms of depression and anxiety. Depression and anxiety were also negatively correlated with alliance. These associations are important in understanding treatment efficacy for this population. Not all substance abuse treatments are designed for individuals with comorbid diagnoses (Ruiz et al., 20012; Saum et al., 2007; Walker & Madden, 2012; Wanberg & Milkman, 2008; Yang et al., 2013).

The fact that those with higher levels of both variables of criminal thinking are more likely to demonstrate symptoms of depression and anxiety sets them up to need specialized or additional care (Mellow, 2008; Patra, et al., 2012; Rice, 1997; Tiger, 2013). In addition, these individuals would be less able to form a good alliance with counselors, as results demonstrated. These findings indicate that higher levels of denial, externalizing and rationalizing criminal involvement led to poorer alliance, increased symptoms of depression and anxiety and hostility, and poorer levels of variables associated with successful treatment, such as decision making. Treatment for this population must include techniques to help

ameliorate these factors. Entitlement was less strongly correlated with the mediating and DVs, indicating that this factor of criminal thinking may be less disruptive to treatment.

Until the client identifies as the "problem," as per substance abuse lingo, he or she will not engage in or follow treatment. Participants who rationalized or externalized criminal involvement were less likely to report a positive bond with counselors, indicating less likelihood they would succeed in treatment. Entitlement was also negatively correlated with alliance, as state above. Feeling one is entitled to committing criminal offenses without repercussions also has a potential disruptive effect to alliance. Current substance abuse treatment is based on the client's need to identify wrongdoing in order to engage in treatment (Marden Velasquez, Maurer, Crouch, & DiClemente, 2001; Mitchell, Wilson, Eggers, & MacKenzie, 2012; Tiger, 2013). Feeling that one is entitled to commit a crime is certainly not indicative of this factor being present.

Clients in treatment who are both hostile and feel they are only in treatment because of someone else's error or "the judge had it in for me," as one item asked, are much less likely to engage in treatment or feel willing to confide in or ask for help from a counselor or therapist. Those testing high in Entitlement and Criminal Rationalization were also likely to be more hostile, creating a similar dynamic.

Both Entitlement and Personal Irresponsibility were negatively correlated with Decision Making. This association is of particular interest, in that Decision Making is indicative of post-treatment behavior. Substance abuse treatment models have paid great attention to instilling decision-making skills in clients (Cosden et al., 2006; De Leon, 1993; De Leon, 1998; Garner et al., 2007; Knight et al., 2006). These skills are related to finding support networks after leaving treatment, attending aftercare and therapy, and remaining free

of relapse and recidivism. The fact that all three criminal thinking variables were moderately or strongly negatively correlated with this outcome variable indicate that those with high levels of criminal thinking come to treatment already more likely than others to have poor decision-making skills. In turn, these individuals are more likely not to do well in treatment, and would then be more likely to relapse and recidivate post-treatment.

These findings converge with previous literature, specifically the two studies that provide direct basis for this study (Garner et al. 2007; Knight et al., 2006). Findings indicate that high levels of denial, rationalization, or feeling entitled to avoid punishment for crimes committed can negatively affect the individual in treatment. Believing one needs treatment, has a problem, and following the problem is treated in substance abuse literature as essential to good outcomes post-treatment (Saum et al., 2007; Walker & Madden, 2012; Wanberg & Milkman, 2008; Yang et al., 2013). Having a strong bond with one's counselor would make a client more likely to get satisfaction out of treatment, participate in it, and feel committed to following through with the program (De Leon, 1998, Strauss & Falkin, 2000).

Regression and Path Models

Regression models were tested to see the predictive strength of each of the variables criminal thinking, alliance, and covariates for each of the six variables of psychological functioning. Though alliance was not the strongest predictor in any of the models, it was significant in every model. Perhaps a stronger measure of alliance would support mediation hypotheses, or inclusion of other outcome variables associated with positive post-treatment outcomes, such as social skills, social network or support, or attendance at 12-step meetings. These variables have also been found to be predictors of outcome post-treatment (Campbell et al., 2009; Drug Policy Alliance, 2012; Farabee et al., 2007; Finigan et al., 2007). This

study did not demonstrate alliance as the strong predictor of variables associated with it that psychotherapy literature has found (Fluckiger et al., 2012; Horvath & Symonds, 1991; Muran & Barber, 2010; Walmpold, 2013). However, it did demonstrate that alliance, as measured by rapport, is a significant though modest predictor of psychological functioning.

Several of the findings in preliminary analyses are telling both of the sample and the population being studied. Of the three measures of criminal thinking, the highest mean score was Criminal Rationalization (mean= 32.14, *SD* 8.00). This scale measures the degree to which participants felt that their criminal actions were justified because of either due context or need. As stated above, a high number of criminal offenses are carried out while under the influence of substances that cloud the individual's judgment and ability to make choices that do not lead to criminal offense. Also, previous sections discussed that in substance abuse treatment, if a client feels that their substance use or reason for being in treatment—in this case court involvement—was justified and not due to an underlying problem, that client is much less likely to engage in treatment or with the therapist, and positive outcomes are much less likely for that individual.

The fact that Personal Irresponsibility (mean= 27.1, *SD* 6.59) was the second highest score for participants further supports this conclusion. These findings indicate a study sample of participants attending treatment who are less likely to engage with their counselors and the program, less likely to adhere to treatment, and more likely to relapse and recidivate post-treatment. Other variables that could potentially disrupt alliance were the relative low education level of the sample (10th grade was the average), and the fact that the average number of times participants had been in jail or prison was nine. This sample is similar to many prison populations, especially with substance abuse issues, where inmates have

relatively low educational attainment and are likely to recidivate frequently (Bui & Morash, 2010; Leibrich, 1994; Tiger, 2013).

Though Time in Treatment was not a significant variable in the analyses run in this study, it nevertheless bears theoretical discussion. Given the fact that the average time in treatment at the date of testing was 105 days, or roughly 3.5 months, previous research demonstrates that this was adequate time for participants to have engaged with their counselors. This issue will be discussed at length in the strengths and limitations sections.

Post Hoc Path Analyses

Several studies have either used Treatment Participation as a mediating variable, or tested alliance as part of a larger "engagement" variable, including Treatment Participation (Best et al., 2009; Garner et al., 2006; Melnick et al., 2001; Muran & Barber, 2010; Yang et al., 2013). Given the intersection of psychotherapy literature on alliance and previous studies conceptualizing alliance as a variable integral to the treatment process, additional analyses were required to untangle these findings. Because most of the literature on offenders in substance abuse combines alliance with treatment engagement variables like treatment participation, satisfaction, and variables of support and external pressure, this study sought to test alliance as a stand-alone moderator in the relationship between criminal thinking and during-treatment predictors of outcome. When full mediation of alliance was not found for any models, additional analyses were run to generate hypotheses for future studies.

Treatment Participation was measured as an outcome variable for criminal thinking and alliance, as previous literature shows it is a strong predictor of post-treatment recidivism and relapse (see Figures 9,10). There were significant, moderate path coefficients from criminal thinking variables to alliance, strong path coefficients from alliance to Treatment

Participation. Alliance partially mediated the relationships between both Entitlement and Personal Irresponsibility, and Treatment Participation. This finding indicates the negative effects of criminal thinking were partially mediated by the deleterious effects of criminal thinking on alliance.

The second step in post hoc path analyses was to examine alliance as an IV, Treatment Participation as a mediating variable, and create models for each of the DVs of psychological functioning (see Figures 11–14). All of the effect of alliance on Decision Making was mediated through alliance's effect on Treatment Participation. Treatment Participation is the mechanism through which alliance affects outcome. This model shows alliance as a step in the behavioral change that is the goal of substance abuse treatment for offenders.

Current treatment models strengthen decision making skills through psychoeducation (De Leon, 2000). These findings indicated that alliance is a catalyst for participating in treatment, which is in turn the catalyst for learning decision-making skills aimed at reducing recidivism and relapse post-treatment. These findings indicate that through stronger alliance, and in turn, participation, offenders reduce their levels of hostility, which can be a block to doing well in treatment (Redko et al. 2007). For some offenders in substance abuse treatment, alliance with a counselor could facilitate psychoeducation, where without such a supportive relationship the offender might not acquire these necessary skills.

The final set of post hoc analyses examined Treatment Participation as a mediating variable between criminal thinking and psychological functioning variables, to test whether this variable might be the more significant of the engagement variables. Findings for these models (see Figures 19–22) were similar to the findings for alliance, for which some models

showed partial mediation. Treatment Participation mediated some of the effects of criminal thinking on Decision Making and Hostility. Melnick et al. (2001), found participation to be predictive of outcome for offenders in substance abuse treatment. The current findings demonstrate alliance and participation are similar in strength of mediation. Taken together with the results of the alliance-participation-Decision Making/Hostility models, these findings further support alliance as the precursor to participation in a behavioral chain aimed at reducing criminal behavior and substance abuse. However, it is important to note that because posthoc analyses were not hypothesis-driven, there was a greater possibility of chance findings or findings due to error.

Strengths of the Study

This study had several strengths of both design and content. As stated above, the large sample size allowed for both a wide range of statistical tests, power in analyses, and generalizability. This sample included both genders, creating the ability to compare the two. In fact, females did exhibit higher levels of alliance with their counselors, even when accounting for other sociodemographic variables. Future research could provide a more comprehensive view of these findings, as well as including a more geographically diverse sample.

This study also differed from previous studies in terms of the advanced nature of the analyses. Previous studies relied on correlations when examining the Counseling Rapport Scale, criminal thinking, and variables related to outcome. This study sought to test a more complex interrelationship of criminal thinking, alliance, and psychological functioning. Path Analysis allowed for a visual representation of the relationship, providing another means of communicating the relationships between variables. Previous studies did not test for the need

for nested models. Though the predicted role of alliance as a mediator was not supported, these findings are useful in understanding which specific variables of criminal thinking negatively affect both alliance and several variables of Functioning. These findings will influence future work, to be addressed below.

The final strength of this study is its theoretical contribution. As stated in earlier sections, this study sought to begin to bridge the gap between alliance work in psychotherapy and substance abuse, specifically with offenders. While there is a strong body of work in alliance for many types of psychotherapies, even the meta-analyses mentioned above, there has been a relative dearth in this topic for substance abuse literature. Several substance abuse studies, mentioned above, measured alliance as part of an “engagement” variable. This variable consisted of several variables. This study sought to test whether alliance on its own as a mediator would be supported for this population, as has been demonstrated in psychotherapy research. Decision Making.

Limitations of the Study

Although this study included the strengths listed above, it also included several limitations worth mentioning. The most significant limitation is the cross-sectional nature of the dataset. Models were constructed with IVs, mediators and outcome variables, but there was no temporal ordering of the variables. This will tend to overestimate the strength of influence of IVs on theorized outcomes. As mentioned above, the majority of alliance literature measures it as a mediating variable, as it was in fact analyzed in this study. One possible change in analyses could have been to test alliance as a moderating variable. This issue will be discussed below. However, the choice of mediation has precedence in the literature: Knight et al. (2006) and Garner et al. (2007) describe criminal thinking, alliance,

and treatment outcomes as a dynamic process and conceptualized alliance as a mediating variable when diagramming the treatment process. These findings indicate the need to measure it as a mediating variable, but to analyze a longitudinal dataset, in order to best capture the criminal thinking-alliance-outcome relationship. Additionally, alliance was measured as a static variable, whereas longitudinal studies would allow researchers to understand how alliance differs at multiple points in treatment.

Another limitation of this study was the measurement of alliance itself. This dynamic process was measured in a static, cross-sectional manner, which could have biased results. In addition, fidelity to the alliance component of the intervention was not measured. In order for alliance to be developed, clients need regular contact with their counselors. Frequency of sessions was not measured. Alliance to the group and program was also not measured. Given that the treatment administered was predominantly a group model, measuring these factors is important. It is possible that these limitations did not allow for an accurate description of the criminal thinking-alliance-functioning relationship.

Criminal thinking levels, as well, are a fluid state, and should be measured at the beginning, middle, and end of treatment, rather than at one point. Longitudinal measurement of this phenomenon would allow researchers to understand how criminal thinking affects alliance, treatment, and outcome, as well as which aspects of treatment might be most efficacious in reducing this factor. Finally, by not measuring treatment outcome variables of recidivism and relapse rates, this study was unable to measure the most important outcomes for this population. As mentioned above, the goal of drug court and substance abuse treatment for offenders is to reduce relapse rates post-treatment, and, more importantly, avoid re-offense and re-arrest.

Another limitation of this study is the lack of an age variable. Age could be significant in predicting level of criminal thinking, alliance, and outcome post-treatment. It is possible that those who are older or younger could have higher levels of criminal thinking, making it more difficult for them to ally with their counselors. This issue speaks to a larger one as well: Externalizing, rationalizing, and the other factors associated with criminal thinking could be schemas that strengthen or weaken over the course of a lifetime. The issue of a learned thought process also indicates that measuring it at several points in treatment would have been a stronger design. Deeply engrained schemas could take longer to uproot than the average 3 months in treatment for this sample. These patterns could also mean that Alliance could take longer to occur for individuals with more firmly set criminal thinking, which is another limitation to the study, since that phenomenon cannot be measured in this sample.

There are several additional limitations worth mentioning. Though 1,589 offenders out of 3,266 agreed to participate in the study, no data exist on the offenders who did not participate. This limits the sample's generalizability, despite the large sample size. In addition, there was no available measure of alliance to the treatment program, which is also an important measure for predicting outcome post-treatment (De Leon, 2000). Another limitation is related to the Time in Treatment variable. Because the average time in treatment at testing was roughly three months (105 Days, SD= 65), time in treatment effects were not captured due to narrowness of variance. Again, because the sample was cross-sectional, it was impossible to measure how remaining in treatment affects the variables. In addition, some items of the criminal thinking scales could assess political leanings, rather than criminal schemas. For instance, the item on the Personal Irresponsibility Scale, "laws keep

the poor people down" could be reflective of awareness of institutional bias and socioeconomic inequality in the United States, rather than a schema associated with criminal behavior. This possible lack of construct validity could bias results.

A final limitation is the scale used to measure alliance. The Counseling Rapport Scale is a scale created by Knight et al. (2006) specifically for the CJ DATS dataset analyzed in this study. Though the study reported a strong alpha coefficient (alpha= .94, .84 for test-retest reliability), it has not been widely used with this population. Unlike the Working Alliance Inventory, which has been discussed at length above and used with many samples, this was a very brief scale created for use with a single dataset. Previous literature has demonstrated that client assessment of alliance is predictive of outcome (Fauth, 2006; Fosshage, 2011; Horvath & Symonds, 1991; Laskowski, 2001). This relationship has not been tested for offenders. A convergent validity test for the Counseling Rapport Scale and Working Alliance Inventory would allow researchers to examine if the two scales are measuring the same construct. Time series analyses would allow researchers to understand the reciprocal relationship of alliance, participation, and other during treatment behaviors predictive of outcome, such as symptom change or treatment satisfaction.

Implications of the Study

Future Research

This study suggests several issues needing to be addressed in future research. Studies measuring the relationship between alliance and participation for this population are necessary. Another study could include comparing the two scales of alliance, to see which scale is stronger, especially when validated with this population. Another study could be adapting the Working Alliance Inventory for use with offenders in substance abuse

treatment. Additional items necessary for this population could be created using field experts. A concurrent validity study is needed comparing the working alliance inventory with the counseling rapport scale.

Another area for future research could include adaptation of the Criminal Thinking Scales to weed out participants testing high for psychopathy or antisocial personality disorder. As mentioned above, research has shown that for some individuals with these diagnoses, alliance is more difficult or requires more expertise with this population than the general practitioner in substance abuse would have. Also, aforementioned research has found that for individuals testing extremely high on the antisocial personality spectrum, alliance might not be possible. Therefore, adapting the scale with cutoffs for this subset of the population would help future researchers gain a more accurate and finely attuned understanding of the criminal thinking-alliance-outcome relationship.

Finally, a longitudinal study would be useful, to test alliance during treatment and its relationships to criminal thinking, psychological functioning during treatment, and outcomes of relapse and recidivism rates post-treatment. Over time, alliance could diminish criminal thinking, and improve functioning variables associated with better outcomes, such as Decision Making Skills and Self-Esteem. If tested as a moderator, one study could test for diminished effects of criminal thinking on psychological functioning for those with higher alliance scores. However, as alliance is a process developed over time, this factor indicates that a mediation model is more apt.

Practice

In addition to future research, there are several prominent implications for clinical practice. Clinicians and clinical researchers need to know how exactly criminal thinking

disrupts alliance and affects functioning. It is unknown how to adapt current treatments to meet needs of this specific population. It is not yet understood how exactly this population differs in treatment needs from those in substance abuse treatment without a history of criminal offense. In addition, research and adaptations are needed to teach clinicians that this population will be more resistant and combative and less amenable to confrontational treatment models The clinician will the need to use different techniques and be aware of negative transference and countertransference specific to hostile or resistant populations. It is possible that high levels of criminal thinking indicate a lifelong way of being, so takes a long time to change this (maybe longer than 3–4 months) to achieve alliance, and might require longer, more specialized treatment than currently exists.

Further, a clinician can't control who enters treatment, such as their criminal thinking levels, lack of willingness or motivation, or lack of family support, and cannot control which treatment modality their agency uses. The treatment factor the clinician can most readily affect is awareness of alliance strength and using it as an intervention to facilitate increased participation. Post hoc analyses of Treatment Participation as an outcome variable found that alliance mediated criminal thinking and participation. If clinicians do not assess and counter obstacles to alliance, these findings indicate clients will not get to the point of engagement where participation occurs. This could point to a problem with treatment for some cases, rather than clients' faulty thinking. Post hoc path model results indicate that the relationship between alliance and participation should be the central focus in future studies.

Conclusion

This study sought to examine associations and the relationship between criminal thinking, and variables of psychological functioning thought to be predictors of relapse and

recidivism rates post-treatment, as mediated through alliance. The study examined a cross-sectional dataset of 1,589 U.S. offenders in outpatient substance abuse treatment. The study confirmed previous findings that criminal thinking is negatively correlated with multiple variables of psychological and during-treatment functioning predictive of outcome, as well as alliance with one's counselor. These findings were confirmed both through correlations and regression models. The findings supported findings from previous research.

The hypothesis of alliance as a mediating variable was only partially confirmed for one outcome variable. While limitations of design could have contributed to these findings, it could also be that for this population alliance is less important than hypothesized. This could have been due to several limitations of design and measurement of alliance.

Post hoc analyses generated hypotheses for future studies, including examining the path from criminal thinking to alliance to treatment participation, as a mediating role through which offenders engage with treatment and minimize risk of relapse and recidivism post-treatment. However, while many studies examine treatment participation as a central factor in predicting treatment outcome, a large body of psychotherapy literature posits that participation is impossible without first allying with one's clinician.

Specifically, results of this found evidence that alliance partially mediates the relationship between criminal thinking and behaviors during treatment. Alliance partially mediated the relationship between criminal thinking and both decision-making skills and treatment participation. Literature has typically measured these behaviors as predictive of post-treatment relapse and recidivating. Additionally, these behaviors are conceptualized as a result of group classes teaching these skills to participants. The findings of this dissertation

indicate that for some offenders, alliance with one's counselor facilitates in allowing them to develop the behavioral skills predictive of positive outcomes post treatment.

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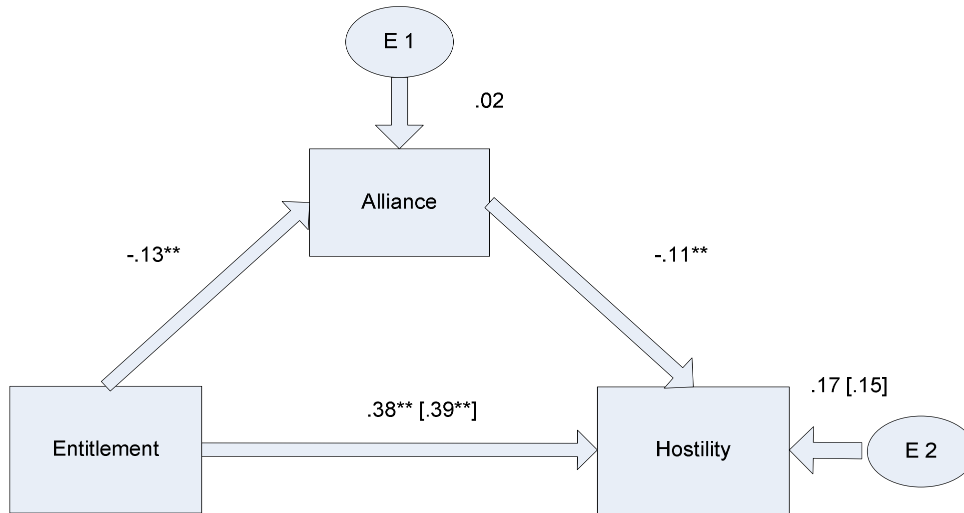
Appendix

Table 6. Regression Table, All Covariates, Including Posthoc Variables

	Self Esteem (R^2= .32)		Depression (R^2= .40)		Anxiety (R^2= .40)		Decision Making (R^2= .36)		Hostility (R^2= .30)		Risk Taking (R^2= .23)	
	β	P	β	P	β	P	β	P	β	P	β	P
Independent Variables:												
Entitlement	-.11**	.00	.09**	.00	.07*	.01	-.19	.00	.21**	.00	.13**	.00
Criminal Rationalization	.04	.17	.03	.23	.09**	.00		.13	.12**	.00	.19**	.00
Personal Irresponsibility	-.11**	.00	.14**	.00	.12**	.00	-.14	.41	.13**	.00	-.03	.43
Mediating Variable:												
Counseling Rapport Scale	.01	.67	-.04	.14	-.04	.22	-.08*	.01	.01	.66	.02	.51
Covariates:												
Gender	-.08*	.01	.20**	.00	.17**	.00	-.12**	.00	.01	.77	.00	.90
Hispanic	.00	.99	.01	.80	-.01	.86	.02	.70	.06	.26	-.03	.54
Black	.04	.09	-.10**	.00	-.14**	.00	.05*	.01	.02	.42	-.14**	.00
Multi	.02	.30	-.05*	.02	-.06*	.01	.02	.45	.00	.99	.02	.33
Other	.01	.67	-.06	.20	-.08	.12	.01	.78	-.08	.14	-.06	.28
Highest Grade	-.01	.59	-.05*	.01	-.11**	.00	.04*	.05	-.08**	.00	.05*	.05
# Times in Jail, Lifetime	-.01	.83	-.01	.75		.96	-.03	.24	-.03	.19	.00	.96
Ever Been in a Gang	-.01	.52	.01	.75	.04*	.04	-.03	.16	.15**	.00	.09**	.00
Desire for Help	-.27**	.00	.18**	.00	.11**	.00	-.10**	.00	-.11	.43	-.01	.80
Treatment Readiness	-.01	.87	-.11**	.00	-.06	.09	-.10**	.00	-.07*	.06	.01	.86
Treatment Needs	-.18**	.00	.23**	.00	-.06**	.00	-.15*	.05	.17**	.00	.11**	.00
External Pressure	-.13**	.00	.22**	.00	.28**	.00	-.10**	.00	.12**	.00	.20**	.00
Treatment Participation	.41**	.00	-.22**	.00	-.14**	.00	.58**	.00	-.08*	.01	-.21**	.00
Treatment Satisfaction	-.05	.12	.02	.48	.01	.84	-.01	.87	-.07*	.02	-.05	.16

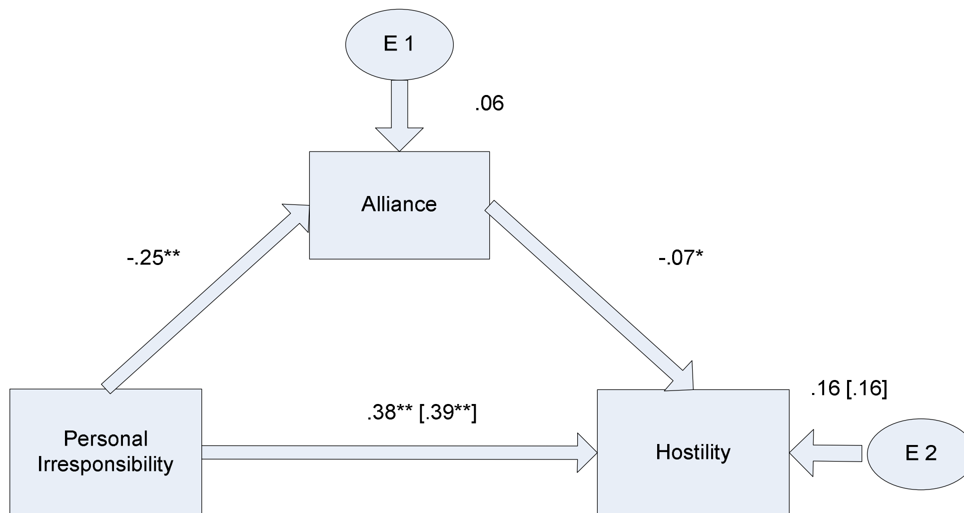
Note. All β were standardized. **p<.001, *p<.05

Figure 3. Path Model for Entitlement, Hostility



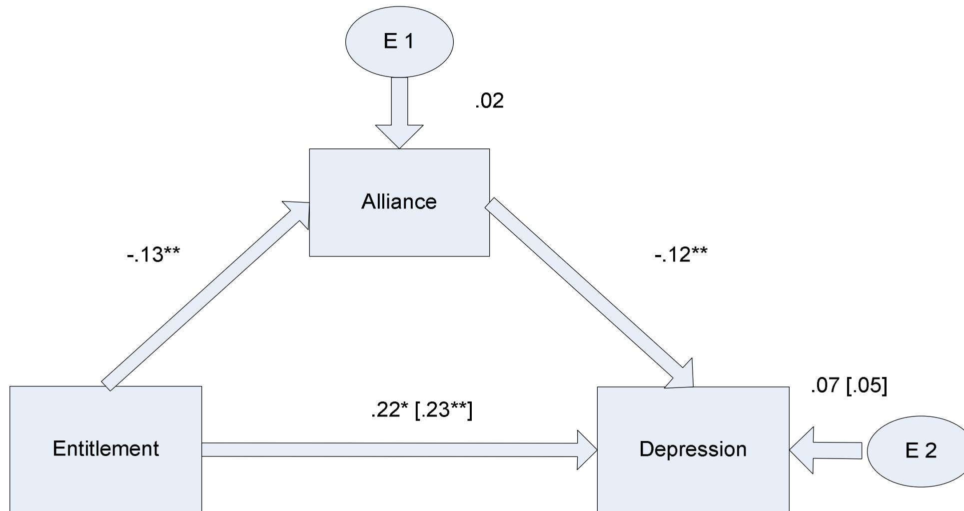
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & hostility are R^2.

Figure 4. Path Model for Personal Irresponsibility, Hostility



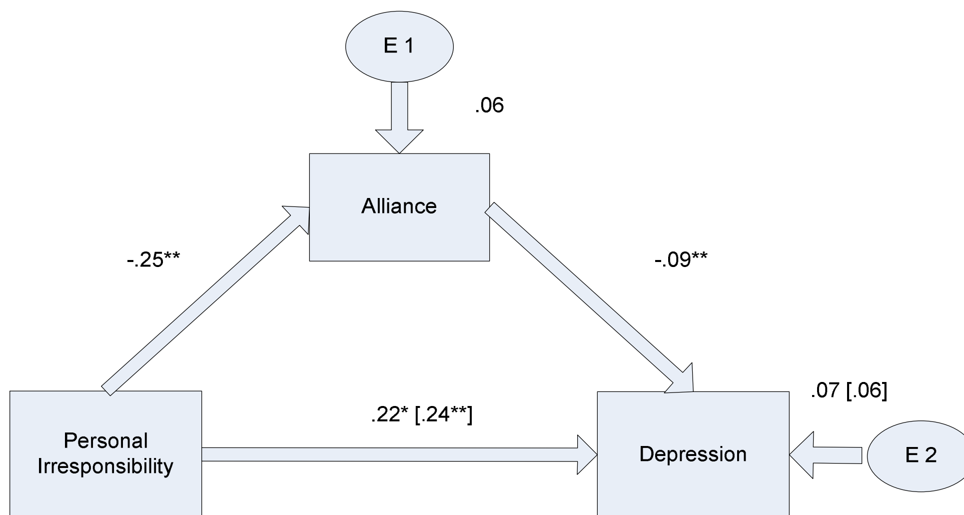
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & hostility are R^2.

Figure 5. Path Model for Entitlement, Depression



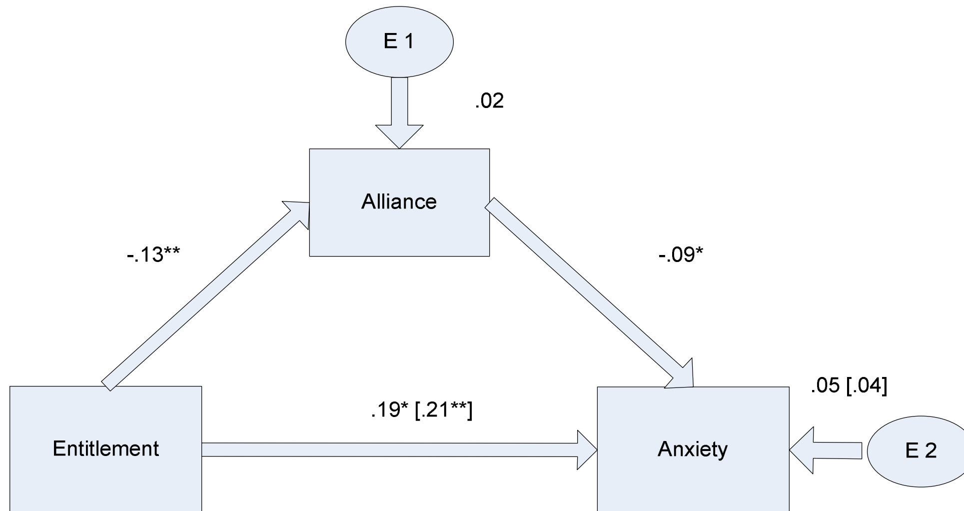
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & depression are R^2.

Figure 6. Path Model for Personal Irresponsibility, Depression



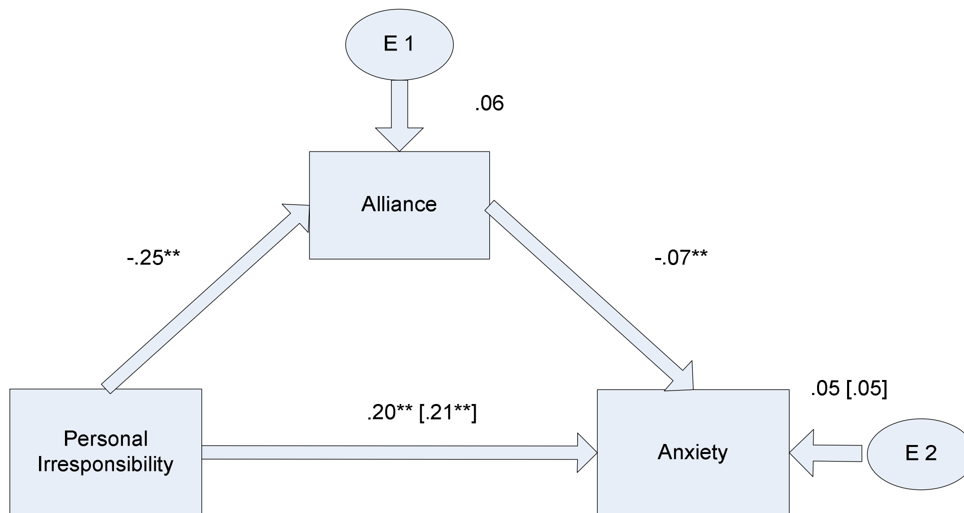
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & depression are R^2.

Figure 7. Path Model for Entitlement, Anxiety



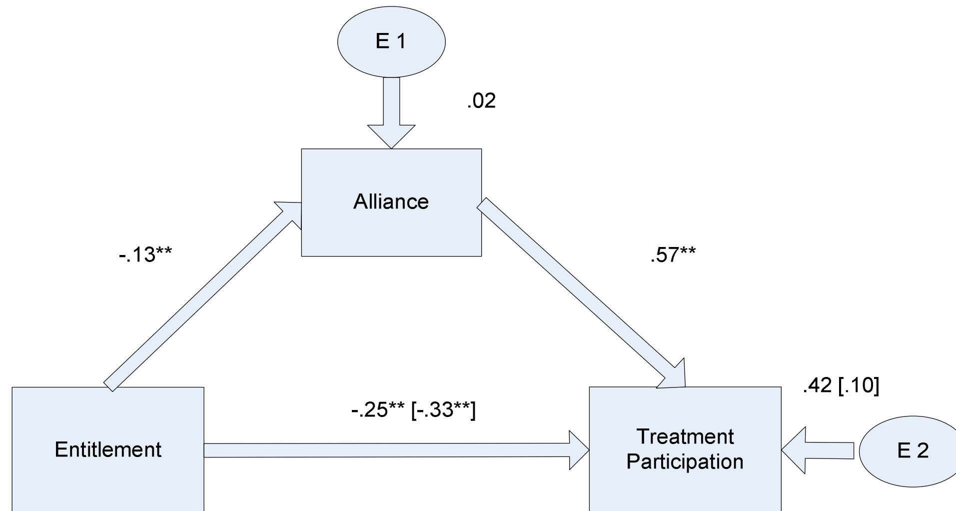
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & anxiety are R^2.

Figure 8. Path Model for Personal Irresponsibility, Anxiety



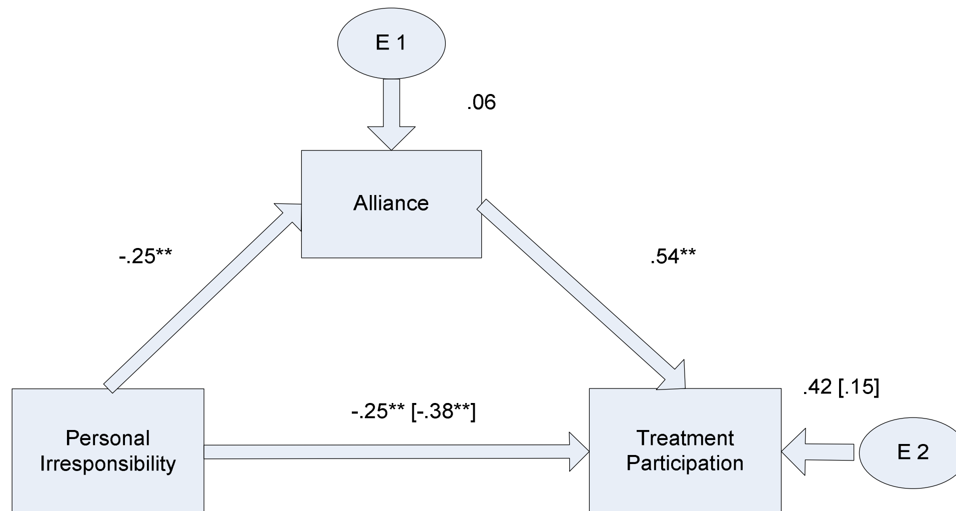
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & anxiety are R^2.

Figure 9. Standardized Path Coefficients for Treatment Participation as outcome variable.



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & treatment participation are R^2.

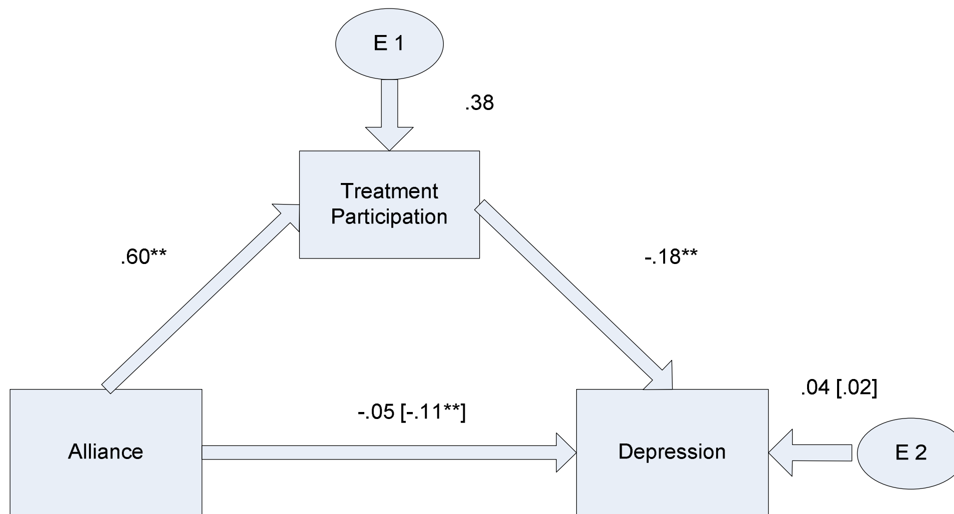
Figure 10. Standardized Path Coefficients for Treatment Participation as outcome variable.



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of alliance & treatment participation are R^2.

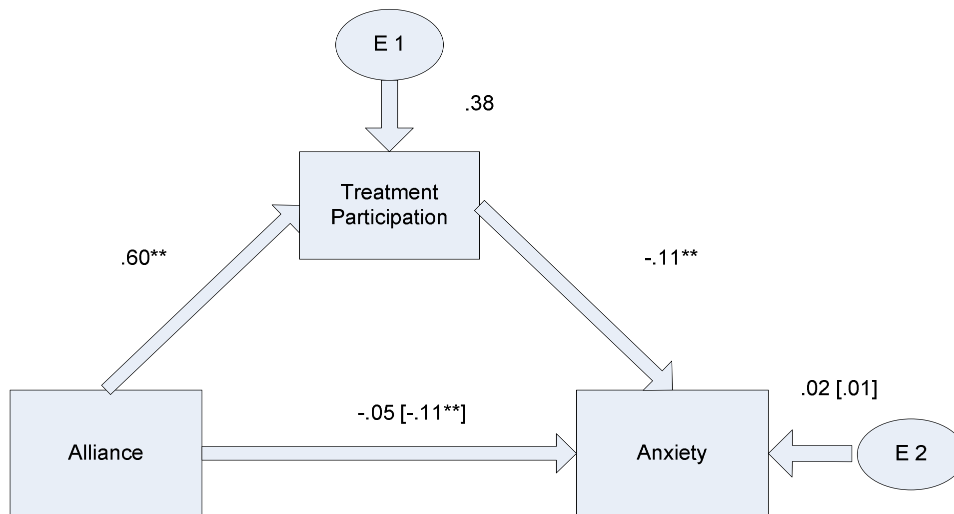
Alliance, Treatment Participation, Outcome Variables

Figure 11. Standardized Path Coefficients for Treatment Participation as mediating variable.



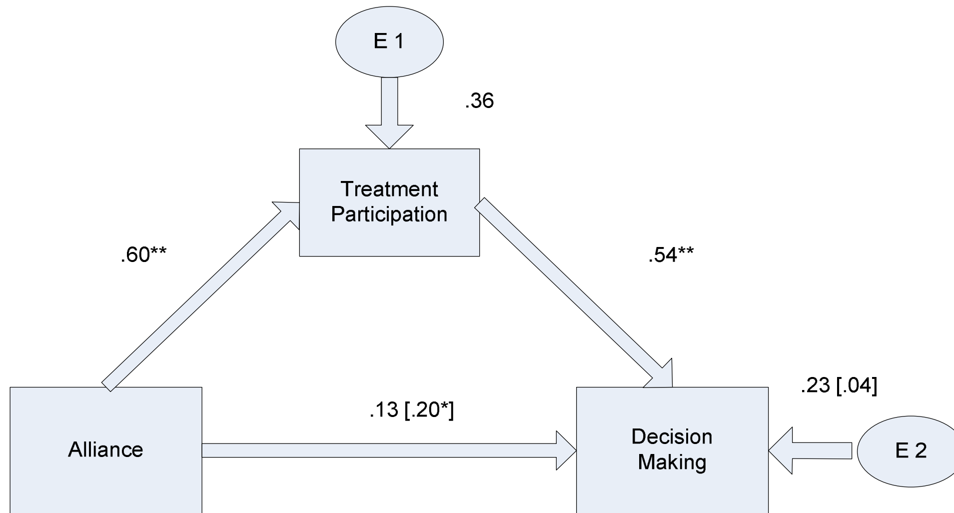
**p<.001, *p<.05. **p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & depression are R^2.

Figure 12. Standardized Path Coefficients for Treatment Participation as mediating variable.



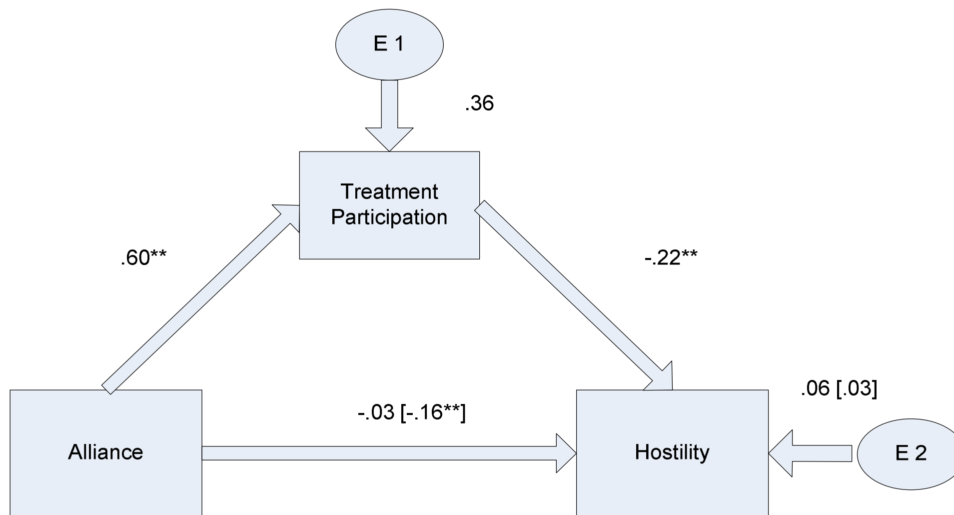
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & anxiety are R^2.

Figure 13. Standardized Path Coefficients for Treatment Participation as mediating variable.



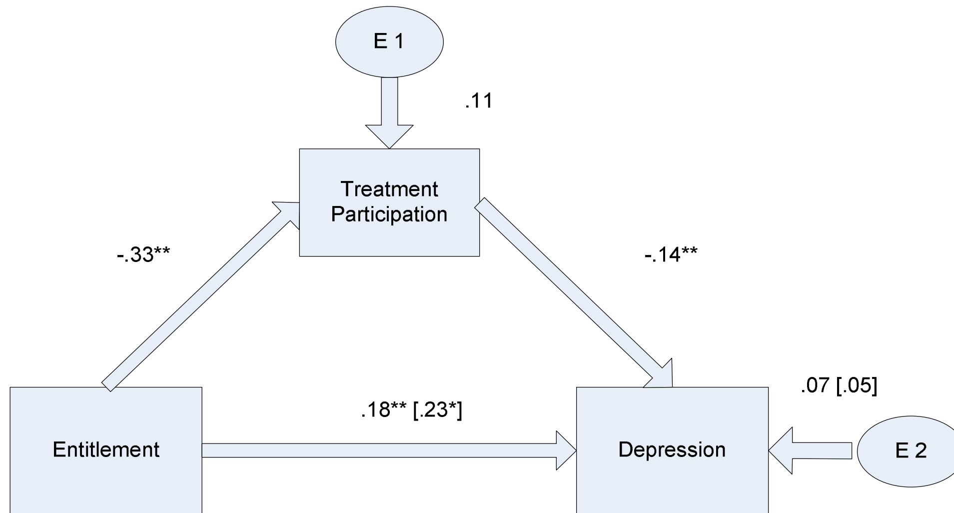
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & depression are R^2.

Figure 14. Standardized Path Coefficients for Treatment Participation as mediating variable.



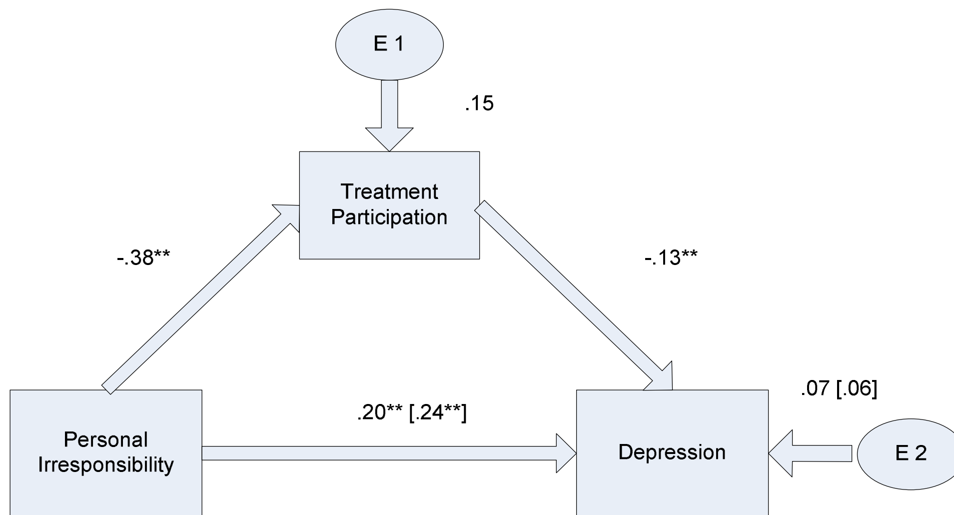
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation and hostility are R^2.

Figure 15. Standardized Path Coefficients for Treatment Participation as outcome variable.



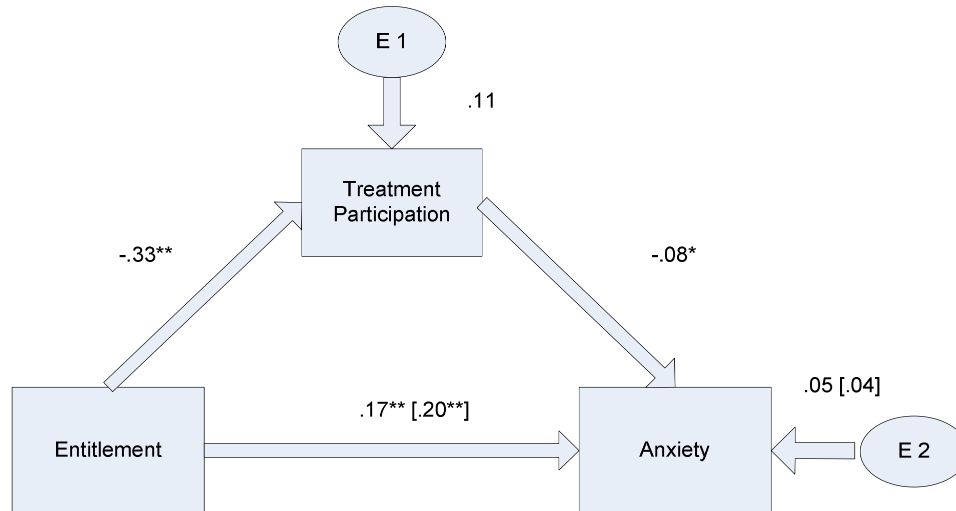
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & depression are R^2.

Figure 16. Standardized Path Coefficients for Treatment Participation as mediating variable.



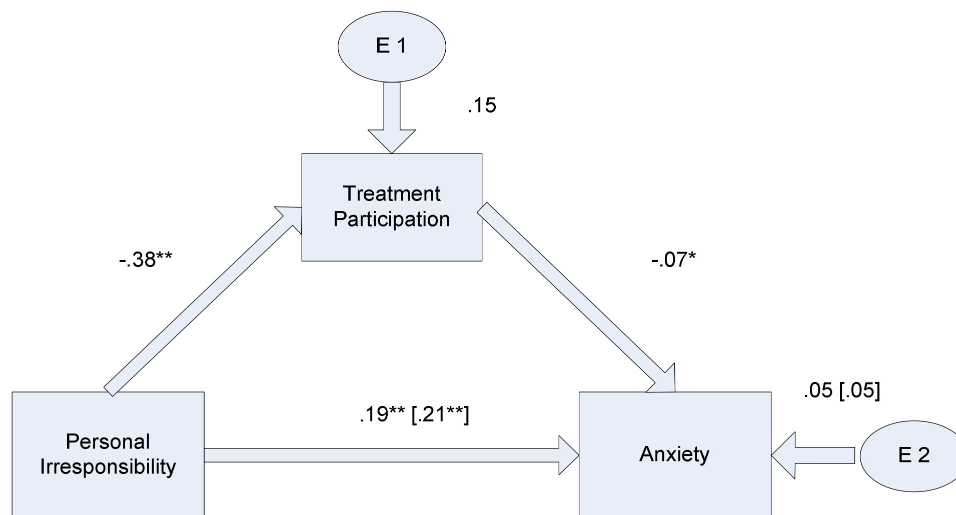
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & depression are R^2.

Figure 17. Standardized Path Coefficients for Treatment Participation as mediating variable.



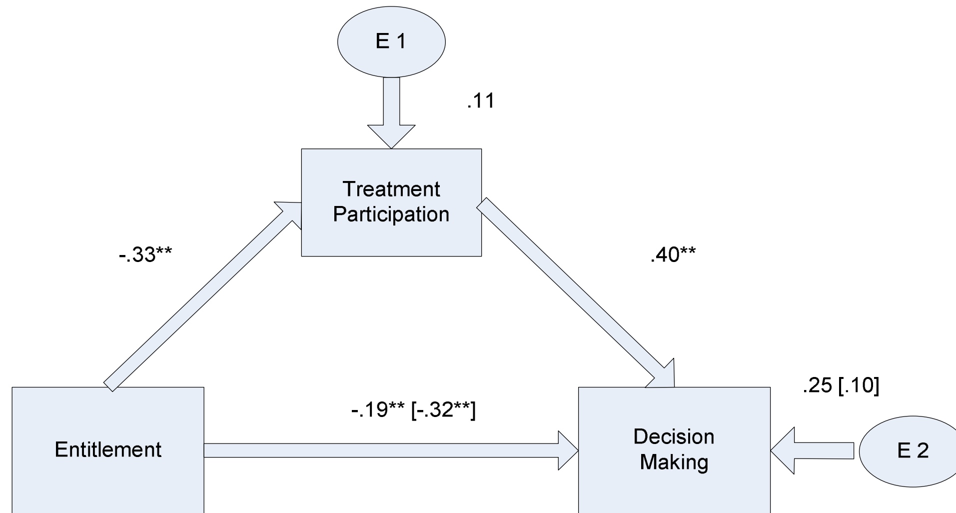
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation and anxiety are R^2.

Figure 18. Standardized Path Coefficients for Treatment Participation as mediating variable.



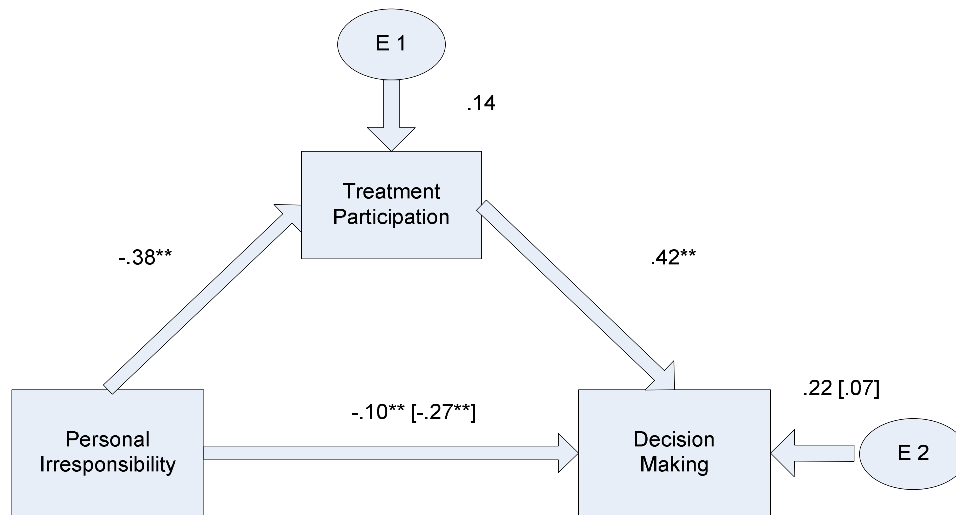
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & anxiety are R^2.

Figure 19. Standardized Path Coefficients for Treatment Participation as mediating variable.



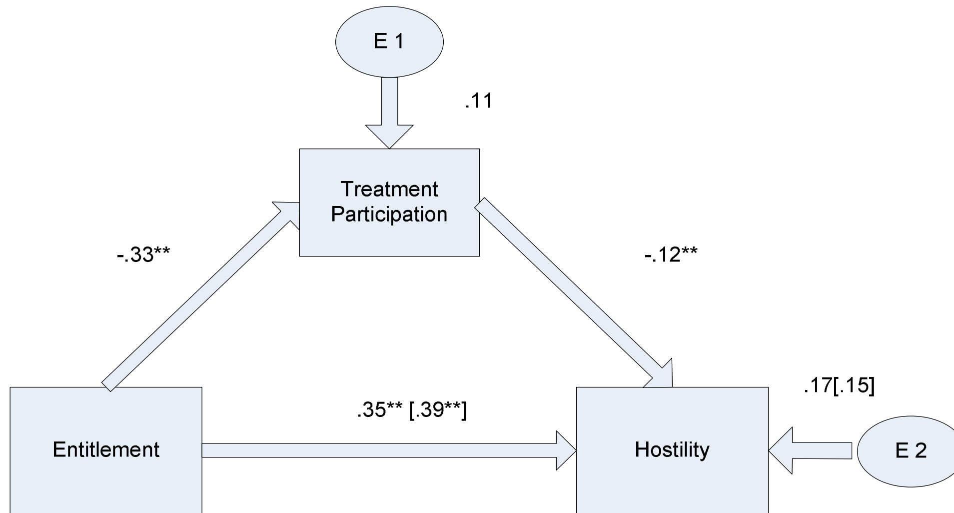
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & decision making are R^2.

Figure 20. Standardized Path Coefficients for Treatment Participation as mediating variable.



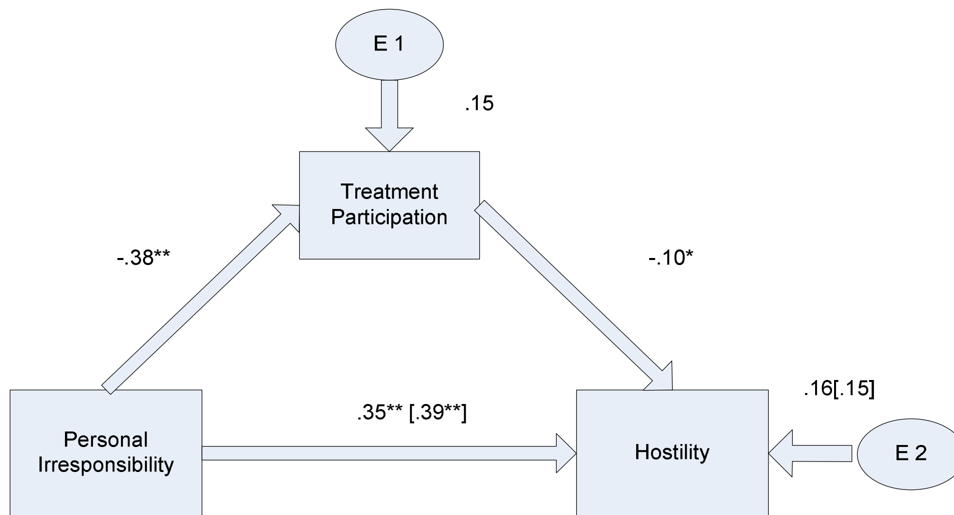
**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & decision makings are R^2.

Figure 21. Standardized Path Coefficients for Treatment Participation as mediating variable.



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & hostility are R^2.

Figure 22. Standardized Path Coefficients for Treatment Participation as mediating variable.



**p<.001, *p<.05. *Note.* Numbers on paths are standardized regression coefficients. Numbers in parentheses are from unmediated model. Numbers at upper right of treatment participation & hostility are R^2.