THE ROLE OF THE THERAPEUTIC ALLIANCE AND ITS RELATIONSHIP TO TREATMENT OUTCOME AND CLIENT MOTIVATION IN AN ADOLESCENT SUBSTANCE ABUSE TREATMENT SETTING

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Abstract

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THE ROLE OF THE THERAPEUTIC ALLIANCE AND ITS RELATIONSHIP TO TREATMENT OUTCOME AND CLIENT MOTIVATION IN AN ADOLESCENT SUBSTANCE ABUSE TREATMENT SETTING (195 pp.)

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While motivation and therapeutic alliance have been found to be influential factors in the outcome of substance abuse treatment for adult populations, comparatively little is known about the potential impact of these variables on outcomes in adolescent substance abuse treatment. The present study examined the relationships between motivation and readiness for treatment, therapeutic alliance, treatment compliance, and outcome variables in a sample of adolescents in residential substance abuse treatment. Eighty-one adolescents participated in the study, in which they completed self-report measures of motivation and readiness prior to treatment, therapeutic alliance measures during treatment, and ratings of psychiatric problem severity and depressive symptomatology before and after their treatment episodes.

Results indicated that initial alliance, as rated by clients or counselors on an adapted form of the Working Alliance Inventory (Horvath, 1981), was not associated with measures of treatment outcome, including discharge status, change in psychiatric symptoms, and clinician ratings of progress at discharge. Higher initial client-rated alliances were associated with fewer instances of severely inappropriate behavior over the course of treatment. However, positive counselor-rated alliance ratings obtained after session six of individual therapy significantly predicted greater progress in the treatment
program and reductions in psychiatric problem severity as measured by the Ohio Youth
Problem, Functioning, and Satisfaction Scale (Ogles, et al., 2000).

Client-reported pre-treatment levels of problem recognition were negatively
associated with client-rated alliance after session six of individual therapy, while high
levels of treatment readiness predicted client ratings of the alliance at the same time
point. In addition, high levels of problem recognition were associated with clients’ poor
compliance with program rules over the course of treatment.

Despite mixed findings, these results provide preliminary evidence that high
levels of treatment readiness and positively-rated alliances are likely important factors in
the successful treatment of adolescent substance abusers. The implications of the present
findings and suggestions for future research are discussed.

Approved:

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CHAPTER ONE

INTRODUCTION

Over the past 40 years, adolescent substance use and abuse has become a significant public health concern and a costly financial burden in this country. As recently as 1999, it was estimated that the total cost of alcohol use by youth—including traffic crashes, violent crime, burns, drowning, suicide attempts, fetal alcohol syndrome, alcohol poisonings, and treatment—was more than $58 billion per year (Levy, Miller, & Cox, 1999). Drug- and alcohol-related car crashes are the number one cause of death for teens. In addition, alcohol use is also significantly correlated with homicides, suicides, and drownings—the next three leading causes of death among youth (Levy, et al, 1999).

Recent prevalence data regarding substance use by adolescents confirms that substance abuse is a significant problem in society. As of 2004, it was estimated that nearly 40% of high school seniors had used an illicit drug in the past year and 15% of 8th graders had used an illicit drug in the past year (Johnston, O’Malley, Bachman, & Schulenberg, 2005). In 2005, it was estimated that 4.7% of all adolescents between 12 and 17 years of age met diagnostic criteria for a substance use disorder. In raw form, this figure corresponds to approximately 1.2 million adolescent substance abusers in the United States (Substance Abuse and Mental Health Services Administration [SAMHSA], 2005). While these data may be startling, what is even more alarming is that observers in the field estimate that fewer than 10% of adolescents with past-year symptoms of substance abuse or dependence receive appropriate treatment (Dennis & McGeary, 1999).
Adolescent-onset substance abuse behavior is associated with declining academic performance, increased incidences of disruptive behavior, mental health problems, legal difficulties, and increased likelihood of subsequent substance abuse/dependence in adulthood (Kuperman, et al, 2001; Grant & Dawson, 1997; Wilens, Biederman, Abrantes, & Spencer, 1997). Governing bodies overseeing the provision of mental healthcare services, such as the Joint Commission (JC; formerly known as Joint Commission on Accreditation of Healthcare Organizations), have mandated empirically-sound methods of measuring treatment outcome in a number of domains of functioning, thus providing an urgent need to evaluate outcomes in treatment settings. While there is evidence that substance abuse treatment effectively reduces problem substance use in a subset of adolescents (Winters, Stinchfield, Opland, Weller, & Latimer, 2000), researchers in the field report high levels of relapse shortly following treatment (Cornelius, et al., 2003).

In order to improve treatment outcomes and gain a better understanding of the variables that contribute to positive outcome in adolescent populations, it appears useful to identify and investigate treatment processes that have been demonstrated to improve outcomes in other treatment domains, such as general psychotherapy. The therapeutic alliance, by virtue of its importance in adult psychotherapy, preliminary findings in adolescent populations, and existing data suggesting that child/adolescent therapists view the therapeutic alliance as extremely important to their work, is an interesting avenue of study.

The therapeutic alliance has long been viewed as an important aspect of psychotherapy process. Over the past 30 years, psychotherapy researchers have investigated how the therapeutic alliance develops, how it is maintained, and how the
quality of the alliance relates to eventual treatment outcome. A consistent finding in the literature is that the therapeutic alliance is significantly associated with treatment outcome in a number of treatment modalities, including individual psychotherapy (Martin, Garske, & Davis, 2000), family therapy (Quinn, Dotson, & Jordan, 1997), pharmacotherapy (Krupnick, et al., 1996), and rehabilitation counseling (Lustig, Strauser, Rice, & Rucker, 2002) involving adult clients.

Unfortunately, much less is known about the nature and function of the therapeutic alliance in the context of adolescent psychotherapy. As such, the focus of empirical research on child/adolescent psychotherapy has primarily been on outcome measurement and pre-treatment correlates of positive treatment outcome. Only recently has any attention been given to in-treatment process variables and the potential impact of these variables on eventual treatment outcome. A recent meta-analytic review of 23 published and unpublished studies (Shirk & Karver, 2003) has provided preliminary evidence that the therapeutic alliance plays a significant role in the successful treatment of children and adolescents, citing a weighted alliance—outcome effect size of $r = .20$.

However, the existing research is far from exhaustive or conclusive; many of the included studies did not assess the therapeutic relationship per se, instead focusing on more generic relational variables (e.g., perceived barriers to treatment, subjective observer ratings, client ratings of therapist empathy). Additional research is needed that directly assesses the client-therapist relationship in adolescent populations, and it is clear that further inquiry is needed to fully understand the relationship between the therapeutic alliance and therapy outcome with child or adolescent clients in diverse clinical settings, including addictions treatment.
As alluded to previously, there is an emerging body of literature in the addictions field dedicated to the impact of client characteristics on the outcome of addictions treatments. The characteristics are often as varied as the clients themselves, ranging from stable characteristics such as demographics to more dynamic variables including substance use severity, psychiatric symptomatology, and personality variables (Hsieh, Hoffman, & Hollister, 1998). Some of the most intuitively intriguing of these characteristics is client motivation and readiness for treatment. Motivation has been hypothesized to be a critical component of effective treatment for a number of psychological problems, including pathological gambling (Wulfert, Blanchard, & Martell, 2003), eating disorders (Wilson & Schlam, 2004), and mood disorders (Fowles, 1994). In addition, recent research has begun to explore the impact of adult clients’ levels of motivation for behavior change on outcomes in drug and alcohol treatment. However, while there is some evidence that adolescents are generally less motivated for substance abuse treatment than adults (Jainchill, Bhattacharya, & Yagelka, 1995), the relative lack of research on motivational factors in adolescent substance abusers at the moment precludes drawing any definitive conclusions about the impact of such factors on the addiction treatment process and therapeutic outcome.

Overview of the literature review and current study

The purpose of the following literature review and study is to provide a theoretical and empirical basis for the role of the therapeutic alliance in adolescent psychotherapy in general and chemical dependency treatment in particular. Additionally, the following review aims to summarize the relevant research findings regarding the relationship between the therapeutic alliance and outcome in clinical settings, with
particular focus on substance abuse treatment settings. Another goal of this review is to summarize the existing research that focuses on adolescent chemical dependency, including data regarding national prevalence, treatment outcome studies, and salient factors related to effective chemical dependency treatment. The construct of motivation and relevant research on motivation in adult and adolescent addictions treatment will also be summarized in this review. Finally, the following review aims to provide a theoretical and empirical rationale for the current study, which aims to investigate the role of the therapeutic alliance and pre-treatment motivation for treatment on a number of outcome domains for adolescents in a residential substance abuse treatment program.

Summary of the current study

Previous research regarding adolescent chemical dependency treatment has virtually ignored the potential impact of process variables. The current study seeks to expand the current body of research on adolescent chemical dependency treatment by investigating the role of the therapeutic alliance in residential treatment. Specifically, the current study aims to determine whether the alliance between counselor and client is associated with treatment outcome indices (e.g., behavioral treatment compliance, discharge status, progress toward treatment goals, changes in psychological symptom severity) and whether therapeutic alliance is predictive of eventual treatment outcome in these domains. Another purpose of this study is to examine the impact of clients’ pre-treatment level of motivation for behavior change and desire for treatment, their relationships to the therapeutic alliance, and their influence on treatment outcome. While a number of researchers have addressed the concept of motivation for treatment in
substance abuse treatment studies, relatively few, if any, have simultaneously examined therapeutic alliance and motivation for treatment in an adolescent sample.

The present study aims to contribute to the current substance abuse treatment literature by adding to the relatively small body of evidence that suggests the therapeutic alliance is a significant factor in effective substance abuse treatment. In addition, the present study will shed light on the relative impact of pre-treatment motivation on the therapeutic relationship and treatment outcome in a population that is generally considered poorly motivated to participate in treatment. As such, information gleaned from the present study could be used to improve the quality and effectiveness of residential substance abuse treatment for adolescents.
CHAPTER TWO
THE LITERATURE REVIEW

The purpose of the following literature review is to provide the background and rationale for the study of the therapeutic alliance in the context of residential substance abuse treatment for adolescents. The literature will be presented in four parts. Part One will review literature investigating adolescent substance abuse, treatment models, treatment outcomes, and key issues in the field of adolescent addictions treatment, primarily focusing on treatment outcome and in-treatment variables related to outcome. Part Two will summarize the relevant theoretical and empirical literature on the therapeutic alliance construct. Findings from the adult literature as well as the existing child/adolescent literature regarding the therapeutic alliance will be reviewed. Part Three will review the relevant literature regarding the role of motivation in the treatment of adolescent substance use disorders. Part Four of the review will provide the rationale for studying the therapeutic alliance and motivation in the context of residential treatment for adolescent substance abusers.

PART I: ADOLESCENT SUBSTANCE ABUSE, TREATMENT, AND OUTCOME

Early formulations of the Diagnostic and Statistical Manual of Mental Disorders (DSM-I; American Psychiatric Association, 1952) included substance-related disorders in the same diagnostic category as sociopathy, antisocial personality, and sexual deviance, using the nomenclature of “sociopathic personality disturbance.” Subsequent iterations of the DSM have disentangled these rather diverse clinical phenomena and have chosen to
describe each as separate psychiatric disorders. The *Diagnostic and Statistical Manual of Mental Disorders—4th Edition, Text Revision (DSM-IV-TR)*; American Psychiatric Association, 2000) categorizes a variety of substance-related disorders. Generally, there are two groups of substance-related disorders: substance use disorders (SUDs) and substance-induced disorders. The following section will primarily focus on SUDs, which include substance abuse and substance dependence.

The *DSM-IV-TR* provides specific diagnostic labels for the abuse of 11 classes of substances, including alcohol, amphetamines, cannabis, opioids, sedative/hypnotic/anxiolytic substances, and others. While new drugs, especially synthetic ones, seem to be created on a regular basis, most drugs of abuse fall within the 11 established categories. Although it is obvious that the substance being misused determines the type of symptoms that arise, there are general characteristics or symptoms of substance abuse and dependence that are evident across all substances of abuse. In order to account for the complexities of defining and classifying drug-related problems, the *DSM-IV-TR* classifies these problems on Axis I using the following three parameters: the behavioral pattern of use, the effects of the drug when taken or unavailable, and the type of drug used.

According to the *DSM-IV-TR*, *substance abuse* is characterized by a maladaptive pattern of substance abuse that leads to impairment in one of more areas of functioning. Impairment includes failure to fulfill major role obligations (either personally or professionally), recurrent use in physically hazardous situations (e.g., driving when impaired), recurrent legal problems secondary to substance use, and continued use despite persistent consequences either caused or exacerbated by substance use (APA, 2000).
Substance dependence is characterized by a more pervasive pattern of use and consequences and may involve physiological changes that accompany the experiences of withdrawal and tolerance. More specifically, the DSM-IV-TR lists tolerance, withdrawal, using more of the substance or using it longer than intended, and a persistent desire to quit or minimize amount and frequency of use as prominent symptoms of substance dependence. In addition, those who are substance dependent often spend an inordinate amount of time trying to obtain the substance or recover from its effects. This often corresponds with the individual giving up important social, recreational, or occupational activities. Substance dependence is also indicated by continued use despite medical or psychological consequences of substance use behavior.

Medically speaking, substance dependence is a more dangerous condition than substance abuse due to the serious consequences of tolerance and withdrawal syndromes that are associated with the condition. Still, both substance abuse and dependence are associated with clinically significant impairment in functioning. Kaminer (1999), like many others in the field, notes that the hallmarks of substance dependence, namely tolerance and withdrawal, are less likely to be present in adolescent substance users because youth have “not typically had sufficient time to manifest the long-term consequences comprising the criteria for (substance dependence) diagnosis” (Kaminer, 1999, p. 278). Instead, adolescents are more likely to experience difficulties accounted for by other criteria for substance dependence, including loss of control over the amount of substance used, unsuccessful attempts to limit or moderate use, and giving up previously important social or recreational activities in lieu of substance use. The lack of physiological symptoms likely contributes to adolescents’ characteristic denial and
minimization of substance-related consequences. In the relatively rare case where tolerance and withdrawal symptoms emerge in adolescents, the prognosis for long-term abstinence or recovery is especially poor. Partially as a result, some researchers in the field (e.g., Brown, 2004; Winters, 1999) have proposed that the next version of the DSM should include additional diagnostic subcategories for substance-related disorders in adolescents in order to promote earlier and more accurate identification of substance-related problems in adolescents.

In addition, adolescent-onset substance dependence is associated with myriad behavioral, psychological, and social consequences. Often, adolescents who meet criteria for SUDs also demonstrate comorbid symptoms of attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, and mood disorders (Dennis, Scott, Godley, & Funk, 2000). In general, studies have found that up to 75 percent of adolescents entering treatment for substance abuse have at least one comorbid mental health disorder, and that as many as 50 percent have three or more (Dennis, Dawud-Noursi, Muck, & McDermite, 2003).

Additionally, adolescent-onset substance dependence has been linked with precocious and risky sexual behavior (Bates & Labouvie, 1997), as well as increased rates of suicide attempts and completion (Brent, Kalas, Edelbrock, Costello, Dulcan, & Conover, 1986). In general, individuals with substance use disorders (either abuse or dependence) score lower on tests of intelligence and academic achievement compared with youth who do not meet criteria for either diagnosis (Tarter, et al, 1995).

Moreover, researchers have asserted that substance use and abuse during adolescence impedes the developmental trajectory (Baumrind & Moselle, 1985).
Specifically, researchers suggest that adolescent substance use impedes role definition and promotes an ultimately false and egocentric worldview. Furthermore, Baumrind and Moselle suggest that substance use in adolescence promotes a vacillation between an internal locus of control (e.g., the feeling of being “bulletproof”) and an external locus of control, leading to feelings of hopelessness and depression. Perhaps most notably, it has been argued that adolescent substance abuse promotes a false sense of freedom and emancipation while at the same time producing a regressive pattern of dependency on caregivers and/or society as a whole. Thus, while adolescents develop the perception that they are worldly and mature as a result of experimentation and abuse of substances, in actuality, they are avoiding the demands and responsibilities that promote the transition between adolescence and adulthood.

Substance use and abuse are not randomly distributed among adolescents. Numerous researchers (e.g., Jessor & Jessor, 1977) have identified characteristics that put adolescents at greater risk for alcohol- or drug-related problems, including the following: parental and peer drug use (Li, Pentz, & Chou, 2002), school problems (Kuperman, et al., 2001), legal problems or illegal behavior, conflict with parents, regular smoking (Swadi, 1992), depression, impulsivity, rebelliousness, and high novelty-seeking behavior (Cloninger, et al, 1988).

Compared to non-users, those who use substances have been found to be 3 to 47 times more likely to have a host of other problems, including symptoms of dependence, emergency room admits, school dropout, behavior problems, and legal difficulties (Guo, Chung, Hill, Hawkins, Catalano, & Abbott, 2002). Drug and alcohol use among adolescents is a major public health issue. The National Center for Disease Control and
Prevention (CDC; 1997) reported that substance abuse has been related to as many as 30% of adolescent motor vehicle accidents, 20% of adolescent homicides, 13% of adolescent suicides, and 10% of serious unintentional injuries among adolescents. In fact, some observers in the field expect trends of substance-related consequences to worsen due to earlier onset of substance use in children and adolescents (Dennis, et al., 2003; Dennis & McGeary, 1999).

A number of researchers have asserted that experimental use of substances during adolescence is relatively common. For instance, Shedler and Block (1990), in a large-scale longitudinal study of youth from preschool to the age of 18, found that adolescents who had experimented with some drugs (especially marijuana) tended to be more psychologically healthy than abstinent or heavy using peers.

As adolescents are often quite adept in concealing their substance abuse from adults, parents and teachers are more likely to notice the behavioral and social problems that are associated with substance abuse (e.g., declining academic performance, social isolation, legal problems) rather than observe the direct effects of the substance (i.e., acute intoxication). Given the severity of the consequences associated with adolescent substance use, efforts to improve prevention, assessment, and intervention methods are of critical importance.

**Prevalence**

The best, most comprehensive data regarding national prevalence and trends in adolescent drug use is the Monitoring the Future (MTF) survey data, which was first collected in 1975 and has since been collected annually. The MTF is designed to measure drug, alcohol, and tobacco use and related attitudes among 8th, 10th, and 12th grade
students nationwide. The MTF is overseen by the National Institute on Drug Abuse and the National Institutes of Health, and is conducted by researchers at the University of Michigan. In 2004, nearly 50,000 students participated in the survey, which assesses drug use and attitudes across three time periods: lifetime, past year, and past month.

After reported declines in illicit drug use from the early 1980s until 1991, illicit drug use among adolescents increased significantly and consistently throughout the remainder of the 1990s (Monitoring the Future, 1999, In Dennis, et al., 2003). Between 1991 and 1999, past-year illicit drug use rose from 29% to 42% among 12th graders and from 11% to 21% among 8th graders. Marijuana appeared to be the drug of choice during that time period, accounting for twice as much past-month use than all other drugs combined for 8th and 12th graders.

Current trends, however, reflect improvement in both rate of usage and perceived risk of illicit drug use. The most recent MTF survey data indicate a 6% decline of any illicit drug use in the past month by 8th, 10th, and 12th graders combined between 2003 and 2004. The latest data indicate that 15.2% of 8th grade students have used an illicit drug in the past year, which is nearly a 35% decline from use rates in 1996. The 12 month illicit drug use prevalence rates for 10th and 12th graders were 31% and 39%, respectively, representing a 19% reduction in prevalence for 10th graders and a 3.5% reduction for 12th graders since 1996 (Johnston, O’Malley, Bachman, & Schulenberg, 2005).

With regard to specific drugs of abuse, 2004 MTF data indicate that the percentages of 8th and 10th graders using alcohol in the past year are at their lowest since 1993 and 1995, respectively. While past year alcohol use rates for 12th graders have remained stable over the past decade, trend analysis from 2001 to 2004 revealed an 18
percent drop in marijuana past month use across all age groups. Fewer 10th and 12th
graders used LSD, methamphetamine, cocaine, and tranquilizers in 2004 than in previous
years.

Despite these encouraging findings, there is an alarming trend among adolescents
with regard to prescription narcotics, a trend that has been well-publicized by national
media outlets. While OxyContin and Vicodin use rates among 10th and 12th graders have
remained stable over the past 4 years, the past year prevalence rates for these drugs are at
a level of significant concern for governmental and health care officials. More
specifically, for high school seniors, 5% report past year non-prescribed use of
OxyContin and 9.3% report past year use of Vicodin (Johnston, et al., 2005).

While drug and alcohol experimentation among youth is relatively common
(Shedler & Block, 1990), the data regarding adolescents who demonstrate problematic
levels of use provides empirical evidence of a significant societal problem. Recent
national survey data estimates that nearly 1.2 million adolescents meet criteria for
substance abuse or dependence with regard to illicit drugs (e.g., cocaine, opioids,
marijuana) or alcohol (SAMHSA, 2005). Data suggest that the most prominent
substances for those adolescents demonstrating problematic levels of use are alcohol
(5.5% of all adolescents) and marijuana (3.6%), but again, the prevalence of abuse of
prescription medication (1.3%) is of increasing concern (SAMHSA, 2005).

Despite increased levels of risk for youth who use alcohol or drugs, the vast
majority of adolescents who use alcohol or other drugs do not progress to abuse or
dependence (Weinberg, Rahdert, Colliver, & Glantz, 1998; Newcomb, 1995). However,
recent studies suggest that of all adults reporting one or more symptoms of tobacco,
alcohol, or cannabis dependence, 90 percent started using the substance prior to the age of 18, with 50 percent using prior to the age of 15 (SAMHSA, 2004). In addition, youth who begin drinking prior to the age of 15 are four times more likely to meet criteria for alcohol dependence at some point in their lifetime than those who start drinking at 21 or older (Grant & Dawson, 1997). Thus, adolescent experimentation with substances appears to be a predictor—albeit an imperfect one—of future substance use disorders in adulthood, and a history of adolescent substance use is often present in adults with substance dependence.

_Treatment for Adolescent Substance Abuse/Dependence_

_Treatment Admissions Data_

In 2003, nearly 1.1 million Americans sought treatment for SUDs. Over 260,000 of those were under the age of 24, including over 18,000 under the age of 15 (SAMHSA, 2004). Between the years of 1992 and 2002, the number of adults entering substance abuse treatment increased by 23%. In comparison, the number of adolescents seeking treatment has skyrocketed. Adolescent admissions increased by 65%, from 95,000 in 1992 to 156,000 in 2002 (SAMHSA, 2004). More recent data indicates that this number has continued to rise in recent years, with national survey data estimating that 348,000 adolescents (ages 12-17) sought treatment of some form in 2005 (SAMHSA, 2005).

Males represent the majority of adolescent treatment admissions, accounting for 70% of all substance abuse treatment admissions across levels of care in 1998 (Dennis, et al., 2003). The majority of those admitted to adolescent treatment receive outpatient or intensive outpatient services because these programs tend to be more economically and logistically feasible for families than relatively costly residential treatment programs. In
1998, only 14% of adolescents seeking treatment were admitted to residential treatment programs (SAMHSA, 2004). In general, adolescents admitted to residential programs are more likely to have had prior treatment experience (usually at less intensive levels of care) and significant consequences resulting from substance use and related behavior.

*Residential Treatment for Adolescent Substance Abusers*

Until the early 1990s, most adolescents in need of substance abuse treatment services were treated in the context of adult treatment models. Usually, this consisted of addiction wards in public hospitals, programs modeled after the Twelve Steps of Alcoholics Anonymous, or church-based efforts to treat addiction. While adolescents received needed services, the treatment programs were rarely designed with recognition of the particular needs of adolescent clients. For example, many treatment providers noted that adolescents participating in adult-based residential treatment protocols had difficulty following program rules and dealing with confrontation regarding attitudes, beliefs, and past drug use experiences (Dennis, et al., 2003).

While client confrontation had been a staple of traditional adult addictions treatment for decades, treatment providers realized that a more supportive approach to treating adolescent clients seemed to be more effective. In response to treatment providers working with adolescents and more rigorous governmental standards regarding the treatment of adolescents, treatment centers began to modify their programs to better meet the needs of adolescent clients. Some of the early changes in the field focused on the following areas: increasing the availability of mental health services (e.g., treatment and assessment), employing younger and better-educated staff members, and relying less on direct confrontation of the client (Dennis, et al., 2003). Also, because adolescents often
report dysfunctional family interactions, more treatment programs have begun to offer family therapy and emphasize staff members as role models for adolescent clients. Moreover, treatment programs have implemented ancillary services, such as academic programs, to improve overall treatment outcomes.

*General Alcohol/Drug Use Outcomes for Adolescent SUDs*

The purpose of this section is to provide a brief synopsis of alcohol and/or drug use outcomes in adolescent treatment. When compared to the volumes of research dedicated to the epidemiology of drug use and the psychosocial factors believed to mediate and moderate drug involvement by adolescents, there is a relative dearth of research focused on treatment outcomes for adolescents with SUDs (Winters, 1999). Although policy changes regarding the provision of substance abuse treatment services have mandated comprehensive outcome assessment, the scientific literature has been relatively slow to respond. Moreover, there is minimal empirical data regarding outcomes associated with the 12-Step approach, which is believed to be the most prevalent treatment model used with adolescent substance abusers. Recent research is beginning to more thoroughly assess the effectiveness of 12-Step programs, but there is a commonly-held notion amongst observers that Alcoholics Anonymous and related groups oppose empirical investigation regarding long-term outcomes. Based on a review of the literature, this perception appears to more accurately pertain to inquiry regarding the outcome of AA groups rather than formal treatment programs based on a 12-Step facilitation (TSF) model.

The existing data on outcomes for adolescent substance abuse treatment, although relatively sparse in comparison to research on adults, indicates that relapse is highly
prevalent during the first year following treatment in samples of adolescent treatment completers (Brown, 1993). Table 1 summarizes several existing outcome studies for adolescent substance abuse treatment. Cornelius and colleagues (2003) reported that 66% of adolescents who completed outpatient substance abuse treatment relapsed to drug use within 6 months of discharge from treatment; however, this study involved a small sample (n = 59; Cornelius, et al., 2003). Another study reported that 79% of adolescents (n = 157) relapsed within one year of completing outpatient treatment (Brown, Tapert, Tate, & Abrantes, 2000).

In a review of eight adolescent treatment outcome studies incorporating various treatment modalities (e.g., cognitive-behavioral therapy, TSF, motivational enhancement therapy) in residential settings, Winters (1999) reported a range of one-year relapse rates from 38% to 73%. Six-month follow-up data indicated that between 46% and 84% of adolescents relapsed on alcohol or other drugs. Hsieh and colleagues (1998), in a multi-site study of adolescents who successfully completed residential substance abuse treatment (n = 2,317), reported that over 45% and 50% of the sample relapsed within six and twelve months, respectively (Hsieh, Hoffman, & Hollister, 1998). While there is significant variability in relapse rates reported in the literature, even conservative estimates of relapse rates reflect that treatment is often ineffective in producing long-term abstinence from substances.

While a number of researchers view substance use outcome as a binary (i.e., abstinent or non-abstinent) variable, much of the current outcome data regarding adolescent substance use focuses on changes in drug use severity. For example, a study by Spooner, Mattick, and Noffs (2001) tracked treatment outcome indices for 110
adolescents admitted for substance abuse treatment. This study aimed to evaluate a
treatment model that was created based on research and expert opinion, and it took the
shape of a 3-month, primary residential intervention with aftercare recommendations.
The treatment included assessment, case management, cognitive-behavioral skills
training, and individual/family counseling, all in a therapeutic community environment.
Researchers tracked each client on a number of outcome indices, including a variety of
substance use measures (e.g., days of use in past month, amount of substance used,
consequences of use). Adolescents who received the intervention were compared to a
wait-list control group.

Results indicated that, for treatment completers, the prevalence of heavy daily
marijuana use (i.e., 10 or more “hits” of marijuana) in this residential treatment sample
decreased from 48 percent prior to treatment to 27 percent at 3-month follow-up.
Meanwhile, daily heroin use was reduced from 49 percent to 19 percent, daily use of
benzodiazepines was reduced from 20 percent to 6 percent, and daily alcohol use was
reduced from 39 percent to 23 percent (Spooner, Mattick, & Noffs, 2001). There were no
significant differences between the intervention and comparison groups over time, but the
authors attribute the null finding to the classification method used for dropouts.
Specifically, Spooner and colleagues (2001) classified dropouts as “not improved” only if
there was definitive evidence of negative outcome. The researchers asserted that this
classification method introduced bias in favor of the comparison group and thus
minimized outcome differences between the intervention and comparison groups. One
significant limitation to the study was the high level of participant dropout, which for
both groups combined was 27% of the total sample. While dropout is certainly common
in substance abuse treatment populations, this finding underscores the importance of developing effective strategies to maximize treatment retention. Such strategies are likely to focus on in-treatment factors, such as therapeutic alliance and the use of supportive techniques.

*Issues in Outcome Assessment in Substance Abuse Treatment*

A number of adult-focused substance abuse treatment outcome studies report that in-treatment variables (e.g., length of treatment stay, clients’ perceptions of helpfulness of treatment, completion of treatment) better predict short- and long-term abstinence than pre-treatment variables (e.g., demographic variables, psychological symptom severity at intake, substance abuse severity) (Kedia & Williams, 2003; Simpson, et al., 2000; Long, et al., 2000). See Part II of this review for a review of literature regarding the relationship between the alliance and outcomes in substance abuse treatment.

In conjunction with the movement toward developmentally-appropriate treatment models for adolescent substance abusers, much work has been done to develop appropriate outcome measurement instruments for adolescent treatment services. Many of these instruments are designed to focus on outcomes that are traditionally viewed as consequences of substance abuse. For example, Brown (2004) suggests that many of the outcome indices used in adult outcome studies don’t apply to adolescent clients. Specifically, Brown argues that traditional outcome indices like legal involvement and employment status are not relevant outcome domains for adolescents. Rather, Brown (2004) suggests that outcome indices that have relatively low thresholds, such as instances of disruptive behavior or discipline at school, may be more appropriate for adolescents. Further, she suggests that the following are appropriate domains for outcome
measurement with adolescents in chemical dependency treatment: number of drinks/units per episode of use, percentage of days using, number of binge episodes, number of withdrawal symptoms, and intensity of withdrawal symptoms. Brown also advocates for the measurement of traditional consequences of substance abuse, such as health complaints, emotional lability, and changes in peer/family relationships. Traditional outcome assessment in the addictions treatment field primarily focuses on substance use variables, yet information regarding the etiology and course of substance use disorders indicates that substance use is associated with impairment in multiple domains of functioning. Because these symptoms have been found to accompany substance use disorders, changes in symptom profiles ostensibly represent concrete changes in the consequences of use and may be a more realistic predictor of future risk for substance-related consequences. As such, comprehensive outcome measurement should incorporate assessment of functioning in these domains, including social functioning, psychological well-being, legal involvement, and academic performance.

*Discharge Status as a Performance Indicator/Outcome Variable*

As is the case in mental health care, the addictions treatment field has been significantly influenced by federal policy, managed behavioral health care, and accreditation organizations such as JC that have placed increasing emphasis on quality assurance through outcome assessment. Traditionally, treatment providers submitted data regarding variables such as quantity and frequency of services provided as well as the number of consumers receiving services as evidence for program effectiveness. With the advent of managed behavioral health care systems, the focus of program evaluation has shifted to assess the effectiveness of treatment programs and monitor therapeutic
outcomes (Eisen & Dickey, 1996). Given the increased level of accountability required of treatment programs, which are often working under a tight budget, the use of discharge status as a performance indicator has served as a low-cost proxy indicator for therapeutic outcome in clinical settings (Godley, Godley, Funk, Dennis, & Loveland, 2001).

Discharge status is a classification for clients leaving a treatment program that typically assigns a value to the clients’ experience or performance in treatment. In general, programs assign three primary levels of discharge status, including: 1) treatment completed as planned (i.e., discharge with staff approval), 2) discharge against staff advice (i.e., the client leaves treatment voluntarily prior to treatment completion), and 3) discharge at staff request (e.g., a client is asked to leave treatment due to poor participation or disruptive behavior). Classifications for each client are generally decided upon by treatment providers, and are usually subject to consensus amongst a team of treatment professionals familiar with each case. While classification in this manner is certainly a cost-effective and timely indicator of treatment effectiveness, there is some debate in the existing literature regarding its validity as an indicator of long-term therapeutic outcome.

Winters and colleagues (2000), in a study of 245 adolescents in substance abuse treatment (in both residential and outpatient formats), assessed 12-month post-treatment outcomes as a function of discharge status. For this study, participants were classified as treatment completers or treatment non-completers. Outcome measures included drug and alcohol use frequency and severity as measured by items contained in the Personal Experience Inventory (PEI; Henly & Winters, 1989) which demonstrated high internal consistency (range of α = 0.82-0.93) and favorable 1-week test-retest stability (r = 0.86-
Results of comparisons between treatment completers and non-completers indicated that 53% and 15%, respectively, remained abstinent or only had minor lapses (defined as using substances on only one or two occasions in the past year) at the 12-month follow-up assessment. Analyses did not detect any significant differences in outcome domains by treatment settings (i.e., residential or outpatient). These findings present preliminary evidence that treatment retention is an important contributor to outcome in adolescent substance abuse treatment in general. Unfortunately, the levels of discharge status (i.e., treatment completers versus non-completers) failed to delineate non-completers by type (e.g., premature termination due to non-compliance, disruptive behavior, or family request) in this study. It is possible that the circumstances under which treatment is discontinued may reflect significant differences in the quality of services provided and the quality of treatment experience received. By failing to differentiate discharge status based on such circumstances, potentially valuable information is lost.

In order to more closely examine the relationship between discharge status as a performance indicator and long-term therapeutic outcome, Godley and colleagues (2001) conducted a study of 86 adolescents admitted to residential treatment for a DSM-IV substance dependence diagnosis (Godley, Godley, Funk, Dennis, & Loveland, 2001). Discharge status consisted of the therapist assigning clients into one of three designations: 1) planned discharge, 2) discharge against staff advice (ASA), and 3) discharge at staff request (ASR). Outcome indices, including substance use variables, withdrawal symptom severity ratings, and psychological distress ratings, were derived from the Global Appraisal of Individual Needs (GAIN; Dennis, et al., 1996), a
comprehensive assessment measure that has been normed with adolescent populations
and evaluates functioning in a number of domains. Multivariate analyses compared the
planned discharge group with a combined ASA/ASR group. Results revealed a main
effect of time regarding the number of days using alcohol in the three-month follow-up
period, indicating that across all clients, alcohol use significantly decreased from pre- to
post-treatment, \( F(1,84) = 15.37, p < .0005 \). However, results also indicated that treatment
completers reported a significantly lower frequency of days of alcohol use (M = 11.5 v.
M = 23.89 for non-completers) and days of illicit drug use (M = 17.83 v. M = 38.09) in
the three month follow-up period than treatment non-completers (Godley, et al., 2001).

In addition, results from Chi-square analyses indicated that treatment completers
and non-completers demonstrated differing relapse patterns. Godley and colleagues
identified ten relapse criteria focusing on substance use frequency and/or amount,
interference with role responsibilities, health problems, and withdrawal symptoms.
Results comparing treatment completers and non-completers indicated significant
differences regarding relapse criteria. More specifically, 38% of treatment non-
completers endorsed 4 or more relapse criteria, while 22% of treatment completers
endorsed 4 or more criteria. The group differences were statistically significant, \( \chi^2(3, \ n = 85) = 9.35, p < .023 \). While these findings indicate statistically significant differences
between treatment completers and non-completers, the magnitude of the differences
between the groups may not be sufficient to use discharge status as a reliable indicator of
substance use outcomes. Limitations of the study were that adolescents who discontinued
treatment prior to completing their first week of treatment were excluded from follow-up
and analyses, which may have provided additional information about low-dose residential treatment.

Godley and colleagues (2001), in light of these mixed findings regarding discharge status as an outcome predictor, asserted that further research is needed using clear criteria for the levels of discharge status, suggesting that conflicting findings across studies could be attributed to discrepant discharge status criteria across treatment settings and programs. As such, the researchers cautioned against using discharge status as a performance indicator in comparisons of the effectiveness of treatment programs. Nevertheless, a consistent finding in the treatment of adult (De Leon, 1985) and adolescent substance abusers (Hser, Grella, Hubbard, Hsieh, Fletcher, & Anglin, 2001) is that there is a strong dose-response relationship between the amount of time spent in treatment and eventual treatment outcomes. In other words, longer treatment stays are associated with better treatment outcomes (Simpson, Joe, & Brown, 1997). As such, it is of critical importance to develop an understanding of variables that contribute to premature termination, and alternatively, treatment completion. The proposed study aims to examine a number of variables (namely motivation, readiness for treatment, and the quality of the therapeutic relationship) and their respective relationships to discharge status in an effort to identify potential variables that influence treatment completion and perhaps eventual treatment outcomes.
PART II: THEORETICAL FOUNDATIONS OF THE THERAPEUTIC ALLIANCE
AND RESEARCH FINDINGS

Historical Formulations of the Alliance

The first formulations of what has become the alliance construct come from Freud (1913), who described the alliance in terms of positive transference. In his earlier work, Freud suggested that the positive attachment between the patient and the analyst afforded the analyst a position of authority, enhanced the patient’s belief and trust in the analyst’s interpretations, and reinforced the patient’s confidence for the resolution of past traumas. Moreover, Freud believed that the attachment between patient and analyst was an unconscious projection of the patient’s idealized relationship, and therefore was not a genuine relationship. In later writings, Freud seemed to adapt this view to include the possibility of a positive relationship in the dyad that is grounded in reality such that the patient and analyst “band themselves together” to address patient difficulties (Freud, 1940, p. 173).

Zetzel (1956) theorized that the alliance is dependent on the client’s capacity to engage the healthy, functional parts of the ego as ally with the analyst. This appears to be the origin of the term therapeutic alliance. Zetzel also argued that the alliance can be enhanced by empathic and supportive comments from the therapist. Early psychoanalysis favored minimal therapist activity, meaning that supportive and empathic interventions were not standard components of therapeutic practice. However, Zetzel argued that such interventions would likely result in the client viewing the therapist as more involved in the therapy and more useful for the client.
Also from a psychoanalytic perspective, Greenson (1965) developed the concept of the *working alliance*. Such terminology was used in order to focus on the client’s ability to work purposefully in treatment, whereas Zetzel appeared to view the affective bond between therapist and client as the most significant aspect of the therapeutic relationship. This formulation was an elaboration of Freud’s original concept, in that it proposed a model with three components: transference, the collaborative bond between the client and therapist, and the real interpersonal relationship. This concept acknowledged distinct dimensions of a broader alliance construct, dimensions that are still debated in contemporary alliance research.

Rogers (1951), from a client-centered perspective, believed that the therapist’s empathic responsiveness and unconditional acceptance of the client were necessary and sufficient conditions for therapeutic success. More specifically, Rogers suggested that it is the therapist’s responsibility to elicit client responsiveness and willingness to collaborate with the therapist. Moreover, Rogers suggested that the therapeutic relationship may have curative effects in and of itself, aside from specific therapeutic techniques. Additionally, Rogers argued that therapist-offered conditions such as empathy and unconditional positive regard are responsible for change in all attempts to help clients, regardless of the theoretical orientation of the therapist.

Rogers’ concept of the relationship between the therapist and client is in several ways important to current theories of the alliance. Horvath (2000) pointed to several implications of Rogers’ work, including the notion that it is the relationship that therapists provide, rather than the techniques they use, that is responsible for therapy effectiveness. This notion is the foundation of alliance-outcome research and has been a
point of debate in the field for decades. Perhaps most notably, Rogers’ belief that the alliance is important in all forms of therapy inspired later theorists to develop an alliance construct that encompassed all therapeutic orientations (Horvath, 2000).

Luborsky (1984) expanded the conceptualization of the alliance by postulating specific conditions necessary to the formation of a positive alliance. Luborsky stated that positive alliances are those in which the patient views the therapist as someone who can help him/her. He further theorized that five characteristics are critical to the development of a positive alliance. First, the patient must view the therapist as empathic and supportive. Second, the patient perceives the therapist as helpful. Third, the client believes that change will result from therapy. Fourth, the client perceives that rapport is established in the dyad without violation of his/her values by the therapist. Finally, the patient believes that the therapy will be effective (Luborsky, 1984).

Contemporary Research Models of the Alliance

In perhaps the most influential work regarding the concept of the working alliance, Edward Bordin (1979) suggested a pantheoretical model of the client-therapist relationship. In order to generalize across perspectives, Bordin advanced a more generic formulation of the alliance construct, one that characterizes the therapeutic alliance in terms of three interdependent components. One of these components is the level of agreement on the in-session tasks of therapy, which refers to the techniques therapists use to make in-session impact on the client. In a well-functioning relationship, both the therapist and the client must perceive these tasks as beneficial and worthy of effort. Moreover, there must be a mutual responsibility for performing the tasks of therapy, which implies the importance of setting clear role responsibilities and encouraging
collaboration. Another dimension of Bordin’s model is the level of agreement on the *goals* of therapy, which includes long-term changes necessary for client improvement. The therapist and client must mutually choose and endorse the outcomes targeted by the interventions. The final component of the model is the quality of the interpersonal *bond* between the client and therapist. *Bond* refers to the complexities of the positive interpersonal attachments between the client and therapist and includes issues such as mutual trust, acceptance, and confidence in one another (Bordin, 1979). All of these components require collaboration and hinge on the degree of concordance and joint purpose between the therapist and client (Horvath & Greenberg, 1989).

Bordin’s model represented a significant departure from previous models of the therapeutic alliance. Bordin’s model differs from Rogers’ (1951) model in that it suggests that the alliance can be viewed as a vehicle that facilitates more specific therapeutic techniques rather than an intervention in and of itself. Presumably, this pantheoretical model is able to incorporate orientation-specific techniques into the alliance construct. Different therapeutic orientations espouse different types of in-session tasks. For example, cognitive techniques frequently require the client to monitor automatic negative thoughts outside the therapy session, whereas analytic therapists often seek to explore developmental memories. Bordin suggests that the quality of the alliance should be viewed in terms of therapist, client, and therapy-specific features. Bordin’s (1979) model predicts that the three components of the alliance will not be equally important in all forms of therapy and will not be equally important in all phases of therapy (i.e., early and late sessions). Ultimately, according to his model, the alliance will fluctuate in each of these dimensions, from moment to moment and from session to session. Bordin (1994)
later asserted that, except when the individual is unable to form *any* relationship, a competent therapist may be able to produce and maintain adequate levels of a working alliance.

Views regarding the nature and importance of the therapeutic alliance vary somewhat in the theoretical and empirical literature. The conceptualization of the alliance that will be utilized for the purposes of this study is based on Bordin’s work, and summarized by Horvath and Bedi (2002) below:

The alliance refers to the quality and strength of the collaborative relationship between client and therapist in therapy. This concept is inclusive of: The positive affective bonds between client and therapist, such as mutual trust, liking, respect, and caring. Alliance also encompasses the more cognitive aspects of the therapy relationship; consensus about, and active commitment to, the goals of therapy and to the means by which these goals can be reached. Alliance involves a sense of partnership in therapy between therapist and client, in which each participant is actively committed to their specific and appropriate responsibilities in therapy, and believes the other is likewise enthusiastically engaged in the process. The alliance is a conscious and purposeful aspect of the relation between therapist and client (Horvath & Bedi, 2002, as cited in Horvath, 2001, p. 365).

In general, conceptualizations of the therapeutic alliance in adult psychotherapy have been adapted to work with child/adolescent populations. Although the critical aspects of the therapist-client relationship (e.g., the ability to collaborate, trust, and develop an affective bond) are similar in therapy with clients of all ages, there are generally significant differences between adults and adolescents regarding social functioning.

*The Relationship Between Therapeutic Alliance and Psychotherapy Outcome in Adult Populations*
Over the past several decades, the concept of the therapeutic alliance* in psychotherapy has become an increasingly popular avenue of research, both in terms of psychotherapy process and treatment outcome research. For the most part, alliance research has focused on the relationship between therapists and adult clients, and research findings have significantly illuminated the various aspects of the alliance and its relationship to therapy outcome in adult populations. Comparatively, much less is known about the role and nature of the therapeutic alliance in child or adolescent therapy. This section will focus on significant findings in the alliance literature regarding adult populations and conclude with a summary of the extant literature on therapeutic alliance in child/adolescent populations.

A number of psychotherapy studies have investigated the relationship between alliance and therapy outcome. Early investigations in the context of adult psychotherapy reported that the alliance accounted for 30%-45% of the variance in therapy outcome (Horvath & Greenberg, 1989). In a meta-analytic review of the adult psychotherapy literature regarding the relationship between alliance and outcome, Horvath and Symonds (1991) reported results based on 24 previous studies that used various established measures of the alliance with measures from various raters (i.e., therapist, client, and observer). Overall, the results of the meta-analysis revealed an effect size of $r = .26$, suggesting that there is a “moderate but reliable” relationship between alliance and outcome (Horvath & Symonds, 1991, p. 139). In addition, they concluded that clients’ (r

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* Because several researchers have advanced differing formulations of the alliance construct, the terms “working alliance,” “helping alliance,” “therapeutic alliance,” and “alliance” are considered synonymous and will thus be used interchangeably to refer to the alliance construct.
and observers’ \( r = .23 \) perceptions of the alliance were more predictive of therapy outcome than the perceptions of the therapist \( r = -.03 \).

In a more recent meta-analytic review of the literature, Martin and colleagues (2000) reported that the average correlation between alliance and outcome was \( r = .22 \), even in light of several variables traditionally viewed to be influential in this relationship. (A discussion of potential moderator variables appears below).

Horvath (2001) aggregated data from Horvath and Symonds (1991), Martin and colleagues (2000), and ten studies not included in the previous meta-analyses. Analysis of the resulting data set, which included data from 90 independent investigations, revealed a weighted mean effect size of \( r = .21 \) (range: -.06 to .89) and a median effect size (ES) of .25. When compared to the overall ES of 0.39 associated with the treatment effect of psychotherapy reported by Smith and Glass (1977), Horvath argued that over half of the beneficial effects of psychotherapy accounted for in previous meta-analytic studies could be linked to the therapeutic alliance.

The alliance—outcome relationship also appears to generalize beyond individual therapy. Researchers have reported significant relationships in the context of psychodynamic group therapy (Tuttman, 1997), pharmacotherapy (Krupnick, et al., 1996), couples and family therapy (Quinn, Dotson, & Jordan, 1997), career counseling (Bedi, 2004), work with hospitalized patients (Lieberman, Von Rehn, Dickie, Elliott, & Egerter, 1992), and vocational rehabilitation clients (Lustig, Strauser, Rice, & Rucker, 2002). These studies, which have included various measures of the alliance and various measures of therapy outcome in diverse, clinically-valid settings, clearly point to the importance of the working alliance in the facilitation of positive client change.
Investigation of the alliance—outcome relationship in inpatient populations, however, has been largely ignored in both adult and child/adolescent populations (Blais, 2004). One reason for this occurrence is that there is more complexity inherent in inpatient treatment settings because there are often multiple treatments utilized (e.g., individual, group, and pharmacotherapy) and multiple treatment providers. Previous research has suggested that therapeutic alliance may have a significant influence on outcome in inpatient adult treatment settings. Allen and colleagues (1986), through use of a short staff-rated rating form, found that patients’ ability to collaborate actively in treatment correlated significantly with outcome.

*Potential Moderating Variables of the Alliance—Outcome Relationship*

Much focus has been given to explaining the relationship consistently found between alliance and therapy outcome. Many researchers have questioned whether the observed relationship is in fact a viable predictor of therapy outcome, and there is an increasing body of literature dedicated to examining potential methodological bias and moderating factors.

Martin and colleagues (2000) investigated the influence of potential moderating variables in the alliance-outcome relationship, including the type of outcome measure, alliance rater perspective (i.e., client, therapist, and/or observer), and the time at which alliance was measured. They concluded that these variables did not significantly influence the alliance—outcome relationship, further supporting previous findings that the relationship is not likely a result of methodological confounds in the literature.

Horvath (2001) reviewed studies using five of the most frequently used alliance measures to investigate whether the type of measure used has a moderating effect on the
alliance—outcome relationship. He found that there were not significant ES differences between the various alliance measures, and concluded that there is limited impact of alliance measure type on the overall alliance—outcome relationship in adult populations.

Horvath (2001) also aggregated data from 60 studies to determine whether the source of the alliance rating (i.e., therapist, client, and/or observer) has an impact on the relationship between alliance and therapy outcome in psychotherapy with adults. Horvath discovered that client- and observer-rated alliances have similar relations with outcome ($r = .21$ and .18, respectively), and that therapist-rated alliance ($r = .10$) is less related to outcome than the other two sources. Tests of significance regarding these differences were not reported. This finding supports previous reports that suggest client-rated alliance is more predictive of outcome than therapist-rated alliance (e.g., Horvath & Symonds, 1991).

There has been some concern by alliance researchers that there is method bias inherent in alliance—outcome research that uses measures of process and outcome variables rated by the same source (Orlinsky & Howard, 1986; Saunders, Howard, & Orlinsky, 1989). For example, a client who is pleased with the process of therapy may be inclined to be pleased with the outcome of therapy. The resulting methodological issue is that the relationship between alliance and therapy outcome might be inflated by a source effect or common method variance. While Horvath and Symonds (1991) found that ESs from homogeneous sources (e.g., therapist-rated alliance and therapist-rated outcome) were marginally larger than ESs derived from heterogeneous sources (e.g., therapist-rated alliance, client-rated outcome), the differences were not statistically significant. Results from later studies (Martin, Garske, & Davis, 2000; Horvath, 2001) have supported the
finding that there does not appear to be a significant source effect resulting from same-source process and outcome ratings that affects the overall alliance—outcome relationship.

A consistent finding in adult alliance—outcome research is that alliance measured in the early phases of treatment tends to be more predictive of therapy outcome than alliance measured in the middle or late stages of treatment. Horvath (2001) found that the average alliance—outcome relationship when alliance is measured early in treatment (i.e., the first third of the treatment) was 0.22, while the average ESs measured during the middle and late thirds of treatment were 0.19 and 0.25, respectively. In this case, while alliance measured later in the therapy is marginally more associated with outcome, many researchers suspect that the late stage alliance measure is confounded by therapy benefit and should thus be interpreted with caution. Other researchers have also found early alliance to be better predictors of outcome than late alliance (Barber, et al., 1999; Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996).

**Alliance Research in Adult Substance Abuse Treatment Populations**

The consistent findings regarding the role and importance of the therapeutic alliance in general psychotherapy have promoted research regarding the alliance and other process variables in other clinical settings. Although the body of research is far from exhaustive, a number of studies have assessed the role of the therapeutic alliance in the context of adult substance abuse treatment.

Substance abuse treatment and general psychotherapy are similar in many ways, but also have key differences. Traditional views of the therapist role in substance abuse treatment are those of an educator and confronter. While these skills are valuable for the
psychotherapist, they are viewed as central to the effective substance abuse counselor (Millman, 1986). Those who abuse substances often have developed primitive, yet powerful ego defenses (e.g., denial) that serve to minimize perceived problem severity, and counselors typically must confront these defenses in order to promote change. This can and often does result in interpersonal conflict within the helping relationship, which in turn can and often does lead to premature termination.

Research focusing on the impact of process variables in the field of adult substance abuse treatment seems to be a relatively new trend. However, previous research has uncovered some intriguing findings regarding these variables. One of the earliest alliance-outcome studies in substance abuse populations utilized the Helping Alliance Questionnaire (HAq) in a sample of opiate-dependent adults in methadone maintenance therapy (Luborsky, McLellan, Woody, O’Brien, & Auerbach, 1985). Specifically, Luborsky and colleagues (1985) found that the level of the alliance following the third session of counseling strongly predicted the severity of drug problems at 30 days posttreatment.

More recent research has attempted to further evaluate the impact of the alliance in substance abuse counseling. As part of a multi-site study designed to evaluate the utility of matching patients to types of alcoholism treatment (known as Project MATCH), Connors and colleagues (1997) evaluated the relationships between the therapeutic alliance and treatment participation and outcome in a sample of adult alcoholics in outpatient treatment (Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997). In their assessment of a large, multi-site sample (n = 1196), Connors and colleagues assessed the therapeutic alliance using data from the Working Alliance Inventory (WAI;
Horvath, 1981) collected from both counselor and client after the second individual session. In addition, data regarding various drug use variables was gathered using the time-line follow-back methodology (Sobell & Sobell, 1992) at 12 months posttreatment. Using a series of ten hierarchical multiple linear regression analyses (i.e., analyses with each of the five outcome variables, performed once using the client-rated alliance and again for counselor-rated alliance) comprised of client, therapist, and pre-treatment alcohol use variables as well as WAI total score and treatment modality as predictors, Connors and colleagues (1997) found that WAI scores, whether provided by the counselor or client, were predictive of all alcohol use outcome variables, including self-reported alcohol use amount and frequency as well as results from biological assays. Specifically, higher client and counselor-rated alliances predicted decreased frequency and amount of alcohol used, and high counselor-rated alliances were predictive of lower percentage of days abstinent from alcohol, even when controlling for clients’ pretreatment drinking histories.

While the alliance was found to be a consistent predictor of alcohol use outcomes, the alliance accounted for a rather small proportion of the total variance in the outcome variables (i.e., less than 3.5% of total variance). While the researchers claimed that the small proportion of variance accounted for was the result of controlling for a large number of additional sources of variance and thus placing an upper limit of sorts on the amount of variance that could be predicted by a single predictor variable, the study utilized a large sample size (using multiple treatment locations). In addition, the treatments offered during the study were manualized treatments, which may have impacted the development of the alliance. Despite these attributes, the fact that a
predictive relationship was found between the alliance and outcome provides encouraging evidence that the therapeutic alliance is a significant factor in adult outpatient alcoholism treatment, also suggesting that the alliance construct is transportable to addictions treatment.

Hser and colleagues (1999) examined how previous treatment history and therapeutic rapport impact treatment outcomes for cocaine-abusing patients (n = 789) in a variety of treatment modalities (Hser, Grella, Hsieh, Anglin, & Brown, 1999). Using a five-item Likert-type scale to measure client-counselor rapport, the researchers found that higher rapport measured after one month of treatment were predictive of better drug use outcomes for clients in residential treatment, but predictive of poorer outcomes for those clients in methadone maintenance programs. However, there was a significant interaction between rapport and previous treatment history for individuals in the methadone program. More specifically, those with a history of previous treatment and poor rapport had the worst outcomes, while clients who had prior treatment experience and high rapport had the most positive outcomes. Hser and colleagues (1999) did not report any significant interactions regarding the clients in residential treatment. It should be noted that rapport is viewed as a component of the therapeutic alliance construct, not the alliance construct per se. In the context of Bordin’s (1979) model, rapport would be considered to be part of the bond dimension of the alliance. This study (Hser, et al., 1999) did not assess other components of the construct, namely agreement on goals and tasks of therapy. Nevertheless, these findings appear to suggest that therapeutic rapport plays a significant role in making treatment-related concepts and techniques more palatable to previously treatment-resistant individuals.
Barber and colleagues (1999) examined whether self-reported therapeutic alliance predicted treatment outcome for patients with cocaine dependence (Barber, et al., 1999). Participating clients in this study completed the HAq-II (Luborsky et al., 1996) and the California Alliance Scale (CALPAS; Gaston & Marmar, 1994) following the second and fifth sessions of treatment. Clients participated in one of three individual therapies, which included supportive-expressive therapy, time-limited psychodynamic therapy, and individual drug counseling based on the 12-step disease model of addiction. Barber and colleagues (1999) found that neither counselor- nor client-rated alliance (based on HAq-II or CALPAS scores) was associated with drug problem severity at one and six months posttreatment. However, they found that the alliance, regardless of measure or rater perspective, was significantly and negatively associated with Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) scores at one month and six month follow-up, indicating that higher alliances were associated with lower levels of depression. This finding remained significant when controlling for pre-treatment levels of depressive symptomatology, and is consistent with findings in the area of general psychotherapy (e.g., Horvath & Symonds, 1991).

In a review of the existing research on the therapeutic alliance in adult substance abuse treatment populations, Meier and colleagues (2005) reviewed 18 studies (including the studies reviewed above) citing empirical data regarding the relationships between the therapeutic alliance and: 1) treatment retention, 2) treatment engagement, and 3) treatment outcomes. It should be noted that meta-analytic procedures were not employed for this review due to widely varying therapeutic approaches, methodologies, outcome definitions, and timing of assessments across the studies. They cited consistent findings
establishing the relationship between early therapeutic alliance (e.g., first half of treatment) and retention and reported that most studies found moderate effect sizes accounting for 5-15% of the total variance in treatment retention.

Regarding treatment engagement, Meier and colleagues reported that few studies assessed the impact of the therapeutic alliance on client engagement. Three studies found a positive association between alliance and engagement, while one failed to find a relationship. However, all studies reviewed utilized concurrent assessments of both alliance and engagement, thus precluding any analyses regarding the predictive quality or directionality of the relationship.

With regard to treatment outcome, Meier and colleagues cited mixed findings regarding the relationship between the early therapeutic alliance (counselor- or client-rated) and post-treatment substance use outcomes in outpatient settings.

The research in this area, while enlightening, suffers from some common limitations. Generally, many studies suffer from small sample size and seem to conform to the convention in general psychotherapy that early alliance is more worthy of study than alliance development over the course of treatment. Most studies assess the alliance between the first and fifth sessions of therapy and thus do not attempt to understand how changes in the alliance over time impact eventual treatment outcome.

The review also summarized findings regarding the relationship between the alliance and drug use outcomes. Joe and colleagues (2001) found that therapist-rated rapport averaged across all ratings (i.e., a maximum of 6 time points over the course of a year-long program) significantly predicted reductions in drug use at 6 months post-
treatment, and lower illegal activity and arrests, even when controlled for treatment
retention and satisfaction.

Predictors of the Therapeutic Alliance in Adult Substance Abuse Treatment

Meier and colleagues (2005) also reviewed seven existing studies that sought
variables predictive of the therapeutic alliance in adult substance abuse treatment. An
interesting conclusion drawn by the reviewers was that most pre-treatment client
variables were not found to be predictive of the therapeutic relationship. Demographic
variables, such as age, gender, race, and marital status were not associated with early
counselor- or client-rated alliance. Moreover, other client variables, such as
psychological symptom severity and pre-treatment substance use frequency have not
been found to be related to the therapeutic alliance measured early in treatment.

However, relationships were found in several studies between motivation and
readiness for treatment and the quality of therapeutic process early in treatment. Most
notably, Joe and colleagues (1998), in a study of adults in outpatient (n = 1,791) and
residential substance abuse treatment (n = 2,265), found that client readiness for
treatment (measured at intake) was associated with client ratings of rapport in the
counseling process for outpatients ($r = .32, p < .001$) and inpatients ($r = .18, p < .01$)
during the first month of treatment (Joe, Simpson, & Broome, 1998). Moreover, client
readiness was significantly associated with client-rated degree of confidence in the
treatment process (i.e., belief that treatment would yield beneficial results) measured
during the first month of treatment (outpatients: $r = .19, p < .001$; inpatients: $r = .41, p < .001$). Again, therapeutic rapport, as measured in this study, is not equivalent to a
measure of the therapeutic alliance. Rather, it can be viewed as a component of the
alliance. In Bordin’s (1979) model of the alliance, agreement on the tasks and goals of therapy is a critical component of the alliance construct. Client confidence in the treatment process implies that the client believes that the activities in therapy will be ultimately beneficial. As such, these findings provide support for the notion that client readiness for treatment is influential on treatment process in substance abuse treatment.

In another recent study by the Meier group (Meier, Donmall, Barrowclough, McElduff, & Heller, 2005), the early therapeutic alliance (i.e., alliance in the first three weeks of treatment) was predicted by client variables (e.g., relationship quality, motivation variables, psychological well-being) and counselor characteristics (e.g., experience level, personal history of addiction, job satisfaction). The researchers assessed 187 clients and their counselors on the aforementioned variables and used multiple regression procedures to predict the early therapeutic alliance as measured by counselor and client versions of the short form of the Working Alliance Inventory (WAI-S; Horvath, 1981; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989).

In their final predictive model, Meier and colleagues (2005) found that a number of client variables taken together were predictive of a positive early counselor-rated alliance, including the following: better developed coping skills (Adjusted $\beta = .37$, $p = .005$), secure attachment style (Adjusted $\beta = 1.84$, $p = .047$), high desire for help (Adjusted $\beta = 6.80$, $p = .036$), and low perceived external pressure to enter treatment (Adjusted $\beta = -3.19$, $p = .001$). Counselor variables, such as level of counseling experience and training and personal history of addiction, were not predictive of the counselor-rated alliance. In this model, the predictor variables explained 22.7% of the total variation in counselor-rated alliance.
In addition, Meier and colleagues attempted to predict the early alliance as rated by clients. They found that secure attachment style (Adjusted $\beta = 2.19, p = .038$), high levels of readiness for treatment (Adjusted $\beta = 6.37, p = .033$), and low levels of perceived external pressure for treatment (Adjusted $\beta = -2.78, p = .017$) were predictive of the client-rated alliance. In addition, high levels of social support and readiness for treatment were predictive of positive early alliances. Interestingly, clients’ level of desire for help and psychological well-being were not significant predictors of either the client- or counselor-rated early alliance. In this model, the predictor variables explained 22.1% of the total variation in client-rated alliance.

Although these findings are in need of corroborating support through additional research, findings from the Meier group provide encouraging preliminary data on the variables that contribute to and are predictive of the early therapeutic alliance in adult substance abuse treatment. In addition, research focusing on predictors of the alliance in adult populations suggests that motivation for treatment is a key ingredient in the development of the alliance.

In summary, previous research regarding the alliance in adult substance abuse treatment populations has indicated that there is a moderate relationship between alliance measured relatively early in treatment and eventual drug/alcohol use outcomes, and this relationship is generally consistent with those found in general psychotherapy studies. Moreover, previous research has suggested that the alliance is predictive of client retention, which itself has been cited as a consistent predictor of drug/alcohol use outcomes. In addition, previous research has sought to identify factors related to the
alliance development. One of the most consistently identified factors, motivation, will be addressed more comprehensively later in this review.

Relevant Therapeutic Alliance Research in Child/Adolescent Research

Although meta-analytic studies of controlled clinical trials have indicated that child therapy has effects comparable to those found in adult psychotherapy studies, research on child/adolescent populations has lagged far behind the adult research field with regard to investigations of the therapeutic alliance (Bickman, et al, 2004). Kazdin and colleagues (1990) suggested that less than 3% of child/adolescent therapy studies published at the time examined process variables such as the therapeutic alliance (Kazdin, Bass, Ayers, & Rodgers, 1990). This is an especially curious finding given that a contemporaneous survey of child/adolescent psychotherapists revealed that many child therapists rate the therapeutic relationship as more important than the specific techniques used in treatment (Kazdin, Siegel, & Bass, 1990). Although alliance research has become somewhat more common in child/adolescent therapy research since that time, there is clearly a need for more extensive research in this area.

There are a number of reasons why scientific inquiry regarding process variables in child and adolescent therapy is important. Children and adolescents very rarely are self-referred for treatment of any kind. Rather, parents, caregivers, and/or school personnel typically refer them for services. Also, many children/adolescents present with problematic relationships with parents, peers, and others. The clinician’s ability to model a trusting and helpful relationship with the child/adolescent may then be essential to positive therapy outcome for youth (Shirk & Saiz, 1992). Failure to cultivate and maintain such a relationship is associated with increased incidences of premature
termination, as has been reported by a number of researchers (e.g., Chatoor & Krupnick, 2001; Armbruster & Kazdin, 1989). Premature termination prevents the client from receiving much-needed services and likely decreases the likelihood that clients and families will pursue services in the future. It could thus be argued that failure to develop a working relationship may limit clients’ and families’ perceptions of the availability and efficacy of mental health services.

In the only located meta-analytic review of relationship variables and outcome in child/adolescent psychotherapy, Shirk and Karver (2003) found the Pearson product-moment correlation (weighted by sample size) of alliance and outcome to be $r = .20$ when averaged over 23 studies. The studies included in the Shirk and Karver (2003) meta-analysis included diverse measures of therapeutic alliance and varied indices of therapeutic outcome. This weighted mean correlation is very similar to findings obtained in the most recent meta-analysis of alliance-outcome relations among adults, weighted $r = .21$ (Horvath, 2001), and represents a small effect size according to Cohen’s (1992) criteria for interpretation of effect sizes.

While adult psychotherapy studies generally find that alliance measured early in treatment is more predictive of outcome than late alliance (e.g., Horvath, 2001; Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996; Horvath & Symonds, 1991), Shirk and Karver (2003) found that later alliance scores ($r = .27$) correlate better with outcomes for children than do early alliance scores ($r = .18$), and the difference between the correlations was statistically significant, $z(18) = 3.51, p < .01$. This may suggest that the relationship between alliance and outcome variables develops more slowly with children/adolescents than with adults. Alternatively, the later alliance scores could be
more reflective of clients’ satisfaction with and perceived progress in therapy than the therapeutic alliance itself, which is a notion that has been advanced in the general psychotherapy literature. As such, later alliance scores would be more representative of perceived outcome or progress (and obviously, more highly correlated with outcome) than would early alliance measures, where clients are less likely to have experienced significant therapeutic benefit.

Shirk and Karver (2003) also found that the type of presenting problem appeared to moderate the relationship between alliance and therapy outcome. More specifically, they found that the therapeutic alliance was more predictive of outcome for children with externalizing difficulties than for children with internalizing difficulties. In addition, Bickman and colleagues (2004) reported that youth with more aggressive behavior incidents had lower client-rated alliances than those demonstrating fewer aggressive behaviors. To date, there is no definitive conclusion to be drawn from the literature regarding the impact of problem type on the alliance—outcome relationship.

In addition, Shirk and Karver (2003) found rater perspective to be a moderating variable. Specifically, they found that therapist-rated alliance was more strongly associated with therapy outcome \((r = .29)\) than was client-rated alliance \((r = .18)\) at a statistically significant level, \(z(13) = 3.06, p < .01\). This finding runs contrary to the consistent finding in the adult literature that client-rated alliance is most strongly associated with outcome (Horvath & Symonds, 1991).

Shirk and Karver (2003) also reported on a number of variables that did not appear to moderate the alliance—outcome relationship. They found that the association between alliance and outcome is comparable across behavioral and non-behavioral
child/adolescent treatments. They also concluded that the type of treatment, patient age, manualization of the treatment, and whether the study is research- or community-based did not significantly moderate the alliance—outcome relationship.

Bickman and colleagues (2004) conducted a longitudinal study investigating the therapeutic alliance in day treatment and wilderness camp settings. With regard to the stability of the alliance over time, they found that youth ratings of the therapeutic alliance were constant in both settings over the year-long data collection period of the study. More specifically, 72% of the youth studied did not significantly change their ratings of the alliance, compared to 20% whose ratings increased and 10% whose ratings decreased during the course of the study. One explanation for this finding is that alliance ratings were taken only once per month, and that this method may not have been sensitive to subtle variations or temporary ruptures in the therapeutic relationship.

Parallel to the research in adult populations, Bickman and colleagues (2004) concluded that youth ratings and therapist ratings of the alliance were not significantly correlated, suggesting that child/adolescent clients and therapists likely focus on different aspects of the relationship. Again, there is limited data regarding this topic, and further research is needed to better understand the nature of the therapeutic relationship in child/adolescent populations.

Eltz, Shirk, and Sarlin (1995) investigated the alliance—outcome relationship in a population of maltreated, psychiatrically-hospitalized adolescents. While they found that a history of maltreatment was associated with poorer initial therapeutic alliances (rated on a 5-item Likert-type scale), they also found that therapeutic alliance was the best predictor of therapeutic outcome (rated on the Child Behavior Checklist [CBCL;
Achenbach & Edelbrock, 1983]), regardless of whether clients had previously experienced maltreatment. This suggests that therapeutic relationship factors likely play a role in outcome even for those who may presumably have significant difficulty forming trusting relationships with others.

In a study of the working alliance in residential placements (e.g., group homes, therapeutic foster homes) for behaviorally-disordered adolescents (n = 121), Florsheim and colleagues (2000) found that the alliance measured after three months of treatment significantly predicted decreases in psychological symptom severity and criminal recidivism at one year following placement (Florsheim, Shotorbani, Guest-Warnick, Barratt, & Hwang, 2000). Interestingly, the alliance measured early in treatment (i.e., between the third and fourth weeks of treatment) was found to be associated with increased psychological symptom severity and higher recidivism rates. Moreover, client ratings of the alliance were, on the average, significantly lower after three months of treatment than ratings taken after three weeks of treatment. This may reflect a kind of “honeymoon” period, whereby clients develop initial, superficially positive relationships before adjusting to the demands of the treatment program. However, analyses designed to assess alliance development over time and its relationship to outcome indicated that adolescents who either had consistently high or improved ratings of the alliance over time were more likely to report decreases in psychological symptom severity and recidivism rates in the year following placement than were adolescents who had consistently low or declining alliances over time. These findings would suggest that measurements of the alliance should be taken later in treatment in order to maximize the relationship between
alliance and outcome and to have a more accurate and representative assessment of alliance quality.

**Therapeutic Alliance Research in Adolescent Substance Abuse Treatment**

In one of the few published studies regarding the role of the therapeutic alliance in adolescent substance abuse treatment, Tetzlaff and colleagues (2005) conducted a longitudinal study examining the therapeutic alliance and its relationship to substance use and substance use outcomes in a variety of treatment approaches (Tetzlaff, et al., 2005). Adolescents (n = 430) were randomized into one of five outpatient treatment groups utilizing motivational enhancement therapy, cognitive-behavioral therapy, and family therapy approaches of varying duration and intensity. For the purposes of this study, therapeutic alliance was measured at a single time point between the second and fifth therapy session via a version of the client form of the WAI-Short Form (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) adapted for use with adolescent populations. In addition, the researchers assessed client treatment satisfaction as well as various substance use outcomes derived from the Global Assessment of Individual Needs (GAIN-I; Dennis, et al., 1996) follow-up measure. Outcome classifications were generated based on the level of substance use following treatment. The categories included: little/no relapse, minor relapse, moderate relapse, and major relapse.

Results indicated that the therapeutic alliance was not associated with pre-treatment client use variables, including initial substance use severity, baseline substance use, and past-month substance-related problems. Discriminant analyses designed to identify predictors of membership in one of four posttreatment use categories (classified by severity of substance use) indicated that only the therapeutic alliance and initial
substance use (as measured by the Substance Frequency Scale of the GAIN-I) were significant predictors of posttreatment substance use, and that these predictors correctly classified 58% of adolescents into the posttreatment use categories (Tetzlaff, et al., 2005). Subsequent analyses revealed that initial substance abuse was more closely related to the discriminant function \((r = .85)\) than was the therapeutic alliance \((r = -.50)\). Additional analyses indicated that individuals classified into the little/no relapse category had significantly higher alliance scores than those in the minor relapse group. Similarly, those in the minor relapse group demonstrated significantly higher alliances than the moderate relapse group, indicating a linear trend between relapse classification and alliance quality.

These findings were observed at both the three-month and six-month follow-up assessments, and provide evidence in support of the alliance being a small but potentially significant predictor of short-term posttreatment substance use. It should be noted that this study focused on a variety of outpatient treatments and these relationships have not yet been studied in more intensive treatment settings (e.g., residential treatment). In addition, this study did not evaluate the therapeutic alliance from the therapist’s perspective, thus failing to obtain potentially important information about the alliance. Given the indication from a recent general child/adolescent psychotherapy meta-analysis (Shirk & Karver, 2003) indicating that alliance rated from the therapist perspective tends to be more predictive of outcome, it may be the case that therapists have a unique perspective on alliance that may be more strongly predictive of the alliance in substance abuse treatment populations.

While most (if not all) child/adolescent therapy practitioners would acknowledge the therapeutic alliance as a significant factor in their work with clients, the topic has
been largely ignored by child/adolescent therapy researchers. There is even less known about the impact of the alliance in chemical dependency treatment for children/adolescents.

The existing literature does, however, provide a starting point for research regarding the alliance in the context of adolescent chemical dependency treatment. A well-established therapeutic alliance provides a model of a positive and trusting relationship, which clearly benefits the social development of the child/adolescent client. In addition, the existing literature suggests that positive therapeutic relationships decrease the likelihood of premature termination of treatment (Chattoor & Krupnick, 1991). Given the significant physical, psychological, interpersonal, and financial consequences that are associated with untreated substance abuse and dependence, it is imperative that treatment providers and researchers explore strategies to maximize treatment retention. The formation and maintenance of the therapeutic alliance is an intriguing and likely significant factor in whether a client remains in treatment.

Finally, child/adolescent psychotherapy research findings (e.g., Shirk & Karver, 2003) suggest that, as is the case in adult psychotherapy, there is a moderate but robust relationship between therapeutic alliance and treatment outcome in a variety of therapeutic modalities (e.g., cognitive-behavioral skills training, psychodynamic interventions, client-centered approaches, and eclectic therapies). Investigating the role of the therapeutic alliance in the specific context of adolescent chemical dependency treatment will contribute to the scientific literature regarding the impact of process variables in adolescent psychotherapy and substance abuse treatment.
Clients’ motivation or level of desire to meaningfully engage in therapeutic work has long been viewed as an intrinsic and necessary component of effective psychotherapeutic treatment (Friedman, Granick, & Kreisher, 1994). The reasoning is quite simple: if one is to enact emotional or behavioral change, one must first have the general inclination to do so. As long as one’s present behavior or emotional state is within limits of desirability, no change is indicated. In other words, only when current behavior is largely discrepant from the individual’s desired behavior does motivation for change begin. This notion serves as a conceptual foundation in motivational theories of change.

Motivation has been examined as an important nonspecific client factor in the treatment of a number of different problem areas. For instance, motivation has been hypothesized to be a critical component of effective treatment for personality disorders (Sainsbury, Krishnan, & Evans, 2004), pathological gambling (Wulfert, Blanchard, & Martell, 2003), eating disorders (Wilson & Schlam, 2004), and mood disorders (Fowles, 1994). Most notably, however, emphasis on the role of client motivation has been focused on the treatment of alcoholism and other SUDs (Miller, 1985). For the purposes of the current review (and the study to follow), it seems most prudent to focus discussion on the psychological states and processes associated with motivation in the context of substance abuse treatment in general and adolescent substance abuse treatment in particular.
According to Miller (1985), the early therapeutic approaches for SUDs viewed motivation as an important factor in treatment, but one that was obfuscated by “virulent defense mechanisms, particularly denial” (Miller, 1985, p. 85). Consequently, early approaches relied heavily on client confrontation as a means of circumventing defenses like denial, minimization, and rationalization. Treatment failure was viewed as a moral and motivational failure on the part of the client. In fact, the organization Alcoholics Anonymous, in their legendary work of the same name, asserted that those who fail to establish and maintain change through work on the Twelve Steps are people who “cannot or will not completely give themselves to this simple program, usually men and women who are constitutionally incapable of being honest with themselves” (Alcoholics Anonymous, 1955, p. 58). To some extent, this approach has given way to a more supportive therapeutic approach designed to evoke clients’ internal motivation for behavioral change.

*The Transtheoretical Model*

Human behavior, in and of itself, is complex, stemming from numerous intrapsychic and environmental factors. Theories of behavior change are often similarly complex, and there is significant debate in the psychological community regarding the process by which behavioral change occurs. Due in part to this spirited debate and the importance of modeling behavior change in psychological and medical treatment, the National Institutes of Mental Health has identified over 100 different behavior change models. Some of the most commonly utilized change models include the Health Belief Model (HBM; Rosenstock, 1974), the Theory of Planned Behavior (TPB; Ajzen, 1985), social learning models (e.g., Bandura, 1977), and the transtheoretical model. While the
field is divided about the specific stages and/or processes through which change occurs, the recent addictions literature on this topic has been dominated by the transtheoretical model and its stages of change. As such, the present review will focus specifically on the transtheoretical model advanced by Prochaska and colleagues.

While there are many models that incorporate motivational constructs in explaining addictive behavior change, these models typically share the view that substance using behavior is reinforced by positive affective consequences, such as the euphoria that comes with “getting high” or temporary relief from emotional and physical pain. As such, the positive expectancies related to future substance use based on past positive experiences are hypothesized to motivate future use of substances. Generally speaking, motivation models hold that substance abusing individuals seek to change their using behavior only when the negative consequences of use (e.g., withdrawal symptoms, legal difficulties, relationship conflicts, etc.) outweigh the positive consequences associated with use.

In an effort to examine the methods by which people change problematic behavior (either with or without psychotherapy or other treatment), Prochaska and colleagues identified commonalities that exist in the change process across myriad problem behaviors and multiple treatment modalities. These findings resulted in what has come to be known as the transtheoretical model (Prochaska & DiClemente, 1986). The transtheoretical model emerged partially in response to meta-analytic findings (e.g., Smith & Glass, 1977) that demonstrated comparable outcomes across therapies. The notion of common factors emerged and is a partial basis for the eclecticism inherent in the transtheoretical model.
Essentially, Prochaska and colleagues initially asserted that behavior change takes place in a linear fashion and is characterized by a sequence of distinct and reliable stages. Each stage incorporates personal motivation to change, readiness for change, and steps taken to modify the problem behavior. By assessing where individuals fall on these continua, researchers and clinicians can determine progress in the change process.

Specifically, Prochaska and colleagues developed a comprehensive model of the stages of change consisting of five sequential stages. In research with smokers attempting to quit without professional intervention, DiClemente and Prochaska (1982) found that individuals progress from a *precontemplation* stage, where there is minimal recognition that a behavior is problematic and/or there is no desire to change the behavior, to the *contemplation* stage. In the contemplation stage, individuals become aware that a problem exists and begin to seriously think about how to overcome the problem. However, they have not yet made a commitment to changing nor have they taken any action to modify the behavior. A decisional balance also occurs during this stage, where the individual must conduct a cost/benefit analysis of changing versus not changing the behavior. This decisional balance carries over to the other stages as well, wherein the individual must constantly re-evaluate the costs and benefits of the change process.

The next stage in the progression is the *preparation* stage, which is characterized by a commitment to changing the problem behavior. The individual recognizes the problematic behavior, has resolved to make change, and is developing a method through which the change will take place. Completion of this stage leads to the *action* stage, where the individual incorporates his/her plan for change and takes steps to reduce or eliminate the problem behavior.
The action stage requires extensive effort and commitment. It is also the stage where attempts to change are most noticeable to others and thus it is also the stage where individuals receive the most external recognition of their efforts. Many people, including professionals, equate the action stage with “completed” behavior change. However, Prochaska and colleagues (1992) argue that there are a number of critical milestones to achieve after initial steps are taken in the action stage (Prochaska, DiClemente, & Norcross, 1992). In general, long-term behavior change requires the individual to consistently engage in behaviors that are incompatible with the problem behavior. As such, individuals are considered to be in the action stage for the first six months after taking steps to modify the problem behavior (Prochaska, et al., 1992).

Once an individual has progressed through the action stage, the problem behavior is well-controlled or successfully terminated and he/she enters the maintenance stage. Here, individuals continue to utilize relapse prevention strategies and consolidate the gains they have made through their efforts in the previous stages. Maintenance is seen as a continuation of the change process, during which individuals learn adaptive techniques to avoid relapse in numerous situations and develop more effective coping strategies.

Unfortunately, relapse into problem behavior is an all-too-common occurrence, especially with addictive behaviors. For example, individuals who attempt to stop smoking on their own make an average of 3 to 4 action attempts before becoming “long-term maintainers” or non-smokers (Schacter, 1982). In light of the high prevalence of relapse, Prochaska and colleagues later revised the model by adding a sixth stage, labeled relapse, to account for the fluctuations that occur in the behavior change process. During relapse, individuals regress to previous stages of change, namely contemplation and
preparation. Often times, people who relapse experience significant feelings of guilt and shame, and in an effort to limit these negative feelings, return to the precontemplation stage and rationalize their behavior as non-problematic. This psychological process is highly prevalent in substance-abusing populations (Miller, 1985).

The transtheoretical model is prescriptive in nature and implies that therapeutic interventions should be tailored to the client’s current stage of change. For example, an individual who is classified in the precontemplation stage of the model does not view the target behavior as problematic. The model would indicate that increasing awareness regarding the negative consequences of the behavior would serve to increase the client’s ambivalence regarding the behavior, thus effectively moving the client toward contemplating behavioral change.

Consistent with popular perception, research suggests that most addicted people would not be classified in the action stage. Aggregating across three studies and populations, Prochaska and colleagues (1992) reported that, for adult smokers, the percentages for those in the action, contemplation, and precontemplation stages are 10-15%, 30-40%, and 50-60%, respectively. Data reflecting the distributions for other behavior problems (e.g., alcohol abuse) and populations could not be located, but if this trend holds for other populations, then treatment programs focused on action-oriented interventions may underserve their target populations by not addressing stage-specific needs. In other words, given that most people are not in the action stage when entering treatment, therapeutic interventions should be focused on helping the individual address the specific issues they are facing in their current stage of change. For example, if an individual enters treatment in the precontemplation stage, the transtheoretical model
postulates that the focus of treatment should be on building awareness of the consequences of the behavior. Action-oriented programs promote immediate behavior change, and quite simply, many clients are not ready when they initially enter treatment, especially if they are court-ordered or otherwise coerced into treatment. This issue provides support for motivational enhancement techniques that tailor therapeutic techniques to the individual’s position along the stages of change continuum.

Another fundamental asset of the transtheoretical model is that it generally describes the change process, and in so doing, can be applied to behavioral change in a number of functional domains. However, the transtheoretical model has been most consistently and thoroughly applied to the conceptualization of change processes in addictive behaviors. Also, it should be noted that the transtheoretical model identifies change processes for both those who seek external assistance (e.g., a therapist) and those who self-initiate a behavior change plan. Ultimately the processes are similar for both groups, but the addition of an external agent, facilitator, or therapist allows the changing person the opportunity for external benefit and support (Miller & Rollnick, 2002).

Relevant Research Findings on Motivation and the Transtheoretical Model

Over the past 25 years, the transtheoretical model has been subjected to a number of investigations in order to determine its viability as a theoretical model. For example, McConnaughey and colleagues (1989) conducted a study on the stages of change with 327 adult outpatients. Through cluster analysis, four distinct stages (precontemplation, contemplation, action, and maintenance) emerged (McConnaughey, DiClemente, Prochaska, & Velicer, 1989). In addition, cluster analysis differentiated the preparation stage as well (individuals classified in this category scored high on both the
contemplation and action scales), providing support for the construct validity of the stages of change.

Other research has been successful in using the transtheoretical model to predict termination and continuation of psychotherapy. Brogan, Prochaska, and Prochaska (1999) studied 60 adult psychotherapy clients in treatment at a community mental health center. The investigators assessed stages of change, processes of change, levels of attribution and change, decisional balance (pros and cons), and client demographics and symptoms. Results of a discriminant function analysis correctly classified 92% of clients into one of two groups: a) premature terminators and b) appropriate therapy terminators and continuers based on stages of change, processes of change, and decisional balance for therapy as predictor variables.

Specifically, Brogan and colleagues (1999) found that high endorsement of precontemplation items was associated with high premature termination, while low endorsement of precontemplation was associated with appropriate termination or therapy continuation. Moreover, clients who continued in therapy tended to demonstrate higher levels of contemplation than those who terminated prematurely or appropriately, suggesting that problem awareness is an important factor in treatment continuation. In addition, the variables stemming from the transtheoretical model were much better predictors of termination or continuation than were client variables such as age, gender, or clients’ expected level of therapy attendance. These findings provide support for the notion that the factors that are directly associated with therapy continuation versus premature termination are dynamic in nature and can be influenced by therapeutic intervention. These findings are consistent with previous research that has found
motivation to be a critical and consistent predictor of client retention with adult substance abusers (Prochaska, DiClemente, & Norcross, 1992; Simpson & Joe, 1993), and taken together, these findings provide support for the transtheoretical model as a predictive tool for clinicians.

While these findings certainly provide support for the transtheoretical model, the study had some significant limitations. First, sample size (n = 60) was somewhat insufficient given the high number of predictor variables in the study, which may have contributed to the likelihood of chance findings. In addition, some of the therapists used in the study were students in graduate-level training programs. Nevertheless, replication of these findings with more experienced therapists and more clients would provide significant support for the utility of the transtheoretical model.

**Criticisms of the Transtheoretical Model**

Despite the popularity of the transtheoretical model in clinical settings, the model has been the subject of heated debate in the recent behavior change literature. A number of researchers have pointed to perceived conceptual and empirical flaws in the model, with particular focus on the stages of change. Specifically, many critics argue that the stages of change do not adequately account for the complexities inherent in behavior change. In addition, critics of the model assert that existing measures of stage of change are significantly flawed, and that important factors in the process of behavior change can be more accurately assessed through more parsimonious means (Etter & Sutton, 2002).

A number of researchers (e.g., Henderson, Saules, & Galen, 2004; Sutton, 2001) have noted the presence of strong University of Rhode Island Change Assessment (URICA; McConnaughy, Prochaska, & Velicer, 1983; Greenstein, Franklin, &
McGuffin, 1999) subscale correlations between adjacent stages (e.g., precontemplation-contemplation, preparation-action). While proponents of the transtheoretical model view correlations between adjacent stages of change to be evidence for the sequential nature of behavior change processes, critics argue that these findings, combined with research identifying high correlations between non-adjacent stages (e.g., Henderson, et al., 2004), reflect that the stages of change are not discrete, qualitatively distinct categories (West, 2005). Critics argue that the existing measures of stage of change do not adequately identify and isolate the unique components of each stage and are thereby flawed. Prochaska and DiClemente (1998) assert that profile analysis, rather than classification based on the highest subscale score, may be a more useful and comprehensive method of stage classification.

Sutton (2001) criticized proponents of the model for their use of algorithms (i.e., decision rules) for stage classification. For example, Prochaska and colleagues (1994) established the presence of the problem behavior and the lack of intent to change the behavior in the next six months as algorithm criteria for classification in the precontemplation stage of change (Prochaska, Velicer, Rossi, & Goldstein, 1994). For the contemplation stage, the problem behavior must be present and the individual must have the intent to change in the next six months (Prochaska, et al., 1994). Sutton (2001) asserted that the use of stage algorithms (i.e., decision rules for stage classification) does not accurately classify individuals into the various stages (e.g., precontemplation, contemplation, etc.). However, Prochaska and DiClemente (1998) asserted that the original stages of change did not include stage algorithms, and that these algorithms were developed for ease of implementation in clinical research settings. Most stage algorithms
consist of a short list of “yes or no” questions regarding past attempts to change and future intentions (e.g., “have you tried to quit smoking in the past 6 months?” or “do you intend to quit smoking in the next 6 months?”). More comprehensive questionnaires, such as the URICA, do not focus on arbitrary time constraints in assessing stage of change. Rather, these questionnaires focus on attitudes toward change and awareness of the consequences of the problem behavior to determine stage classification. Although proponents of the model argue that either algorithms or more comprehensive questionnaires are appropriate for measuring stage of change (Norman, Velicer, Fava, & Prochaska, 1998), available research suggests that there is little concordance between the two approaches to stage classification (Lerner, 1990), which suggests that the approaches measure different aspects of the construct. The use of arbitrary time constraints and other decision rules in the algorithm approach may be responsible for the weak relationship between the two types of classification.

In a review of 239 studies that claimed to utilize the stages of change in some capacity, Whitelaw and colleagues (2000) noted that the vast majority (4.6% [11 of 239]) of existing studies fail to provide sophisticated outcome data to support efforts at establishing predictive validity of the stages of change (Whitelaw, Baldwin, Bunton, & Flynn, 2000). Moreover, the reviewers claimed that many of the available studies lack methodological rigor, thus weakening any claims that can be made based on the findings. Rather, Whitelaw and colleagues pointed to the prevalence of “softer indicators” of change, including increased knowledge or awareness and stage progression (e.g., movement from preparation to action stages; Whitelaw, et al., 2000, p. 711). Other critics
have cited published research that fails to provide support for the effectiveness of matching clients to interventions based on stage of change (Bridle, et al., 2005).

Overall, the transtheoretical model, and more specifically, the stage of change model, has become extremely popular, both in clinical settings and in the behavior change literature. A spirited debate regarding the merits of the model rages on, but the model provides a framework within which to target specific clients with specific interventions. However, the majority of research regarding the model has been focused on adult populations. Given the limited extent of research regarding the stages of change in adolescent substance abuse treatment settings and the strong impact of motivation on the treatment process in these settings, further research regarding the stages of change is warranted.

Motivation and the Therapeutic Alliance

In standard practice, therapists utilize a wide array of techniques to facilitate change in clients, ranging from the provision of direct advice to more Rogerian, non-directive interventions. In addition, Miller (1985) noted in a review of the existing motivation literature that therapists also provide objective and realistic feedback regarding the client’s behavior, facilitate goal-setting, and utilize role-playing interventions to help clients work through concerns and ambivalence toward change. These techniques are consistent with the goals and tasks of therapy addressed in Bordin’s (1979) model of the alliance construct. All of these therapist techniques rely on the client’s trust and willingness to participate for their efficacy. As such, insofar as the therapeutic alliance promotes a trusting therapeutic atmosphere, the alliance has strong implications for motivation and motivation-based interventions.
According to research investigating the stages and processes of change in adult populations (Prochaska & Norcross, 2001; Prochaska & DiClemente, 1983), individuals in the early stages of change seem to focus on the change processes known as consciousness raising, environmental reevaluation, and self-reevaluation. In the later stages, particularly action and maintenance, individuals tend to utilize support, understanding, and guidance from helping relationships. Conversely, those who are classified as precontemplators tend to be far less likely than those in other change categories to be open with significant others about their problems or ask for help. These findings seem to suggest that individuals who have made a commitment to change and are taking action may be more likely to engage in, and subsequently benefit from, a positive therapeutic alliance than those who have not committed to making behavioral change.

In their elaboration of the therapeutic approach known as motivational interviewing, Miller and Rollnick (2002) identified therapist-client collaboration as a key component of behavioral change. Specifically, they noted that a “partner-like relationship” is required to “create a positive interpersonal atmosphere that is conducive but not coercive to change” (Miller & Rollnick, 2002, p. 34). The concept of collaboration has clear ties to the therapeutic alliance, and it would seem reasonable to expect the collaborative effort between therapist and client to be more fruitful when planted in the nutritive soil of a mutually-affirming therapeutic relationship.

Simpson and colleagues (1997), in a study of adult substance abusers in outpatient treatment, found that clients with higher levels of motivation for treatment at intake tended to form more positive therapeutic relationships over the course of treatment than
clients with lower levels of motivation (Simpson, Joe, Rowan-Szal, & Greener, 1997). Specifically, Simpson and colleagues assessed client motivation on three dimensions prior to treatment, including problem recognition, desire for help, and treatment readiness. In addition, therapeutic alliance was measured by a three-factor scale with factors labeled “rapport,” “motivation” (defined as being dependable, organized, cooperative, and compliant), and “self-confidence” (Simpson, Joe, Rowan-Szal, & Greener, 1997, p. 568). These factors, along with a host of client background variables and session attendance, were entered in a structural equation model. Results indicated that high levels of pre-treatment motivation and stronger therapeutic relationships were associated with higher treatment engagement. In addition, strong therapeutic relationships were associated with better session attendance and longer client retention. Simpson and colleagues interpreted these results as evidence that pre-treatment motivation, program engagement (operationalized as number of sessions attended), and therapeutic alliance are central attributes of effective chemical dependency treatment in adult populations.

However, this study assessed therapeutic alliance only from the therapist’s perspective, and thus failed to obtain potentially valuable data on the client’s experience of the therapeutic relationship. Traditionally, therapist-rated alliance measurements are more susceptible to methodological bias than client-rated alliance measurements (Orlinsky & Howard, 1986). In addition, measurements of the therapeutic alliance were taken on a monthly basis. This method of measurement potentially fails to account for relatively brief fluctuations in the alliance and/or the trajectory of alliance development over the course of treatment. As has been noted in the adult psychotherapy literature (e.g., Safran & Muran, 1996), ruptures in the therapeutic alliance often have significant effects
on treatment engagement and premature dropout. A study that includes both therapist- and client-rated assessments of the alliance and does so at multiple time points with a relatively brief interim between assessment points is likely to provide a more specific and accurate portrayal of the therapeutic relationship in addition to providing more information about the relationship between motivation and the therapeutic alliance.

In a study of adult court-ordered probationers in residential substance abuse treatment, Broome and colleagues (1997) found that substance abuse problem recognition was predictive of forming positive therapeutic relationships (Broome, Knight, Knight, Hiller, & Simpson, 1997). In addition, they found that troubled pre-treatment peer and family relationships were not carried over into new relationships formed during treatment. In essence, these findings suggest that pre-treatment social relationship history plays a smaller role in alliance development than does problem recognition.

Unfortunately, similar studies focusing on adolescent populations could not be located, but it seems likely that an adolescent’s level of social development affects, at least to some extent, his/her ability to form therapeutic relationships in treatment.

Motivation in Adolescent Populations

In general, the overwhelming majority of motivation research has been focused on adult populations. While motivation for change appears to be an important factor in the treatment of various problem types, research suggests that motivation is a particularly crucial component of effective adolescent substance abuse treatment, particularly when viewed in light of the fact that children and adolescents are characteristically difficult to engage in therapy (Kazdin, 1990). The existing literature, although minute in comparison to the adult literature, indicates that adolescents are typically less internally motivated for
treatment than adults (Jainchill, Bhattacharya, & Yagelka, 1995). In the majority of cases, adolescent substance abusers enter treatment as the result of external pressures, such as court mandates or parental decisions. In fact, SAMHSA reported that in 2002, 54% of all adolescents referred for substance abuse treatment were referred by the criminal justice system, 11% by school personnel, and 10% by health care providers. Meanwhile, only 17% of youths entering substance abuse treatment were self-referred (SAMHSA, 2004).

In 1992, 40% of adolescents admitted to treatment were referred by the criminal justice system. This dramatic increase likely reflects efforts of the justice system to divert into treatment those who have experienced legal difficulties associated with substance use and/or possession. Nevertheless, given the external pressures evident in the treatment referral process, many adolescents enter treatment against their will and, consequently, lack sufficient motivation to fully participate in substance abuse treatment and/or change their substance use behavior (Battjes, Gordon, O’Grady, Kinlock, & Carswell, 2003).

As is the case with adults in CD treatment, pre-treatment motivation or readiness for treatment has been demonstrated to significantly predict adolescent substance abusers’ treatment engagement (Broome, Joe, & Simpson, 2001) as well as treatment outcome (Cady, Winters, Jordan, Solberg, & Stinchfield, 1996).

Cady and colleagues (1996) assessed motivation for treatment in adolescents in order to evaluate the Problem Recognition Questionnaire (PRQ; Winters, Henly, & Stinchfield, 1987), a 27-item measure designed to assess adolescents’ perceptions of drug/alcohol abuse severity and motivation for treatment. Principal components analysis revealed a three-factor solution for the PRQ with components corresponding to the contemplation and preparation stages of change as well as a factor that represents a
combination of the contemplation and preparation stages. Of the three factors, Cady and colleagues (1996) found that the preparation factor was the best of the PRQ factors at predicting six months post-treatment drug use frequency ($r = -.18, p < .01$). This finding is consistent with motivational theories, as it stands to reason that the effectiveness of interventions will be maximized when the client is ready to engage in therapeutically meaningful action. The generalizability of these findings is limited due to the homogeneity of the sample (therapeutic community admissions only, majority self- or family-referred) as well as the failure to assess changes in motivation over the course of treatment. Cady and colleagues (1996) recommend assessing motivation at multiple time points in order to “provide information regarding change and improvement as clients cycle through current and subsequent treatments” (Cady, et al, 1996, p. 88).

Melnick and colleagues (1997) conducted a comparison study of motivation and readiness for treatment in both adolescent and adult populations (Melnick, De Leon, Hawke, Jainchill, & Kressel, 1997). The investigators conducted a large-scale examination of adolescent ($n > 1000$) and adult ($n > 1400$) substance abusers entering residential therapeutic communities (TC). The researchers measured motivation with a 4-factor, 42-item scale. This measure assessed the extrinsic factors related to treatment admission (e.g., legal and family pressures), intrinsic factors such as desire for change, readiness for treatment (i.e., the client’s perception of the immediate necessity for treatment), and suitability (i.e., the client’s perception of the appropriateness of TC treatment). The measure used, called the Circumstances, Motivation, Readiness, and Suitability Scales (CMRS), demonstrated adequate reliabilities (Cronbach’s $\alpha$ ranging
Retention was assessed via two measures, the number of days in treatment and a dichotomous variable (+ or – 45 days in treatment).

Results of multiple regression analyses incorporating demographic variables (i.e., age, gender, ethnicity, legal status) as independent variables and CMRS scale scores as dependent variables indicated that client age was the most consistent predictor of client motivation. More specifically, results suggested that motivation and readiness for treatment increase consistently as a function of age. The researchers also assessed whether there were age differences in predicting retention in treatment based on motivation. Data indicated that adults and adolescents had similar 45-day retention rates (65% and 70%, respectively) and that higher motivation levels were associated with staying in treatment for at least 45 days in both adult and adolescent populations. In general, this study suggests that adolescents have less motivation for treatment than adults but that for both adolescents and adults, pre-treatment motivation significantly predicts treatment retention.

Summary

The transtheoretical model and its stages of change are the theoretical foundation for motivation in the present study. More specifically, while the transtheoretical model specifies both psychological processes and behaviors as components of the stages of change, the present study focuses on the psychological states associated with motivation to change, namely perceived readiness for treatment, desire for professional help, and recognition of substance-related problems. The transtheoretical model has been widely utilized in the field of addictions treatment and has adequate empirical support. The existing literature consistently points to the relationship between motivation for treatment
and therapeutic engagement (Broome, Joe, & Simpson, 2001). Moreover, there is a body of evidence that indicates motivation predicts treatment retention and premature dropout. In addition, motivation and readiness for treatment have been found to be a more consistent predictor of outcome than demographic variables such as socioeconomic status, ethnicity, and legal status. Advocates of the transtheoretical model view motivation as a dynamic and evolving construct, one that can be influenced by direct therapeutic intervention (e.g., motivational interviewing, motivational enhancement techniques). Existing research suggests that clients classified as precontemplators are less likely to develop positive therapeutic alliances, while clients who are contemplating change or preparing for action are more likely to develop positive alliances. This implies that there is a relationship between motivation and therapeutic alliance, but to date, no studies could be located that directly assess this potential relationship in the context of adolescent substance abuse treatment. The present study attempted to do so by examining client motivation and its relationship to therapeutic alliance over the course of treatment. Moreover, the present study examined the relationships between these constructs and treatment compliance, psychological distress, and treatment progress/completion.

PART IV: RATIONALE FOR THE PRESENT STUDY

Studies based on adult substance abusers suggest that: 1) Alliance is a moderate but consistent predictor of therapeutic outcome, 2) retention in treatment is the single best predictor of long-term substance use outcomes, 3) motivation for treatment is significantly related to development of the alliance early in therapy (Meier, Donmall,
Barrowclough, McElduff, & Heller, 2005), and 4) client motivation for treatment is significantly related to retention in treatment.

In the existing literature on factors related to substance abuse treatment outcomes for adolescents, these potential relationships have not been fully examined. However, a number of studies have reported a relationship between motivation for treatment and treatment retention. Other studies have identified relationships between alliance early in therapy and retention. Recent research has suggested that the therapeutic alliance is significantly related to short- and longer-term drug use outcomes (Tetzlaff, et al., 2005). Unfortunately, no studies could be located that simultaneously assess the therapeutic alliance and motivation for treatment and their relationships to therapeutic outcome in substance abuse treatment settings for adolescents. Given the degree of inter-relationship between these variables, and the theoretical possibility that alliance provides a mechanism for the transformation of motivation to behavioral change, it may be the case that the alliance plays a mediating role in the relationship between motivation and treatment outcome.

If adolescents entering treatment believe that their substance use behavior is problematic and they recognize the need for professional help, they would be more willing to develop a collaborative and trusting relationship with a helping professional than would adolescents who do not view their substance use as problematic. The therapeutic alliance has been widely regarded as a platform for delivering the active ingredients of therapy (Henry & Strupp, 1994), and may be a critical ingredient itself. If adolescents present for treatment with significant motivation for change and desire for
professional help, it is reasonable that the quality of the alliance would impact the delivery of those active ingredients and thereby impact eventual treatment outcome.

While there are clearly significant fundamental differences between adult and adolescent populations, general psychotherapy research has drawn parallels between these populations regarding the link between therapeutic alliance and outcome. The role of the alliance likewise has been found to be a modest but consistent predictor of outcomes in adult substance abuse treatment. Attempts to replicate the nature of these findings in adolescent populations have been stifled by inadequate measures of the alliance construct, failure to assess the alliance at multiple points in time and through multiple perspectives, and a lack of consideration of other variables (e.g., motivation) that may impact the quality of the therapeutic relationship.
CHAPTER THREE
THE PRESENT STUDY

The present study investigated the relationship between therapeutic alliance and outcome variables in substance abuse treatment for adolescents in a residential treatment facility. While much is known about the role and influence of the therapeutic alliance in traditional psychotherapies with adult clients, comparatively little is known about the relationship between alliance and therapy outcome with regard to child/adolescent clients. In the field of substance abuse treatment in particular, there is a paucity of empirical research focusing on the therapeutic alliance, despite the fact that many of the existing treatments for substance use disorders regard the therapeutic alliance as a critical process variable. Research in the field of adolescent addictions has identified social connectedness and goal-directedness to be protective factors against substance abuse and dependence (Latimer, Newcomb, Winters, & Stinchfield, 2000). Insofar as the therapeutic alliance fosters these attitudes, alliance may be a significant factor in the treatment of substance abuse in adolescent populations. Moreover, the therapeutic alliance has been related to treatment retention in adult psychotherapy and substance abuse treatment populations (Simpson, et al., 1997), and treatment retention has been the most consistent predictor of post-treatment outcomes in adult substance-abusing populations (Hubbard, et al., 1989). At present, there have been no reports about the relationships between these variables in samples of adolescents in substance abuse treatment. Quite simply, there is a clear need for additional research on process variables in adolescent substance abuse treatment.
Specifically, the present study sought to determine to what extent the quality of the therapeutic alliance relates to treatment outcome across several domains. Further, the present study evaluated whether the therapeutic alliance is related to behavioral treatment compliance, discharge status, and changes in psychological symptom severity over the course of treatment. Also, given that very few existing studies have assessed the therapeutic alliance at multiple time points over the course of treatment, the present study measured alliance over time and attempted to examine whether there is a predictive relationship between therapeutic alliance and treatment outcome in the aforementioned domains. Finally, the present study examined the impact of client readiness and motivation for change with regard to the quality of the therapeutic alliance and overall treatment outcome.

In the present study, adolescents in residential substance abuse treatment and their primary counselors provided ratings of alliance, motivation for treatment, and outcome at multiple time points over the course of residential treatment. Measures assessing behavioral compliance, discharge status, and psychological symptom severity were utilized to test the following predictions:

**Alliance—Outcome**

I. The therapeutic alliance, as rated by both client and counselor early in treatment (i.e., after session three), is significantly related to behavioral treatment compliance. It was expected that positive alliances would be associated with increased levels of behavioral treatment compliance.
II. The therapeutic alliance, as rated by both client and counselor early in treatment (i.e., after session three), predicts change in self-reported psychological symptom severity over the course of treatment.

III. The therapeutic alliance, as rated by both client and counselor early in treatment (i.e., after session three), is significantly related to discharge status.

IV. More positive counselor- and client-rated therapeutic alliances, as measured after three sessions, are significantly associated with higher levels of counselor-rated progress toward treatment goals at discharge.

V. Counselor ratings of the alliance are more strongly associated with measures of treatment progress/outcome (i.e., compliance, discharge status, stage of change, and psychological symptom severity) than client ratings.

Motivation/Readiness for Change

VI. Client-rated motivation, as measured at intake, is significantly related to: a) behavioral compliance and b) treatment outcome indices. Specifically, it was expected that higher levels of pre-treatment motivation would be associated with higher levels of treatment compliance, reductions in self-reported psychiatric symptomatology, and favorable discharge status (i.e., discharge with staff approval).

VII. Motivation and readiness factors, taken together, significantly predict client-rated and counselor-rated therapeutic alliance. Specifically, it was expected that higher levels of pre-treatment motivation would be associated with more highly-rated therapeutic alliances (by both counselor and client).

VIII. The therapeutic alliance is a statistical mediator in the relationship between client motivation and measures of treatment progress/outcome.
Participants

Participants for the present study were 81 consecutively-referred adolescent males and females assigned to residential substance abuse treatment based on the American Society of Addiction Medicine (ASAM) criteria for level of care determination. Participants ranged between 13 and 18 years of age ($M = 16.27, SD = .96$), and the sample was nearly two-thirds male (64.2%, $n = 52$; Table 2). The majority of clients came from rural southern Ohio, a traditionally impoverished area. However, a small number of clients were referred from urban Ohio areas, including the cities of Columbus, Dayton, and Cincinnati. Due to contractual agreements in place between the treatment facility and the probation department of Montgomery County, Ohio, the present study was unable to include that county’s clients in the study. As such, the present sample was not fully representative of the population of clients in the treatment facility. In addition, because including clients from Montgomery County (a region of western Ohio that includes the city of Dayton) was not allowed, the present sample was more homogeneous regarding ethnic and demographic variables than was the total client population of the treatment facility.

Program participants met criteria for substance abuse or dependence across a wide variety of substances, but the primary drugs of choice were alcohol and cannabis. For those participants with available diagnostic data ($n = 78$), 74.4% met diagnostic criteria for alcohol dependence ($n = 46$) or alcohol abuse ($n = 12$), while 97.4% met criteria for cannabis dependence ($n = 73$) or cannabis abuse ($n = 3$; Table 3). Nearly half of the sample (44.8%, $n = 35$) had clinical histories with significant symptoms of one or more
comorbid mental health disorders, namely attention-deficit hyperactivity disorder (ADHD; n = 21), bipolar disorder, major depressive disorder, and oppositional defiant disorder (Table 4). It should be noted that formal diagnostic testing and other assessment was not part of the standard clinical intake procedures. Rather, the intake specialist, who was a Master’s level licensed professional counselor, utilized a standardized clinical interview and client-reported clinical history to arrive at diagnostic formulations. As such, the data regarding psychiatric diagnoses are incomplete and suggest the presence of types of symptomatology but not psychiatric disorders per se. Given the nature of the intake assessment, which is to verify substance use disorders, limited attention was paid to the assessment of comorbid psychiatric disorders, especially learning disorders and pervasive developmental disorders, including mental retardation. Current research underway at the treatment facility used in the present study utilizes formal diagnostic assessments, and a recent review of the data by the principal investigator suggests that the prevalence of psychiatric disorders in this population is higher than the data reported above (Heather K. Alvarez, personal communication, April 17, 2007). Participants were to be excluded from the study if they were found to have pervasive developmental disorders, active-phase psychotic symptoms, or insufficient reading comprehension. No participants were excluded from the present study based on these criteria. On two occasions, individuals who had participated in the present study were readmitted for a second treatment episode during the data collection phase. These individuals were not included a second time in the present study. In general, participants and their families appeared very receptive to participation in the present study. The principal investigator is aware of no more than one instance where a prospective participant or his/her guardian
failed to provide consent for participation in the study. *A priori* power analyses for the planned statistical procedures (i.e., linear and logistic regression) suggested that 60 participants would be a sufficient sample size to detect a moderate effect using four predictors. Based on the presence of incomplete data obtained during the data collection process, data were collected from additional participants, resulting in the final sample size of 81 participants. Data collection took place over the course of approximately 10 months, from March to December, 2006.

**Clinicians**

Clinicians for the present study were six full- and part-time staff for the treatment program. All clinicians were credentialed by the Ohio Credentialing Board to provide chemical dependency treatment services (see Table 5 for clinician descriptive data). All clinicians identified themselves as white or Caucasian, and the mean age of clinicians was 28.50 years (SD = 4.14). Three clinicians held advanced degrees in counseling and independent licensure at the Master’s level. The other three counselors held baccalaureate degrees in social work (2) and psychology. Two counselors reported greater than 5 years of counseling experience, while one reported less than a year of counseling experience.

**Measures**

*Working Alliance Inventory-Short Form (WAI-S; Horvath, 1981; Tracey & Kokotovic, 1989)*

The WAI-S is a 12-item alliance measure derived from the original client-rated WAI (Horvath, 1981, 1982), which is based on Bordin’s (1979) pantheoretical model focusing on the bond, task, and goal components of the alliance. The items are rated from 1 to 7 on a Likert-type scale, with anchor descriptors ranging from “1-never” to “7-
always.” Scores range from 12 to 84, with higher scores indicating a stronger alliance. Horvath argues that the original WAI items are consistent with a grade 5 reading level (Horvath, personal communication, November 3, 2005). Nevertheless, the wording of the original WAI was slightly altered for the proposed study in order to be more readable for adolescent clients, and the changes are similar to those used by Tetzlaff and colleagues (2005). Complete therapist and client forms of the WAI-S appear in Appendix A.

Changes to the original WAI were made with the intent to maintain the original content of the items (and the original factor structure) while creating a measure that was developmentally appropriate for adolescent clients. The resulting wording changes appear to be relatively minor. For example, the WAI item “_____ and I have built a mutual trust” was changed to “My counselor and I trust each other” in the adapted WAI-S. The therapist form is the original WAI-S (Horvath, 1981; Tracey & Kokotovic, 1989).

Tetzlaff and colleagues (2005) administered the adapted WAI-S to 430 adolescents in outpatient substance abuse treatment, and reported high internal consistency (Cronbach’s alpha = .93) with the measure. Although Tracey and Kokotovic (1989) reported that the WAI-S maintains the three-factor structure of the original WAI, Tetzlaff and colleagues used only the total score in their analyses. This appears consistent with factor-analytic data regarding the use of the WAI in adolescent populations, which has yielded a single general alliance factor (DiGiuseppe, Linscott, & Jilton, 1996). The proposed study will analyze the alliance using WAI-S total scores.

It should be noted that the preliminary findings associated with the use of the WAI-S in adolescent samples are similar to the findings in the adult literature regarding the alliance. First, a number of factor analytic studies (Hatcher & Barends, 1996; Horvath
& Luborsky, 1993; Marmar, 1990; Tracey & Kokotovic, 1989) have reported a single alliance factor and thus concluded that subscales from the various alliance measures do not, in fact, reflect discrete theoretical dimensions of the alliance. Second, research regarding therapist and client agreement on the alliance has frequently noted a lack of correlational agreement between therapist and client ratings (Bachelor, 1991; Tichenor & Hill, 1989). Previous research using adapted versions of the WAI in adolescent samples (DiGiuseppe, et al., 1996) has reported only a moderate correlation ($r = .40$) between therapist and client ratings of the alliance.

Despite these common problems in alliance measurement, there are several reasons why a revised version of the WAI is appropriate for this study. First, the WAI provides parallel assessments of the alliance through the perspectives of the client and therapist. Second, the WAI is arguably the most commonly used measure in adult alliance studies, and research focused on the adolescent alliance would contribute to the WAI literature. Third, there are published data regarding the psychometric properties of the WAI in use with adolescent populations, and the available data suggests that the WAI maintains similar psychometric properties in adolescent samples. Finally, the WAI, and by extension, the WAI-S, is eclectic in nature and thus appears well-suited to the current setting, given that therapists practice within a variety of theoretical orientations.

In the present sample, for those participants who completed alliance ratings after the third session of individual therapy, the ratings were made, on average, 10.95 days into the treatment stay. When compared to average length of treatment stay, this corresponds to a time point equivalent to 24.9% of the treatment stay already completed. For those who completed ratings following session six of individual therapy, the average ratings
were made 21.48 days into treatment, or after completing approximately 48.9% of the
treatment stay. Overall, the timing of the session 3 and session 6 ratings are a reasonable
approximation of the status of the alliance after completion of one-quarter and one-half of
the average treatment stay, respectively.

*The Ohio Youth Problem, Functioning, and Satisfaction Scale: Youth Rating—*
*Short Form (Ohio Scales; Ogles, Melendez, Davis, & Lunnen, 2000)*

The Ohio Scales Youth Rating – Short Form (OS) is a 48-item youth self-report
measure designed to assess therapeutic outcome in 4 domains, including problem
severity, current functioning, satisfaction with behavioral health services and
hopefulness. For the purposes of this study, only the problem severity and child
functioning scales were used. The problem severity scale consists of 20 items, rated on a
scale ranging from 0 (not at all) to 5 (all of the time). These items assess age-appropriate
problem areas such as interpersonal, behavioral, and psychological/emotional problems.
The ratings for each item within the problem severity scale are summed to derive a total
score. Lower scores indicate lower youth-reported problem severity. The functioning
scale also consists of 20 items and is rated on a scale from 0 (extreme troubles) to 4
(doing very well). Again ratings are summed to obtain a total score. Lower scores
indicate greater reported functional impairment. The OS appears in Appendix B.

Psychometric evaluation of the OS problem severity scale indicates strong
internal consistency estimates (Chronbach’s $\alpha$ range: .90 - .95) and adequate one-week
test-retest reliability ($r = .72$). The presence of a strong correlation ($r = .82$, $p < .001$)
between the OS problem severity scale and the CBCL—Youth Self Report (YSR:
Achenbach & Edelbrock, 1983) indicates adequate concurrent validity. The OS
functioning scale demonstrates adequate or better internal consistency (Chronbach’s $\alpha$ range: .75-.92) and adequate test-retest reliability ($r = .68$). The OS was administered during the clinical intake assessment and again during the week prior to discharge from residential treatment.

*Beck Depression Inventory II (BDI-II; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961)*

The BDI-II is a 21-item self-report inventory of common depressive symptoms and attitudes including mood, pessimism, sense of failure, lack of satisfaction, guilt, self-dislike, suicidal wishes, work inhibition, among others. Each symptom is rated for intensity from 0 to 3 (with 3 indicating most intense), and the inventory is commonly self-administered. The BDI-II has been shown to have strong reliability and validity. A meta-analysis of the BDI-II’s internal consistency yielded a mean coefficient alpha of .81 for subclinical individuals (Beck, Steer, & Garbin, 1988). The BDI-II exhibits substantial stability over a week-long period, with reported Pearson product-moment correlation coefficients ranging from .60 to .83 for subclinical individuals. The BDI-II appears in Appendix C.

*Treatment Expectations Questionnaire (Meier, Donmall, McElduff, Barrowclough, & Heller, 2006)*

The Treatment Expectations Questionnaire is a measure designed to capture clients’ negative expectations about treatment, which are thought to be relevant to the prediction of the alliance. It is loosely based on a list of clients’ negative thoughts toward treatment as discussed in by Liese & Beck (1995). Clients were asked to indicate how much they agreed (5-point Likert scale: strongly agree to strongly disagree) with 10
statements, two each assessing beliefs or expectations about: a) the utility of treatment, b) the service, c) the counselor, d) the perceived difficulty of treatment, and e) their readiness for treatment. The internal consistency of the scale in the current study was satisfactory (Chronbach’s $\alpha = .74$). Factor analyses showed that there was a strong common factor (EV > 3, 31% of variance explained) with high loadings of all items on this factor (all but one loading were > 0.40). An indication of convergent validity is that negative expectations are inversely related to treatment confidence ($r = -0.37, p < 0.001$) and self-efficacy ($r = -0.50, p < 0.001$). As the scale was unimodal and had adequate internal consistency, the use of the sum score of the Treatment Expectations Questionnaire was appropriate. This total score is called the Treatment Expectations Index (TEI) and higher scores represent more negative attitudes and expectations toward treatment (Petra S. Meier, personal communication, November 13, 2005). The Treatment Expectations Questionnaire appears in Appendix D.

**Texas Christian University (TCU) Treatment Motivation Scale (taken from the Client Evaluation of Self at Intake [CESI]; Simpson, 1992)**

The TCU Treatment Motivation Scale is a 29-item self-report measure with three subscales that assess client perceptions regarding three motivational domains, including: Problem Recognition (PR), Desire for Help (DH), and Treatment Readiness (TR). Each item is rated on a 5-point Likert-type scale ranging from 1 (Disagree Strongly) to 5 (Agree Strongly). Using data from multiple large samples of adult substance abusers entering treatment, Knight and colleagues (1994) conducted principal components analysis that revealed stable one-factor solutions for each of the three subscales. Coefficient alphas ranged between .87 and .90 demonstrating adequate reliability for the
PR subscale. Coefficient alphas were acceptable (range: .75 -.82) for the DH subscale and TR subscale (range: .72 - .73). The PR and DH subscales, and the DH and TR subscales were strongly intercorrelated ($r = .60$ and $r = .53$, respectively), but the PR and TR relationship was not as strong ($r = .28$; Knight, Holcom, & Simpson, 1994). Developers of the scale have advocated for the use of this instrument in adolescent populations, but to date, there have been no published data regarding the psychometric properties of the instrument in said populations. The TCU Treatment Motivation Scale appears in Appendix E.

*University of Rhode Island Change Assessment Questionnaire (URICA: McConnaughy, Prochaska, & Velicer, 1983; Greenstein, Franklin, & McGuffin, 1999)*

The URICA is a 32-item self-report questionnaire that prompts respondents to focus on a current problem behavior (for the purposes of the current study, respondents will be asked to focus on drug and/or alcohol use). Each item on the URICA is rated on a 5-point Likert-type format in which a score of 1 indicates strong disagreement and a score of 5 represents strong agreement. Some items are reverse scored. The URICA dedicates 8 items to each of four dimensions representing the precontemplation, contemplation, action, and maintenance stages of change. Scores for each subscale are calculated by summing the items pertaining to a specific subscale. The subscale with the highest summed score indicates a higher probability of a person being in the particular stage of change that corresponds to that subscale. Using this method, one can assign respondents to one of the four categories. Another scoring method that has been utilized with the URICA is to compute a continuous variable encompassing all of the subscale scores (Carbonari, DiClemente, & Zweben, 1994). More specifically, the average value
for the precontemplation subscale is subtracted from the sum of the average contemplation, action, and maintenance subscale scores, yielding a general index of readiness for change. This method was utilized in the present study.

The URICA has been utilized in a variety of patient populations (Rossi, Rossi, Velicer, & Prochaska, 1995), and there is a significant amount of psychometric data regarding its use in adult populations (Prochaska, et al., 1992). However, there is relatively little evidence regarding the URICA’s psychometric properties in adolescent populations. In the only study that could be located that utilized the URICA in an adolescent sample, Greenstein and colleagues (1999) administered an adapted version of the URICA (i.e., one that re-worded item phrasing to be developmentally appropriate for adolescents) to 89 adolescents admitted to a private psychiatric facility (Greenstein, Franklin, & McGuffin, 1999). Greenstein and colleagues found that the mean raw scores for each of the four subscales were similar in magnitude to those reported in studies of the URICA in adult psychotherapy studies. Moreover, internal consistency estimates for the subscales (coefficient alphas ranging from .77 to .88) were satisfactory and consistent with estimates found in adult samples.

Utilizing the URICA in the present study has several advantages. First, the measure is theoretically consistent with the transtheoretical model and provides an assessment of individual change in the context of this model. Second, the URICA has not been previously utilized in samples of adolescent substance abusers nor has it been used in an investigation of the relationship between motivation and outcome in adolescent populations; the present study aims to do both. Finally, Greenstein and colleagues’ (1999) study adapted the original adult version of the URICA for use with adolescents and
provided details on how item phrasing was changed. For example, Item 28 on the original URICA reads, “. . . I feel I might be having a recurrence of a problem I thought I had resolved.” This item was changed to read, “. . . a problem I thought I already fixed may be coming back” (Greenstein, Franklin, & McGuffin, 1999, p. 50). These guidelines for adaptation of the measure for adolescents will be utilized in the present study. It was expected that the use of the URICA and TCU Treatment Motivation Scale, in combination, would allow for a brief, yet adequate assessment of client motivation in the present sample. The adapted version of the URICA appears in Appendix F.

Demographics questionnaire

A questionnaire was administered to gather participants’ demographic information, including age, gender, grade level, referral source, behavioral health treatment history, and legal status (i.e., whether participant was involved in the juvenile criminal justice system). The demographics questionnaire appears in Appendix G.

Records review

A medical records review was conducted in order to gather information regarding DSM-IV-TR diagnoses, number of individual counseling sessions attended, length of stay, and discharge status. The records review data form also appears in Appendix G.

Treatment Compliance

For the purposes of this study, treatment compliance was operationalized by assessing the extent to which clients comply with program rules. As part of standard practice at the facility where data collection took place, staff members made behavioral ratings for each client regarding performance in daily activities. For example, behavioral ratings were made for clients during each of the various daily groups, school periods,
free time. The rating system assesses clients’ behavior along a continuum of inappropriate to appropriate behavior. More specifically, assaultive behavior toward staff or peers is considered “I-10,” or the most severe of inappropriate behaviors. Failure to engage in group discussion might be considered “I-3;” inappropriate, but less severe. Similarly, appropriate behaviors such as providing a leadership role in a group or activity might yield an “A-8,” while paying attention in group and refraining from disruptive behavior might yield an “A-1.” Ultimately, scores fall on a continuum from most negative, “I-10,” to most positive, “A-10.” A full description of this rating scale appears in Appendix H. For the purposes of the present study, the quantity of “Inappropriate” and “Appropriate” behaviors resulting from these ratings was assessed as a measure of behavioral treatment compliance. In addition, the mean value of “Inappropriate” and “Appropriate” scores was computed as a measure of the relative severity of behaviors, thus providing additional information about the extent of treatment compliance. To allow for comparison of these data between participants with variable lengths of treatment stay, computations were standardized by length of stay.

This method of assessing behavioral compliance relies on the observation of staff and as a result is not likely a completely accurate measure of client behavior. In addition, this rating system has not been psychometrically evaluated. However, each client received multiple ratings per day during scheduled activities, and clients’ performance in daily activities had a direct and significant influence on any privileges clients earned in treatment. In addition, clients often contest or insist on justification of staff ratings, forcing staff to develop a consistent approach to behavioral ratings. As such, this method
appears to be a clinically valuable source of information regarding client behavior and compliance with program rules.

_Treatment Progress_

Participants received individualized treatment plans based on needs that were identified during the assessment process. However, as part of standard policy at the facility being utilized in this study, treatment progress was assessed weekly for each client on five domains of progress. Specifically, these domains included: 1) learning about the effects of drugs and alcohol, 2) learning new ways of coping with identified feelings and situations, 3) developing a lifestyle supportive of recovery, 4) attaining and maintaining optimal physical health, and 5) improving academic skills and performance in order to meet education needs. Within each domain, five specific treatment objectives are listed as indicators of progress, and these objectives are conceptually consistent with the stages of change. Thus, each domain has five specific objectives, labeled Objective A through E. For example, in domain 1, the objective that matches the precontemplation stage (Objective A) is “Client will assess substance using behavior and identify effects of behavior.” For the preparation stage (Objective C) in the same domain, “Client will develop a plan for change” is the objective. Clients were assessed weekly through consensus ratings by clinical, educational, and medical staff regarding participants’ progress toward these objectives. A detailed description of this system, entitled “Goals, Objectives, and Interventions” appears in Appendix I. For the purposes of this study, ratings of each client on these domains at discharge were aggregated to provide an index of treatment progress. Specifically, Objectives A-E were scored 0-4, respectively. Thus, the maximum score a client could achieve would be 20 (i.e., accomplishing all objectives
in all domains per staff ratings), and the minimum would be 0 (i.e., making no progress on any domain per staff ratings).

Setting

The present study examined the therapeutic alliance in the context of a residential adolescent substance abuse treatment facility located in southeastern Ohio. The program is based on a Twelve-Step Facilitation (TSF) model and thus closely implements the principles of Alcoholics Anonymous and Narcotics Anonymous within a therapeutic community. The program is abstinence-based and focuses on helping clients establish and maintain abstinence from all mood-altering chemicals. The program provides a wide range of in-treatment services, including psychological and chemical assessments, medical supervision, individual and group counseling, academic instruction, and recreational therapy. Clients also have the opportunity to work with case management specialists to fully individualize their primary care and aftercare options. Clients typically have contact with a number of service providers throughout each day of their stay. Clients participate in individual counseling with a primary counselor two to four times per week, depending on clients’ individual needs. In the present sample, the average length of treatment stay was 48.62 days (SD = 22.16), while the median length of stay was 43 days. On average, participants received 14.78 (SD = 9.77) sessions of individual therapy during their treatment episodes.

Procedure

Informed consent

During intake proceedings, adolescents and their guardians were asked to participate in the study. A description of the study was included in standard literature
regarding the facility so that parent/guardians who did not accompany the adolescent to
treatment intake would be informed of the risks and benefits of participation in the study.
Case managers and intake specialists were trained (using online training modules
provided by the Ohio University Office of Research Compliance) to provide information
regarding the study and obtain written parent/guardian informed consent for the study. In
addition, adolescents were asked to assent to participation in the study. The informed
consent form appears in Appendix J.

Participant Confidentiality

Upon receipt of parent/guardian consent and participant assent, each participant
was assigned a participant number. Data gathered from each participant were labeled by
participant number, and no identifying information regarding the participant was attached
to data forms. A master list of participant numbers and names was the only link between
the participant’s number and name. This list was kept in a locked filing cabinet in the
medical records office at the treatment facility, and never left the premises. At the
conclusion of the data collection and after the data had been sufficiently checked, the
master list was destroyed.

Data Collection

At the intake clinical assessment, participants completed the stages of change
measure, the demographics questionnaire, the TCU Treatment Motivation scale, and the
OS in order to obtain baseline data.

Counselors were expected to meet individually with clients two hours per week,
and this number varied based on client need and other circumstances. The alliance was
measured following sessions three and six, as well as a third assessment in the week prior
to the discharge date. Counselors and participants completed the respective forms of the WAI-S at these times. Counselors were given all necessary materials for each client in advance and were expected to keep track of the number of sessions they had with each client. In addition, the primary investigator gave frequent (i.e., at least weekly) reminders to the counseling staff to complete the alliance measures. Participants and counselors were given a private space to complete the form in the absence of the other party. Both parties were blind to the other’s ratings over the course of treatment. Anecdotal feedback from participants and clinicians indicated this measure could be completed in less than five minutes. As indicated above, there was a significant issue with missing data, most of which was alliance ratings. More specifically, at session three, counselors provided alliance ratings for only 53.1% (n = 43) of the total sample, while only 55.1% of clients (n = 45) provided initial alliance ratings. Following session six, response rates dropped to 43.2% (n = 35) and 44.4% (n = 36) for counselors and clients, respectively. During the last week of treatment, when the final alliance ratings were obtained, 32.1% of ratings were returned for both counselors and clients. These data include participants who may not have remained in treatment long enough to participate in six or more sessions or individual therapy, but even so, these data strongly suggest a suboptimal return rate on the alliance measures.

In addition to completing the measure at intake, participants completed the OS again prior to discharge. It was estimated that the OS could be completed in 7 to 10 minutes.

Behavioral compliance data (i.e., appropriate/inappropriate behavior ratings) were obtained through records review and data were compiled to represent compliance during
the treatment stay. Discharge status (i.e., ASA, ASR, WSA) were obtained via records review.

RESULTS

Preliminary Analyses

Missing Data

Before statistical analyses were performed, the data were examined for discrete missing data and entry errors. When possible, discrete missing data were replaced with mean subscale scores or mean item scores. More specifically, 3 participants failed to complete the second page of the two-page TCU Treatment Motivation Scales, missing 13 of the 29 total items. In those cases, subscale means were computed using available data from the corresponding subscales and mean subscale values were substituted for the missing data. In addition, 4 participants or counselors failed to respond to one item each on the WAI-S. Replacement scores were obtained by computing the mean value of the remaining eleven items. On the TEI, 2 participants missed one item each, and this value was replaced by the mean value of the observed scale items. Regarding the URICA, if participants did not provide responses for at least half (i.e., four of eight) of the items for each subscale, the subscale scores were removed from analyses. If participants responded to four or more items in each subscale, the missing data were replaced by mean scores based on the observed subscale data. On the URICA, 3 participants failed to complete only one item each, and 3 participants failed to complete the second page, missing 18 of 32 items. Because not all subscale scores could be computed for these 3 participants, their full readiness scores could not be computed either, effectively removing them from the
analyses. Fifty-seven individual items were substituted for in this manner on the URICA. In total, 111 individual missing items were assigned substitute values based on the above criteria.

*Identification of Possible Covariates*

Prior to performing the central analytical procedures for the study, the data were examined to determine whether demographic variables influenced key variables of interest in the study (i.e., motivation, readiness, alliance, treatment compliance, or outcome variables). Analyses failed to detect any significant differences based on age. In order to determine whether participant gender had a significant effect on the variables of interest, a series of independent samples t-tests was performed. Data regarding pre-treatment participant characteristics (e.g., motivation for treatment, treatment readiness, problem recognition, desire for professional health), perceptions of the alliance, behavioral compliance, and outcome domains were evaluated as dependent variables. The Holmes procedure was utilized as a correction for familywise error, given the large number of t-tests performed. Results indicated significant differences between sexes on four variables: treatment readiness as measured by the URICA, treatment readiness (TR) as measured by the TCU Treatment Motivation Scales, desire for help (DH), and client-rated alliance following session three of individual therapy. Specifically, females (M = 10.23, SD = 1.85) reported higher pre-treatment levels of readiness on the URICA than males (M = 8.03, SD = 2.75), *t*(76) = 3.72, *p* < .0005. As could be expected, females (M = 41.33, SD = 7.05) also reported higher levels of readiness on the TCU measure than males (M = 35.09, SD = 9.08), *t*(70) = 3.06, *p* < .005. At intake, female participants (M = 36.81, SD = 8.66) reported a greater desire for help than male participants (M = 31.04,
SD = 10.17), \( t(70) = 2.46, p < .005 \). Finally, females (M = 82.06, SD = 2.46) reported better perceptions of the alliance after session three of individual therapy than did males (M = 75.30, SD = 7.65), \( t(43) = 3.52, p < .005 \).

In primary analyses that included these variables, sex was entered as a covariate and was not significantly influential in any of the models in which it was entered. Thus, the analyses described below were not controlled for the negligible sex effects in the data. Analyses were conducted as such in order to maximize the likelihood of detecting omnibus effects where present in the data.

There were no significant sex differences on any of the behavioral treatment compliance or outcome variables, nor were there any sex differences in counselor ratings of the alliance.

Additionally, there were no significant differences between counselors on any of the motivation, alliance, or outcome measures utilized in the study.

As mentioned previously, there was a significant level of attrition over the course of treatment with regard to completion of alliance ratings from the clients’ and counselors’ perspectives. In an effort to determine whether there were response biases (e.g., whether clients were differentially selected for alliance ratings based on pre-treatment measured or unmeasured characteristics), a series of one-way analyses of variance was performed utilizing motivation, readiness, compliance, number of individual therapy sessions received during treatment, and outcome variables as dependent variables and the number of completed alliance ratings (i.e., 0-3 ratings completed) as a categorical independent variable. All of the resulting analyses failed to detect significant differences between alliance response categories (all \( p’s > .05 \), which
suggest that response bias was not a factor in the high attrition rate in alliance ratings over time.

Descriptive Statistics

Means and standard deviations for all variables of interest were computed and appear in Table 6. Additionally, as it was a general objective of the present study to develop a better understanding of the interrelationships between the numerous factors involved in substance abuse treatment for adolescent clients, key variables were entered into a zero-order correlation matrix and are presented in Tables 7-9.

WAI-S Subscale Correlations

Based on the existing literature on the WAI-S, it was determined that alliance ratings would be analyzed by computing a total scale score for each rater at each time point. Analyses of the observed subscale (i.e., task, goal, bond) correlations for the present study indicated that for clients, subscales were all correlated at $r = .70$ or greater. For counselors, all WAI-S subscale combinations were correlated at $r = .88$ or greater. Given the significant degree of subscale correlations evident in the data, all analyses incorporating alliance variables utilized WAI-S total scale scores.

Primary Statistical Analyses

Alliance—Outcome

Hypothesis I: To assess whether early therapeutic alliance was significantly related to behavioral treatment compliance, a series of linear regression analyses was performed utilizing client-rated and counselor-rated WAI-S scores following the third session of individual therapy as separate independent variables and behavioral ratings (e.g., frequency of inappropriate and appropriate behavior ratings, mean value of
inappropriate and appropriate behavior ratings, number of treatment days spent on role model status, with all values divided by length of stay) as dependent variables.

*Client-Rated Alliance.* Client-rated therapeutic alliance following the third session of individual therapy significantly predicted the severity of inappropriate behavior (defined as the sum of inappropriate behavior scores divided by the frequency of inappropriate behaviors) during the treatment stay $F(1, 42) = 4.66, p < .05$. Specifically, higher client-rated session three alliances predicted less severe instances of inappropriate behavior and variation of client-rated alliance accounted for 10.0% of the variability in appropriate behavior severity. Client-rated alliance after session three was not predictive of the frequency of inappropriate behavior, $F(1, 42) = 0.63, p > .05$. Similarly, client-rated alliance following session three did not predict the percentage of treatment days clients spent on role model status, the most positive behavioral classification in the program, $F(1, 38) = 0.35, p > .05$. However, client-rated alliance after session six predicted percentage of days spent on role model status [$F(1, 29) = 4.82, p < .05$] and accounted for 14.3% of the variance in percentage of total days on role model status.

*Counselor-Rated Alliance.* Session three counselor-rated alliance was not predictive of clients’ inappropriate behavior severity, $F(1, 40) = 0.73, p > .05$. In addition, counselor-rated alliance after session three did not predict inappropriate behavior frequency [$F(1, 36) = 0.04, p > .05$] or percentage of days spent on role model status [$F(1, 36) = 0.09, p > .05$].

Hypothesis II: To assess whether therapeutic alliance predicted change in self-reported psychological symptom severity over the course of the treatment episode, WAIS scores (counselor and client ratings) and a residualized Ohio Scales problem severity
scale change score (reflecting client self-reported changes between intake and discharge ratings of psychiatric problems; increasingly negative scores represent increasingly larger reductions in problem severity from pre- to post-treatment) were analyzed via separate linear regression analyses.

*Client-Rated Alliance.* Client-rated alliance rated after session three was not predictive of change in client-rated problem severity, $F(1, 43) = 0.83$, $p > .05$. Additional analyses examining the impact of later client-rated assessments of the alliance (i.e., session 6) also failed to predict change in problem severity, $F(1, 34) = 2.71$, $p > .05$.

*Counselor-Rated Alliance.* Similarly, counselor-rated alliance following session three was not predictive of changes in client-rated problem severity, $F(1, 41) = 0.17$, $p > .05$. However, session six counselor-rated alliance predicted change in client-rated problem severity, $F(1, 33) = 4.42$, $p < .05$. Specifically, positive counselor-rated alliance significantly predicted reductions in client-rated symptoms and the alliance rating accounted for 11.9% of the variability in client-rated change in problem severity.

Hypothesis III: In order to determine whether therapeutic alliance was related to discharge status, logistic regression analyses were performed using client- and counselor-rated WAI-S session three scores as predictor variables and discharge status as a criterion variable. Discharge status was evaluated as a binary variable (i.e., discharge WSA vs. discharge ASA or ASR). Tested against the Wald criterion, neither client-rated alliance $\chi^2 (1, N = 31) = 0.17, p > .05, OR = 1.04$ nor counselor-rated alliance at session three $\chi^2 (1, N = 31) = -1.31, p > .05, OR = 0.89$ predicted discharge status in comparison to a constant-only model. Descriptive data indicates that 89.7% ($n = 70$) of the participants were discharged WSA, while only 3.8% ($n = 3$) and 6.4% ($n = 5$) were discharged ASA.
and ASR, respectively. Alliance data did not significantly predict membership in an aggregated “non-WSA” discharge category.

Hypothesis IV: Separate analyses using counselor- and client-rated alliance were utilized to determine whether alliance was associated with counselor-rated progress toward treatment goals. Specifically, two linear regression analyses were performed using WAI-S scores as independent variables and the composite clinical team-rated progress score as the dependent variable.

Client-rated therapeutic alliance after session three did not significantly predict progress scores, $F(1, 41) = 0.82, p > .05$. Similarly, session three counselor-rated alliance failed to predict progress scores, $F(1, 39) = 0.76, p > .05$. However, counselor-rated alliance after the sixth session of individual therapy predicted progress scores at discharge in the predicted direction, $F(1, 31) = 7.10, p < .05$. Alliance accounted for 18.6% of the variability in progress scores in this model. When academic and medical progress ratings were removed from the total progress score (leaving drug/alcohol education, coping skills, and recovery lifestyle development as progress domains), counselor-rated alliance significantly predicted progress ratings, $F(1, 31) = 14.81, p < .001$. In this model, counselor-rated alliance after session six accounted for 32.3% of the variance in progress ratings.

Hypothesis V: To ascertain whether initial counselor-rated alliance was more strongly associated with measures of outcome than initial client-rated alliance, both session three measures were entered into a multiple regression model and each predictor’s relationship to the criterion was examined in the presence of the other. Partial correlations within the regression model allow for such comparisons. For these analyses,
percentage of treatment days on role model status, residualized client-rated changes in problem severity, and clinical team ratings of total progress were selected as general indices of outcome.

Taken together, neither counselor- nor client-rated session three alliances significantly predicted the percentage of days on role model status, $F(2, 34) = 0.26, p > .05$. While it is not a general custom to discuss null findings, these variables were of significant a priori interest and thus will be reported. In the presence of counselor-rated alliance, client-rated session three alliance was not significantly associated with percentage of days on role model status (partial $r = .10, p > .05$). Similarly, in the presence of client-rated alliance, counselor-rated session three alliance was not significantly associated with percentage of days on role model (partial $r = .03, p > .05$).

Additionally, neither counselor- nor client-rated session three alliance predicted residualized change in problem severity with both predictors in the model, $F(2, 39) = 0.08, p > .05$. In the presence of counselor-rated alliance, client-rated session three alliance was not significantly associated with residualized change in problem severity, partial $r = -.03, p > .05$. Likewise, in the presence of client-rated session three alliance, counselor-rated alliance was not associated with change in problem severity, partial $r = -.04, p > .05$.

Finally, client- and counselor-rated session three alliances, taken together, did not significantly predict clinical team ratings of total progress at discharge, $F(2, 37) = 0.64, p > .05$. Neither client-rated alliance (partial $r = -.13$) nor counselor-rated alliance (partial $r = .17$), in the presence of the other, was significantly associated with clinical team progress ratings.
Motivation—Readiness for Change

Hypothesis VI: In order to assess whether client motivation was associated with treatment compliance and outcome variables, a series of multiple regression analyses was performed, utilizing TCU Treatment Motivation Scales subscales and the URICA continuous readiness for change variable as predictors with compliance and outcome variables as separate dependent variables.

Motivation—Treatment Compliance. In order to assess the relationship of motivation and readiness factors to measures of behavioral treatment compliance, motivation and readiness variables were entered into a stepwise multiple regression model, from which PR emerged as the only significant predictor of percentage of treatment days on role model status, $F(1, 63) = 5.74, p < .02$. Specifically, higher levels of PR ($\beta = -0.29$) predict a lower percentage of clients’ treatment stays spent on role model status. However, motivation and readiness variables were not significant predictors of inappropriate behavior severity [$F(4, 61) = 0.58, p > .05$] or frequency [$F(4, 62) = 0.47, p > .05$].

Motivation—Outcome. As a method of assessing the relationship between motivation and readiness factors and discharge status, PR, TR, DH, and the URICA readiness variable were entered as predictors in a logistic regression model with discharge status (i.e., WSA vs. ASA or ASR) as a binary criterion variable. These variables did not significantly predict membership in the discharge status categories in comparison with a constant-only model [PR: $\chi^2_w (1, N = 68) = 0.21, p > .05$, OR = 1.07; TR: $\chi^2_w (1, N = 68) = 0.64, p > .05$, OR = 0.96; DH: $\chi^2_w (1, N = 68) = 0.03, p > .05$, OR = 1.02; URICA Readiness: $\chi^2_w (1, N = 68) = 0.01, p > .05$, OR = 0.97].
In order to assess the relationship between motivation and readiness factors and changes in client-reported problem severity, PR, TR, DH, and the URICA readiness variable were entered as predictors in a multiple regression model with the Ohio Scales Problem Severity residualized change score as the criterion variable. The full model did not significantly predict change in problem severity scores, $F(4, 66) = 0.85, p > .05$.

Similar results were obtained when the above predictors were entered into a model with the Ohio Scales Functioning residualized change score as the criterion variable. In this analysis, the predictors, taken together, failed to predict change in client-rated functioning, $F(4, 47) = 0.26, p > .05$. Finally, motivation/readiness variables, taken together, failed to predict clinical team ratings of progress at discharge, $F(3, 65) = 0.94, p > .05$.

VII. To assess whether motivation and readiness for treatment predict counselor- and client-rated alliance following session three, multiple regression analyses were performed using the TCU Treatment Motivation Scales’ subscales (i.e., TR, PR, and DH) and the URICA readiness score as independent variables and WAI-S scores as dependent variables.

None of the motivation or readiness variables (i.e., PR, DH, TR, and URICA readiness score), taken together, significantly predicted either client- $F(4, 34) = 2.10, p > .05$ or counselor-rated alliance $F(4, 32) = 0.21, p > .05$ following the third individual therapy session. Similarly, the variables did not predict counselor-rated alliance following session six, $F(4, 27) = 0.51, p > .05$. However, when these variables were entered into a stepwise multiple regression model, both PR and TR emerged as significant independent predictors of client-rated alliance following session six, $F(2, 30) = 4.62, p < .02$. More
specifically, higher levels of PR (β = -0.38) predicted lower levels of client-rated alliance after session six while higher levels of TR (β = 0.53) predicted higher levels of client-rated alliance.

VIII. To evaluate whether the therapeutic alliance is a statistical mediator in the relationship between motivation and outcome variables, hierarchical linear regression analyses were performed using several outcome and compliance variables as separate dependent variables. Variables were selected based on significant relationships identified in previous hypotheses. According to Baron and Kenny (1986), to be considered to have a mediating function, variables must meet several conditions: 1) the predictor must be significantly associated with the hypothesized mediator, 2) the initial predictor must be significantly associated with the dependent variable, 3) the mediator must be significantly associated with the dependent variable, and 4) the impact of the predictor on the dependent variable is decreased after controlling for the effects of the mediator variable.

It is possible to assess whether variables meet these conditions by performing a series of three multiple regression analyses. The first analysis examines the relationship between the predictor and the proposed mediator variable. The second regression analysis determines whether there is a significant relationship between the predictor and the criterion variable. Finally, in the third analysis, the predictor and the mediator are simultaneously entered into a regression model predicting the criterion variable.

Motivation/Readiness—Outcome. The first set of analyses was designed to determine whether alliance serves as a mediating variable in the relationship between motivation and readiness variables and clinical team ratings of progress at discharge. Motivation and readiness variables (i.e., TR, PR, and DH) were entered as predictors with
progress rating as the dependent variable. The motivation and readiness variables did not significantly predict progress at discharge, $F(3, 65) = 0.94, p > .05$ (Condition 1 not satisfied). Given that there was no significant relationship between motivation and readiness variables and total progress, it is not possible that alliance serves a mediating role in this relationship in the present sample.

In addition, all analyses failed to detect a significant relationship between pre-treatment self-reported motivation/readiness variables and outcome variables (i.e., change in functioning, change in problem severity, change in depressive symptomatology, and clinical team ratings of client progress at discharge (these results were displayed in previous analyses). Therefore, there appears to be no relationship between motivation/readiness variables and outcome variables for the alliance to mediate.

**Motivation/Readiness—Treatment Compliance.** Results from previous analyses indicated that TR is significantly associated with client-rated alliance after session six of individual therapy $F(1, 31) = 4.29, p < .05$ (Condition 1 satisfied). In addition, TR was found to be significantly associated with inappropriate behavior severity, $F(1, 65) = 4.37, p < .05$ (Condition 2 satisfied). However, the relationship between the proposed mediator (i.e., client-rated alliance after session six) and the criterion variable, inappropriate behavior severity, failed to reach significance, $F(1, 32) = 3.65, p = .065$ (Condition 3 not satisfied). This indicates that, in the current sample, alliance did not mediate the relationship between TR and inappropriate behavior severity.

Previous analyses indicated that PR is significantly related to percentage of days on role model status (%DRM), a general index of treatment compliance, $F(1, 64) = 6.12, p < .05$ (Condition 2 satisfied). Specifically, higher levels of PR ($\beta = -.30$) predict a lower
%DRM. In order to determine whether alliance mediated the relationship between PR and %DRM, additional analyses were conducted. PR was not significantly associated with any alliance measures (all $p$’s > .05; Condition 1 not satisfied), which indicates that alliance was not a mediating variable in this relationship.

Finally, motivation/readiness variables (i.e., TR, PR, and DH) were entered into a multiple regression model with frequency of inappropriate behavior entered as the criterion variable. The motivation/readiness variables failed to predict inappropriate behavior frequency, $F(4, 63) = 1.32, p > .05$ (Condition 2 not satisfied).

**Secondary Analyses**

Although not part of the main hypotheses for the current study, ratings of clients’ expectations for the treatment episode were obtained in order to better understand client characteristics. In order to understand the relationship between client expectations for treatment and motivation, alliance, and outcome, these variables were entered into a zero-order correlation matrix (Table 10). Results indicate that client expectation for treatment (as measured by the TEQ; higher scores indicate increasingly negative expectations for treatment) was negatively correlated with client-rated alliance following session six ($r = -.38, p < .05$). Specifically, more positive expectations for treatment were associated with higher client-rated alliances following session six of individual therapy.

Moreover, client expectations were negatively associated with TR, ($r = -.45, p < .0005$), indicating that higher levels of treatment readiness were associated with positive expectations for treatment.

Client expectations for treatment were significantly associated with pre-treatment levels of client-reported problem severity ($r = .44, p < .0005$), client-reported functioning
Based on the scaling of the various measures associated with these analyses, the following interpretations are warranted: Negative client expectations for treatment are associated with a) greater client-reported problem severity at intake, b) lower levels of client-reported functioning at intake, and c) more severe depressive symptomatology at treatment intake. Client expectations for treatment were not associated with residualized change in depressive symptomatology, problem severity, or functioning. Additionally, expectations were not significantly associated with any of the behavioral measures of treatment compliance.

In order to determine whether clients with previous substance abuse treatment experience had significantly different expectations of the treatment episode than clients without previous substance abuse treatment, an independent samples t-test was conducted. Results indicated that clients did not differ on expectations for the current treatment episode based on whether they had prior treatment, \( t(70) = 0.96, p > .05 \).

Additionally, analyses were performed in order to determine whether self-referred clients reported different expectations for treatment than those who were court-referred. Results indicated that court-referred clients (\( M = 12.37, SD = 5.55 \)) had slightly poorer expectations for treatment than self-referred clients (\( M = 11.33, SD = 5.55 \)), but this difference was not statistically significant, \( t(5.91) = 0.37, p > .05 \). It should be noted that only 6 self-referred clients were included in this analysis, compared to 47 court-referred clients.
CHAPTER FOUR
DISCUSSION

The current study attempted to examine the various interrelationships between motivation/readiness, alliance, treatment compliance, and outcome variables in a residential treatment program for adolescent substance abusers. In order to better understand these factors and how they may contribute to successful adolescent drug treatment, the present study is one of few existing studies that simultaneously examined motivation/readiness and alliance variables and their respective relationships to therapeutic outcome. While common in adult psychotherapy research (and to some degree, adult addictions treatment research), relatively few studies focusing on adolescents have measured the alliance from multiple perspectives and at multiple time points over the course of residential substance abuse treatment.

Overall, the analyses performed in the present study generated mixed results regarding these relationships. While there were some observed relationships between motivation/readiness and alliance, there was generally no association between motivation/readiness and the outcome domains measured in the study. These findings suggest that pre-treatment self reports of motivation and readiness do not correspond to eventual treatment outcome, at least in terms of changes in self-reported psychiatric problem severity and overall functioning. However, motivational factors have been found to be associated with long-term drug use outcomes in other adolescent treatment research (Cady, et al., 1996). Given the small sample utilized in the present study, further research is needed to determine whether motivational factors influence outcomes in adolescent
substance abuse treatment. If future studies confirm the findings of Cady and colleagues (1996), this would suggest that utilizing interventions designed to bolster client motivation (e.g., motivational enhancement therapy, motivational interviewing) would be ultimately beneficial, both for the development of a positive therapeutic alliance and for treatment outcome.

Sample Characteristics

The characteristics of the present sample are consistent with those reported in other studies on adolescent substance abusers. For instance, the sample was predominantly male (64.2%), which is similar to nationwide gender proportions (up to 70% male) reported elsewhere in the literature (e.g., Dennis, et al., 2003). Also consistent with existing research is that the vast majority of study participants (81.5%) had a prior arrest record. Additionally, 76.4% of the study participants were on probation or other court-related supervision at treatment intake and 62.4% of the sample reported being “forced” to enter treatment by the criminal justice system. The latter percentage is slightly higher than nationwide statistics reported a few years ago (54%; SAMHSA, 2002). The fact that only 8.3% of study participants viewed themselves as self-referred for treatment lends empirical support to the widely-held notion that adolescents very rarely pursue treatment on their own (Jainchill, Bhattacharya, & Yagelka, 1995). National trends indicate that, while criminal justice referrals make up a growing majority of all treatment admissions (70% as of 2002), rates of adolescent self-referrals have remained stable over the past decade around 20% (Adults: approx. 40% self referred; SAMHSA, 2004). Thus, the present sample contains significantly fewer self-referred clients than would be expected based on available national data. It may appear reasonable to suggest
that the high percentage of court-referred clients in the present sample restricts the range of scores on motivational measures. However, further analysis of this issue revealed that clients did not differ on motivation or readiness measures based on referral source, all \( p > .05 \), which suggests that the high percentage of court-referred clients did not significantly affect the primary analyses utilizing motivation or readiness factors as variables.

In addition, a large subset of the study participants (44.9%) met diagnostic criteria for at least one comorbid psychiatric disorder at intake, while 16.7% of the sample participants had been diagnosed with 2 or more psychiatric disorders. While these comorbidity rates are not surprising, they underscore the continued need to emphasize psychological/psychiatric services as an integral component of addictions treatment for adolescents.

**Sex Differences in Motivation/Readiness and Alliance**

There were significant sex differences in pre-treatment motivational variables (i.e., treatment readiness and desire for help) as well as initial client ratings of the therapeutic alliance, with females reporting higher levels of each. This suggests that adolescent females presenting for substance abuse treatment may be more inclined to seek professional help, whereas adolescent males may be less inclined to pursue formal treatment. This assertion cannot be fully tested, given that the vast majority of the sample was court-referred for treatment and it is not clear whether these motivational indices correspond with decisions to enter treatment for adolescent clients.

Interestingly, despite these significant differences, there was no association between levels of pre-treatment desire for help and readiness for treatment and initial
alliance for female participants. Analysis of the descriptive statistics suggests that, for female participants, initial alliances were rated highly (M = 81.80 out of a possible 84) and demonstrated little variability (SD = 2.51). Thus, potential relationships between these variables, at least in females, were likely obscured by the limited variability in the alliance variable.

**Client Expectations for Treatment**

Analyses regarding the relationship between clients’ expectations for treatment and motivational variables suggest that positive expectations are strongly associated with high levels of treatment readiness. This finding is theoretically consistent with models of behavior change that suggest individuals become ready to change problem behaviors, they become more open to treatment options and are more likely to be optimistic that treatment will help them accomplish change goals (Joe, et al., 1998). In addition, the data suggest that high levels of self-reported psychiatric problem severity at treatment intake are associated with poorer expectations for the treatment episode. It may be the case that individuals who are experiencing significant emotional and psychological problems secondary to substance abuse or psychiatric disorders are less likely to be optimistic about the possibility of improvement through treatment. Moreover, results indicated that positive treatment expectations are associated with stronger client-rated alliances at the approximate midpoint of the treatment episode. This result makes intuitive sense based on the existing alliance literature in that individuals who are optimistic about treatment and the potential for positive change would be more likely to develop positive relationships with those offering assistance in the change process (i.e., counselors).
Conversely, adolescents who have poor expectations for the treatment progress appear to be less willing or able to develop positive relationships with their counselors.

*Primary Analyses*

*Alliance—Behavioral Treatment Compliance*

Prior research with adult substance abusers suggests that treatment compliance is associated with positive therapeutic outcomes (Kedia & Williams, 2003). Analyses designed to assess the relationship between the therapeutic alliance and measures of behavioral treatment compliance were performed, and the findings partially support Hypothesis I, the prediction that the alliance is related to treatment compliance. Specifically, results suggest that initial client-rated alliance predicted the average severity of inappropriate behavior over the course of treatment in the expected direction (i.e., higher initial alliances were associated with lower severity of inappropriate behavior). Additional analyses suggest that client-rated alliance measured approximately halfway through treatment was moderately predictive of days on role model status, with higher alliances predicting larger percentage of days on role model status (%DRM). However, initial client-rated alliances were not significantly associated with either the frequency of inappropriate behavior or %DRM. Meanwhile, none of the counselor-rated alliance ratings significantly predicted behavioral treatment compliance. Given that %DRM and inappropriate behavior scores were necessarily associated with one another (i.e., role model status is awarded based in part on these scores), it appears appropriate to discuss these findings together.

These findings provide only modest evidence of the presence of a relationship between the therapeutic alliance and treatment compliance, but do suggest that alliance
may in fact be associated with meeting behavioral expectations in treatment. It is possible that individuals who are inclined to develop positive therapeutic relationships at the outset of treatment would also tend to act in a pro-social or compliant manner during the treatment episode. The current findings suggest that those with positive initial alliances may not in fact refrain from inappropriate behavior, but may refrain from severe infractions of program rules more so than individuals with poorer initial alliances. These results are consistent with previous adolescent treatment studies focusing on the relationship between client-rated alliance and aggressive behavior during the treatment episode (Bickman, et al., 2004).

The finding that counselor perceptions of the alliance were not associated with treatment compliance was unexpected. However, there are some viable explanations for this finding. For instance, counselors are expected to meet with clients approximately twice per week in addition to the contact that comes through group sessions and incidental meetings on the grounds. In addition, counselors have regular contact with the paraprofessional staff (e.g., treatment aides, floor supervisors) to discuss patient behavior and progress. However, these contacts represent a relatively small proportion of clients’ total time in treatment, and it is possible that counselors do not have completely accurate perceptions regarding their clients’ overall behavior in the program. It is also possible that clients behave differently in individual therapy sessions than in other treatment activities (e.g., school, free time, therapy groups) because clients often develop the perception that counselors control the length of the treatment stay. While there is not sufficient data to confirm this explanation, it may be the case that a form of “staff splitting” occurs, whereby clients develop positive relationships with their primary
counselors, but struggle to interact appropriately with other staff and peers. This ultimately could affect the relationship between counselor-rated alliance and behavioral treatment compliance.

In addition, it is possible that the largely objective nature of the behavioral ratings may influence the relationship between compliance and alliance variables. Alliance variables were largely constant over the course of treatment; only rarely were there large deviations in alliance ratings over time. Further, the nature of the WAI-S essentially calls for global ratings of the relationship, which tend to be stable over time. Behavioral ratings, however, take into account individual behaviors, which for adolescents are often unpredictable. For example, a single behavioral outburst may last less than a minute, yet may influence behavioral compliance variables significantly. Adolescent behavior is generally more unpredictable and less rational than adult behavior. It is possible that frequent temporary lapses in behavioral control that are characteristic of adolescent substance abusers have an inordinate influence on behavioral compliance variables, which in turn impacts the statistical relationship between compliance, alliance, and outcome factors.

Given the small sample used to analyze alliance ratings (range of n: 29-42), small effects would not likely be detected. While this would not likely affect the non-significant findings as the $r$ values were often close to zero, the fact that some effects were detected in an underpowered model suggests further inquiry into the potential relationship between alliance and treatment compliance is warranted.

*Alliance—Outcome*
Several linear and logistic regression analyses were performed in order to examine the relationships between therapeutic alliance and indices of treatment progress and outcome. It was expected, based on the clinical literature (e.g., Bordin, 1979) that early alliances would predict treatment outcomes. Contrary to expectations, client-rated alliance failed to significantly predict progress or outcome on any measure of progress or outcome (i.e., client-rated change in problem severity, client-rated change in functioning, team ratings of progress, discharge status). In fact, most test statistics failed to approach significance, despite all correlations being in the expected direction. These results are consistent with initial alliance—outcome relationships reported in adolescent treatment studies for disruptive behavior disorders (e.g., Florsheim, et al., 2000), which reported no relationship between early ratings of the alliance and eventual treatment outcome. It may be the case that, in the perception of clients, the therapeutic relationship at the outset of treatment bears little association to the eventual outcomes of the total treatment experience. Alternatively, as there was relatively little variability in client ratings of the alliance, most clients tended to rate their relationships on the extremely positive end of the alliance measure. This may indicate a relative lack of sensitivity on the part of adolescents to the nuances of the therapeutic relationship. This finding is consistent with previous research (e.g., Shirk & Karver, 2003), which has suggested that client ratings of the alliance in adolescent populations tend to have weaker relationships to outcome indices than counselor ratings. Similarly, early alliance ratings from the counselor perspective failed to predict any of the outcome variables.

In contrast, counselor-rated alliance following session six of treatment significantly predicted client ratings of perceived change in psychiatric problem severity
in the expected direction (i.e., higher alliances predicted greater reductions in perceived problem severity). This finding is of particular interest as it predicts client-rated outcomes based on counselor-rated alliance. This “between subjects” effect suggests that counselors may be able to identify signs (or at least, precursors) of change earlier in the treatment process than adolescent clients. The effect appears small, but is not dissimilar to published findings on the relationship between counselor-rated alliance later in treatment and reductions in psychiatric symptom severity (Florsheim, et al., 2000).

Additionally, counselor-rated alliance after session six significantly predicted clinical team ratings of total progress in treatment. In fact, this is one of the strongest effects observed in the data, with counselor-rated alliance accounting for 18.6% of the variance in clinical team progress ratings. Moreover, counselor-rated alliance following session six had an even stronger association with progress ratings when academic and medical progress ratings were removed, accounting for 32.3% of the variance in the modified ratings of progress.

It could be argued that the strength of these relationships comes from the shared source of the ratings, as therapists tended to lead the clinical team’s discussion of progress ratings for their individual clients, which could add to overall measurement error. This potential common method variance is magnified in the analysis focusing on the three core goal domains, because the medical and academic ratings are generally made by nursing and teaching staff members, respectively. Analysis of individual goal domains suggests that there is limited variability in the medical and academic progress ratings and no relationship between counselor-rated alliance and progress on those individual goal domains. The latter result is not surprising. However, these findings
suggest that the significance of the relationship between counselor-rated alliance and total progress is actually driven by the relationship between alliance and the three core goal domains (i.e., drug/alcohol education, coping, and recovery lifestyle). It could also be argued that the individual goals represent distinct outcome domains, and as such, alliance is significantly related to core outcome domains focusing on addictive process and recovery and that the ancillary goal domains (i.e., medical and nursing) are not related to alliance factors. The strength of this relationship may ultimately be the result of a source effect, but coupled with the finding that counselor ratings predicted client-rated changes in problem severity, there is some support for the relationship between alliance and outcome ratings.

Interestingly, it appears that the relationship between alliance and outcome emerges later in the treatment episode than has been observed in adult populations. Florsheim and colleagues (2000), citing similar findings in a sample of behavior-disordered youth, proposed that as adolescents continue in treatment and experience positive behavioral and psychological changes, the alliance strengthens, and as the alliance continues to develop, greater treatment progress is gained. This explanation seems reasonable, but could not be empirically validated given the present methodology. Ultimately, there is no evidence for the prediction in Hypothesis II that client and counselor ratings of the alliance following session three of individual therapy are associated with changes in psychiatric symptom severity. There is, however, some evidence that ratings made later in the treatment episode are significantly associated with changes in psychiatric symptom severity in the predicted direction.
Both counselor- and client-rated alliance failed to accurately predict discharge status. Thus, Hypothesis III was not supported by the data. However, limited conclusions should be drawn from this data because, as mentioned previously, only 10.2% (n = 8) of the sample were assigned unsuccessful discharge statuses (i.e., ASR or ASA). In addition to pre-treatment levels of motivation/readiness and behavioral treatment compliance, there are certainly numerous other factors that contribute to the determination of discharge status.

Another objective of the present study was to determine whether initial counselor- or client-rated alliance is more strongly associated with outcome or progress indices. Hypothesis IV predicted that counselor ratings of the alliance would be more strongly associated with measures of outcome than client ratings. The results did not support this prediction, as initial alliance from both perspectives had no significant relationship to any of the outcome or progress indices. However, the hypothesized analysis may have been flawed in that the predictive model included significantly correlated predictor variables (i.e., counselor- and client-rated initial alliance: \( r = .32, p < .05 \)). Of course, when predictor variables are significantly correlated, the resulting partial relationships may obscure the true relationships between the predictor and criterion variables. Subsequent analyses utilizing single-predictor models indicated that neither counselor- nor client-rated alliance was significantly predictive of any outcome or progress indices.

The preponderance of the evidence suggests that, if any of the alliance variables are associated with outcome or progress indices, it is likely the counselor-rated alliance at session six. Alliance research in adult populations (e.g., Martin, et al., 2000) has indicated that early alliance is modestly predictive of therapy outcome in a broad variety of clinical
settings. It appears, based on the present data, that the lack of relationship between initial alliance and outcome is inconsistent with findings in the adult literature. This discrepancy is significant in that it may indicate fundamental differences in the relationship between alliance and outcome variables in adolescent populations vis-à-vis adult populations. However, these findings should be interpreted with caution due to the limited sample size and the fact that the progress and outcome indices did not include any alcohol or drug use data, which are clearly primary outcomes upon which the success of substance abuse treatment is usually judged. These findings do, however, indicate that the counselor perspective on the relationship is associated with multiple indices of outcome, including clinical team ratings of recovery progress and client-rated changes in psychiatric problem severity.

Hypothesis V, which predicted counselor ratings of the alliance would be more strongly associated with outcome than client ratings, was not supported by the data. Specifically, neither initial client- nor counselor-rated alliance was associated with outcome indices.

*Motivation/Readiness—Behavioral Treatment Compliance*

It was expected that motivation/readiness variables would be significantly associated with measures of behavioral treatment compliance over the course of the treatment stay (Hypothesis VI-a). The results partially support this hypothesis, in that problem recognition, in the presence of all other identified motivation/readiness variables, was the sole predictor of %DRM. Specifically, in the presence of the other motivation/readiness variables, high levels of problem recognition were associated with lower %DRM.
However, none of the motivation/readiness variables was associated with inappropriate behavior severity or frequency. This result was puzzling, given that inappropriate behavior frequency and severity necessarily contribute to whether clients are awarded role model status. Subsequent analyses indicate strong relationships between inappropriate behavior frequency, severity, and percentage of days on role model status (%DRM). In fact, inappropriate behavior severity and frequency, taken together, accounted for 45.5% of the variance in %DRM. It is likely that other factors that were not measured in the present study contribute to the behavioral status decisions, and it may be the case that problem recognition and %DRM are both associated with a third unmeasured variable that facilitates the relationship.

**Motivation/Readiness—Outcome**

Results did not support the hypothesis that motivation/readiness variables are associated with ratings of treatment progress or outcome indices (Hypothesis VI-b). Previous research focusing on this relationship in adult populations (and utilizing the same measures of motivation/readiness) has identified a relationship between motivational variables and client ratings of progress toward treatment goals (Hiller, Knight, Leukefeld, & Simpson). However, the ratings of progress in that study were responses to questionnaire items asking participants to categorize their own success in treatment, while the present study utilized a pre-post design to assess changes in self-reported problem severity and depressive symptomatology. These outcome indices would appear to be qualitatively different, which may provide an explanation for differing findings.
In addition, previous research of adolescent substance abusers in treatment has suggested that treatment readiness is modestly but significantly associated with long-term drug use frequency (Cady, et al., 1996). Perhaps it is the case that the outcome variables measured in the present study (i.e., changes in psychiatric problem severity and functioning, clinical team ratings of progress, discharge status), are not acceptable in-treatment proxy indicators of short- or long-term drug treatment outcomes. Perhaps more likely, it is probable that motivation/readiness variables are dynamic in nature and fluctuate over the course of treatment, such that pre-treatment levels of motivation/readiness are not wholly accurate representations of the client’s motivation or readiness over the course of the full treatment episode.

**Motivation—Alliance**

An additional objective of the present study was to determine whether motivation and/or readiness variables are related to the quality of the therapeutic alliance. Hypothesis VII, which predicted that motivational variables would be associated with therapeutic alliance variables, was partially supported by the data. Results indicate that high levels of client-rated readiness for treatment were associated with better client-rated alliances at the approximate midpoint of the treatment episode. This relationship has also been identified in samples of adults in residential substance abuse treatment (e.g., Joe, Simpson, & Broome, 1998). Moreover, the relationship between the variables in the present study ($r = .35$) is similar in strength to that found in Joe’s (1998) study ($r = .41$). These findings provide some preliminary empirical evidence that readiness on behalf of the client is significantly related to, if not an important ingredient in, the therapeutic relationship.
Another interesting finding was that client characteristics measured at intake (i.e., problem recognition, desire for help, treatment readiness, and expectations for treatment) did not appear to be significantly related to initial ratings of the alliance (i.e., after session three) from the perspective of the client or the counselor. This finding stands in contrast to findings in the adult addictions literature (e.g., Meier, et al., 2005, Broome, et al., 1997) that suggest motivational factors significantly predict initial alliance in adult inpatient substance abuse treatment. One reason for this discrepancy could be that these client characteristics have little impact on initial therapeutic relationships from clients’ perspectives. It is possible that as the alliance develops over time and possibly becomes more authentic and genuine, the relationships between initial motivation/readiness and alliance begin to emerge.

This explanation is supported by the finding that problem recognition and treatment readiness independently predicted client-rated alliance following session six. As such, problem recognition, which is negatively related to alliance, and treatment readiness, which is directly associated with alliance, account for distinctly independent and significant proportions of overall variance in client-rated alliance at the approximate midpoint of treatment. These findings would naturally suggest that high problem recognition and low perceived treatment readiness would contribute to negative client-perceived alliances while low problem recognition and high perceived readiness for treatment would be associated with more positive client-rated alliances. While the direct relationship between readiness and alliance appears rather intuitive, the negative relationship between problem recognition and alliance is, *prima facie*, counterintuitive. Upon further consideration, it could be argued that those who endorse having significant
problems related to substance abuse would, in fact, actually experience significant problems related to substance abuse. Along with such problems often comes difficulty in establishing meaningful relationships (Latimer, Newcomb, Winters, & Stinchfield, 2000), which would likely be evidenced in the therapeutic relationship.

The finding that high levels of problem recognition predicted more negative client-perceived alliances at session six is contradictory to the limited research findings in adult substance abuse treatment literature on this topic. Specifically, Broome and colleagues (1997) found that high problem recognition predicted positive therapeutic alliances. Potentially, this indicates a significant discrepancy in the roles of motivation and/or alliance in adolescent and adult addictions treatment. This is likely associated with developmental differences between adolescent and adult substance abusers, namely, that adolescents tend to have more difficulties with impulsive and/or disruptive behavior (Kuperman, et al., 2001; Grant & Dawson, 1997).

Mediation Analyses

Because motivation/readiness variables were not found to be associated with measures of treatment outcome, the hypothesis that alliance mediates the relationship between the variables (Hypothesis VIII) was not supported by the data.

In addition, results indicated that alliance was not a mediating factor in the relationships between motivation/readiness variables and behavioral treatment compliance. While the preliminary analyses demonstrated that treatment readiness was related to both counselor-rated alliance and inappropriate behavior severity and alliance was marginally significantly associated with inappropriate behavior severity, ultimately, the presence of alliance in a model predicting inappropriate behavior made the
relationship between readiness and inappropriate behavior nominally stronger (not weaker, as would be expected if alliance were a mediator variable in the relationship).

Implications

There were several findings that suggest the relationships between motivation, alliance, and outcome variables may be different in adolescent and adult populations. As such, clinical approaches driven by research based on adults may not be optimal in use with adolescent populations. Given that many existing treatment programs utilize treatment models adapted from adult treatment programs, it is clear that further research regarding adolescent development, addiction treatment, and adolescent therapy process variables is needed to specifically tailor adolescent addictions treatment programs to their clientele and thereby maximize the likelihood of successful therapeutic outcomes.

Of interest is the finding that counselor and client ratings of the therapeutic alliance ($r = .32$ and $.40$ for session 3 and 6 ratings, respectively) were only modestly associated with one another, given that they are rating the same relationship. This finding suggests that the parties within the dyad have differing views of the quality of the relationship. This finding is largely consistent with findings in the adult literature (Mallinckrodt, 1991) as well as the nascent adolescent literature (e.g., Bickman, et al., 2004). In the present study, counselors and clients were not privy to ratings from the other party. It may be the case that counselors could learn from client ratings of the alliance if they were given information about the client’s perception of the relationship. By receiving feedback about the client’s perception of the relationship, counselors can monitor the relationship for perceived ruptures and develop a more accurate
understanding of the relationship, which could ultimately improve the quality of the relationship.

In addition, the finding that initial ratings of the alliance were not associated with outcome suggests that perhaps the relationship between alliance and outcome variables develops more slowly in adolescent treatment than in adult treatment. This may be due to a variety of influences, one of which is that clients may begin therapy with a superficially positive view of the relationship. Only later in treatment, when an authentic relationship has developed, do alliance and outcome variables become related.

In a general sense, the differences identified between the present findings and the adult literature suggest that developmental issues are of critical importance in the treatment of adolescent clients. More specifically, it is possible that the social skills deficits associated with adolescence in general and adolescent substance abuse in particular (Latimer, et al., 2000) influence the quality of the therapeutic relationship as well as the relationship between alliance and outcome.

Limitations of the Present Study/Directions for Future Research

Compared to ratings of motivation/readiness, treatment compliance, and outcome, significantly fewer alliance ratings were obtained. This is likely due to a flaw in the research methodology. It was assumed that counselors and clients would complete ratings as scheduled, given that ratings were estimated to require less than 5 minutes to complete, all necessary forms were presented to counselors in an orderly fashion as clients presented for treatment, and weekly reminders were issued by the primary investigator about the study and the importance of obtaining alliance ratings. Nevertheless, return of alliance data was suboptimal. As a result, all regression models utilizing alliance ratings
as predictor or criterion variables suffered from reduced sample size due to using a listwise method of excluding cases. Incomplete alliance data may have influenced the reported findings. It is possible that attrition reduced the overall variability in alliance ratings, thereby minimizing the relationships between alliance and other variables of interest. The data do not suggest that study procedures influenced attrition over the course of treatment. Given the minimal burden of completing study measures and the relative infrequency of the measurements, it is unlikely that the requirements of the study placed an undue burden on participants. Also, given that there were no significant differences in motivation, outcome, length of stay, and number of individual therapy sessions for individuals who completed, failed to complete, or partially completed alliance ratings, it seems that the attrition evidenced in the data was not related to the study procedures.

It is possible that, in some analyses, significant effects would have been detected in a larger sample. However, in many cases, the relationships were so small that, even with a larger sample, significant effects would not likely be detected. Even so, the regression models that excluded alliance variables often contained twice the sample size as those models which included alliance ratings. Ultimately, the regression models that excluded alliance ratings as predictor or criterion variables were more powerful than those that included them, and as such, interpretations based on analyses of motivation/readiness and outcome indices in the absence of alliance can be made with an additional degree of confidence.

Because there has been relatively little research conducted on the therapeutic alliance and motivation/readiness variables in adolescent substance abuse treatment settings, there were no clear indications regarding what exactly would be found in the
statistical analysis. As such, the analyses conducted were at least partially exploratory in nature. Data from multiple variables encompassing each of the motivation/readiness, alliance, and outcome domains were obtained and the primary hypotheses were tested. If all of the analyses had been corrected for familywise error, it is possible that some of the displayed results may not have been significant. However, as this study mainly serves to inform future inquiry in the field, and given that the sample was somewhat small, it was decided that the interrelationships between these variables would be reported. While it is not immediately clear whether these findings represent authentic relationships between the various constructs or merely spurious artifacts of the sample, future research utilizing a larger sample could help to answer that question. For the time being, these results indicate promising new directions for the investigation of motivation/readiness and relational factors in the treatment of adolescent substance abusers.

Additional research would likely shed considerable light on the link between motivation/readiness, alliance, and outcome, and the present study suggests numerous methods to refine and improve inquiry in this area. First, future research should utilize a larger participant and therapist sample. It is clear that the present study was limited by a relatively small sample size, and that this limitation is common in alliance research in general. Further, it is possible, and perhaps likely, that a number of the hypothesized relationships would be detected in larger samples. A particularly promising solution for this problem would be to implement the research protocol across multiple, similar adolescent substance abuse treatment programs. This would increase the sample size and potentially reflect more diversity in demographic and socioeconomic factors, thereby increasing the generalizability of findings. In any event, increasing the sample size would
allow for more powerful analyses of the potentially complex relationships between motivation/readiness, alliance, and outcome variables, and would likely more accurately delineate the true relationships between these variables.

In addition, research in the area would be well-served by examining a broader range of pre-treatment client characteristics and their respective relationships to alliance and outcome indices. In particular, research examining social skills and other interpersonal variables would help to identify additional factors that influence alliance and treatment outcomes. This research would also aid in the development of a more comprehensive understanding of the relationships between alliance ratings and follow-up outcome data, including drug and alcohol use data as well as general relapse data. Fortunately, additional research focusing on the relationship between pre-treatment client characteristics and short- and long-term treatment outcome is currently underway and will likely contribute significantly to the current literature regarding such relationships in adolescent substance abuser populations.

Furthermore, it is possible that the present study could have been improved by instituting more direct oversight regarding alliance data collection. Expert researchers in the field have noted anecdotally that therapists are often hesitant to subject their therapeutic relationships to formal measurement (Raymond DiGiuseppe, personal communication, December 19, 2004). While it is not believed that apprehension on the behalf of study therapists was to blame for poor return on alliance ratings, future research would likely benefit from incorporating comprehensive investigator oversights and/or incentives to aid in the collection of therapeutic process data. It is possible that study therapists may view additional paperwork in the form of brief process ratings as a
burdensome responsibility, and implementing investigator-driven supports (e.g., utilizing research assistants or other research personnel to more closely monitor return of data) may provide a helpful impetus to increase the return of this valuable data.

It was also clear that the alliance data obtained in the present study demonstrated a significant ceiling effect (i.e., participants tended to rate alliance at the extremely high end of the scale). The resulting homogeneity in alliance ratings likely obfuscated the true relationship between alliance and the other variables of interest. As noted previously, the effect was demonstrated in client ratings of the alliance, but was not evident in counselor ratings. Other researchers (e.g., Meier, et al., 2006) have incorporated novel approaches to alliance measurement, such as utilizing a visual analog scale for alliance ratings. Future research could be improved by considering options for minimizing this “restricted range” problem in the measurement of therapeutic alliance in adolescent populations. It is also possible that the current methodology indirectly influenced ratings of the alliance.

To facilitate collection of the alliance data, counselors returned the data for both client and counselor ratings to research staff. Despite being explicitly told that counselors would not see ratings, it is possible that clients were apprehensive about the confidentiality of their data, thus influencing and perhaps artificially inflating their ratings of the alliance.

It is also possible that procedures utilized to replace missing data influenced the results of analyses. Specifically, a small percentage of the participants (i.e., 2.4% of counselors and clients rating the alliance, 4.1% of clients completing the TCU measure, 3.8% of clients completing the URICA) failed to fully complete one or more of the study measures. These figures include individuals who completed at least half of the measure,
and represents individuals who intentionally or inadvertently failed to respond to individual items (10 cases) or the second page of a two-page measure, which happened in 6 cases (8.3% of total participants). The procedures for data replacement included mean substitutions of total scale or subscale scores. This procedure was not ideal as it may have reduced the variability of ratings on the various measures. However, it is a conservative data replacement strategy and maximizes the amount of usable data. Given that a relatively small proportion of the data were substituted for in this manner, it appears unlikely that the mean replacements significantly impacted the results of analyses. Additionally, substituting for discrete missing data in this manner improved statistical power for the analyses, and the decision was made to replace missing data for this reason.

Moreover, future research examining the impact of motivation/readiness variables on the outcome of adolescent drug treatment should incorporate multiple ratings of such variables over time in order to determine how (and possibly why) motivational factors fluctuate over the course of treatment. A particularly interesting study would attempt to examine how alliance changes over the course of treatment in conjunction with motivational changes.

Finally, in order to develop a thorough understanding of the impact of relational variables in the adolescent residential substance abuse treatment milieu, it would be interesting to obtain alliance ratings from clients and other staff members with whom the client has regular contact (e.g., case managers, treatment aides, and recreational therapists). While it is clear that all agency personnel play a significant role in the overall treatment experience of clients, research focusing on relational variables with non-therapist personnel may provide program administrators concrete solutions for improving
the therapeutic environment in their programs. While all of these recommendations are aspirational in nature, they are made with full awareness of the logistical implications associated with such research.

Given the limitations detailed above, it may be the case that the current methodology did not allow for a true test of the study hypotheses, particularly with regard to hypotheses including alliance variables. The identified relationships between motivation, compliance, and outcome variables were based on an acceptable sample size and the analyses had adequate power. Further research utilizing larger samples is required to fully test the relationship between therapeutic alliance and motivation, compliance, and outcome variables in adolescent substance abuse treatment settings. Studies utilizing larger samples would likely provide more representative samples and meet the statistical assumptions that provide the foundation for correlational and analysis-of-variance (ANOVA) designs.

Although the results of the present study represent a veritable “mixed bag” regarding the interrelationships between motivation/readiness, alliance, and outcome indices, there are a number of findings that suggest the therapeutic alliance is a significant factor in substance abuse treatment for adolescents. While this is not surprising, given the significance of the alliance in other forms of treatment, data from the present study provide preliminary evidence that the relationship between alliance and outcome may develop more slowly in adolescent populations, indicating that significant time and effort should be dedicated to the cultivation of the therapeutic relationship.

While it does not seem that a positive therapeutic alliance guarantees successful drug treatment outcomes, it is likely that the alliance plays a significant role in helping clients
transform intent or desire to change into actual behavioral change. Future inquiry in this area will likely help further determine the extent to which motivation/readiness and alliance factors contribute to outcome as well as identify other factors that contribute to successful treatment outcomes for adolescent substance abusers.
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Table 1

*Description of Adolescent Addictions Treatment Outcome Studies*

<table>
<thead>
<tr>
<th>Study</th>
<th>Treatment Type</th>
<th>Outcomes</th>
<th>Unique Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winters (1999)</td>
<td>Residential</td>
<td>6 mo relapse rate = 46-84%</td>
<td>Compared TSF, CBT, MET treatments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year relapse rate = 38-73%</td>
<td></td>
</tr>
<tr>
<td>Hsieh, Hoffman, &amp; Hollister (1998)</td>
<td>Residential</td>
<td>6 mo relapse rate = 45%</td>
<td>Large sample (n = 2,317)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year relapse rate = 50%</td>
<td></td>
</tr>
<tr>
<td>Winters, et al., (2000).</td>
<td>Residential &amp; Outpatient</td>
<td>6 mo relapse rate = 46%</td>
<td>No differences in relapse rates by treatment setting; Non-completers did not differ from wait-list control on relapse rates.</td>
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<td></td>
<td></td>
<td>1 year relapse rate = 56%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-completers 1 year = 85%</td>
<td></td>
</tr>
<tr>
<td>Cornelius, et al., (2003).</td>
<td>Outpatient</td>
<td>6 mo relapse rate = 66%</td>
<td>Small sample (n = 59)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MDN time to relapse = 54 days (S.E. = 14 days)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>marijuana, and alcohol use severity (did not report relapse rates)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2

*Client Sample Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>52</td>
<td>64.2</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>15</td>
<td>10</td>
<td>12.3</td>
</tr>
<tr>
<td>16</td>
<td>30</td>
<td>37.0</td>
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<td>17</td>
<td>33</td>
<td>40.7</td>
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<tr>
<td>18</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>65</td>
<td>90.3</td>
</tr>
<tr>
<td>African American</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>American Indian</td>
<td>1</td>
<td>1.4</td>
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<tr>
<td>Multi-racial</td>
<td>3</td>
<td>4.2</td>
</tr>
<tr>
<td>Been Arrested</td>
<td>66</td>
<td>91.7</td>
</tr>
<tr>
<td>Currently On Probation</td>
<td>55</td>
<td>76.4</td>
</tr>
<tr>
<td>Referral Source</td>
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<td></td>
</tr>
<tr>
<td>Court</td>
<td>47</td>
<td>65.3</td>
</tr>
<tr>
<td>Family</td>
<td>17</td>
<td>23.6</td>
</tr>
<tr>
<td>Self</td>
<td>6</td>
<td>8.3</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Physician</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Previous Drug/Alcohol Tx Episode(s)</td>
<td>38</td>
<td>52.8</td>
</tr>
<tr>
<td>Previous MH Tx Episode(s)</td>
<td>28</td>
<td>38.9</td>
</tr>
<tr>
<td>On Psychotropic Medication</td>
<td>34</td>
<td>47.2</td>
</tr>
<tr>
<td>Length of stay (mean/SD)</td>
<td>48.63</td>
<td>22.16</td>
</tr>
<tr>
<td>Discharge Status</td>
<td></td>
<td></td>
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<tr>
<td>WSA</td>
<td>70</td>
<td>89.7</td>
</tr>
<tr>
<td>ASA</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>ASR</td>
<td>5</td>
<td>6.4</td>
</tr>
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### Table 3

**Substance Use Diagnoses for Current Sample**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis Dependence</td>
<td>73</td>
<td>93.6</td>
</tr>
<tr>
<td>Nicotine Dependence</td>
<td>62</td>
<td>79.5</td>
</tr>
<tr>
<td>Alcohol Dependence</td>
<td>46</td>
<td>58.9</td>
</tr>
<tr>
<td>Cocaine Dependence</td>
<td>20</td>
<td>25.6</td>
</tr>
<tr>
<td>Opioid Dependence</td>
<td>20</td>
<td>25.6</td>
</tr>
<tr>
<td>Sedative/Anx./Hyp. Dependence</td>
<td>20</td>
<td>25.6</td>
</tr>
<tr>
<td>Amphetamine Dependence</td>
<td>13</td>
<td>16.7</td>
</tr>
<tr>
<td>Hallucinogen Dependence</td>
<td>4</td>
<td>5.2</td>
</tr>
<tr>
<td>Inhalant Dependence</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Cannabis Abuse</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Alcohol Abuse</td>
<td>12</td>
<td>15.4</td>
</tr>
<tr>
<td>Cocaine Abuse</td>
<td>4</td>
<td>5.2</td>
</tr>
<tr>
<td>Opioid Abuse</td>
<td>9</td>
<td>11.5</td>
</tr>
<tr>
<td>Sedative/Anx./Hyp. Abuse</td>
<td>10</td>
<td>12.8</td>
</tr>
<tr>
<td>Amphetamine Abuse</td>
<td>5</td>
<td>6.4</td>
</tr>
<tr>
<td>Hallucinogen Abuse</td>
<td>10</td>
<td>12.8</td>
</tr>
<tr>
<td>Inhalant Abuse</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Phencyclidine Abuse</td>
<td>3</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Number of SUD’s per participant (M, SD) 4.10 1.91

<sup>a</sup>: Total number of participants with available diagnostic info = 78.
Table 4

*Psychiatric Diagnostic Impressions for Current Sample*

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>21</td>
<td>26.9</td>
</tr>
<tr>
<td>Bipolar Disorder (I or II)</td>
<td>10</td>
<td>12.8</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>8</td>
<td>10.3</td>
</tr>
<tr>
<td>Oppositional-Defiant Disorder</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>PTSD</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Anxiety Disorder NOS</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Learning Disorder NOS</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>No Diagnosis on Axis I</td>
<td>43</td>
<td>55.1</td>
</tr>
</tbody>
</table>

*: It should be noted that the data above do not reflect actual psychiatric diagnoses. Rather, they are clinical impressions derived from clinical interviews, client-reported clinical histories, and records from previous treatment episodes. These diagnoses were not verified by formal diagnostic procedures.

<sup>a</sup>: Total number of participants with available diagnostic info = 78.
Table 5

*Counselor Sample Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>Age (M, SD)</td>
<td>28.50</td>
<td>4.14</td>
</tr>
<tr>
<td>Ethnicity = White</td>
<td>6</td>
<td>100.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
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<td>50.0</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>General Counseling Experience &gt; 1 year</td>
<td>4</td>
<td>66.7</td>
</tr>
<tr>
<td>Addictions Experience &gt; 1 year</td>
<td>3</td>
<td>50.0</td>
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Table 6

*Descriptive Statistics for all Scales and Subscales*

<table>
<thead>
<tr>
<th>Subscales</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td><strong>TCU Motivation Scales</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Treatment Readiness</td>
<td>72</td>
<td>37.43</td>
<td>8.87</td>
</tr>
<tr>
<td>Problem Recognition</td>
<td></td>
<td>38.12</td>
<td>12.19</td>
</tr>
<tr>
<td>Desire for Help</td>
<td></td>
<td>33.20</td>
<td>9.98</td>
</tr>
<tr>
<td><strong>URICA Readiness Score</strong></td>
<td>78</td>
<td>8.87</td>
<td>2.75</td>
</tr>
<tr>
<td><strong>Treatment Expectations Index</strong></td>
<td>72</td>
<td>12.47</td>
<td>5.55</td>
</tr>
<tr>
<td><strong>Alliance Ratings</strong></td>
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<td></td>
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<tr>
<td>Client-Session 3</td>
<td>45</td>
<td>77.86</td>
<td>7.00</td>
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<tr>
<td>Client-Session 6</td>
<td>36</td>
<td>79.47</td>
<td>7.11</td>
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<td>Counselor-Session 3</td>
<td>43</td>
<td>56.60</td>
<td>11.64</td>
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<tr>
<td>Counselor-Session 6</td>
<td>35</td>
<td>60.97</td>
<td>13.97</td>
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<tr>
<td><strong>Psychiatric Symptom Ratings</strong></td>
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<td></td>
</tr>
<tr>
<td>OS-PS&lt;sup&gt;a&lt;/sup&gt;</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>74</td>
<td>20.62</td>
<td>14.31</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>61</td>
<td>10.05</td>
<td>8.30</td>
</tr>
<tr>
<td>OS-Fxg&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>74</td>
<td>60.00</td>
<td>11.29</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>61</td>
<td>67.88</td>
<td>10.04</td>
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<td><strong>BDI-II</strong></td>
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</tr>
<tr>
<td>Pre-Treatment</td>
<td>74</td>
<td>11.73</td>
<td>8.79</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>60</td>
<td>7.15</td>
<td>7.28</td>
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<td><strong>Treatment Compliance</strong></td>
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<tr>
<td>Inapp. Behavior Severity</td>
<td>77</td>
<td>3.43</td>
<td>1.29</td>
</tr>
<tr>
<td>Inapp. Behavior Frequency</td>
<td>77</td>
<td>0.32</td>
<td>0.23</td>
</tr>
<tr>
<td>Approp. Behav. Severity</td>
<td>77</td>
<td>1.59</td>
<td>0.14</td>
</tr>
<tr>
<td>Approp. Behav. Frequency</td>
<td>77</td>
<td>17.69</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>Clinical Team-Rated Progress</strong></td>
<td>78</td>
<td>11.75</td>
<td>2.59</td>
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</tbody>
</table>

*Note.* a = Ohio Scales- Youth Problem Severity Subscale; b = Ohio Scales- Youth Functioning Subscale.
Table 7

**Correlations Between Motivation/Readiness, Alliance, and Outcome Measures**

<table>
<thead>
<tr>
<th>Motivation/Readiness Variables</th>
<th>TR</th>
<th>PR</th>
<th>DH</th>
<th>URICA&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>URICA Tx Readiness</td>
<td>.77**</td>
<td>.71**</td>
<td>.80**</td>
<td></td>
</tr>
<tr>
<td>TCU Subscales (N = 72)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Recognition (PR)</td>
<td>.57**</td>
<td></td>
<td></td>
<td>.71**</td>
</tr>
<tr>
<td>Desire for Help (DH)</td>
<td>.63**</td>
<td>.87**</td>
<td></td>
<td>.80**</td>
</tr>
<tr>
<td>Measures of Therapeutic Alliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client-Session 3 (N = 40)</td>
<td>.28</td>
<td>-.09</td>
<td>.10</td>
<td>.13</td>
</tr>
<tr>
<td>Client-Session 6 (N = 33)</td>
<td>.35*</td>
<td>-.14</td>
<td>.08</td>
<td>.31</td>
</tr>
<tr>
<td>Counselor-Session 3 (N = 38)</td>
<td>.14</td>
<td>.02</td>
<td>.06</td>
<td>.09</td>
</tr>
<tr>
<td>Counselor-Session 6 (N = 32)</td>
<td>-.11</td>
<td>-.13</td>
<td>-.11</td>
<td>.02</td>
</tr>
<tr>
<td>Measures of Compliance (N = 68) and Outcome</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Inapp. Behavior Severity</td>
<td>.27*</td>
<td>.29*</td>
<td>.28*</td>
<td>.33*</td>
</tr>
<tr>
<td>Inapp. Behavior Frequency</td>
<td>.06</td>
<td>.13</td>
<td>.08</td>
<td>.05</td>
</tr>
<tr>
<td>Appr. Behavior Severity</td>
<td>.09</td>
<td>.19</td>
<td>.17</td>
<td>.10</td>
</tr>
<tr>
<td>Appr. Behavior Frequency</td>
<td>.11</td>
<td>-.02</td>
<td>.06</td>
<td>.12</td>
</tr>
<tr>
<td>% Days on Role Model Status (N = 66)</td>
<td>-.19</td>
<td>-.30*</td>
<td>-.17</td>
<td>-.17</td>
</tr>
<tr>
<td>Resid. Change OS-PS (N = 52)</td>
<td>.06</td>
<td>.18</td>
<td>.21</td>
<td>.11</td>
</tr>
<tr>
<td>Resid. Change OS-Fxg (N = 52)</td>
<td>.01</td>
<td>.04</td>
<td>-.02</td>
<td>-.08</td>
</tr>
</tbody>
</table>

* = p < .05; ** = p < .01.

*Note.* <sup>a</sup> = URICA Continuous Treatment Readiness Score; TR = Treatment Readiness Subscale Score; OS-PS = Ohio Scales Youth Problem Severity Subscale; OS-Fxg = Ohio Scales Youth Functioning Subscale.
Table 8

Correlations Between Alliance Variables and Compliance/Outcome Variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Client-3(n)</th>
<th>Client-6(n)</th>
<th>Couns.-3(n)</th>
<th>Couns.-6(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compliance Measures (n)</strong></td>
<td>44</td>
<td>35</td>
<td>42</td>
<td>34</td>
</tr>
<tr>
<td>Inapp. Beh. Severity</td>
<td>-.32*</td>
<td>-.33</td>
<td>-.13</td>
<td>.02</td>
</tr>
<tr>
<td>Inapp. Beh. Frequency</td>
<td>-.12</td>
<td>-.32</td>
<td>.03</td>
<td>.02</td>
</tr>
<tr>
<td>Appr. Beh. Severity</td>
<td>-.06</td>
<td>.19</td>
<td>.19</td>
<td>.09</td>
</tr>
<tr>
<td>Appr. Beh. Frequency</td>
<td>.09</td>
<td>.27</td>
<td>-.00</td>
<td>-.03</td>
</tr>
<tr>
<td>% Days on Role Model (n)</td>
<td>.10(40)</td>
<td>.38*(31)</td>
<td>.05(38)</td>
<td>.12(30)</td>
</tr>
<tr>
<td><strong>Outcome Measures (n)</strong></td>
<td>43</td>
<td>34</td>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>Progress at Discharge</td>
<td>-.08</td>
<td>.22</td>
<td>.14</td>
<td>.43*</td>
</tr>
<tr>
<td>Progress (Goals 1-3)</td>
<td>-.01</td>
<td>.28</td>
<td>.24</td>
<td>.57**</td>
</tr>
<tr>
<td>Ohio Scales (n)</td>
<td>45</td>
<td>36</td>
<td>43</td>
<td>35</td>
</tr>
<tr>
<td>Resid. Change: OS-PS</td>
<td>-.04</td>
<td>-.27</td>
<td>-.06</td>
<td>-.34*</td>
</tr>
<tr>
<td>Resid. Change: OS-Fxg</td>
<td>.33</td>
<td>.31</td>
<td>-.03</td>
<td>-.05</td>
</tr>
<tr>
<td>Resid. Change: BDI-II(n)</td>
<td>-.06(32)</td>
<td>-.06(26)</td>
<td>.11(30)</td>
<td>.01(25)</td>
</tr>
</tbody>
</table>

* = p < .05; ** = p < .01.
Table 9

**Correlations Between Treatment Compliance Variables and Outcome Variables**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Compliance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IBS(^a)</td>
</tr>
<tr>
<td>Outcome Measures (n)</td>
<td></td>
</tr>
<tr>
<td>Progress at Discharge (76)</td>
<td>-.09</td>
</tr>
<tr>
<td>Progress, Goals 1-3 (76)</td>
<td>-.11</td>
</tr>
<tr>
<td>Ohio Scales</td>
<td></td>
</tr>
<tr>
<td>Change: OS-PS (77)</td>
<td>.22</td>
</tr>
<tr>
<td>Change: OS-Fxg (57)</td>
<td>-.02</td>
</tr>
<tr>
<td>Resid. Change: BDI-II (56)</td>
<td>.06</td>
</tr>
</tbody>
</table>

\* = \(p < .05\); ** = \(p < .01\).

**Note:** \(^a\) = Inappropriate Behavior Severity (sum I value/n of I scores); \(^b\) = Inappropriate Behavior Frequency (n of I scores/length of stay); \(^c\) = Appropriate Behavior Severity (sum of A scores/n of A scores); \(^d\) = Appropriate Behavior Frequency (n of A scores/length of stay).
Table 10

*Correlations Between Client Treatment Expectations and Key Variables*

<table>
<thead>
<tr>
<th>Measure</th>
<th>n</th>
<th>TEQ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motivation/Readiness Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR</td>
<td>72</td>
<td>-.14</td>
</tr>
<tr>
<td>TR</td>
<td>72</td>
<td>-.45**</td>
</tr>
<tr>
<td>DH</td>
<td>72</td>
<td>-.17</td>
</tr>
<tr>
<td>URICA Readiness</td>
<td>71</td>
<td>-.36**</td>
</tr>
<tr>
<td><strong>Alliance Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client-3</td>
<td>40</td>
<td>-.27</td>
</tr>
<tr>
<td>Client-6</td>
<td>33</td>
<td>-.38*</td>
</tr>
<tr>
<td>Counselor-3</td>
<td>38</td>
<td>-.13</td>
</tr>
<tr>
<td>Counselor-6</td>
<td>32</td>
<td>-.05</td>
</tr>
<tr>
<td><strong>Compliance Measures (n)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inapp. Beh. Severity</td>
<td>68</td>
<td>-.05</td>
</tr>
<tr>
<td>Inapp. Beh. Frequency</td>
<td>68</td>
<td>-.01</td>
</tr>
<tr>
<td>Appr. Beh. Severity</td>
<td>68</td>
<td>-.06</td>
</tr>
<tr>
<td>Appr. Beh. Frequency</td>
<td>68</td>
<td>-.02</td>
</tr>
<tr>
<td>% Days on Role Model</td>
<td>66</td>
<td>.08</td>
</tr>
<tr>
<td><strong>Outcome Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progress at Discharge</td>
<td>69</td>
<td>.13</td>
</tr>
<tr>
<td>Progress (Goals 1-3)</td>
<td>69</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Ohio Scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resid. Change: Problem Severity</td>
<td>72</td>
<td>-.15</td>
</tr>
<tr>
<td>Resid. Change: Functioning</td>
<td>52</td>
<td>.01</td>
</tr>
<tr>
<td>Resid. Change: BDI-II</td>
<td>50</td>
<td>-.12</td>
</tr>
</tbody>
</table>

* = p < .05; ** = p < .01.

Note: PR = Problem Recognition Subscale Score; TR = Treatment Readiness Subscale Score; DH = Desire for Help Subscale Score.
Appendix A--Working Alliance Inventory-Short Form, Client and Counselor Versions (Horvath, 1981; Tracey & Kokotovic, 1989).

WAI-S – Client Form

ID#: __________  Session Number:  3 6 10
Gender: _______  Age: ______
Who made you come to Bassett House? (Circle One)
Parents   School   Probation/Court   Social Services
         Self   Other: __________

Directions:
Below there are sentences that describe some of the different ways a person might think or feel about his or her counselor. Place an “X” in the box that best describes your thoughts or feelings. Work as fast as you can as your first impressions are the ones we like to see.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My counselor understands what I am trying to accomplish in counseling.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. My counselor and I are working toward goals we agree on.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. My counselor and I agree on what my problems are.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. I feel that my counselor and I agree about what we should be working on.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. My counselor and I have a good understanding of the kind of changes that would be good for me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. My counselor and I agree about the steps to be taken to improve my situation.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. What I am doing in counseling gives me new ways of looking at my problem.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. I believe the way we are working with my problem is correct.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. I am confident in my counselor’s ability to help me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. My counselor and I trust one another.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11. I feel that my counselor appreciates me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12. I feel my counselor likes me.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

WAI – Counselor Form
Client ID#: __________  Session Number: 3 6 10
Counselor ID#: __________  Gender: ________

How would you best characterize the nature of the interventions used in this session? (Circle all that apply)

Client-centered  Cognitive-Behavioral  REBT  12-Step Facilitation
Psychodynamic/Interpersonal  Existential/Humanistic  Reality Therapy

Directions:
Below, there are sentences that describe some of the different ways a person might think or feel about his or her client. As you read the sentences, mentally insert the name of your client in the place of “______” in the text. Place an “X” in the box that best describes your thoughts or feelings. Work as fast as you can as your first impressions are the ones we like to see.

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>_____ feels I understand what he/she is trying to accomplish in counseling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2.</td>
<td>_____ feels that we are working on mutually-agreed-upon goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3.</td>
<td>_____ feels that we agree on what his/her problems are.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4.</td>
<td>_____ feels that we agree about what to work on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5.</td>
<td>_____ feels like we have established a good understanding of the kind of changes that would be good for him/her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.</td>
<td>_____ feels we are in agreement about the steps to be taken to improve his/her situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.</td>
<td>_____ feels I give him/her new ways of looking at his/her problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8.</td>
<td>_____ feels the way we are working with his/her problems is correct.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.</td>
<td>_____ feels confident in my ability to help him/her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10.</td>
<td>_____ feels we trust each other.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11.</td>
<td>_____ feels I appreciate him/her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12.</td>
<td>_____ feels I like him/her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Appendix B—Ohio Youth Problem, Functioning, and Satisfaction Scale: Youth Rating—Short Form (Ohio Scales; Ogles, Melendez, Davis, & Lunnen, 2000).

**Ohio Mental Health Consumer Outcomes System**

**Ohio Youth Problem, Functioning, and Satisfaction Scales**

**Youth Rating — Short Form (Ages 12-18)**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
<th>Grade:</th>
<th>ID#:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date of Birth:</th>
<th>Sex:</th>
<th>Male</th>
<th>Female</th>
<th>Race:</th>
</tr>
</thead>
</table>

**Instructions:** Please rate the degree to which you have experienced the following problems in the past 30 days.

<table>
<thead>
<tr>
<th>1. Arguing with others</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Getting into fights</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Yelling, swearing, or screaming at others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Fits of anger</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Refusing to do things teachers or parents ask</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Causing trouble for no reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Using drugs or alcohol</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Breaking rules or breaking the law (out past curfew, stealing)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Skipping school or classes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Lying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Can’t seem to sit still, having too much energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Hurting self (cutting or scratching self, taking pills)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Talking or thinking about death</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Feeling worthless or useless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Feeling lonely and having no friends</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Feeling anxious or fearful</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Worrying that something bad is going to happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Feeling sad or depressed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Nightmares</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Eating problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

(Add ratings together) Total ________
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This copy of the Beck Depression Index has been removed due to potential copyright issues.
This copy of the Beck Depression Index has been removed due to potential copyright issues.
Appendix D—Treatment Expectations Questionnaire (Meier, Donmall, McElduff, Barrowclough, & Heller, 2006).

Treatment Expectations Questionnaire

Participant ID#: ________________
Date: ____________________

**Directions:** The next few statements are about what you expect to happen in treatment. Below is a list of what previous clients have said about their concerns when they entered treatment. Please indicate how much you agree with them. You may rate each item anywhere from “0 = Strongly Disagree” to “4 = Strongly Agree.” Your counselor will not see your responses. Feel free to be completely honest.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No other treatment has helped me, so this won’t either.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I may not like the people here.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. My primary counselor can’t help because he/she has never been addicted.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Drugs are my only source of enjoyment and relaxation.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I can’t quite see how talking will help.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Sometimes I just want to forget about my problems.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. People at treatment services never believe what I say.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Drugs are a big part of my life; I’m not sure I’m ready to give them up.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Talking about my problems will make me feel worse.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I think treatment will help me make positive changes in my life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix E—Texas Christian University (TCU) Treatment Motivation Scale (Simpson, 1992).

**TCU Treatment Motivation Scales**

**Participant ID#: __________
Date: __________**

**Instructions:** Place an “X” in the box to show how much you agree or disagree with the following statements that describe you or the way you have been feeling lately.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Not Sure</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Your drug use is a problem for you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>You need help in dealing with your drug use.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>You have too many responsibilities now to be in this treatment program.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>Your drug use is more trouble than it’s worth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>You could be sent to jail or prison if you are not in treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>Your drug use is causing problems with the law.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>This treatment program seems to be demanding for you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>Your drug use is causing problems in thinking or doing your work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9.</td>
<td>It is urgent that you find help immediately for your drug use.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10.</td>
<td>You feel a lot of pressure to be in treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11.</td>
<td>Your drug use is causing problems with your family and friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>This treatment may be your last chance to solve your drug problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13.</td>
<td>You are tired by the problems caused by drugs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14.</td>
<td>This kind of treatment program will not be very helpful to you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15.</td>
<td>Your drug use is causing problems in finding or keeping a job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>16.</td>
<td>You have legal problems that require you to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Somewhat Disagree</td>
<td>Not Sure</td>
<td>Somewhat Agree</td>
<td>Agree</td>
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<tr>
<td>17.</td>
<td>You plan to stay in this treatment program for awhile.</td>
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<tr>
<td>18.</td>
<td>You will give up your friends and hangouts to solve your drug problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>19.</td>
<td>You can quit using drugs without any help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
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<tr>
<td>20.</td>
<td>Your drug use is causing problems with your health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>21.</td>
<td>You are in this treatment program because someone else made you come.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>22.</td>
<td>You are concerned about legal problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>23.</td>
<td>Your life has gone out of control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>24.</td>
<td>Your drug use is making your life become worse and worse.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
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<tr>
<td>25.</td>
<td>This treatment program can really help you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>26.</td>
<td>You want to be in a drug treatment program.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27.</td>
<td>Your drug use is going to cause your death if you do not quit soon.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28.</td>
<td>You want to get your life straightened out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29.</td>
<td>You have family members who want you to be in treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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Appendix F—University of Rhode Island Change Assessment (URICA; McConnaughy, Prochaska, & Velicer, 1983; Greenstein, Franklin, & McGuffin, 1999).

**URICA**

This questionnaire is to help us improve services. Each statement describes how a person might feel when starting therapy or approaching problems in their lives.

**Directions:** Please indicate how much you agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. “Here” refers to Bassett House.

There are **FIVE** possible responses to each of the items in the questionnaire:

1. **Strongly Disagree**
2. **Disagree**
3. **Undecided**
4. **Agree**
5. **Strongly Agree**

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<tbody>
<tr>
<td>As far as I’m concerned, I don’t have any problems that need changing.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I think I might be ready for some self-improvement.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I am doing something about the problems that had been bothering me.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>It might be worthwhile to work on my problem.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I’m not the problem one. It doesn’t make much sense for me to be here.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>It worries me that I might slip back on a problem I have already changed, so I am here to seek help.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I am finally doing some work on my problem.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I’ve been thinking that I might want to change something about myself.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I have been successful in working on my problem but I’m not sure I can keep up the effort on my own.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>At times my problem is difficult, but I’m working on it.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Being here is pretty much a waste of time for me because the problem doesn’t have to do with me.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I’m hoping that this place will help me to better understand myself.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I guess I have faults, but there’s nothing that I really</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>14.</td>
<td>I am really working hard to change.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>I have a problem and I really think I should work at it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>I’m not following through with what I had already changed as well as I had hoped, and I’m here to prevent a relapse of the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>Even though I’m not always successful in changing, I am at least working on my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>I thought one I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>I wish I had more ideas on how to solve the problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>I have started working on my problems but I would like help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>Maybe this place will be able to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>I may need a boost right now to help me maintain the changes I’ve already made.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>I may be part of the problem, but I don’t really think I am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>I hope that someone here will have some good advice for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25.</td>
<td>Anyone can talk about changing; I’m actually doing something about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26.</td>
<td>All this talk about psychology is boring. Why can’t people just forget about their problems?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27.</td>
<td>I’m here to prevent myself from having a relapse of my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28.</td>
<td>It is frustrating, but I feel a problem I had already fixed is coming back.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29.</td>
<td>I have worries but so does the next guy. Why spend time thinking about them?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30.</td>
<td>I am actively working on my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31.</td>
<td>I would rather cope with my faults than try to change them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32.</td>
<td>After all I had done to try to change my problem, every now and again it comes back to haunt me.</td>
<td>1</td>
<td>2</td>
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Appendix G—Demographics Questionnaire and Medical Records Review Form.

Participant ID#: ________________
Date: ________________

Participant Questionnaire

Age: __________

Gender (Circle One): Male Female

Ethnicity: 
_____ African American/Black
_____ American Indian
_____ Asian/Pacific Islander
_____ Mexican American/Hispanic Origin
_____ Other Hispanic (Specify): ___________________
_____ White (not of Hispanic Origin)
_____ Other (Specify): __________________________

Last grade in school you completed: _______________

Have you ever been arrested or charged for illegal behavior? ____ Yes _____ No

Charges: ____________________________________________
____________________________________________
____________________________________________

Are you currently on probation? ___ Yes ___ No

Did the court or your probation officer force you to come to treatment? ___ Yes ___ No

If no, who referred you to treatment? 
_____ Self
_____ Family
_____ School Officials
_____ Counselor/Therapist
_____ Physician
_____ Other (Specify): __________

Is this your first time in treatment for drug- or alcohol-related problems? ___ Yes ___ No
Participant ID#:_____________

Date:_____________

Medical Records Review Data Form

Substance Abuse Diagnoses: ________________________________

Other DSM-IV-TR Diagnoses: ________________________________

_________________________________________________________________

Number of Individual Counseling Sessions Attended During Treatment: ______

Length of Treatment Stay (in days): ________

Discharge Status (Circle one):

  _____ With Staff Approval

  _____ Against Staff Advice

  _____ At Staff Request

Level at Discharge (Check One):

  _____ Role Model

  _____ Appropriate

  _____ Inappropriate

Treatment Progress:

  _____ Goal 1

  _____ Goal 2

  _____ Goal 3

  _____ Goal 4

  _____ Goal 5
Appendix H--Appropriate/Inappropriate Behavior Log Codes.

**Appropriate**

A-10 Positive role model
A-9 Verbalizes clinical materials
A-8 Supports peers and/or works well with peers
A-7 Positive attitude toward treatment
A-6 Works well with staff
A-5 Participates in clinical program
A-4 Exceeds expectations
A-3 Shows initiative
A-2 Shows improvements
A-1 Appropriate behavior/meets basic expectations

**Inappropriate**

I-1 Not following norms
I-2 Resistant to program
I-3 Fails to meet expectations
I-4 Telling “war stories” or glorifying drug use
I-5 Poor interactions with staff
I-6 Does not participate in clinical program
I-7 Negative role model
I-8 Does not support peers
I-9 Disrespect toward staff and/or peer
I-10 Aggressive/threatening behavior toward staff and/or peer
Appendix I--Description of Goals, Objectives, and Interventions Guidelines.

**Goals Objectives and Interventions**

**Problem: Addiction/Alcoholism**

**Goal 1:** Client will participate in learning about the effects of drugs and alcohol and change using behavior.

**Precontemplation**

Objective A: Client will assess his/her substance use behavior and identify effects of this behavior and move from pre-contemplation to contemplation stage.

Interventions: Establish rapport and build trust as evidenced by the client’s open and willing participation in individual and group sessions. Raise doubts and/or concerns in the client about substance-use patterns as evidenced by the client’s verbalized perception of the events that brought the client to treatment. The client will learn how his/her substance use has impacted him/her and others as evidenced by verbalizing the discrepancies between his/her and others perceptions of the problem behavior and completion of a written self-evaluation. Help the client learn about the pros, cons and risks of substance use through groups and individual sessions as evidenced by completion of Chapters 1, 2, and 3 of the Client Workbook.

Other: __________________________________________

**Contemplation**

Objective B: Client will consider the possibility of change and make a commitment to attempt to change.

Interventions: Assist the client in self-motivation toward change through weighing the pros and cons of change and the effects upon both the client and their significant others as noted in positive comments in groups and positive behavior toward staff and peers. Assist the client in making a decision and commitment to change as evidenced by completion of clinical assignments and verbal statements in groups and individual sessions.

Other: __________________________________________

**Preparation**

Objective C: Client will develop a plan for change.

Interventions: Have the client announce plans to change in group setting and to significant others during family sessions. Assist the client in developing strategies for change as evidenced by a verbalized and/or written plan of behavior change. Assist the client in removing identified barriers to change as
evidenced by verbalized commitments from client and significant others during family sessions and case review.
Help the client enlist social support during case review, SRG, and attendance at in-house and off-grounds AA meetings.
Client will give their lead to peers in Support Recovery Group.

Other:

Action

Objective D: Client will implement identified strategies for change.
Interventions: Client will remain abstinent as evidenced by no drug-seeking behavior and negative urine drug screens.
Help the client identify high-risk situations and develop appropriate coping strategies to overcome them by completing clinical assignments and role-playing.
Assist the client in working the first 4 steps of AA/NA.
Encourage the client to regularly attend AA/NA meetings, get a sponsor and continue to work the 12 steps.
Acknowledge difficulties in early recovery and assist the client in identifying these difficulties and strategies to overcome them.
Continue to reinforce the importance of remaining in recovery.
Assist client in developing a Relapse Prevention Plan as evidenced by verbalized commitments, completion of Chapter 10 of the Client Workbook and role-plays.
Other:

Maintenance

Objective E: Client will utilize knowledge gained to maintain sobriety.
Interventions: Assist client in developing an Aftercare Plan.
Help client identify and utilize drug free sources of pleasure.
Affirm client’s resolve to continue lifestyle changes and assist client in using new coping strategies.
Maintain supportive contact.
Assist client in developing long term goals.
Help client develop a plan of action in the event of relapse.
Other:

Problem: Client has poor coping skills which result in isolation, inappropriate interactions with significant others and use of drugs and/or alcohol.

Goal 2: Client will learn new ways of coping with identified feelings and situations.

Precontemplation

Objective A: Client will begin to identify problem areas and through this
identification move from Precontemplation to Contemplation stage.
Interventions: Establish rapport and trust.
   Ask client to complete a self-evaluation and review with him/her.
   Raise doubts or concerns in the client about coping skills by eliciting the client’s and significant others’ perceptions of the problem and exploring the meaning of these perceptions.
   Provide personalized feedback about assessment findings.
   Offer factual information about the identified problem areas through individual sessions and clinical assignments.
   Express care and concern.
Other: __________________________________________

Contemplation

Objective B: Client will identify difficult feelings and situations.
Interventions: Client will discuss in group and individual counseling sessions inappropriate ways they have dealt with painful feelings and situations in the past.
   Client will verbalize discrepancies between their personal values and behavior.
   Client will express a desire for relief from painful emotions without the use of drugs and/or alcohol.
   Client will keep a journal of thoughts, feelings, emotions and events and discuss with counselor to begin to understand the relationship between cognitive processes and behavior.
Other: __________________________________________

Preparation

Objective C: Client will identify new ways to cope.
Interventions: Client will complete Chapters 4, 5, & 6 in the Client Workbook and discuss with counselor.
   Client will ask for and accept feedback from staff.
   Client will be open to learning alternatives.
   Client will observe others he/she admires and identify how they manage difficult feelings, emotions and situations.
   Client will be given opportunities to process new ideas.
Other: __________________________________________

Action

Objective D: Client will initiate new adaptive coping behaviors.
Interventions: Client will utilize newly acquired coping skills in day-to-day activities.
   Client will be supported and recognized for coping efforts.
   Client will take a leadership role in sharing new coping skills.
   Client will approach newcomers and offer support.
   Client will give caring feedback to others who are struggling to manage.
Client will act as a role model for others.
Other: __________________________________________

Maintenance
Objective E: Client will utilize acquired coping skills in all aspects of his/her life.
Interventions: Client will develop and use a support system.
Client will practice learned coping skills with members of support system.
Client will use practiced coping skills in daily activities.
Client will identify and sample positive re-enforcers for newly acquired coping skills.
Other: __________________________________________

Problem: Client associates with the drug culture and is at risk for relapse.

Goal 3: Client will develop a lifestyle supportive of recovery.

Precontemplation
Objective A: Client will assess and identify consequences of his/her involvement in the drug culture.
Interventions: Client will complete and discuss results of assessments with his/her counselor.
Client will identify friends and family members who use.
Client will identify patterns of use and with whom they use.
Client will discuss consequences of relapse in groups and with counselor.
Other __________________________________________

Contemplation
Objective B: Client will learn healthy lifestyle choices.
Interventions: Client will be attentive and open to learning as evidenced by participation in groups and individual sessions.
Client will complete clinical assignments about healthy lifestyle choices and relapse prevention.
Client will learn about healthy lifestyle choices as evidenced by verbalizations during group and individual sessions.
Client will identify obstacles to making choices to develop a clean and sober lifestyle.
Client will identify positive outcomes of making healthy choices.
Other______________________________________________

Preparation
Objective C: Client will identify and personalize choices he/she needs to make in order to develop a healthy lifestyle free from drugs and alcohol.
Interventions: Client will explore choices during group and individual sessions.
Client will recognize and personalize changes he/she needs to make as evidenced by completion of clinical assignments and statements in group and individual sessions.
Client will take advantage of opportunities provided to apply new information to self.
Client will remain open to feedback that will be provided by staff to help identify good choices.
Other______________________________________________

Action
Objective D: Client will make a commitment to abstinence and begin to make lifestyle changes.
Interventions: Client will attend and participate in relapse prevention groups.
Client will attend AA/NA meetings and process their experiences and information learned with counselor and peers.
Client will begin to work a program of recovery as evidenced by day to day actions and verbalizations.
Client will identify ways of replacing using with non-using peers.
Client will develop a support system for aftercare.
Other______________________________________________

Maintenance
Objective E: Client will utilize knowledge gained to assist with development of a comprehensive aftercare program.
Interventions: Client will complete Chapter 10 of the client workbook and discuss with counselor and case manager.
Client will make a commitment to continue to attend AA/NA meetings.
Client will make a commitment to obtain and utilize a sponsor.
Client will utilize other identified support groups to obtain new non-using peers and to support a lifestyle of recovery.
Other______________________________________________

Problem: Client has been engaged in a lifestyle that has been detrimental to his/her physical health.

Goal 4: Client will attain and maintain optimal physical health.
Pre-Contemplation:

Objective A: Clients will assess their health status and habits that have impacted their health.

Interventions:
- Client will complete History and Physical with Physician.
- Where possible collateral information will be obtained from client’s primary care physician.
- Client will complete Nursing assessment.
- Client will discuss nutritional habits as well as any food allergies with nursing staff.
- Client will complete nursing drug/alcohol history including substance used, length and frequency of consumption, and amount and time of last use.
- Client will complete urine drug screen and lab work and discuss results.
- Vital signs will be taken as scheduled for the first 72 hours and weekly or as ordered by physician thereafter.
- Client will report any withdrawal symptoms to nurse.
- Client will complete CIWA (withdrawal assessment) daily for 1st three days in the program (longer if deemed necessary).
- Client will take a daily vitamin to supplement nutrition and to compensate for past nutritional deficiencies.

Contemplation

Objective B: Client will learn healthy physical habits.

Interventions:
- Client will discuss with nurse how past neglect of physical health has led to current physical problems.
- Client will learn from one-on-one discussions with nurse and in health education groups strategies for maintaining optimal physical health.
- Client will report any physical problems to nurse and seek appropriate medical care.
- Client will continue to have vital signs monitored.
- Client will maintain adequate nutritional needs.
- Client will identify any obstacles to receiving medical care.
- Client will identify benefits of maintaining optimal physical health.

Preparation

Objective C: Client will identify and personalize changes he/she needs to make in order to attain and maintain optimal physical health.

Interventions:
- Client will discuss changes he/she needs to make in his/her lifestyle to facilitate good physical health.
- Client will make a commitment to attempt to make such changes.
- Client will seek education on specific physical problems.
- Client will continue to have vital signs monitored.
Client will continue to maintain adequate nutritional needs. Client will participate in gender specific health education group to identify physical maladies specific to their gender and solutions to those maladies. Other

**Action**

Objective D: Client will implement identified changes to improve and maintain physical health.

Interventions: Client will exercise regularly. Client will get adequate rest. Client will eat appropriate foods from each of the 4 food groups. Client will remain free of all drugs (except prescribed medication) and alcohol. Client will continue to monitor self and report any possible physical problems to nurse and/or physician. Client will take medication as prescribed by a physician. Other

**Maintenance**

Objective E: Client will develop aftercare plan to continue to maintain optimal physical health.

Interventions: Client will identify problems with access to health care following residential treatment. Client will work with case manager and nursing to overcome any obstacles to health care. Client will develop a schedule of diet, rest, and exercise to follow after discharge. Client will follow up with primary care physician as needed to continue to maintain optimal health. Client will complete discharge physical. Other

**Problem:** Client’s academic performance has been negatively impacted due to drug use, truancy, suspension, expulsion and/or other negative behaviors.

**Goal 5:** Client will improve skills and academic performance in order to meet education needs.

Precontemplation

Objective A: Client will assess their academic skills, identifying areas that need improvement.

Interventions: Client will establish and build trust with teaching staff as
evidenced by a willingness to share academic strengths and weaknesses.
Client will identify the impact of past behavior by writing an autobiography.
Client will complete the Kaufman exam and discuss the results with teaching staff to identify their academic strengths and weaknesses.
Other

Contemplation
Objective B: Client will acknowledge the impact education has on their life and identify a need to change past behavior.
Client will become motivated to change by weighing the benefits and disadvantages of academic knowledge.
Client will make a commitment to change as evidenced by completion of daily academic assignments.
Client will verbalize in groups and individual sessions with counselor the need for education.
Other

Preparation
Objective C: Client will work with teaching staff to prepare a plan to meet their academic needs.
Interventions: Client will identify academic goals and strategies to meet those goals as evidenced verbalizations to teaching staff and others.
Client will identify skills that need improvement and strategies to improve those skills.
Client will identify supportive staff and peers to assist them in meeting their academic goals.
Other

Action
Objective D: Client will work on daily assignments in school and use feedback from the grades on these assignments to evaluate progress.
Interventions: Client will work diligently on their assignments each day.
Client will seek assistance from staff when he/she has difficulty comprehending material or subject matter of assignment.
Client will chart his/her progress daily and evaluate weekly.
Client will share progress with counselor, case manager and significant others.
Other

Maintenance
Objective E: Client will maintain a successful grade point average and will utilize newly acquired skills to continue academic achievement.
Interventions: Client’s success on daily assignments and weekly progress will be affirmed by teaching staff.
Client will develop long-term academic goals and a plan to achieve those goals.
Client will continue to practice new study skills.
Client will be re-integrated into his/her home school to continue working toward long-term goals.
Maintain supportive contact allowing client to know that support and assistance is available.
Other _______________________________
CONSENT FOR RESEARCH PARTICIPATION

Title of Research: An Exploration of Motivational and Relational Factors in Adolescent Substance Abuse Treatment
Principal Investigator: Andrew J. Darchuk, M.S.
Faculty Advisor: Timothy M. Anderson, Ph.D.

Federal and university regulations require signed consent for participation in research involving human subjects. After reading the statements below, please indicate your consent/assent by signing this form.

Explanation of the Study:
(Agency name), in conjunction with Ohio University, is currently conducting research on the treatment program offered here in order to help improve the treatment program in general. Your participation in this research will aid efforts to improve services, evaluate treatment outcomes, and better understand the factors that contribute to positive treatment outcomes.

In order to accomplish these goals, data from your records at (Agency name) will be gathered during your treatment stay. If you provide consent to participate in the study, you will be asked to complete a few additional questionnaires periodically during your treatment that will not be part of your clinical care, but will be used strictly for research purposes. Specifically, you will complete questionnaires regarding your current level of motivation and readiness for treatment, what you expect to happen in treatment, and the quality of your relationship with your primary counselor. You will complete these questionnaires periodically over the course of your treatment stay.

Risks and Discomforts:
Because the majority of the data collection in the study involves a chart review of clinical data that are obtained as part of the standard of care treatment at the residential program, there are no known potential risks or discomforts to study participants associated with the chart review procedures. The few additional data to be collected will be non-sensitive in nature (e.g., quality of counselor-client relationship, treatment expectations, level of motivation for treatment) and the collection of these data poses no threat to the participant.

Benefits:
You will not receive any direct benefits or compensation as a result of your participation in the study. However, the information you provide will help researchers learn more about substance use in adolescent populations and will contribute to future innovations in treatments for adolescent substance users.
Confidentiality and Records:
Your rights, welfare, and privacy will be protected in the following manner:

1. All data obtained will be kept confidential and accessible only to the principal investigator and trained research assistants.

2. Data from your case will be coded without any identifying information attached, protecting your anonymity and the confidentiality of your data.

3. Your participation is strictly voluntary and refusal to participate involves no penalty or loss of benefits to which you are otherwise entitled. It is your right to withdraw consent for participation, without penalty, at any point in the study.

Contact Information:
If you have any questions regarding this study, please contact Andrew Darchuk at (740) 594-8108 or Dr. Timothy Anderson at (740) 593-1062. If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, at (740) 593-0664.

Your signature on this form gives us permission to use your data. Your permission is entirely voluntary and you will not be penalized in any way should you choose to withhold your consent.

a) I understand that data about my case and progress will be entered into a database and may be used in archival research (that is, research that uses data from closed cases to answer research questions).

b) I understand that data from my case will be coded without any identifying information attached, protecting my anonymity and the confidentiality of my data.

c) I understand that I may withdraw consent for my participation, without penalty, at any time during my treatment.

d) I understand that if I withdraw from the study, the study team reserves the right to utilize the data I provided during the period prior to my stated withdrawal from the current study.

I understand that I have the right to limit the extent of my participation in this study. I wish to limit my participation in the study in the following ways: ____________________________

_______________________________________________________________________

_______________________________________________________________________
1. I understand and agree to non-identified information from my chart being used for research to improve services, evaluate treatment outcomes and better understand the factors that contribute to positive treatment outcomes. I understand that all data will be coded without any identifying information attached, protecting my anonymity and the confidentiality of my data.

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2. I also understand and agree that I will complete a few additional questionnaires periodically during my treatment that will not be part of my clinical care but used strictly for research purposes. I understand that all data will be coded without any identifying information attached, protecting my anonymity and the confidentiality of my data.

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