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The Relationship Between Therapeutic Alliance and Treatment Outcome in Prolonged Exposure Therapy for Adolescents with Posttraumatic Stress Disorder

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THE RELATIONSHIP BETWEEN THERAPEUTIC ALLIANCE AND TREATMENT OUTCOME IN PROLONGED EXPOSURE THERAPY FOR ADOLESCENTS WITH POSTTRAUMATIC STRESS DISORDER

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Dissertation Approval

This is to certify that the thesis presented to us by Sandy Capaldi

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Abstract

The present study focused on the therapeutic alliance in Prolonged Exposure Therapy for adolescent girls with sexual abuse-related Posttraumatic Stress Disorder (PTSD). Two major questions were investigated. First, how does the therapeutic alliance act as a moderating variable between outcome and three predictor variables (homework compliance, habituation to the trauma memory, and number of sessions completed)? Second, how is the relationship between outcome and these same variables affected by the strength of the therapeutic alliance? The data used in this study were taken from an existing database of information on 40 sexually abused adolescent girls with PTSD (mean age = 14.6; range = 13 to 17; *SD* = 1.44) treated at a rape crisis center in Philadelphia for an average of 12 sessions (range = 6 to 18; *SD* = 3.62). Of the sample, 25 were African American (62.5%), 8 were Caucasian (20.0%), 5 were Hispanic (12.5%), and 2 were biracial (5.0%). Child Posttraumatic Stress Scale self-report scores, homework compliance ratings, peak Subjective Units of Distress ratings, number of sessions completed, and Working Alliance Inventory – Observer version ratings were collected from the database. Therapeutic alliance as a moderator variable was tested through a regression equation with the addition of totaling the product of the moderator and each predictor variable (homework compliance, habituation to the trauma memory, and number of sessions completed). The mediator qualities of these same three variables were also tested through a series of three regression models. Therapeutic alliance was not found to be meaningfully related to treatment outcome in this sample. As a

result, alliance was not a moderator of the relationship between outcome and the predictor variables. The mediating variables were also not found to be affected by the alliance. While a number of possible confounds (small sample size, selection bias, exclusion of early dropouts, timing of assessment, and rater perspective) may have affected these results, the implications of the findings for current clinical practice call into question assumptions about therapeutic alliance in the treatment of adolescent girls with sexual assault-related PTSD.

Table of Contents

Chapter 1

Introduction

Research that focuses on understanding the processes of adolescent therapy is rare, yet understanding the impact that therapist, adolescent, and interaction variables have on therapeutic outcome is essential (Chu & Kendall, 2004). In particular, this type of research can help to improve outcomes as well as aid in understanding the underlying mechanisms of empirically supported treatments (ESTs). Investigating the effectiveness of psychological treatments and disseminating ESTs has been one of the largest initiatives in the field, with the ethical and professional dedication to this ideal being widely accepted by many. Yet the underlying mechanisms of what contributes to the effectiveness of ESTs, especially in child and adolescent therapy, have rarely been studied.

It has been argued that focusing on ESTs alone neglects a number of interpersonal factors in therapy, namely the therapist as a person, the therapy relationship, and the characteristics of the patient (Norcross, 2002). Promoting and disseminating ESTs without consideration for relationship factors can lead to an overemphasis on technique and an overlooking of some of the most important factors in therapy (Lambert & Barley, 2002). It is for this reason that the American Psychological Association's Division of Psychotherapy commissioned the Task Force on Empirically Supported Therapy Relationships. Their major goal was to identify, operationally define, and disseminate empirical evidence for the therapy relationship. The Task Force concluded that effective therapeutic relationship variables in adult treatment were: goal consensus and collaboration,

therapeutic alliance, and therapist empathy (Steering Committee, 2001). However, while the importance of the therapeutic alliance has been well established in the adult literature, the same cannot be said for the child or adolescent literature.

A number of meta-analyses and reviews of adult therapy outcome literature consistently show that nonspecific factors (such as therapeutic alliance, therapy bond, treatment involvement, and perceptions of therapist warmth) account for approximately 30% of treatment outcome variance (Horvath & Bedi, 2003; Lambert & Barley, 2002; Shirk & Karver, 2003). Therapeutic alliance, in particular, has been found to account for as much as 26% of the difference in the rate of therapeutic success in adult psychotherapy (Horvath & Symonds, 1991). In a review of therapeutic alliance and treatment outcome by Martin, Garske, and Davis (2000), the alliance evidenced a moderate but consistent impact on outcome, whether rated by the patient, the therapist, or an observer. However, when evaluating the significance of the contribution of the alliance to therapeutic success, pre-therapy variables that can influence the development of the alliance must also be taken into account (Horvath & Greenberg, 1996). Both client and therapist factors can influence the formation of the alliance and may be responsible to some degree for the determination of outcome.

One pre-therapy variable that can affect the development of the alliance is the type of problem for which the client seeks help. In their meta-analysis of 23 studies that investigated associations between therapeutic relationship variables and treatment outcome in child and adolescent therapy, Shirk and Karver (2003)

found that only one patient characteristic variable moderated the relationship between alliance and outcome. This variable was the type of problem the patient was seeking help for and was categorized (due to the methodological limitations of conducting a meta-analysis) as either an internalizing or an externalizing problem. In this study, there was a stronger association between alliance and outcome for children and adolescents with externalizing problems.

Other research has found that certain populations, such as women who were sexually abused as children, show greater effect sizes between therapeutic alliance and outcome than other populations. For example, in a study of 49 women with child abuse-related Posttraumatic Stress Disorder (PTSD) who were treated with skill building and imaginal exposure to their traumatic memories, Cloitre, Stovall-McClough, Miranda, and Chemtob (2004) found an effect size of .46, much higher than that reported for other populations. Other pre-therapy client variables, such as the ability to form relationships, can also be important. Preliminary studies have reported that survivors of childhood sexual abuse have a higher than average frequency of unresolved adult attachments (Stovall-McClough & Cloitre, 2006), a factor which is hypothesized to affect the formation of relationships. If outcome is influenced by the formation of a therapeutic relationship, this pre-therapy variable could impact treatment outcome for sexual abuse survivors.

Research has also suggested that therapeutic relationship variables may be just as important, if not more so, in child and adolescent therapy (DiGiuseppe, Linscott, & Jilton, 1996; Shirk & Karver, 2003), with effect sizes

ranging from .05 to .49 (Karver, Handelsman, Fields, & Bickman, 2006). The therapeutic relationship has long been considered a pivotal mechanism of change in child psychotherapy; however, little research has been done to explore it (Jensen, Weersing, Hoagwood, & Goldman, 2005; Shirk & Karver, 2003). While some studies have been conducted to date, they rarely focus on the same construct. A number of relationship variables, such as therapeutic bond, involvement in treatment, and perceptions of therapist warmth, have been studied in relation to outcome (Shirk & Karver, 2003). In addition, measurement of the therapeutic alliance across studies varies widely, including modified adult measures of alliance, general relationship measures, family therapeutic alliance measures, and researcher-developed measures of alliance (Shirk & Karver, 2003).

For adolescents in particular, the development of a sound therapeutic alliance may be more critical and more challenging than for adults. A number of developmental considerations (such as the need for increasing autonomy, the fact that adolescents rarely refer themselves for treatment, adolescents' unwillingness or inability to acknowledge a problem, being at odds with parents concerning the goals of therapy, and the type of problem the adolescent is experiencing) can make alliance formation a formidable task (DiGiuseppe et al., 1996; Shirk & Karver, 2003). Any of these variables, or combination of them, may play a particularly salient role in how the adolescent relates to his or her therapist.

If alliance formation is critical to positive outcome in therapy, it may also affect other variables. For example, does degree of therapeutic alliance affect number of sessions attended? While common sense would say that an adolescent with a solid alliance would tend to stay in and complete treatment, there is little empirical evidence to support this. In fact, while the adult literature points to a relationship between alliance and number of sessions attended (e.g., Kokotovic & Tracey, 1987), the adolescent literature has yet to find such a link (e.g., Salzer, Bickman, & Lambert, 1999). In addition, homework compliance, another therapy variable that has been linked with better outcomes in the adult literature (Detweiler & Whisman, 1999), may also be affected by degree of therapeutic alliance. While it seems that these two variables would be logically related, no published empirical studies have investigated the relationship between alliance and homework compliance in child or adolescent psychotherapy.

Variables affected by the therapeutic alliance may also be specific to the type of treatment and the population being studied. For sexually abused individuals, exposure treatment may be the treatment of choice in many instances (Foa & Meadows, 1997). Since habituation to the trauma memory is the goal of exposure treatment and one of the measures of positive outcome, it too may be affected by the degree of therapeutic alliance. However, no empirical studies of therapeutic alliance and habituation to a trauma memory have been conducted.

The purpose of the present study was to investigate the therapeutic alliance as related to adolescents in treatment for sexual abuse-related PTSD as

well as to attempt to answer two major questions. First, how does the therapeutic alliance affect mediating variables such as number of sessions completed, degree of habituation to the trauma memory, and homework compliance in adolescent survivors of sexual assault? Also, how does the therapeutic alliance act as a moderating variable between therapeutic alliance and the same three predictor variables (number of sessions completed, habituation to the trauma memory, and homework compliance)? Because the formation of a solid therapeutic alliance is believed to be related to outcome, because it may be particularly important for adolescent survivors of sexual assault, and because little research has been done in this area, it is believed that a study examining these variables in relation to the therapeutic alliance in adolescent therapy will provide information on the process and underlying mechanisms of effective psychotherapy with adolescents.

In order to accomplish these goals, the prevalence of sexual assault in our society today and the effects of sexual assault on the individual will first be discussed. To more fully understand the therapeutic alliance as a construct, its role in psychotherapy will also be discussed, with a particular emphasis on adolescents. The literature on potential moderators of the relationship between alliance and outcome (the roles of dropout and homework in psychotherapy as well as habituation in exposure therapy for PTSD) will also be reviewed. Finally, the methods and procedures used will be described, and the results will be reviewed and discussed.

Prevalence and Sequelae of Sexual Assault

The prevalence of sexual assault of women in the United States is alarmingly high, with one in four girls experiencing sexual abuse by the age of 18 (Pennsylvania Coalition Against Rape [PCAR], 2003) and approximately 10%-13% of women experiencing a completed rape at some point in their lives (Finkelhor, 1994; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Furthermore, it has been reported in community samples that 12%-35% of women acknowledged unwanted sexual contact before the age of 18 (Putnam, 2003). It is important to keep in mind that an estimated 70% of sexual assaults are never reported to authorities, meaning that these statistics may be underestimations (Pennsylvania Coalition Against Rape [PCAR], 2003). Actual prevalence rates are unknown because of the nature and secrecy of sexual assault and the stigma attached to it.

Adolescence is a key developmental period, and it is especially important to note that most sexual assaults occur during this stage. Of reported sexual assaults, the average age of a first rape for women occurs in adolescence at approximately age 16 (Kilpatrick, Edmunds, & Seymour, 1992). In addition, 62% of all sexual assaults are reported to occur in childhood or adolescence (Kilpatrick et al., 1992). Since women with a childhood history of sexual abuse are 4.7 times more likely to be subsequently raped than women with no history of child sexual abuse (PCAR, 2003), the period of adolescence (approximately ages 13 to 18) is a particularly salient time for the implementation of effective interventions. In order to plan effective interventions, familiarity with the effects of sexual assault is necessary.

Research as well as clinical experience support the fact that sexual assault can have a significant impact on affected individuals. While there are a wide range of outcomes for people who are sexually abused or assaulted in childhood or adolescence, Posttraumatic Stress Disorder (PTSD) is the most common psychiatric diagnosis for both adults (Cloitre, 1998) and children (Deblinger, Heflin, & Clark, 1997). PTSD is an anxiety disorder described in the *Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition, Text Revision* (*DSM-IV-TR*; American Psychiatric Association [APA], 2000), that affects approximately 8% of the adult population in the United States. One third to one half of individuals exposed to sexual assault are estimated to develop PTSD (APA, 2000). In children, the estimates of prevalence for youth exposed to trauma vary from 3% to 100%, depending on how PTSD is measured, the population being assessed, the type of trauma experienced, and the length of time since the trauma (American Academy of Child and Adolescent Psychiatry [AACAP], 1998). Estimates from random samples of non-referred children exposed to trauma yield prevalence rates of 24% to 34.5% (AACAP, 1998).

The *DSM-IV-TR* requires that a person meet six major criteria in order for a diagnosis of PTSD to be made (APA, 2000). These include being exposed to a traumatic event where there is a threat to the physical integrity of the person or others and responding to this event with fear, helplessness, or horror (Criterion A), as well as developing difficulties within three symptom clusters (re-experiencing symptoms, avoidance symptoms, and hyperarousal symptoms) (APA, 2000). Re-experiencing symptoms (Criterion B) include recurrent and

intrusive distressing thoughts of the trauma, recurrent nightmares, flashbacks, intense distress when reminded of the trauma, and physiological reactions such as increased heart rate when reminded of the trauma. A minimum of one re-experiencing symptom is required for a diagnosis of PTSD. Avoidance symptoms (Criterion C) include avoidance of thoughts, feelings, or conversations about the trauma; avoidance of activities, places, or people that are reminders of the trauma; inability to recall important aspects of the trauma; loss of interest in previously enjoyed activities; feelings of detachment from others; restricted range of affect; and having a sense of a foreshortened future. At least three avoidance symptoms must be present to diagnose PTSD. Hyperarousal symptoms (Criterion D) include difficulty sleeping, irritability, difficulty concentrating, hypervigilance, and exaggerated startle response. Two or more hyperarousal symptoms are required for a diagnosis of PTSD. In addition, the duration of these symptoms must be longer than one month (Criterion E) and they must cause clinically significant distress or impairment in an important area of functioning (Criterion F).

While these diagnostic criteria for PTSD have been helpful in diagnosing adults with the disorder, there is controversy about their adequacy for children. Although most experts agree that PTSD in adolescents and older children generally resembles PTSD found in adults (Davidson & March, 1996; Pine & Cohen, 2002; Pynoos, Steinberg, & Wraith, 1995), others have advocated for a broader definition of PTSD for children and adolescents (Armsworth & Holladay, 1993). In so doing, the effects of sexual abuse on a child have been divided into

four categories: cognitive, affective, behavioral, and somatic-physiological effects (Armsworth & Holladay, 1993). Cognitive effects can include blaming oneself for the trauma, using defenses designed to avoid thinking about the trauma, memory impairment, academic difficulties, developmental delays, and poor language and communication skills (Armsworth & Holladay, 1993). Emotional lability, lower tolerance for stress, depressive symptoms (including suicidal ideation), alterations in self-perceptions, and feelings of guilt, shame, anxiety, and helplessness have been classified as affective effects of sexual abuse (Armsworth & Holladay, 1993). Behavioral effects can include aggression toward peers and authority figures, cruelty to animals, impulsivity, withdrawal from social interactions, loss of acquired developmental skills, and acting out behaviors such as drug abuse, participation in criminal activities, sexually inappropriate behavior, and runaway behavior (Armsworth & Holladay, 1993). Finally, distressing physical sensations (body memories) and somatic problems embody the somatic-physiological effects of sexual abuse (Armsworth & Holladay, 1993).

As can be seen from the wide range of effects just mentioned, many different outcomes have been documented in the literature in addition to PTSD. When examining the differences between individuals who have been sexually abused and those who have not, sexually abused children have consistently been found to exhibit more problematic symptoms than their nonabused counterparts do (Saywitz, Mannarino, Berliner, & Cohen, 2000). In a review of 45 studies of the effects of sexual abuse on children, Kendall-Tackett, Williams, and Finkelhor,

(1993) found that sexualized behavior, anxiety, depression, withdrawn behavior, somatic complaints, aggression, and school problems were found to be significantly more frequent in sexually abused children when compared to nonabused children.

One of the most thorough reviews of the impact of child sexual abuse (CSA) was conducted by Browne and Finkelhor (1986). Their review of the literature revealed that sexual abuse could initially cause fear, anxiety, depression, anger, hostility, aggression, and sexually inappropriate behavior. In the long term, Browne and Finkelhor (1986) found that depression, self-destructive behavior, anxiety, feelings of isolation and stigma, poor self-esteem, difficulty trusting others, substance abuse, and sexual maladjustment were frequently reported.

Exposure to sexual trauma has also been linked to a number of psychiatric problems in adolescents, such as depression, anxiety, suicidality, sexualized behaviors, conduct problems, and substance use (Brown, Henggeler, Brondino, & Pickrel, 1999; Grella, Stein, & Greenwell, 2005). Later manifestations of these problem behaviors in adults have also been noted (Brown et al., 1999; Grella, Stein, & Greenwell, 2005). In one longitudinal study of 349 adolescents, Giaconia, Reinherz, Silverman, Pakiz, Frost, et al., (1995) found that more than 40% of the sample had experienced a trauma by the age of 18 and that 14.5% of those adolescents developed PTSD. Adolescents with PTSD evidenced numerous other impairments by age 18, including behavioral and emotional difficulties, interpersonal problems, academic difficulties, suicidal

gestures, health problems, and increased risk for additional psychiatric disorders (Giaconia et al., 1995). In this study, 41% of adolescents with PTSD also met criteria for major depression by age 18, compared to 8% of non-PTSD peers (Giaconia et al., 1995). In addition, PTSD was associated with a significant increase in social anxiety (33%), specific phobia (29%), alcohol dependence (46%), and drug dependence (25%).

As can be imagined, all of these cognitive, affective, behavioral, and somatic difficulties have the potential to influence the therapeutic alliance if the individual receives psychological treatment. It is possible that these difficulties will negatively affect the ability of the individual to form a solid therapeutic alliance as well as to complete treatment successfully. Since the alliance has been found to affect treatment outcome, the difficulties associated with experiencing sexual abuse may influence outcomes. In order to better understand how the experience of sexual abuse may affect formation of therapeutic alliance, let us first consider the therapeutic alliance more closely.

Definitions and Historical Review of Therapeutic Alliance

While there are many definitions of *therapeutic alliance*, the common thread that links these definitions is the notion that the client and therapist form a relationship for the purpose of fostering therapeutic work that will allow treatment to be successful (Gelso, 2000). Most definitions of alliance include three major themes: 1. collaboration between client and therapist, 2. an

affective bond between client and therapist, and 3. the ability of the client and therapist to agree upon the work to be done (Martin, Garske, & Davis, 2000).

The very idea that the relationship between client and therapist was an important factor in determining the success of treatment was first conceived by Sigmund Freud, who described the positive regard that develops between doctor and patient in his 1913 book, *The Interpretation of Dreams*. Freud's ideas focused on what was termed *positive transference* and predicted that a patient's identification of the therapist with benevolent people in their past would result in a successful alliance. It was not until 1967, with the work of Ralph Greenson, that the term *working alliance* was used and defined (Gelso, 2000). The classical psychodynamic definition of the working alliance states that it consists of transference (the redirection of feelings toward a significant person to another person), the working alliance (the collaborative relationship that makes change possible), and the real relationship (consisting of realism and genuineness of both patient and therapist) (Gelso, 2000).

Other definitions have also come into favor over the years, including a client-centered definition, which posits that the client's perception of the therapist as an empathic individual constitutes the alliance, and a social psychology definition, which posits that the alliance is based on the client's perception of the therapist as expert, trustworthy, and attractive. While these definitions were rooted in psychological theories and perspectives, some argued that theoretical politics were getting in the way of a true definition of the

therapeutic alliance. For this reason, a number of pantheoretical definitions were developed.

One of the first pantheoretical definitions of the therapeutic alliance defined it as a dynamic rather than static entity that could be responsive to the changing needs of varying phases of therapy (Luborsky, 1996). Two types of alliances were identified, with Type 1 being rooted in the client experiencing the therapist as supportive and helpful, and Type 2 being based on a sense of working together toward a common goal and shared responsibility. Six signs were identified to represent the Type I alliance. These were comprised of the patient: 1. feeling the therapist was warm and responsive, 2. believing the therapist was helping, 3. feeling changed by the treatment, 4. feeling a rapport with the therapist, 5. feeling the therapist respected and valued him/her, and 6. conveying a belief in the value of the treatment process. For the Type 2 alliance, four signs were identified. These consisted of the patient: 1. experiencing the relationship as working together in a joint effort, 2. sharing similar conceptions about the source of problems, 3. expressing beliefs about being increasingly able to cooperate with the therapist, and 4. demonstrating abilities similar to those of the therapist in terms of being able to use the tools for understanding.

Another pantheoretical definition that became widely accepted involved Edward Bordin's (1976) concepts of tasks, bonds, and goals. Bordin's ideas stemmed directly from Ralph Greenson's concept of the real relationship and the alliance, as well as Otto Rank's and Carl Rogers' attention to the client as an active force in the process of change (Bordin, 1996). According to Bordin (1996),

tasks are the in-session behaviors that each party accepts responsibility for and that form the basis of the therapeutic process, which should be perceived as relevant and efficacious. Endorsement of the goals of therapy by both parties is also important, as are the bonds that are formed, which are the positive personal attachments that include issues such as trust, acceptance, and confidence (Bordin, 1996). To accomplish a good alliance, therapists have to communicate the links between the tasks of the session and the overall goals of treatment as well as stay aware of the client's level of commitment and intervene when resistance is present (Horvath & Luborsky, 1993).

Louise Gaston and Charles Marmar (1994) proposed yet another pantheoretical definition of therapeutic alliance. They conceptualized the alliance as a combination of therapeutic alliance, working alliance, therapist understanding and involvement, and patient-therapist agreement on goals and strategies. Gaston and Marmar's idea of therapeutic alliance was based on Freud's understanding of transference as well as attachment to and identification with the therapist. Their conception of working alliance is based on the skill of the patient and therapist in collaborating on the tasks of therapy. The therapist's understanding and involvement is included to indicate that therapists do not behave in a uniform way and that the therapist plays an important role in the development of the alliance. The patient-therapist agreement on goals and strategies is based on Bordin's definition of the alliance, including agreement on tasks, bonds, and goals.

Bordin's conceptualization of the alliance includes the major elements at the heart of most other definitions of alliance and appears to be the most widely accepted and the most parsimonious. In Bordin's view, the working alliance is viewed as the ingredient that allows the client to accept and follow the treatment. The presence of a strong alliance, along with the cognitive and affective components of the relationship, such as endorsing the tasks of the treatment and having a strong interpersonal bond with the client, can help the client to deal with the immediate discomfort associated with the therapy and aid in postponing immediate gratification (fast relief of symptoms) (Horvath & Luborsky, 1993). In Bordin's view, different types of therapy place different demands on the relationship, and so the strength of each individual component of the alliance (tasks, bonds, and goals) would vary across different therapeutic orientations (Bordin, 1996).

Since Bordin's definition of therapeutic alliance and the subsequent development of a convenient and valid measure of this concept by Adam Horvath in 1982 (*The Working Alliance Inventory* [*WAI*]; Horvath & Greenberg, 1989), research and theory about the therapeutic alliance with adults has increased tremendously. Some of the major areas of interest have been how the alliance influences successful outcome and how it influences treatment. For example, there is evidence that the alliance fosters the client's willingness to be receptive to the therapist's interventions, resulting in a greater likelihood to, for example, complete homework assignments (Foreman & Marmar, 1985).

The positive relationship between good therapeutic alliance and successful treatment outcome with adults is well documented in the literature (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; Barber, Luborsky, Crits-Christoph, Thase, Weiss, et al., 1999; Carroll, Nich, & Rounsaville, 1997; Eltz & Shirk, 1995; Horvath & Symonds, 1991; Karver et al., 2006; Martin et al., 2000; Shirk & Karver, 2003; Steering Committee, 2001). Researchers have focused on the role of the alliance in therapy in other ways, as well. This line of research includes examining the path of the alliance through the course of therapy, exploring the variables associated with individuals forming strong alliances, and analyzing the in-session variables that influence the development of the alliance (Horvath & Luborsky, 1993).

While the relationship between alliance and outcome has been extensively researched in the adult population, less work has examined how the alliance may change over time during the course of treatment. Therapeutic alliance can be viewed as being comprised of two critical alliance phases. The first is the initial development of the alliance, where trust and collaboration must be established, agreement on the goals of treatment must occur, and faith in the process of the therapy must develop (Horvath & Luborsky, 1993). The second phase of the development of the alliance occurs midtreatment, as the therapist begins to challenge the client and work towards real change. This may be perceived by the client as a reduction in empathic understanding and support, thus weakening the alliance, which must then be repaired.

The alliance may also be viewed as therapeutic in and of itself, as a prerequisite for the effectiveness of the therapeutic work, or as an interaction variable in combination with different therapeutic techniques (Gaston & Marmar, 1996). Viewing the alliance itself as being therapeutic would make it a necessary and sufficient condition of therapeutic change, meaning that it is not only required in order for change to occur, but that it is also the only element necessary to foster change. Alternatively, as a prerequisite, the alliance could be said to be a necessary, but not sufficient, condition of change. In this way, it provides the context in which change can be promoted, but is not the only element needed to foster change. As an interaction variable, the alliance can be used strategically, with use of more supportive techniques in combination with less technical skills for certain clients and use of more technical skills and less supportive techniques for other clients. No matter how one views the alliance, it is helpful to think of it as existing on a continuum ranging from very weak to very strong alliances. Because of this, measurement of the alliance has been an important component of empirical research on this therapeutic relationship variable.

Therapeutic Alliance as a Measurable Psychotherapy Skill

Although there appears to be consensus about what the therapeutic alliance is, it is unclear how the different measures that have been developed and the different perspectives alliance can be viewed from relate to each other (Horvath & Greenberg, 1996). More than 24 different alliance measures are in

use in research today (Horvath & Bedi, 2002) and measure the alliance from three different perspectives: the client's, the therapist's, and an observer's. Measures of therapeutic alliance tend to include ratings of 1. the client's affective relationship to the therapist, 2. the client's ability to engage in purposeful therapeutic work, 3. the therapist's ability to empathize and understand the client, and 4. the agreement on the goals and tasks of therapy between the therapist and the client (Lambert & Barley, 2002).

The three different perspectives (client, therapist, and observer) each have strengths and weaknesses. In addition, they do not necessarily always agree. The correlation between therapists' alliance scores and clients' has been found to range from .0 to .40 (Horvath & Greenberg, 1996). In addition, therapist ratings have been found to be much less related to outcome, a phenomenon that may be caused by the therapist viewing the relationship through his or her own theoretical framework. Psychodynamic therapists may view lack of agreement on the tasks of therapy as resistance, while the patient himself or herself may not agree with the tasks of therapy because those tasks do not agree with the overall goals of therapy, as they have been laid out. Since therapist and client versions of alliance measures are parallel forms, it may be that therapists need to be asked different questions than clients. In addition, therapists' initial estimates of the clients' ability to form a relationship may be overly positive, while clients' estimates are more realistic because they are anchored in prior experience.

Measuring the alliance from an observer's perspective presents other challenges. Observer ratings have two distinct advantages over therapist and client ratings. The first advantage is that observer ratings permit replication. Because sessions are audiotaped or videotaped, more than one observer can rate any single session, thus allowing for greater reliability of the data (Horvath & Greenberg, 1996). The second advantage is that it is assumed that an observer would yield more objective ratings (Horvath & Greenberg, 1996). Despite these advantages, observer methods have one drawback, which is that the observer must infer the therapist's and client's feelings and thoughts based on a small amount of information (Horvath & Greenberg, 1996). The alliance may encompass covert processes that are not overtly displayed. Because of the complexity of this process and the inferences involved, the observer's own theoretical orientation likely influences these ratings as well.

Despite the methodological limitations associated with alliance measurement, many instruments have been developed and are so far the best ways we have of attempting to quantify the therapeutic alliance. The alliance measures most often used in research can be broken down into four families of instruments and include: the Penn Helping Alliance Scales, the Vanderbilt Scales, the California-Toronto Scales, and the Working Alliance Inventory scales.

Penn Helping Alliance Scales. The Penn Helping Alliance Scales (Luborsky, Crits-Cristoph, Alexander, Margolis, & Cohen, 1983) measure alliance as consisting of Type I and Type II helping alliances. The measures focus on the alliance as a caring and supportive relationship and a collaboration and sharing

of therapeutic responsibilities. This scale consists of 10 items and is the shortest of the alliance measures. Six items measure the patient's experience of receiving help or a helpful attitude from the therapist, and four items measure the patient's experience of being involved in a joint effort with the therapist. The items are rated on a 10-point Likert scale. Interrater reliability has ranged from .75 to .88 for the 10 scales, and internal reliability has been reported at .91 for the total measure (Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982). The Penn Helping Alliance Scales are more often used and seem better suited for use in psychodynamic or psychoanalytic treatment modalities.

Vanderbilt Scales. Developed to measure patient and client contributions to the alliance as well as the interaction between client and therapist, the Vanderbilt Scales (*The Vanderbilt Psychotherapy Process Scale* [*VPPS*] and the Negative Indicators Scale) were specifically designed for use in dynamic therapies (O'Malley, Suh, & Strupp, 1983). The VPPS was built on general assumptions of therapy as an interpersonal process (Henry & Strupp, 1996) and assesses aspects of both the patient's and the therapist's facilitative as well as antitherapeutic behaviors. It consists of 80 items rated on a 5-point Likert scale that were designed to be unidimensional, descriptive, and requiring very little inference. After a number of refinements, the VPPS resulted in eight stable factors: 1. patient participation, 2. patient hostility (resistance), 3. patient exploration, 4. patient psychic distress, 5. patient dependency, 6. therapist warmth and friendliness, 7. therapist negative attitude, and 8. therapist exploration. Interrater reliability coefficients of .89 have been reported for the

entire scale, with a range of .79 to .94 for individual subscales (O'Malley et al., 1983).

While the VPPS measures many features of the interpersonal process of therapy, it was not specifically designed to be a measure of therapeutic alliance. The Vanderbilt Therapeutic Alliance Scale (VTAS), however, was designed to measure alliance (Henry & Strupp, 1996). It consists of 44 items, rated on a 6-point Likert scale, that are divided into three subscales for therapist contributions, patient contributions, and the interaction between the two. Factor analysis has shown that six factors have emerged. These are (in order of decreasing variance): 1. positive climate, 2. patient resistance, 3. therapist intrusiveness, 4. patient motivation, 5. patient responsibility, and 6. patient anxiety. Interrater reliability coefficients have ranged from .74 to .90 for the VTAS (Tichenor & Hill, 1989).

California-Toronto Scales. Another family of alliance ratings is the California-Toronto Scales. These scales were initially developed for and influenced by dynamic therapies, but branched out into several different scales. They include the Therapeutic Alliance Rating Scale (TARS; Marziali, 1984), designed to assess the client's and therapist's positive and negative contributions to the alliance, the *California Therapeutic Alliance Rating Scale* (*CALTARS*; Marmar, Weiss, & Gaston, 1989), and the *California Psychotherapy Alliance Scale* (*CALPAS*; Gaston & Marmar, 1994), which is a 24 item scale with patient, therapist, and observer versions that measures four facets of alliance: working

capacity of the client, commitment of the client, understanding of the therapist, and agreement on the working strategy.

Working Alliance Inventory scales. Most often used in clinical and research settings, the fourth family of alliance scales is the *Working Alliance Inventory* (*WAI*; Horvath, 1981). This measure was designed to assess Bordin's conceptualization of the alliance as agreement on tasks, development of bonds, and agreement on the goals of therapy. The scale consists of 36 items divided into the three subscales, each with 12 items rated on 7-point Likert scales, with a score of 7 indicating a high level of agreement with the statement. The goals subscale measures the extent to which the therapeutic goals are deemed important, mutual, and able to be accomplished. The tasks subscale measures the agreement about the steps to be taken to improve the client's situation. The bonds subscale measures mutual attachment and focuses on empathy and comfort in exploring delicate and private issues. The measure originated in both therapist and client versions, but expanded to an observer version as well (Tichenor & Hill, 1989).

Several conclusions are apparent from this review of alliance measures. While some measures attempt to assess specific theoretical conceptualizations of the alliance (the Penn Helping Alliance Scales, the WAI, and the CALPAS), other scales attempt to measure more eclectic blends of alliance constructs (the VPPS and the VTAS). In addition, the number of items varies across alliance measures, from the 10 items of the Penn Helping Alliance Scales to the 80 items of the VPPS. The measures also purport to assess different numbers of alliance

dimensions. For example, there are two dimensions of the Penn scales, three dimensions of the WAI, and four dimensions of the CALPAS. In fact, it seems that there are only two core aspects of alliance that are shared by most scales: therapist–patient affective attachments and collaboration or willingness to invest in the therapy process (Horvath & Luborsky, 1993). Regardless of this fact, cross-scale comparisons between different measures of alliance have yielded moderate to high intercorrelations (.34 to .87; Safran & Wallner, 1991; Tichenor & Hill, 1989). Yet the lack of a single operational definition of the alliance plagues process research of alliance, as it appears to be a different construct based on the type of measure used. It may be this factor that contributes to the sometimes contradictory findings in the literature on therapeutic alliance and outcome.

That being said, there is a great deal of empirical evidence that links therapeutic alliance to treatment outcome. An effect size, based on 24 treatment outcome studies, of up to .26 between outcome and alliance has been reported (Horvath & Symonds, 1991). More recent research has shown an effect size of .22, based on 79 studies of psychotherapy outcome (Martin, Garske, & Davis, 2000). In a study of 22 outpatient clients who received cognitive therapy, therapeutic alliance was measured using both the WAI and the CALPAS (Safran & Wallner, 1991). The results indicated that both measures were predictive of outcome when administered after the third session of treatment (Safran & Wallner, 1991), a finding that is consistent with research that indicates that therapeutic alliance can predict treatment outcome even in the early stages of

therapy (Horvath & Luborsky, 1993). Since alliance appears to have such a robust relationship with outcome, examining the factors that might influence that relationship has been another area of interest for process variable researchers.

Potential Moderators of the Relationship Between Alliance and Outcome

Many different variables can have an impact on the strength of the relationship between alliance and outcome. These variables are potential moderators of the relationship between alliance and outcome. Because it is treated as a measurable construct, a number of important issues arise. These issues are described in more detail in the following sections.

Type of measure. There is not clear evidence that any one type of alliance measure is better than another (Luborsky, 1996). There is a large difference in the number of studies using questionnaire methods versus judgment-of-sessions measures, which require transcription of the session and assessment on a micro level. It is not clear whether these methods are correlated with each other (Luborsky, 1996). Three observer measures of alliance have been found by Tichenor and Hill (1989) to overlap with each other in terms of measuring what are considered key ingredients of the alliance (tasks, bonds, and goals), the *California Psychotherapy Alliance Scales* (*CALPAS*; Marmar, Weiss, & Gaston, 1989), *The Vanderbilt Therapeutic Alliance Scale* (*VTAS*; Henry & Strupp, 1996), and the *Working Alliance Inventory—Observe version* (*WAI—O*; Horvath &

Greenberg, 1989). Because there is no definite evidence that these measures are in fact assessing the same construct, it is possible that the instrument used will affect the resulting relationship, or lack of relationship, found between alliance and outcome.

Type of treatment. It stands to reason that since the concept of therapeutic alliance was spawned in psychodynamic theory, alliance may be more predictive in dynamic therapy than in other types of therapy. This has turned out not to be the case, however. Research suggests that the alliance is significantly predictive in behavioral and cognitive therapies, as well (Marmar, Gaston, Gallagher, & Thompson, 1989). For therapist ratings of alliance, outcome has been predicted well for cognitive therapy, moderately well for dynamic therapy, and less well for behavior therapy. For patient ratings, outcome has not been predicted in dynamic therapy. Other research has found that alliance was not predictive of outcome in cognitive therapy when measured by Beck Depression Inventory scores (DeRubeis & Feely, 1991). Because it used ratings from only one early session of treatment, however, this study may not be indicative of results that would be found if multiple or later sessions had been assessed.

Perspective. The source of the data is also a moderating variable in alliance research. The therapist's view of the relationship, the client's past therapy history, and the fact that an observer does not participate in the relationship at all are factors that can moderate the quality of the data gathered about the alliance (Horvath & Bedi, 2002). In fact, research has shown that

client and observer ratings of alliance are similarly related to outcome, while therapist ratings of alliance are less related (Horvath & Bedi, 2002; Luborsky, 1996).

Timing. Another moderating variable between alliance and outcome is the time at which the alliance is measured. Early and late measures of alliance have been found to be better predictors of outcome (effect sizes of .22 and .27, respectively) than alliance measured at midtreatment (effect size of .19) (Horvath & Bedi, 2003). The fact that early measures of alliance are better predictors of outcome makes good sense. If the client fails to engage with the therapist, if the two cannot agree on what needs to be done, and if mutual trust is not developed within the first three sessions, the client will probably drop out of treatment early (Horvath & Greenberg, 1996). The failure of midtreatment measures to predict outcome consistently may be caused by the difficulty of working through difficult issues in the middle stages of therapy. In addition, the relationship with the therapist may mirror the interpersonal issues and processes of the client. In this way, resolving alliance issues can become part of the client's same struggle to change their habits of thinking, feeling, and behaving in the outside world (Horvath & Greenberg, 1996). Another reason that early measures of alliance are most predictive of outcome is that alliance scales may be best at measuring the alliance in an undifferentiated state (Horvath, 1996). It is possible that the alliance becomes more therapy-specific as treatment progresses, with the particular tasks of certain therapies imposing different demands on the alliance, thus making it more difficult to be captured by an alliance measure.

Positive versus negative alliance. Positive therapeutic alliance has been shown to be a better predictor of outcome than negative therapeutic alliance (Luborsky, 1996). In one study, the positive alliance was correlated .43 with outcome, while the negative alliance was correlated -.29 with outcome (Marziali, 1984). The findings were similar for therapist ratings, where positive alliance correlated .28 with outcome, while negative alliance correlated -.06 with outcome (Marziali, 1984). This may mean that a negative alliance will not have as much of an effect on the resulting treatment outcome, which could be good news for therapists struggling with difficult patients.

Overlap between alliance and outcome measures. It is possible that measures of alliance overlap with measures of outcome. This overlap is considered to be only moderate, however, because outcome measures in studies are usually broad-based composites of patient, therapist, and observer measures (Luborsky, 1996). In addition, many alliance measures are taken early, before the most significant amount of improvement takes place. Yet the ability to agree upon goals of treatment and tasks of sessions with the therapist, as well as the ability to form a bond with the therapist, may be factors that change or improve during treatment and may therefore overlap with outcome.

Overlap between alliance and prior improvement. Since alliance may be judged by patients according to how much improvement they have made or expect to make, the amount of influence this has on alliance ratings should be examined. Gaston, Marmar, Thompson, and Gallagher (1988) investigated this phenomenon and found that alliance accounted for 19% to 57% of the outcome

variance over and beyond the initial severity and improvement of patients. Other research indicates that the relation between session outcome and alliance measured at the same time is weak (Horvath, 1996). It is difficult to say with certainty, however, that the alliance is not affected even at early stages of therapy by improvement or reduction in symptoms.

Facilitation of the alliance by the therapist. It is believed that certain facilitating behaviors on the part of the therapist can help an ailing alliance. Although the relationship between alliance and facilitating behaviors is weak, research has suggested that measures of therapist facilitating behaviors are not significantly correlated with outcomes measures (Luborsky, 1996). Since outcome and alliance have a strong relationship, it is expected that therapist facilitating behaviors would have at least some relationship to outcome. Other research has shown that therapists can change the quality of the alliance by dealing with the patients' defenses, their guilt, their feelings toward the therapist, and their problematic relationships, as opposed to solutions for problematic situations (Foreman & Marmar, 1985). Although little research has been done in this area, the effect of the therapist's behaviors on the alliance should probably not be underestimated.

Facilitation of the alliance by mental health. The capacity to form a good alliance is based partially on qualities the patient brings to the relationship, which is suggested by the fact that the patient's mental health is correlated with his or her ability to form an alliance (Luborsky, 1996). Individuals who have fewer psychological difficulties appear better able to form meaningful, trusting,

and collaborative relationships with their therapists. This finding makes sense because quality of interpersonal relationships has been found to be highly associated with mental health. Interpersonal relationship quality has also been found to be a predictor of both outcome and alliance. (Luborsky, 1996).

Facilitation of the alliance by similarities. Similarities between patients and therapists on basic demographic variables may be helpful in forming an alliance. Of 10 similarity variables (age, marital status, children, religion, religious activity, foreign-born parents, shared institutional affiliation, cognitive style, education, and occupation), age and religious activity have been found to contribute the most to a good alliance rating (Luborsky, 1996). Other research has shown that gender and racial matching between client and therapist is also important (Wintersteen, Mensinger, & Diamond, 2005). In a study of substance abusing adolescents, researchers found gender matching, although not racial matching, produced higher alliance ratings by clients. Racial matching was found to predict greater rates of retention among these adolescents, however.

While many studies like the ones just discussed have been conducted to investigate moderating variables between alliance and outcome, significantly less research has investigated variables that mediate or moderate the alliance in therapy. Some of the most promising potential mediators or moderators of the alliance are comprised of client variables, therapist variables, and interaction variables. Client variables include such things as severity of the client's impairment and the client's attachment style (Horvath & Bedi, 2003). Therapist variables include such factors as interpersonal and communication skills as well

as ability to empathize and experience and training (Horvath & Bedi, 2003). Interaction variables include a good match between therapist and client and ability to collaborate (Horvath & Bedi, 2003). Another possible client variable is age or developmental stage. Since most research on alliance has been conducted with adults, it is reasonable to question how the alliance functions in other populations, such as with adolescents.

Therapeutic Alliance and Adolescents

The construct of the therapeutic alliance was originally conceptualized for use with adults, so its role in adolescent psychotherapy is less clear. Adolescents tend to present with particularly difficult circumstances under which to form a positive therapeutic alliance (Shirk & Karver, 2003). They are often referred or brought to treatment by parents or caregivers and often think that they do not need help for their problems or that they do not have any problems they need therapy for (DiGiuseppe, et al., 1996). How these factors may affect agreement on goals and thus participation in the tasks of therapy is important. Oftentimes, the therapist is faced with an adolescent who externalizes his or her problems, is uncomfortable or sometimes unwilling to consider alternatives, may have misperceptions about the therapist's attitudes and motives, and sees the therapist as an adult who cannot possibly understand the issues confronting him or her (Schrodt & Fitzgerald, 1987). In addition, adolescents' struggle with their increasing needs for independence and autonomy make forming and keeping a strong therapeutic alliance a very difficult task.

Applying a social cognitive model to explain the difficulty adolescents may have in forming a therapeutic alliance can be helpful. Shirk and Saiz (1992) proposed that formation of a positive alliance with adolescents is dependent on the following factors, which are based on Bordin's conceptualization of the alliance.

Forming bonds. The adolescent's schema about and ability to form attachments with others is related to the concept of forming a bond in the therapeutic relationship. Clinical wisdom seems to dictate that therapists should attempt to foster a good therapeutic relationship or bond with their child/adolescent clients above all else. There is no research, however, that has found that a strong therapeutic bond will enhance agreement on the goals and tasks of therapy or will be therapeutic alone (DiGiuseppe, et al., 1996). Since the adult literature has found that agreement on the tasks of therapy is the best predictor of treatment outcome (Horvath & Greenberg, 1989), focusing only on developing a bond with adolescents may be an overemphasis of this specific component of the alliance (DiGiuseppe, et al., 1996).

Agreeing upon goals. The adolescent's ability to evaluate his or her own behaviors and emotions is related to the concept of agreement on the goals of therapy because self-evaluation and admitting that there is a problem is a necessary phase in agreeing on steps to be taken to solve the problem (Shirk & Saiz, 1992). Agreement on the goals of therapy may be a difficult task when the adolescent is referred for treatment by a caregiver. Oftentimes, the caregiver's goals for the adolescent and the adolescent's own goals may be at odds.

Cognitive behavioral therapies suggest that therapeutic goals be discussed openly at the start of treatment. Coming to an agreement on what these goals should be can be achieved through helping the adolescent explore the consequences of his or her behaviors and finding better alternatives (DiGiuseppe, et al., 1996).

Agreeing upon tasks. The adolescent's schema about and ability to make internal attributions for his or her behavior as well as his or her belief about the contingency of problem solutions and belief that effort can result in a positive outcome are related to the concept of participation in the tasks of therapy (Shirk & Saiz, 1992). Adolescents are often not prepared for what to expect in therapy, especially in terms of the activities that will constitute it. They often have no previous experiences to prepare them and may not understand that the activities of the therapy session are aimed at accomplishing treatment goals. Because of this, adolescents are less likely to agree with, engage in, and understand the tasks of therapy (DiGiuseppe, et al., 1996).

Different aspects of the therapeutic alliance (i.e., bonds, tasks, and goals) may also be more salient at different developmental stages (DiGiuseppe, et al., 1996). For example, the alliance between the therapist and a young child may be solely dependent on the bond aspect of the alliance because young children have less knowledge or concern about the social contract involved in the therapeutic relationship. For adolescents, however, agreement on the goals and tasks of therapy may be more salient because independence is a more important developmental issue for them.

In addition to the developmental level of the adolescent, the type of problem they are experiencing can also moderate the impact the alliance has on treatment outcome (DiGiuseppe, et al., 1996). Adolescents with internalizing disorders may more easily form a therapeutic alliance due to the need to reduce their own internal discomfort and having fewer problems with authority figures as a whole (DiGiuseppe, et al., 1996). For adolescents with externalizing disorders, formation of the alliance is likely to be more challenging and possibly more critical to outcome (Shirk & Karver, 2003).

Empirical Evidence for Therapeutic Alliance in Treatment With Adolescents

The literature on therapeutic alliance in adolescent therapy is sparse. In addition, the knowledge that we have can at times be contradictory. Shirk and Karver (2003) conducted a meta-analysis of the alliance–outcome relationship in therapy for children and adolescents. It was found that very few studies of treatment outcome in children and adolescents actually assess alliance, so the focus was broadened to include other process variables, such as motivation to change, participation in sessions, and therapist empathy (Shirk & Karver, 2003). Using these criteria, they found 23 studies (18 published and 5 unpublished) showing a mean effect size of .20, which indicated that approximately 4% of the variance in outcome was accounted for by these process variables (Shirk & Karver, 2003). These results were similar to that seen in the adult literature on alliance. A handful of studies has attempted to better elucidate these findings and will be discussed below.

In order to determine if the therapeutic alliance is similar to that seen in the adult population, researchers have investigated adolescents' ability to discriminate between the three proposed factors of alliance (goals, tasks, and bonds). In a factor analytic study of children and adolescents aged 11 to 18, DiGiuseppe, Linscott, and Jilton (1996) found that a general alliance factor emerged instead of three separate factors for goals, tasks, and bonds, possibly meaning that adolescents have difficulty discriminating between the different aspects of the relationship and that not establishing one aspect of the alliance could result in failure to establish an alliance at all.

It is possible that adolescents view a number of different characteristics of adults as contributing to alliance, thus resulting in a more amalgamated view of the therapy relationship. In an exploratory analysis using focus group methodology with a nonclinical sample of adolescents, researchers found 12 adult qualities that were preferred by adolescents (Martin, Romas, Medford, Leffert, & Hatcher, 2006). The four most often cited by the adolescents in the sample were, in descending order: 1. showing the adolescent respect, 2. enjoying spending time with adolescents, 3. ability to listen non-judgmentally without lecturing, and 4. possessing useful and relevant role characteristics. Similarly, the way in which therapists' behaviors impact alliance has also been investigated. In a study of therapist behaviors with children receiving a manualized treatment for anxiety, researchers found that collaboration between child and therapist was predictive of higher alliance ratings from the child, while

attempting to find common ground with the child and pushing the child to talk were predictive of lower alliance ratings by the child (Creed & Kendall, 2005).

These process variables may contribute to the formation of the therapy relationship, but studies examining the therapeutic alliance as a whole have found mixed results. Noser and Bickman (2000) identified a sample of adolescents receiving outpatient treatment and examined the alliance between the adolescent and the therapist. Using a 5-item scale created to assess the adolescents' perception of the therapist-client relationship, these researchers found significant associations between alliance and therapist and independent evaluator reports of improvements in the adolescents' functioning, as well as significant associations between alliance and parent reports of improvements in the adolescents' symptom severity. Interestingly, there was no significant relationship between alliance and the adolescents' self-report of symptom severity at the end of treatment.

More recently, Hawley and Weisz (2005) examined the relationship between alliance and outcome variables utilizing both parent-therapist and youth-therapist reports of alliance. Using the Therapeutic Alliance Scale for Children (Shirk & Saiz, 1992) with a sample of children and adolescents receiving outpatient treatment, they found a significant relationship between youth–therapist alliance and symptom improvement. There was no significant association between parent-therapist alliance and symptom improvement.

This was not the case in a sample of children receiving outpatient therapy specifically for anxiety or depression. McLeod and Weisz (2005) examined

parent-therapist and youth-therapist alliances, using the Therapy Process Observational Coding System-Alliance Scale, an observational measure developed by the authors to assess the therapeutic relationship. Significant relationships between both youth-therapist and parent-therapist alliance and decreased anxiety were found. However, there was no relationship between youth-therapist alliance and reduction in depression.

Additionally, using the Working Alliance Inventory (WAI; Horvath and Greenberg, 1989) in a study of alliance with adolescents receiving community treatment, Hawley and Garland (2008) found that both youth-therapist and parent-therapist alliance ratings were associated with a number of outcome measures. Youth-therapist alliance ratings were found to be related significantly to decreased total symptoms, decreased externalizing and internalizing symptoms, improved family functioning as reported by the adolescent and the parent, and increased self-reported self-esteem. Parent-therapist alliance ratings were found to be related significantly to decreased total symptoms and decreased externalizing symptoms. The findings to date suggest that parent-therapist and youth-therapist alliance may both be important, but the mixed results suggest that they may be associated with different outcomes.

As can be seen from the available literature, there is no simple answer when examining how the alliance may affect treatment outcome in adolescent therapy. In addition to the scarcity of studies, there have been differing findings that make broad general statements about alliance in adolescent therapy difficult to make. Unlike the consistently positive findings in the adult literature, some

researchers have reported positive associations (Shirk & Saiz, 1992), while others have found no significant relationship (Kendall, 1994). In Kendall's (1994) study, minimal associations between alliance and outcome were found in youth with anxiety disorders, partially because of limited variability in the highly positive alliance scores. Of particular importance for this paper is the question of how the therapeutic alliance may interact with other variables for sexually abused adolescents.

Importance of Therapeutic Alliance in Treatment for Sexually Abused Adolescents

Researching effective treatments for adolescents who have experienced sexual abuse is extremely important, given that most sexual assaults occur in this developmental period. However, effective interventions must be built on a basic tenet of trust within the therapeutic relationship. Clients' willingness and ability to become actively involved in treatment appear to be critical factors in the development of the alliance (Henry & Strupp, 1996). Given that individuals who have been sexually assaulted have had their trust betrayed, the question of the therapeutic relationship becomes an important one. Additionally, the very definition of the alliance as a relationship implies that it is interactive and could be based on the therapist's contributions, as well as the patient's capacities to use the therapist's contributions, to develop a healthy therapeutic alliance (Henry & Strupp, 1996). Since the literature has suggested that survivors of sexual abuse report difficulty in relating to others, difficulties with parents and with parenting, and difficulty trusting others (Browne & Finkelhor, 1986), the

formation of an alliance may prove difficult for a disproportionate number of sexual assault survivors.

While the therapeutic relationship is an often-overlooked part of the treatment process, it is believed that it is at the least a necessary condition of successful outcome (Steering Committee, 2001). Problems with forming a therapeutic relationship can impede the healing process and can be viewed in part as one of the effects of the assault itself. This may be even more pronounced in adolescents who feel betrayed by families that have failed to protect them from sexual abuse, do not believe them about the abuse, or choose the perpetrator over them. Preexisting characteristics such as these are an important base that defines the limits of how well a relationship will evolve (Henry & Strupp, 1996).

Sexual abuse is also often associated with feelings of distrust, disconnection, and isolation (Cole & Putnam, 1992; Browne & Finkelhor, 1986). A positive therapeutic alliance is believed to reverse or repair the kinds of interpersonal difficulties that can undermine the success of therapy (Cloitre et al., 2004). The collaborative relationship of the therapeutic alliance can also provide a safe environment (Horvath & Greenberg, 1996), which can be especially important for survivors of sexual assault. Many clinicians advise that therapists treating individuals who have been sexually traumatized diligently work toward forming a strong alliance with the client before focusing on trauma-specific techniques (Everly & Lating, 2004). It is believed that the ability to trust an empathic and supportive therapist is particularly important for survivors of

sexual assault and can augment the process of disclosing the sexual assault, complying with treatment, and healing (Hembree, Rauch, & Foa, 2003). There is also research to support the hypothesis that individuals who have been sexually assaulted may have more difficulty developing a therapeutic alliance (Cloitre et al., 2004; Henry & Strupp, 1996; Stovall-McClough & Cloitre, 2006). When considering the great number of people who experience sexual assault, it is of paramount importance to examine how therapeutic alliance operates within the context of trauma treatment.

Since willingness and ability to become actively involved in treatment appear to be critical factors in the development of the alliance (Henry & Strupp, 1996), variables that compromise those factors will probably also compromise the development of the alliance. Two studies have shown that individuals who were sexually assaulted as children, as compared to those assaulted in adulthood, are at higher risk for developing a number of negative consequences (Danielson & Holmes, 2004; Kendall-Tackett, Williams, & Finkelhor, 1993). When compared with children who have not been sexually abused, as well, survivors of sexual abuse evidence more immediate and long-term difficulties (Kendall-Tackett, et al., 1993). These consequences can include having more difficulty managing emotions and more problems in interpersonal functioning (Danielson & Holmes, 2004; Kendall-Tackett et al., 1993).

There is only one known study that has investigated the negative consequences associated with child abuse and development of therapeutic alliance. In a study of 38 adolescents in psychiatric hospitals, Eltz, Shirk, and

Sarlin (1995) found that abused adolescents evidenced poorer initial alliances than their nonabused counterparts did, a finding that was significant even after controlling for symptom severity. Eltz et al. (1995) also found that abused adolescents did not appear to differ on measures of change in alliance over the course of treatment. Instead, interpersonal problems and negative interpersonal expectations predicted change in alliance quality over time, with fewer difficulties predicting higher quality alliances. This finding would lead one to assume that there would be no differences in outcome between abused and nonabused adolescents. However, Eltz et al. (1995) report that abused adolescents who did not develop good alliances over time due to interpersonal difficulties had the poorest outcomes. It seems, therefore, that the process of forming a strong alliance is an especially critical task for abused adolescents who develop interpersonal problems, as it may moderate the relationship between the experience of abuse and treatment outcome.

It seems especially important, then, to attend to alliance in working with individuals who have been sexually assaulted and are more likely to experience disruptions in interpersonal functioning, especially when considering the tasks of certain empirically supported treatments for *Posttraumatic Stress Disorder* (PTSD) such as *Prolonged Exposure*, which requires reliving the memory of the trauma, habituation to that memory, and homework completion that involves in vivo and imaginal exposures. Several factors have been posited to enhance the formation of the alliance in clients suffering from PTSD, including praising the client for seeking help, acknowledging the courage it takes to do so, including

client-specific examples when presenting psychoeducation, and taking a nonjudgmental stance, especially when listening to the client's traumatic experience (Hembree, Rauch, & Foa, 2003).

Given the abundant literature on the effectiveness of exposure therapy for PTSD, it is the treatment of choice for adolescent survivors of sexual assault. Although there have been no studies to date examining the alliance when working with adolescent PTSD patients, there have been investigations of alliance in exposure therapy for other anxiety disorders. In a study of client involvement with children receiving a manualized cognitive behavioral treatment for anxiety, Chu and Kendall (2004) found that involvement measured at midtreatment was reliably associated with positive outcome. In light of the timing of the measurement, which was just before exposures were begun, involvement in the therapy process may be critical when initiating in vivo exposures. In addition, given that recent evidence in the adult literature has shown that the strength of the therapeutic alliance in the first phase of therapy, before exposure is begun, is indicative of successful treatment outcome (Cloitre, Koenan, Cohen, & Han, 2002), forming a strong alliance with adolescent clients with PTSD may be imperative.

Cognitive Behavior Therapy and the Therapeutic Alliance

Cognitive behavior therapy (CBT) has traditionally been thought to marginalize the therapeutic relationship (Raue & Goldfried, 1996). Although there is growing recognition of the importance of the relationship, it continues to be viewed by many as secondary to specific techniques. This fact is underscored by the current focus in the field on empirically supported treatments. Additionally, many of the treatments that are considered empirically supported treatments (ESTs) are cognitive behavioral therapies and are manualized treatments with fixed numbers of sessions. Critics of the promulgation of ESTs point to lack of focus on the therapist as a person, the therapy relationship, and the patient's characteristics as weaknesses of ESTs and, by extension, cognitive behavioral therapies. A common criticism of manualized treatment is that it may possibly undermine the therapeutic relationship (Addis & Krasnow, 2000; Addis, Wade, & Hatgis, 1999). While manualized cognitive behavioral therapies appear to focus on the goals and tasks of therapy, critics assert that they do not specify when the therapist needs to allocate time for alliance building, how to monitor the alliance, or what to do when agreement on tasks and goals has not been reached (DiGiuseppe, et al., 1996). It is believed by a number of practitioners that manualized treatment may require abandonment of rapport building skills (Addis et al., 1999).

However, the available evidence is contradictory to these criticisms of manualized treatments. The current research has shown that manualized CBT is associated with high alliance ratings in efficacy as well as effectiveness studies (Loeb, Wilson, Labouvie, Pratt, Hayaki, et al., 2005; Addis et al., 1999; Carroll et

al., 1997). In addition, in a study of community mental health centers, therapeutic alliance ratings have been found to be superior for programs utilizing manualized treatments when compared to treatment as usual (Addis et al., 1999).

To elucidate the general consensus on manualized treatment in the field, Addis and Krasnow (2000) conducted a survey of 891 practicing doctoral level psychologists. They found that 45% of practitioners agreed with the statement, "Treatment manuals overemphasize therapeutic techniques," 47% agreed with the statement, "Treatment manuals ignore the unique contributions of individual therapists," and 33% agreed with the statement, "Using treatment manuals detracts from the authenticity of the therapeutic interaction." They also found that practitioners had neutral attitudes towards manualized treatments in terms of their effects on the outcome of treatment. It is interesting to note that attitudes toward manualized treatments were related to what practitioners believed manuals were. Respondents who believed manuals were technique-focused or less likely to emphasize the therapeutic relationship responded with more negative attitudes.

Manualized cognitive behavioral treatments have also been criticized for not meeting clients' needs by ignoring individual client differences, being unable to address multiple problems within a single client, ignoring client's emotions (Addis et al., 1999), and potentially limiting client involvement by prescribing topics and therapeutic activities (Eifert, Evans, & McKendrick, 1990). However, these criticisms may be unfounded, as many manualized treatments call for

tailoring the treatment to the individual client's needs. Manualized treatments can also produce positive effects that generalize to other problem areas. They also often require active client involvement and rely heavily on the awareness of feelings, especially in relation to cognitions and behaviors (Addis et al., 1999).

Since CBT has long been criticized for ignoring the humanistic or interpersonal factors of therapy and overlooking the therapeutic relationship, and since therapeutic alliance is thought to be critically important to outcome, investigating the therapeutic relationship in a sample of sexually abused adolescents with PTSD who were treated with *Prolonged Exposure* (PE) is essential. As adolescents are seen as a more vulnerable population than the adults who have traditionally been treated with PE, investigating how the therapeutic relationship affects treatment in this population is of paramount importance.

In contrast to the criticisms of CBT, it has been argued that the therapeutic alliance is viewed by CBT therapists as a prerequisite for the application of specific techniques to be successful (Raue & Goldfried, 1996). The alliance is used in CBT to encourage and support cognitive and behavioral change. The therapist and client are working together as a team, with the client exploring his or her own thoughts, feelings, and behaviors, and the therapist guiding this process. Generally, the therapist is more active in the beginning stages of therapy, providing session structure, discussing rationales for treatment, and designing homework assignments. As therapy progresses, however, therapists will likely encourage clients to be more active in the process.

While some theoretical orientations view the alliance as the crucial element that promotes client change, CBT typically views the alliance as a way to promote the process of change (Raue & Goldfried, 1996). Based on social learning theory, there are a number of ways the alliance can act in this capacity. The alliance can serve to make the reinforcement value of the therapist increase. In this way, clients may actively seek to please the therapist by changing their thoughts or behaviors, resulting in the ability of the therapist to influence the client's behaviors. This may also lead to greater influence when the therapist models appropriate behaviors. The alliance may also promote positive expectancies from the client and prepare them for change. Inviting clients to collaborate on agenda setting, homework, and other tasks of therapy is thought to increase their compliance with these tasks. Discussing rationales for treatment and specifying how treatment will progress is believed to facilitate agreement on goals and further promote compliance with the tasks of therapy.

The alliance may also be helpful in dealing with client resistance. In this way, alliance can be thought of as anesthesia (Raue & Goldfried, 1996). During a surgical procedure, anesthesia allows the patient to tolerate the pain of the procedure in order to complete it. In the same way, the alliance allows the clients to tolerate the discomfort of treatment in order to achieve therapeutic gain. This can also be viewed in light of the process of treatment over time. During a surgical procedure, anesthesia is administered first and is the primary concern, much like building the alliance may be the primary concern at the beginning of therapy. As the surgery progresses, there is more focus on the

implementation of the particular steps of the procedure, just as therapy begins to focus more on the implementation of techniques. During surgery, if problems with the anesthesia occur, the focus again reverts to it. In the same way in therapy, if problems with the alliance occur, the focus may then turn back to that aspect. The goal is still the same in both cases, however: positive outcome. Just as anesthesia needs to be monitored during surgery, the alliance may also need tending and focus. A number of different factors may influence an individual's reaction to anesthesia, just as a number of different mediating variables may interact with the alliance in therapy.

Mediating Variables Between Therapeutic Alliance and Outcome

Three possible mediating variables may affect the relationship between alliance and outcome and are of particular relevance to the present study. They are: 1. number of sessions attended, which is related to treatment completion and dropout, 2. completion of homework assignments, and 3. habituation to exposure exercises. These variables are especially important because they are each thought to play a significant role in *Prolonged Exposure* therapy for adolescents. Each will be discussed in detail in the following sections.

The role of therapeutic alliance in attending sessions, treatment completion, and dropout. One study has been conducted to date that examines the therapeutic alliance in relation to dropout in adolescent therapy. In a study using multidimensional family therapy for adolescents with drug abuse issues, researchers rated session videotapes using the Vanderbilt Therapeutic Alliance

Scale—Revised (VTAS—R) and found that a decline in alliance between the adolescent and the therapist predicted treatment dropout (Robbins, Liddle, Turner, Dakof, Alexander, et al., 2006). It should be noted that this study found this effect only when the alliance decreased at some point, meaning that even poor alliances were not as predictive of dropout as a decline in alliance. This finding suggests that there are indicators that can be observed by others that denote breakdowns in the therapeutic alliance and that if these problems are not addressed in session, adolescents are more likely to drop out of treatment.

Because of the paucity of literature on therapeutic alliance and attending sessions or completing treatment with adolescents, hypotheses about this process of therapy with this population must be drawn from the adult literature. There seems to be equivocal evidence in the adult psychotherapy outcome literature in this regard. While some studies find that amount of treatment is positively associated with amount of therapeutic benefit for the client, others have not been able to find such a link.

A number of early meta-analyses found only weak (Smith, Glass, & Miller, 1980) or non-significant relationships (Shapiro & Shapiro, 1982; Miller & Berman, 1983; and Robinson, Berman, & Neimeyer, 1990) between length of treatment and treatment outcome. These results are in opposition to other findings. Howard, Kopta, Krause, and Orlinsky (1986) found that of 114 studies on the relationship between amount of treatment and outcome, 110 concluded that there is a positive relationship. In addition, these researchers found that the proportion of clients who displayed measurable improvement increased from

approximately 15% to 50% between sessions one and eight. This percentage increased to 63% by the 13th session, 75% by the 26th session, and 85% by the end of 1 year. Given these rates, the authors concluded that most gains occur early in therapy, and there are diminishing returns over time. Critics of Howard et al.'s (1986) study have cited the use of primarily psychodynamic treatment approaches that emphasize long-term treatment and the use of ambiguous and assorted measures of outcome as possible confounds in this research, however (Kadera, Lambert, & Andrews, 1996).

Despite these critiques, this phenomenon has come to be known as the dose-effect relationship, and many factors have been hypothesized to mediate it. Client factors (such as level of interpersonal functioning, involvement in therapy, and expectations about therapy), therapist factors (such as attractiveness, trustworthiness, and expertness), relationship factors (such as the therapeutic alliance), and contextual factors (such as matching therapist and client age, gender, and ethnicity) have all been implicated in mediating the dose-effect relationship (Steenbarger, 1994). Given all of these variables, the research suggests that clients with specific problems who are capable of forming a good alliance with the therapist can achieve good and enduring outcomes in a short period of time (8 to 10 sessions) (Steenbarger, 1994). However, clients with less specific problems who have difficulty forming an alliance may require more time and sessions.

One study investigated three mediating factors of the dose-effect relationship: 1. social influence factors (i.e., the client perceiving the therapist as

attractive, trustworthy, and expert), 2. client perception factors (i.e., satisfaction with services received), and 3. alliance factors (i.e., client and therapist agreeing on the presenting problem) (Kokotovic & Tracey, 1987). Results showed significant differences on three variables (satisfaction, trustworthiness, and expertness) between clients who dropped out of treatment after the initial intake and those who continued. In addition, a post hoc discriminant analysis revealed that the most important variable was satisfaction. These results may be misleading in that satisfaction was loosely defined and measured only as overall satisfaction with services received, based on a self-report questionnaire. Because of this, the satisfaction variable may have encompassed some of the other variables investigated.

While there is support for a dose-effect relationship in adult psychotherapy, no such support exists in the child and adolescent literature. In a study of 5- to 17-year-old children who were seen on an outpatient basis in three traditional mental health care clinics for multiple mental health issues, Salzer, Bickman, and Lambert (1999) found no evidence of a dose-effect relationship. These results could have been due to the heterogeneity of the sample and the lack of detailed information on treatments utilized. In addition, participants were not randomly assigned to doses of treatment, meaning that the amount of treatment received could have been based on any number of factors, including feeling they had benefited from treatment. It is also possible that no dose-effect relationship was evidenced because some of the treatments utilized were ineffective. It is important to investigate these questions, especially in

terms of how the dose-effect relationship may be affected by therapeutic alliance.

The role of homework in psychotherapy. A major component of cognitive behavioral therapy in general and exposure therapy in particular is the assignment of homework. Although learning and skill-building can occur within sessions, most of the real life practice occurs with homework assignments in order to promote generalization. In CBT, homework is conceptualized as an experiment to help the client discover something about their thoughts, behaviors, or feelings. The rationale for homework is that cognitive and behavioral changes must be made in the client's everyday life before changes in underlying belief structures can be made (Persons, 1989). Homework is viewed as a collaborative effort in which the therapist works with the client to develop the necessary skills to carry out the assignments on their own (Detweiler & Whisman, 1999).

While the literature on the relationship between homework and treatment outcome consistently demonstrates that homework compliance is a good predictor of outcome in treatment (see meta-analysis by Kazantzis, Deane, & Ronan, 2000), this relationship has not been clearly demonstrated with PTSD, although experts believe that homework is an important part of treatment for this disorder (Foa & Rothbaum, 1998). Vaughan and Tarrier (1992) found that completion of imaginal exposure homework was related to improvement on a variety of outcome measures, suggesting that homework may play an important role in outcome for PTSD treatment. Additionally, in a study of *Prolonged*

Exposure with 37 men and women with PTSD, participants were categorized into compliers and noncompliers, according to whether or not they listened to the tape of their imaginal exposure three or more times per week over a 3-week period (Scott & Stradling, 1997). Of the 15 compliers, 13 had reduced their symptom severity scores by more than 1 standard deviation. Of the eight noncompliers, only one had reduced his or her symptom severity score by more than 1 standard deviation. Since these are the only two known studies that have investigated this question, however, firm conclusions about the relationship between homework completion and outcome in *Prolonged Exposure* therapy cannot be made.

Homework is only effective if it is completed, however. A major question in this area, then, is whether individual differences or therapy variables affect homework compliance. Worthington (1986) investigated this question to see if therapist variables (overall ability, specific skill, and verification of homework completion), client variables (problem severity, early termination, and presenting problem), and therapy variables (phase of therapy and type of assignment) were related to homework compliance in a sample of adult outpatient clients who presented to a counseling center for career, emotional, or family problems. The results of this study suggest that neither therapist overall ability nor specific skill was related to homework compliance. In addition, type and severity of problem as well as type of homework assignment were also unrelated to compliance. Variables found to be related to homework compliance included completing

therapy, assigning homework early in therapy, and checking homework the following week.

In another study of clients who had agoraphobia and were receiving exposure-based treatment, variables such as treatment expectancy, symptom severity, and therapist characteristics were investigated in relation to homework compliance (Edelman & Chambless, 1993). These researchers found that treatment expectancy was not related to compliance, while symptom severity (more anxiety, avoidance, or depression) was related. This means that higher-functioning clients were more likely to comply with homework assignments. In addition, these researchers found that less compliant clients tended to rate their therapists as less caring and less self-confident.

Underlying the notion of homework as an integral component of CBT is the assumption that it leads to better outcome. The literature has produced inconsistent results in this area (Kazantzis, 2000). Although studies of homework compliance have reported that it can predict outcome, results of studies comparing homework versus no homework have been equivocal. One possible reason for this is the insufficient statistical power found in many of these studies (Kazantzis, 2000). It is also possible that an important factor, namely the therapeutic alliance, has been largely left out of the equation. It seems reasonable that homework compliance may be an indicator of the client's commitment to and involvement with the therapeutic process (Scheel, Hanson, & Razzhavaikina, 2004), but the effect of homework compliance on treatment outcome has only been examined in a small number of studies.

Positive associations between homework compliance and outcome with adult outpatients treated with CBT for affective disorders (Burns & Nolen-Hoeksema, 1991; Burns & Spangler, 2000), cocaine dependence (Carroll, Nich, & Ball, 2005), and agoraphobia (Edelman & Chambless, 1993), as well as CBT with older adult outpatients with mild to moderate depression (Coon & Thompson, 2003), have been noted in the recent literature. In a review of a number of earlier studies on homework and outcome, Detweiler and Whisman (1999) reported that compliance with homework assignments was at least moderately associated with outcome and that the level of client compliance was highly variable. In a meta-analysis of 27 studies that focused on homework assignments, only 16 examined the relationship between homework compliance and outcome (Kazantzis, Deane, & Ronan, 2000). Results indicated that groups that received homework assignments benefited from them and that participants who complied with homework assignments showed greater increases in therapeutic gains. The mean effect size for the relationship between homework compliance and outcome was .22.

The proposed reasons for noncompliance with homework have been many. Unrealistic goal setting by the therapist, lack of commitment from the client, and client expectations of therapy are some of the difficulties believed to account for noncompliance (Detweiler & Whisman, 1999). Tendency toward perfectionism and fear of failure are other proposed factors (Persons, 1989). Conversely, higher levels of compliance have been hypothesized to stem from

the quality of the relationship between therapist and client and from good client problem-solving skills (Detweiler & Whisman, 1999).

Is homework compliance causing better outcomes or are better outcomes causing more homework compliance? Burns and Spangler (2000) believe that homework is causally related to outcome. They found that while patients who did more homework improved substantially more than patients who did few or no homework assignments, patients who were severely depressed did on average the same amount of homework as their less severely depressed peers. Since individuals with severe depression were just as able to complete homework assignments, severity of symptoms did not appear to affect ability or motivation to complete homework.

While some research has been conducted on the role of homework in therapy, there are no reports that relate homework compliance to therapeutic alliance. It seems reasonable, however, that positive therapeutic alliance may play a role in compliance with homework assignments. If clients are engaged in therapy, have a bond with the therapist, and agree upon the goals of therapy, they seem much more likely to participate in the tasks of therapy. For Prolonged Exposure therapy with sexually abused adolescents, homework is one of the important tasks of treatment, as is habituation to the trauma memory.

The role of habituation in exposure therapy for PTSD. For some time now, research has suggested that clients will habituate to the trauma memory during imaginal exposure both within and across sessions (Foa & Chambless, 1978). Emotional engagement during imaginal exposure and habituation both within

and between sessions has been posited to be a necessary condition for effectiveness of the therapy (Foa & Kozak, 1986). In a study of *Prolonged Exposure* with men and women with varied trauma histories, van Minnen and Hagenaars (2002) found that individuals who showed treatment gains showed significantly more habituation between exposures than did non-responders. Additionally, in a study of 92 men and women treated with prolonged exposure in the Netherlands, van Minnen and Foa (2006) found that participants who received shorter imaginal exposures (30 minutes) did not show as much within-session habituation as those who received longer imaginal exposures (60 minutes). No differences were found between the two groups on improvement in PTSD symptoms, state anxiety, depression, and end-state functioning, however, both at posttreatment and at 1-month follow-up. This may be explained by the finding that within-session habituation was not related to successful outcome (van Minnen & Hagenaars, 2002). Taken together, these results suggest that within-session habituation may not be necessary for successful treatment outcome, while between-session habituation appears to be important for good outcome.

It is possible that important differences separate those who habituate between sessions and thus show treatment gains and those who do not habituate between sessions. It seems reasonable that if clients are committed to the therapy, have a good therapeutic alliance, and engage with the trauma memory, they will likely habituate. Lack of habituation may result from the absence of any one of these variables. The presence of a poor alliance may affect

the other variables, such that the client may not be as committed to therapy and may not trust the therapist enough to engage with the memory.

Summary

Therapeutic alliance has been shown to be a very important and potent variable in relation to successful outcome in the adult literature, while mixed results plague the child and adolescent literature. Because many researchers are focusing on manualized and empirically supported treatments, there is concern that too much emphasis has been placed on therapeutic technique and that the role of the alliance or the importance of alliance-building may be neglected. It is believed that the therapeutic alliance is even more important for survivors of sexual assault, as greater effect sizes between alliance and outcome have been found in this population when compared to others (Cloitre et al., 2004).

Additionally, because sexual assault is an all too common experience in the United States, a large number of people need treatment for sexual-assault-related difficulties, particularly PTSD. The majority of sexual assaults (62%) occur in childhood and adolescence, and so focusing on this population will make the greatest impact where it is needed most. While clinical wisdom suggests that forming an alliance with adolescent clients (especially those who have been traumatized and will be asked to relive the traumatic memory) is of paramount importance, the research supporting this idea is scarce.

Investigating the role of the alliance for adolescents who have been sexually abused is particularly important because a number of important factors

may influence the development of the alliance in this population. First is the difficulty in forming an alliance due to the many difficulties and interpersonal symptoms associated with sexual assault. The second factor is the possible difficulty in forming an alliance as a result of the developmental stage of adolescence, with all of the physical, emotional, and cognitive changes it entails. In addition, adolescents are often brought to treatment by caregivers, at times making them unwilling participants in the therapeutic process. The ability of an adolescent with PTSD as a result of sexual abuse to agree on goals, participate in the tasks of therapy, and form a bond with the therapist is a central question of this investigation. If the adolescent is unable to form an alliance with the therapist, variables such as number of sessions completed, homework completion, and habituation to the trauma memory may be affected.

Hypotheses

This study was an archival data analysis of the function of therapeutic alliance in relation to homework compliance, habituation to the trauma memory, number of sessions, and outcome from prolonged exposure treatment with adolescent girls diagnosed with chronic PTSD as a result of sexual assault. We therefore proposed the following hypotheses:

1. The therapeutic alliance would be a moderator between treatment outcome and homework compliance. In other words, level of therapeutic alliance would affect the strength of the relationship

between homework compliance and treatment outcome. It was hypothesized that a higher alliance would weaken the effect of homework compliance on treatment outcome and that a lower alliance would strengthen the effect of homework compliance on treatment outcome.

2. The therapeutic alliance would be a moderator between treatment outcome and habituation to the trauma memory. In other words, level of therapeutic alliance would affect the strength of the relationship between habituation to the trauma memory and treatment outcome. It was hypothesized that a higher alliance would weaken the effect of habituation to the trauma memory on treatment outcome, and that a lower alliance would strengthen the effect of habituation to the trauma memory on treatment outcome.
3. The therapeutic alliance would be a moderator between treatment outcome and number of session attended. In other words, level of therapeutic alliance would affect the strength of the relationship between number of sessions and treatment outcome. It was hypothesized that a higher alliance would weaken the effect of number of sessions on treatment outcome, and that a lower alliance would strengthen the effect of number of sessions on treatment outcome.
4. The effects of alliance on treatment outcome would be mediated by homework compliance. It was hypothesized that level of therapeutic

alliance would be related to homework compliance, which would in turn be related to treatment outcome.

5. The effects of alliance on treatment outcome would be mediated by habituation to the trauma memory. It was hypothesized that level of therapeutic alliance would be related to habituation to the trauma memory, which would in turn be related to treatment outcome.
6. The effects of alliance on treatment outcome would be mediated by number of sessions. It was hypothesized that level of therapeutic alliance would be related to number of sessions, which would in turn be related to treatment outcome.

Chapter 2

Methods

Participants

The data used in the present study were obtained from an existing database of information on adolescent girls who were referred to a rape crisis center in Philadelphia through direct referrals from other service providers and self-referrals through the agency's 24-hour hotline. The adolescent girls in the data set were between the ages of 13 and 17, had experienced some type of sexual assault, and PTSD was diagnosed by a rape crisis counselor. For the purposes of the present study, sexual assault was defined as meeting the *DSM-IV-TR* specifications for a Criterion A trauma and included rape and child sexual abuse. Rape was defined as any unwanted, forced, or coerced anal, oral, or vaginal penetration with any object. Child sexual abuse was defined as a variety of sexual activities including intercourse, fondling, exposure to adult sexual activity or pornography, or any developmentally inappropriate sexual experience that may or may not include threatened or actual violence or injury.

Inclusion/Exclusion criteria. Participants were included in the analysis if they received at least six sessions of treatment. This criterion was based on two factors. First, all participants had received at least one session of in vivo and imaginal exposure by the sixth session. As in vivo and imaginal exposures are thought to be the effective elements of the treatment, the six-session criterion would ensure that all participants received these elements. Second, indications from pharmacological treatment studies were taken into account. In

pharmacologic treatment studies, the criterion for inclusion is the dosage at which 50% of patients show some response to the medication. In the psychological literature, research has shown that the dosage for establishing a criterion would generally be six to eight sessions (Howard et al., 1986).

For the present study, the reduction of 1 standard deviation was set as the point at which clients were considered to show some response to the treatment. In a validation study of the primary outcome measure of PTSD symptoms, the Child Posttraumatic Stress Scale, researchers characterized participants as either high PTSD (moderate to severe PTSD symptoms) or low PTSD (doubtful to mild PTSD symptoms) (Foa, Johnson, Feeny, & Treadwell, 2001). The mean score for the high PTSD group was 19.1, while the mean score for the low PTSD group was 5.8. Since the sample used in the present study was more similar to the high PTSD group, the standard deviation from that group (*SD* = 7.1) was used to measure response to treatment. Inspection of the data set showed that 20 of the 40 clients in this sample had improved by at least 7 points by the sixth session. Thus, participants who completed fewer than six sessions of treatment were not considered to have effectively been exposed to treatment.

Participant characteristics. There were a total of 40 records reviewed and included in this study. All participants were females. The mean age of participants was 14.6 (range = 13 to 17; SD = 1.44). Of the sample, 25 individuals were African American (62.5%), 8 were Caucasian (20%), 5 were Hispanic (12.5%), and 2 were biracial (5.0%). Twenty-four individuals (60%)

were survivors of child sexual abuse, and 16 individuals (40%) were survivors of rape. Twenty participants (50%) had been assaulted by a family member (parent, stepparent, caregiver, other blood relative), 15 (37.5%) were assaulted by someone they knew (friend, acquaintance, nonfamily member), and 5 (12.5%) were assaulted by a stranger. The average length of time since the trauma was 28.73 months (range = 3 to 108 months; *SD* = 27.56). Participants attended an average of 12 sessions (range = 6 to 18; SD = 3.62).

Measures

Child Posttraumatic Stress Scale (CPSS; Foa et al., 2001). The CPSS is a 24-item self-report scale that corresponds with *DSM-IV-TR* criteria and yields a total PTSD score, as well as scores for reexperiencing, avoidance, and hyperarousal. The total score of this self-report scale was used as the primary outcome measure for the present study. Seventeen of the items on the CPSS correspond to the *DSM-IV-TR* symptoms of PTSD and are rated on a scale from 0 to 3 in terms of how often the symptoms have occurred in the past 2 weeks (0 = not at all, 1 = once a week or less/once in a while, 2 = 2 to 4 times a week/half the time, and 3 = 5 or more times a week/almost always). The last 7 items on the scale ask whether or not the symptoms endorsed in the first section have affected important areas of functioning in the past two weeks and are answered by checking either yes or no. The total score for the CPSS ranges from 0 to 51 and is derived by summing the ratings from the first 17 items. The measure is appropriate for children aged 8 to 18 years.

Internal consistency for the CPSS ranged from .70 to .89 for the total score and subscale symptoms scores (Foa et al., 2001). Test-retest reliability was good to excellent (.84 for the total score, .85 for reexperiencing, .63 for avoidance, and .76 for hyperarousal) (Foa et al., 2001). Convergent validity was high, as the CPSS correlated .80 with the Child Posttraumatic Stress Reaction Index, a measure developed by Pynoos, Frederick, Nader, Arroyo, Steinberger, and Eth in 1987 (Foa et al., 2001). Discriminant functional analysis indicated that a linear combination of the three subscales significantly discriminated between diagnostic groups (Wilkes lambda = .33, chi^2 (3) = 79.1, $p < .001$) (Foa et al., 2001). In this analysis, the CPSS subscales correctly classified 94.7% of the cases. A score equal to or greater than 11 yielded 95% sensitivity and 96% specificity.

Working Alliance Inventory—Observer version (WAI—O; Darchuk, Wang, Weibel, Fende, Anderson, & Horvath, 2000) The WAI-O is the observer version of the original Working Alliance Inventory (WAI) developed by Adam Horvath in 1982. The WAI scales were designed to assess Bordin's conceptualization of the alliance as comprising the tasks, bonds, and goals of therapy. The scales consist of 36 items divided into three subscales of task, bond, and goal, with 12 items on each of the subscales. While the therapist and client versions of the WAI use frequency ratings on a 7-point Likert scale (1 = never, 2 = rarely, 3 = occasionally, 4 = sometimes, 5 = often, 6 = very often, and 7 = always), the observer version (WAI—O) assesses the amount of evidence present in the session observed. For the WAI—O, a 7-point Likert scale is used, and the rater is

asked to assume an average alliance between the patient and therapist and to increase or decrease their rating based on the evidence observed in the session. For this reason, the WAI-O has a starting point of 4 (no evidence/equal evidence), and indicates a less positive alliance with ratings of 1 (very strong evidence against), 2 (considerable evidence against), and 3 (some evidence against). A more positive alliance is indicated by ratings of 5 (some evidence for), 6 (considerable evidence for), and 7 (very strong evidence for). The WAI—O also contains descriptions for each point on the scale for every item, which include behavioral indicators at each level. Additionally, in order to provide balance between positive and negative statements, 14 items on the WAI—O are reverse-coded. The appendix includes sample items and rating descriptions for the WAI—O. The psychometric properties of the WAI are discussed below.

Safran and Wallner (1991) reported that the WAI subscales of goal, task, and bond have correlations of .84, .79, and .72, respectively, with the global CALPAS scores. The correlation between the WAI and the Helping Alliance and Vanderbilt Scales have also been shown to be significant, although slightly lower (Tichenor & Hill, 1989). The WAI's relation to an instrument that assesses relationship dimensions of expertness, attractiveness, and trustworthiness, the Counselor Rating Form (CRF) was also lower, providing evidence for its discriminant validity. In addition, it was found that the WAI and CRF predicted different measures of outcome (Safran & Wallner, 1991).

Estimates of reliability for the entire measure range from .84 to .93 (Horvath, 1996). For the subscales, reliability estimates range from .68 to .92.

Test-retest reliability over a 3-week period is .80 for the entire measure and between .66 and .74 for the subscales (Horvath, 1996).

Measure of homework compliance. Homework compliance data was rated by reviewing case notes about homework completion. Since assigned homework involved multiple tasks, a homework compliance scale was used in the database where 0 = no homework completed, 1 = a portion of homework completed, and 2 = all homework completed.

Measure of habituation across sessions. Peak subjective units of distress (SUDs) ratings, used to measure degree of habituation to the trauma memory across sessions, were reviewed through case notes from individual sessions. In each session that imaginal exposure was conducted, the therapist had recorded SUDs ratings every 5 minutes during the exposure. SUDs ratings ranged from 0 (no distress or anxiety at all) to 10 (most distressed or anxious I have ever been). The peak SUDs rating from each imaginal exposure session was collected from the database and used for this analysis.

Procedures

Treatment process. Individuals in this data set had been treated with PE—A, a flexible cognitive behavioral treatment approach used to treat PTSD and collateral emotional symptoms. PE—A is based on the Prolonged Exposure manual for adults and involves three phases: 1. psychoeducation and treatment planning, 2. exposure, and 3. generalization training and relapse prevention. While PE—A adopts a flexible approach, therapists are urged to follow a session-

based agenda. Each phase of the treatment is comprised of several modules that are structured to present a particular concept to the adolescent and to provide an in-session exercise to demonstrate or use the concept. The treatment protocol is designed to include 8 to 15 sessions. Homework exercises are utilized to emphasize the material presented in the module and provide the opportunity for repetition of the material outside of session. The modular format allows flexibility in that the therapist may present one or more modules in each session, depending on the adolescent's developmental level, attention span, and specific needs.

Phase 1, psychoeducation and treatment planning, consists of one to three sessions and focuses on building rapport, discussing the rationale for the treatment and how it will help to reduce PTSD symptoms and related difficulties, and discussing the trauma. This phase also involves breathing retraining, identifying strengths, and discussing and normalizing common reactions to sexual assault.

Phase 2, exposure, consists of five to eight sessions and focuses on in vivo and imaginal exposures. In vivo exposure is introduced first and includes homework that requires the adolescent to confront a variety of readily available experiences that are objectively safe, but are avoided either because they are reminders of the traumatic event or they trigger anxiety because the adolescent perceives them to be more dangerous than they are in reality. Common exposures include listening to music that was being played during the assault, talking to boys in safe settings, and riding public transportation. These in vivo

exercises are derived from discussions between the client and the therapist in which the objective safety and relevance to daily functioning are ascertained. Imaginal exposure is introduced after the adolescent has had some success with in vivo exposure. Imaginal exposure involves confronting the trauma memory in imagination, with enough repetition for the client to thoroughly process the memory and reduce the fear and anxiety associated with it. In these sessions, the therapist monitors the client's distress, provides support or encouragement when needed, and repeats the module until the distress is significantly reduced. Following each imaginal exposure, the therapist and client process the exposure, noting the presence of unhelpful, trauma-related thoughts or beliefs, examining these beliefs, increasing awareness of their impact on the maintenance of PTSD symptoms, and modifying them when appropriate.

Phase 3, generalization training and relapse prevention, consists of two to four sessions and focuses on helping the client review progress and what has been learned. The usefulness of various skills acquired in therapy is discussed and accomplishments are celebrated. Strategies for relapse prevention are also discussed and written down in a final project for the adolescent.

Data collection. Three master's level clinicians with degrees in psychology or counseling who were part of the rape crisis center staff reviewed videotapes and rated them using the WAI—O, as part of a self-study conducted by the rape crisis center. The raters had been trained using the Manual for the Working Alliance Inventory—Observer Form (WAI—O), University of Pennsylvania Version 1.1 (2005). Raters participated in three 1-hour sessions for this training, utilizing

didactic training as well as case examples in order to achieve 90% to 95% agreement between raters.

One session videotape (session five) had been viewed for each participant, with a 20% overlap between raters in order to establish reliability. After viewing the entire videotape, raters had been asked to immediately complete the WAI—O. This information was then entered into the rape crisis center's database. High interrater reliability had been demonstrated through the use of an intraclass correlation coefficient, which measures the proportion of variance of an observation due to between-subject variability in the true scores. The intraclass correlation coefficient for these raters was .91.

The database was reviewed for this analysis for CPSS self-report score, homework compliance, peak SUDs ratings, number of sessions completed, and WAI—O information. The database was stored on a password-protected computer in a locked office at the rape crisis center. Other data collected from this database included: age, race, type of sexual assault (child sexual abuse or rape), relationship to perpetrator (family member, acquaintance, or stranger), and length of time since trauma. Data was provided to the researchers with all personally identifiable information removed.

Chapter 3

Results

Descriptive statistics were calculated on the variables used in the analyses prior to testing the hypotheses and are summarized in Table 1. The mean CPSS score was 27.3 (range = 16 to 45; *SD* = 10.16) at pretreatment and 11.27 (range = 0 to 31; *SD* = 10.24) at post-treatment. CPSS scores decreased by 58.72% from pretreatment to posttreatment. All but three patients evidenced decreases in CPSS score at posttreatment. A large effect size for reduction in CPSS scores was noted (d = 1.57). The mean WAI—O total score was 173.14 (range = 118 to 221; *SD* = 29.52). The average individual item score for all WAI—O items was 4.75 (range = 3 to 7; *SD* 1.13). For the bonds subscale, the average individual item score was 4.77 (range = 4 to 7; *SD* = 1.11). For the tasks subscale, the average individual item score was 4.69 (range = 3 to 7; *SD* = 1.92). For the goals subscale, the average individual item score was 4.79 (range = 3 to 7; *SD* = 1.09). For homework compliance ratings, the mean was 1.46 (range = 0 to 2; *SD* = .73). Patients demonstrated a 63.71% mean reduction in peak SUDs from the first imaginal exposure to the last (range = 0 to 100; *SD* = 28.72) and attended an average of 12 sessions (range = 6 to 18; *SD* = 3.62).

Table 1

Descriptive Statistics

Variable	M	SD	Range
Pretreatment CPSS score	27.3	10.16	16 to 45
Posttreatment CPSS score	11.27	10.24	0 to 31
WAI—O - total	173.14	29.52	118 to 221
WAI-O total individual items	4.75	1.13	3 to 7
Bonds subscale individual items	4.77	1.11	4 to 7
Tasks subscale individual items	4.69	1.92	3 to 7
Goals subscale individual items	4.79	1.09	3 to 7
Homework compliance ratings	1.46	0.73	0 to 2
Number of sessions	12	3.62	6 to 18

For hypotheses 1, 2, and 3, how level of therapeutic alliance affects the strength of the relationship between the predictor variables (homework compliance, habituation to the trauma memory, and number of sessions) and treatment outcome was tested. In testing the moderator qualities of the alliance, the recommendations of Baron and Kenny (1986) were followed through the use of a regression equation with the addition of adding the product of the moderator (alliance) and the predictor variable. In this way, treatment outcome was regressed on the predictor variable, on alliance, and on the predictor variable by

alliance. Moderator effects would be indicated by a significant effect of the predictor variable by alliance.

For hypotheses 4, 5, and 6, the effects of the mediator variables (homework compliance, habituation to the trauma memory, and number of sessions) on the relationship between alliance and treatment outcome were tested. To do this, mediation analyses were conducted according to Baron and Kenney's (1986) recommendations, which involved a series of three regression models for each hypothesis. First, the mediator variable was regressed on alliance. Second, treatment outcome was regressed on alliance. Third, treatment outcome was regressed on both alliance and the mediator variable. Mediator effects would be indicated by satisfying four requirements: 1. a significant effect of alliance on the mediator variable, 2. a significant effect of alliance on treatment outcome, 3. a significant effect of the mediator variable on treatment outcome, and 4. the effect of alliance on treatment outcome would be stronger when regressed alone than when regressed with the mediator variable.

Therapeutic Alliance as Moderator Between Treatment Outcome and Homework Compliance (Hypothesis 1)

It was hypothesized that higher therapeutic alliance (as measured by the WAI—O) would result in a weaker relationship between treatment outcome (as measured by reduction in CPSS scores) and homework compliance ratings. These results are summarized in Table 2. Although a trend was noted, WAI—O scores were not found to be significantly correlated with reduction in CPSS

scores (β = .50, $t(39) = 1.90$, $p = .07$). WAI—O scores were also not found to be significantly correlated with homework compliance ratings (β = .08, $t(39) = -.26$, $p = .80$). As a result, no significant effect of therapeutic alliance by homework compliance on treatment outcome (β = -.76, $t(39) = -1.80$, $p = .08$) was found; therefore, therapeutic alliance was not a moderator between treatment outcome and homework compliance.

Table 2

Alliance as Moderator Between Outcome and Homework Compliance

Variables	*β*	*t*	*p*
CPSS and WAI—O	.50	1.90	.07
CPSS and homework	.08	-.26	.80
CPSS and homework by WAI—O	-.76	-1.80	.08

Therapeutic Alliance as Moderator Between Treatment Outcome and Habituation (Hypothesis 2)

It was hypothesized that higher therapeutic alliance (as measured by the WAI—O) would result in a weaker relationship between treatment outcome (as measured by reduction in CPSS scores) and habituation to the trauma memory (as measured by reduction in peak subjective units of distress (SUDs) from the first imaginal exposure to the last). These results are summarized in Table 3. Although a trend was noted, WAI—O scores were not found to be significantly correlated with reduction in CPSS scores (β = .50, $t(39) = 1.90$, $p = .07$). WAI—O scores were also not found to be significantly correlated with habituation

to the trauma memory (β = -.32, $t(39) = -.34$, $p = .74$). As a result, no significant effect of therapeutic alliance by habituation to the trauma memory on treatment outcome (β = 1.20, $t(39) = 1.08$, $p = .29$) was found; therefore, therapeutic alliance was not a moderator between treatment outcome and habituation to the trauma memory.

Table 3

Alliance as Moderator Between Outcome and Habituation

Variables	*β*	*t*	*p*
CPSS and WAI—O	.50	1.90	.07
CPSS and habituation	.32	-.34	.74
CPSS and habituation by WAI—O	1.20	1.08	.29

Therapeutic Alliance as Moderator Between Treatment Outcome and Number of Sessions (Hypothesis 3)

It was hypothesized that higher therapeutic alliance (as measured by the WAI—O) would result in a weaker relationship between treatment outcome (as measured by reduction in CPSS scores) and the number of sessions a patient received. These results are summarized in Table 4. Although a trend was noted, WAI—O scores were not found to be significantly correlated with reduction in CPSS scores (β = .50, $t(39) = 1.90$, $p = .07$). WAI—O scores were also not found to be significantly correlated with the number of sessions a patient received (β = -.86, $t(39) = -1.96$, $p = .06$). As a result, no significant effect of therapeutic alliance by the number of sessions a patient received on treatment

outcome (β = .18, $t(39) = .33$, $p = .74$) was found; therefore, therapeutic alliance was not a moderator between treatment outcome and the number of sessions a patient received.

Table 4

Alliance as Moderator Between Outcome and Number of Sessions

Variables	*β*	*t*	*p*
CPSS and WAI—O	.50	1.90	.07
CPSS and number of sessions	-.86	-1.96	.06
CPSS and number of sessions by WAI-O	.18	.33	.74

Mediation by Homework Compliance (Hypothesis 4)

It was hypothesized that the effects of the therapeutic alliance (as measured by the WAI—O) on treatment outcome (as measured by reduction in CPSS scores) would be mediated by homework compliance ratings. The four criteria for this analysis were: (a) therapeutic alliance (WAI-O) must be correlated with treatment outcome (reduction in CPSS scores), (b) therapeutic alliance (WAI-O) must be correlated with the proposed mediator (homework compliance ratings) of treatment outcome, (c) homework compliance ratings must be correlated with treatment outcome (reduction in CPSS scores), and (d) the effect of the therapeutic alliance (WAI-O) on treatment outcome must be reduced when controlling for the proposed mediator (homework compliance ratings). The results of this analysis are summarized in Table 5.

The first criterion was not met as WAI—O scores were not significantly correlated with reduction in CPSS scores (β = -.04, $t(39) = -.25$, $p = .81$). Further, WAI—O scores did not explain a significant proportion of variance in reduction in CPSS scores ($R^2 = .00$, $F(1, 39) = .06$, $p = .81$).

The second criterion was also not met, as WAI—O scores were not significantly correlated with homework compliance ratings (β = .00, $t(39) = 1.21$, $p = .24$). Additionally, WAI—O scores did not explain a significant proportion of variance in homework compliance ratings ($R^2 = .05$, $F(1, 39) = 1.46$, $p = .24$).

The third criterion was met, as homework compliance ratings were significantly correlated with reduction in CPSS scores (β = -38.09, $t(39) = -4.18$, $p = .00$). A full 36% of the variance in reduction in CPSS scores was explained by homework compliance ratings ($R^2 = .36$, $F(1, 39) = 17.46$, $p = .00$).

The fourth criterion was not assessed due to lack of correlation between WAI-O scores and reduction in CPSS scores and between WAI—O scores and homework compliance ratings. Homework compliance ratings were thus not found to be a mediator of the therapeutic alliance.

Table 5

Mediation by Homework Compliance

Variables	*β*	*t*	*p*	R^2	*F*	*p*
WAI—O and CPSS	-.04	-.25	.81	.00	.06	.81
WAI—O and homework	.00	1.21	.24	.05	1.46	.24
Homework and CPSS	-38.09	-4.18	*.00	.36	17.46	*.00

Mediation by Habituation (Hypothesis 5)

It was hypothesized that the effects of the therapeutic alliance (as measured by the WAI—O) on treatment outcome (as measured by reduction in CPSS scores) would be mediated by habituation to the trauma memory (as measured by reduction in peak subjective units of distress (SUDs) from the first imaginal exposure to the last). As stated previously for hypothesis 4, mediation analyses were conducted according to Baron and Kenney (1986) in order to test the four criteria required. The results of this analysis are summarized in Table 6.

The first criterion was not met, as WAI—O scores were not significantly correlated with reduction in CPSS scores ($\beta = -.04$, $t(39) = -.25$, $p = .81$). Further, WAI—O scores did not explain a significant proportion of variance in reduction in CPSS scores ($R^2 = .00$, $F(1, 39) = .06$, $p = .81$).

The second criterion was also not met, as WAI—O scores were not significantly correlated with habituation scores ($\beta = -.27$, $t(39) = -1.50$, $p = .15$). Additionally, WAI—O scores did not explain a significant proportion of variance in habituation scores ($R^2 = .08$, $F(1, 39) = 2.25$, $p = .15$).

The third criterion was met, as habituation scores were significantly correlated with reduction in CPSS scores ($\beta = .65$, $t(39) = 4.46$, $p = .00$). A full 42% of the variance in reduction in CPSS scores was explained by habituation scores ($R^2 = .42$, $F(1, 39) = 19.86$, $p = .00$).

The fourth criterion was not assessed due to lack of correlation between WAI-O scores and reduction in CPSS scores and between WAI-O scores and

habituation scores. Habituation was thus not found to be a mediator of the therapeutic alliance.

Table 6

Mediation by Habituation

Variables	β	t	p	R^2	F	p
WAI—O and CPSS	-.04	-.25	.81	.00	.06	.81
WAI—O and Habituation	-.27	-1.50	.15	.08	2.25	.15
Habituation and CPSS	.65	4.46	*.00	.42	19.86	*.00

Mediation by Number of Sessions (Hypothesis 6)

It was hypothesized that the effects of the therapeutic alliance (as measured by the WAI—O) on treatment outcome (as measured by reduction in CPSS scores) would be mediated by the number of sessions a patient received. Mediation analyses were again conducted according to Baron and Kenney (1986) in order to test the four required criteria. The results of this analysis are summarized in Table 7.

The first criterion was not met, as WAI—O scores were not significantly correlated with reduction in CPSS scores (β = -.04, $t(39)$ = -.25, p = .81).

Further, WAI—O scores did not explain a significant proportion of variance in reduction in CPSS scores (R^2 = .00, F(1, 39) = .06, p = .81).

The second criterion was also not met, as WAI—O scores were not significantly correlated with number of sessions (β = .16, t(39) = .91, p = .37). Additionally, WAI—O scores did not explain a significant proportion of variance in number of sessions (R^2 = .02, F(1, 39) = .84, p = .37).

The third criterion was met, as number of sessions was significantly correlated with reduction in CPSS scores (β = -.63, t(39) = -4.58, p = .00). A full 40% of the variance in reduction in CPSS scores was explained by number of sessions (R^2 = .40, F(1, 39) = 21.00, p = .00).

The fourth criterion was not assessed due to lack of correlation between WAI-O scores and reduction in CPSS scores and between WAI-O scores and number of sessions. Number of sessions was thus not found to be a mediator of the therapeutic alliance.

Table 7

Mediation by habituation

Variables	*β*	*t*	*p*	R^2	*F*	*p*
WAI—O and CPSS	-.04	-.25	.81	.00	.06	.81
WAI—O and number of sessions	.16	.91	.37	.02	.84	.37
Number of sessions and CPSS	-.63	-4.58	*.00	.40	21.00	*.00

Additional Analyses

Since three of the variables of interest (homework compliance, habituation, and number of sessions) accounted for a significant proportion of the variance in reduction of CPSS scores, the correlations between the three variables were investigated. Additionally, all three variables were regressed on reduction of CPSS scores in order to investigate the proportion of variance accounted for by all of the variables. Significant correlations were revealed between all three variables at the $p < .01$ level. Homework compliance was significantly related to habituation ($r = .41$; $p = .00$) and number of sessions ($r = .47$; $p = .00$). Habituation was also significantly correlated with number of sessions ($r = .47$; $p = .00$). Homework compliance was also significantly related to reduction in CPSS scores ($r = .49$; $p = .00$), as was habituation ($r = .58$; $p = .00$) and number of sessions ($r = .66$; $p = .00$). Regression analyses revealed that homework compliance, habituation, and number of sessions accounted for 55% of the variance in reduction in CPSS scores ($R^2 = .55$, $F(3, 36) = 14.48$, $p = .00$).

Chapter 4

Discussion

It was hypothesized that higher therapeutic alliance would weaken the effect of homework compliance on treatment outcome and that lower alliance would strengthen the effect of homework compliance on treatment outcome. That is to say, it was believed that completing homework assignments would be less important for adolescents with stronger alliances and more important for adolescents with weaker alliances. This was not the case, however. Although there was a trend noted in the relationship between alliance and outcome (p = .07), there was no apparent relationship between alliance and homework compliance. While the idea that adolescents who have a better alliance with their therapist will complete more homework assignments has face validity, this effect was not demonstrated in the present study. Additionally, the alliance did not appear to affect how important homework completion was in relation to outcome. It appears then that homework completion is just as important for good outcome if an adolescent has a strong alliance as if an adolescent has a weak alliance. This result underscores the importance and potency of homework with adolescent girls being treated for PTSD as a result of sexual assault.

It was believed that higher therapeutic alliance would weaken the effect of habituation to the trauma memory on treatment outcome and that lower alliance would strengthen the effect of habituation to the trauma memory on treatment outcome, as well. In this way, habituation to the trauma memory would be less important for adolescents with stronger alliances and more important for

adolescents with weaker alliances. While it was thought that a stronger alliance would result in the adolescent being more willing to emotionally engage with the trauma memory and thus habituate to it, no relationship was found between these two variables. This may mean that for this sample, the alliance did not affect how willing the adolescent was to engage with the trauma memory. Alternatively, it could suggest that emotional engagement with the trauma memory is not as important for adolescents as it has been shown to be for adults (Jaycox, Foa, and Morral, 1998).

It was further hypothesized that higher therapeutic alliance would weaken the effect of number of sessions on treatment outcome and that lower alliance would strengthen the effect of number of sessions on treatment outcome, with number of sessions being less important for adolescents with stronger alliances and more important for adolescents with weaker alliances. While it was believed that a stronger alliance would result in the adolescent attending more sessions, no relationship was found between these two variables. It is possible that other factors are responsible for this result, such as parental pressure to attend sessions or that the fact that an adolescent who continues to attend therapy sessions is not influenced by the strength of their relationship with the therapist. Additionally, session attendance may be just as important for good outcome if an adolescent has a strong alliance as if an adolescent has a weak alliance.

It was also believed that the effects of the therapeutic alliance on treatment outcome would be mediated by homework compliance ratings. That is, it was thought that stronger alliance would result in higher levels of homework

compliance, which would then result in better outcome. Given that alliance was found to be related to neither outcome nor homework compliance, this mediational relationship is not possible. Regardless of the strength of the alliance, homework compliance was found to be related to good outcome, suggesting that homework completion is an important element of treatment with adolescent girls being treated for PTSD as a result of sexual assault. Given that homework compliance is related to outcome, it is possible that it is affected by other variables besides alliance, such as the adolescent's predisposition toward homework in general, severity of symptoms, or degree of desire to avoid confrontation of the trauma memory through imaginal exposure, among other possibilities.

While it was believed that the effects of the therapeutic alliance on treatment outcome would also be mediated by habituation to the trauma memory, our results suggest that this is not the case. It was thought that stronger alliance would result in more willingness to engage emotionally with the trauma memory, which would then result in better outcome. Again, alliance was found to be related to neither outcome nor habituation to the trauma memory. Regardless of the strength of the alliance, habituation was found to be related to good outcome, which may have resulted from overlap in measurement. Since habituation to the trauma memory is one of the goals of treatment and one of the measures of positive outcome, the relationship between habituation and outcome may be an artifact.

Similar results were found concerning the effects of the therapeutic alliance on treatment outcome being mediated by number of sessions. While it was believed that stronger alliance would result in more sessions attended, which would then result in better outcome, alliance was found to be related to neither outcome nor number of sessions. Regardless of the strength of the alliance, number of sessions was found to be related to good outcome, a result that makes sense, given that not attending sessions does not allow the adolescent to engage in the treatment process.

It may be surprising to some that alliance was not found to be significantly associated with outcome in the present study. However, other research has found that the alliance was not related to self-reported outcome, although it was related to others' assessments of symptom improvement (Noser and Bickman, 2000). Since the outcome measure in the present study was a self-report of PTSD symptoms, a significant effect between alliance and outcome may have been found if evaluator measures were used for assessment.

Additionally, while researchers have emphasized the importance of therapeutic relationship variables in child and adolescent therapy (DiGiuseppe et al., 1996; Karver et al., 2005; Shirk & Karver, 2003), and effect sizes for these variables have been reported to range from .05 to .49 (Karver et al., 2005), it is important to note that the studies conducted to date have rarely focused on the therapeutic alliance as a single variable, but rather on relationship variables in general. Because other relationship variables have been found to affect outcome in child and adolescent therapy (e.g., involvement in treatment, therapist

warmth or empathy, viewing therapist as an expert), it is possible that these other variables would have been more related to outcome in this sample than was the therapeutic alliance. These facts make the lack of relationship found in the present study much less surprising.

Another possibility is that contrary to popular belief, perhaps the alliance is less important to adolescents, particularly adolescents who have experienced sexual assault. Perhaps therapists' own personal feelings of being liked by or in agreement with the adolescent have led to the view that alliance would have such an impact on outcome. While it is also commonly believed that a strong alliance can help patients deal with the immediate discomfort associated with therapy (Horvath & Luborsky, 1993), it may be that adolescents are more resilient than believed, especially since they may often negotiate relationships that are not comfortable or not chosen by them (e.g., tense relationships with teachers or parents).

There are also other possible explanations for the lack of a significant relationship between alliance and outcome found in this sample. It is possible that the breakdown of trust experienced by survivors of sexual assault renders the therapeutic relationship meaningless, particularly in the beginning of treatment. Evidence of this can be found in Eltz et al.'s (1995) study on alliance formation, where they found that abused adolescents evidenced poorer initial alliances than their nonabused counterparts. However, abused adolescents in that study showed no differences in change in alliance over the course of treatment when compared to nonabused adolescents, meaning that alliance

changed at the same rate for both groups. Yet the sample in that study was more heterogeneous than in the present study in that participants experienced different types of abuse and were not necessarily diagnosed with PTSD. Perhaps the experience of sexual abuse and the presence of PTSD accounts for the different findings in the present study.

The relationship between alliance and outcome in this sample may have also been confounded by possible alliance-building techniques that are incorporated into the manualized treatment used. In this open clinic sample, the treatment protocol was explained to all patients and delivered only to those who agreed to participate. In this way, it could be said that patients in this sample had already achieved significant indicators of alliance, such as agreement on the tasks and goals of therapy. Additionally, the Prolonged Exposure protocol itself includes activities that could be considered influential in the formation of a positive alliance, such as repeated presentation and discussion of the rationale for the treatment, as well as discussion and normalization of common reactions to trauma. In this way, it could be said that the protocol includes activities that are aimed at achieving agreement on the tasks and goals of therapy as well as the formation of a bond between the patient and therapist.

Perhaps as a result of these possible alliance-building activities, alliance ratings tended to be more positive than they would have been if these elements were not included. Although there was a wide range of WAI—O total scores (118 to 221), the average individual item score on the WAI—O was 4.75, indicating slightly positive alliance ratings on average. Additionally, the individual item

score range was between 3 and 7, indicating anywhere from slightly negative alliance ratings to extremely positive alliance ratings. The tendency to rate the alliance as positive may have skewed the findings and resulted in a less than significant relationship between alliance and outcome. It is also possible that alliance is not a continuous variable, as conceptualized in the present study, but rather a dichotomous variable for which a minimum threshold of alliance needs to be achieved in order to detect a significant relationship to outcome.

While it is believed that this research makes an important contribution to the literature, it has a number of methodological limitations that limit the generalizability of its results. The small sample size (n = 40) is one definite limitation of this research. Perhaps a larger sample would have yielded results that were significant. The fact that all patients used in this analysis were treated by the same therapist leads to a number of confounds, such as therapist selection of cases that were to be treated with PE—A. In this way, bias may have been introduced into the data set simply through the nature of the particular type of patient the therapist chose as a candidate for PE—A. Similarly, because it was believed that sufficient exposure to treatment was only reached at session six of treatment, a number of cases were not eligible for inclusion in the analysis. Because adolescents who may have had more difficulty forming an alliance with the therapist may have dropped out early in treatment, these cases self-selected themselves out of the data set used. It is possible that there were systematic differences between those adolescents who dropped out of treatment prior to session six and those who did not.

There are also several possible confounds in this research that may have affected the data collected and the results obtained in a number of ways. The timing of the assessment of alliance may have played a role in the lack of relationship between alliance and outcome found in the present study. Perhaps due to the trust and interpersonal difficulties experienced by many survivors of sexual assault, alliance formation takes more time. It is possible that five sessions of treatment are not enough to form a strong alliance in this population and that alliance measurement later in treatment would have yielded significant results for the impact of the alliance on outcome. Some researchers believe that alliance formation occurs in two critical phases: early alliance, where trust and collaboration are established, and later alliance, where agreement on the goals of treatment and faith in the process develop (Horvath & Luborsky, 1993). An alternative hypothesis for the results found in this study is that the particular timing of the assessment of alliance, which occurred just after in vivo and imaginal exposure were introduced, may have played a role in the findings. As this phase of therapy may be more challenging to the patient, it is possible that alliance assessment at this point was not representative of the alliance at earlier or later points in treatment.

Another explanation for these findings, and another limitation of the present study, is that the observer method of assessing the alliance may not have yielded valid judgments about the strength of the alliance. Because an observer must infer the patient's and therapist's thoughts and feelings based on watching a video of a session, it may be that these inferences are often

inaccurate. It is possible that covert processes inherent in the alliance were not captured by the raters, or that the raters' own personal theoretical orientation influenced their ratings.

Despite these limitations, the results of the present study should, at the very least, cause us to question the assumptions made about the importance of the therapeutic alliance in the treatment of adolescent girls with sexual assault-related PTSD. Perhaps for this particular population, the relationship with the therapist is marginal, while the key ingredients and techniques of the treatment are the effective elements. It is possible that Gaston and Marmar's (1994) suggestion to utilize the alliance strategically (using more supportive techniques for some patients and more technical skills for others) may not in fact influence outcome for these adolescents. Given the results of the present study, the alliance may not be necessary to promote change in treatment with sexually abused adolescents with PTSD. Perhaps it is the techniques that work, as DeRubeis and Feely (1990) concluded in their study on cognitive therapy and alliance. If this is the case, the findings of the present study may speak to the robustness of exposure treatment for PTSD, in that outcome was significantly related to what are considered key ingredients of the treatment (homework, habituation to the trauma memory, and attending sessions). On the other hand, it could be argued that patients who allow themselves to be engaged in the techniques of the therapy are more likely to improve because of other variables not assessed in the present study.

While many believe that an overemphasis on technique can lead to overlooking important relationship factors in therapy (Lambert & Barley, 2002), it is possible that these relationship factors are just not as important for adolescents for a myriad of reasons. While many clinicians would advise that therapists take pains to form good alliances with patients, especially when working with adolescents who have been sexually assaulted, the results of the present study suggest otherwise. Perhaps in working with adolescents with PTSD, therapist time and energy would be better utilized focusing on other variables that were robustly related to and accounted for much of the variance in outcome, such as homework compliance, habituation to the trauma memory, and attending sessions.

These conclusions are tenuous, however, given the small sample size in the present study and the numerous other methodological and confounding issues inherent in the analysis of archival data, where the investigator has no control over methodology. Yet it is believed that the results obtained in the present study warrant further investigation. The underlying mechanisms of what contributes to the effectiveness of empirically supported treatments, especially in child and adolescent therapy, is certainly an area of the literature that is in its early stages.

Extension of the present study would include a larger sample and utilize multiple rater methods of alliance assessment (patient, therapist, and observer) at several key points throughout treatment (at the beginning of treatment, prior to beginning exposures, midtreatment, and posttreatment). Investigation of

alternative hypotheses for the results found in the present study could be achieved through manipulation of other variables. For example, to control for confounding variables that may affect alliance formation, participants can be randomly assigned to treatment that includes a number of alliance-building activities or to treatment that focuses only on techniques. To control for variables that may affect this specific population of adolescent girls with sexual abuse-related PTSD (i.e., interpersonal variables such as ability to trust others), participants with many different types of trauma can be included and analyses can be conducted based on type of trauma (abuse versus other trauma). Participants can also be divided into groups for analyses based on symptom severity in order to investigate whether higher levels of impairment due to PTSD symptoms or higher levels of avoidance are related to alliance formation.

Also, since some research has found that different aspects of the therapeutic alliance (i.e., bonds, tasks, and goals) may be more or less important at different developmental stages (DiGiuseppe, et al., 1996) and since agreement on the tasks of therapy has been found to be the best predictor of outcome in adults (Horvath & Greenberg, 1989), investigating the three factors separately may be important. Conducting analyses of total alliance scores as well as of subscale scores would achieve this goal. Including early dropouts in the analyses may also yield important information on any differences between those who drop out of treatment early and those who do not.

Additionally, other factors can be assessed and included in analyses to explore their relationship to the therapeutic alliance as well as to outcome. Other

relationship variables, such as the patient's perception of the therapist as warm or empathic, the patient's level of involvement in the treatment, or the patient's perception of the therapist as an expert, can be assessed through questionnaires given concurrently with alliance measures. Patients' attitudes and beliefs about therapy can also be assessed through questions about importance of a good relationship with the therapist or what the patient believed was the most helpful aspect of treatment.

Investigating the therapeutic alliance and other process variables in adolescent therapy for sexual-assault-related PTSD is important, given the large numbers of adolescents who experience sexual assault. Since it is widely believed that alliance formation is imperative with this population, further research could help elucidate what role the alliance has in treating these adolescents and how much emphasis therapists should be placing on alliance formation. It is possible that too much time spent on alliance building is taking precious time away from techniques that would be helpful in reducing symptoms. This could result in the adolescent dropping out of treatment due to feeling there is no benefit or could simply prolong their suffering unnecessarily. Only well-controlled future research will be able to explain the role of the therapeutic alliance in this special population.

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Appendix

Sample Items on WAI—O Bonds Subscale

1. There is a sense of discomfort in the relationship.

1 = Very strong evidence against

Participants appear extremely comfortable in the session. The client approaches difficult topics very openly. The client and/or therapist may comment on how comfortable or relaxed the other is. Behavioral cues such as relaxed posture and smooth voice are evident.

2 = Considerable evidence against

Client shows no apprehension toward topics in therapy. The client seems to approach and explore topics without hesitation, is not defensive, and appears to be relaxed during most of the session. Behavioral cues suggest that the client is comfortable.

3 = Some evidence against

Client discusses difficult topics with limited hesitancy, and appears to be relaxed. The client may become hesitant during parts of the session, but the therapist and client work through it appropriately.

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

Client is generally hesitant to discuss deeply personal topics in the session. The client appears to be unwilling to explore some specific content areas. The therapist may also show some physical signs of discomfort (e.g., fidgeting, shaky voice, frequent posture changes) toward the beginning of the session.

6 = Considerable evidence for

Client and/or therapist show(s) physical signs of discomfort in the session. The client does not appear to become more comfortable as the session progresses and/or may seem defensive throughout. Communication between the client and therapist may seem forced or uneasy.

7 = Very strong evidence for

Client seems uncomfortable throughout the session. The client appears extremely defensive and actively avoids difficult topics. Client may even state on multiple occasions that he/she is uncomfortable.

21. The client feels confident in the therapist's ability to help the client.

1 = Very strong evidence against

Client expresses extremely little or no hope for therapy outcome. The client questions the therapist's ability to a great extent. The client is resistant to therapist suggestions or attempts to help.

2 = Considerable evidence against

Client expresses considerable doubts, frustration, and pessimism, and may question therapist directly about his/her qualifications or understanding of the client's experience.

3 = Some evidence against

Client expresses some doubts about the usefulness of therapy, in regards to the therapist, process, or outcome. The client may doubt that the therapist is truly understanding his/her problems or doubt the interventions/homework/etc. given during a problem-solving phase.

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

Client expresses some confidence in the therapist's ability, either by praise or an optimistic view about the outcome of the therapy as the result of a collaborative process (rather than thinking that the client him/herself is doing all of the work).

6 = Considerable evidence for

Client believes in the therapist's competence level to a great extent, and this may be evident in the client's expressions about the usefulness of therapy or praise of the therapist.

7 = Very strong evidence for

Client consistently agrees with therapist reflections and interventions/guidance, while also discussing the virtues of the therapy and/or the therapist a few times during the session.

Sample items on WAI—O Tasks subscale

2. There is agreement about the steps taken to help improve the client's situation.

1 = Very strong evidence against

Client directly states that tasks and goals are not appropriate, and does not generally agree on homework or in-session tasks. The client argues with the therapist over the steps that should be taken. The client refuses to participate in the tasks.

2 = Considerable evidence against

Client is hesitant to explore and does not follow therapist guidance. The client withdraws from the therapist and appears to merely "go through the motions", without being engaged or attentive to the therapist or the task.

3 = Some evidence against

The client appears to be unsure as to how the tasks pertain to his/her goals, even after some clarification by the therapist. The client seems either ambivalent or unenthusiastic about the tasks in therapy, and is passively resistant to the tasks (e.g., limited participation).

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

Client follows exploration willingly with few or no therapist clarifications needed. The client becomes invested in the process, and is an active participant in the task. There is a sense that both parties have an implicit understanding of the rationale behind the tasks in therapy.

6 = Considerable evidence for

Client openly agrees on tasks and is enthusiastic about participating in tasks. Both participants are acutely aware of the purpose of the tasks and how the tasks will benefit the client. To this end, the client uses the task to address relevant concerns and issues.

7 = Very strong evidence for

Repeated communication of approval and agreement, both before and after the task is completed. The client responds enthusiastically to interventions, gains insight, and appears extremely confident that the task and goal are appropriate.

18. There is clarity about what the therapist wants the client to do.

1 = Very strong evidence against

Client and therapist both lack clarity. The therapist is unable to communicate clearly, and as a result of this, the client is unable to understand what the therapist wants. There is a very poor connection between participants.

2 = Considerable evidence against

The session involves a lot of misunderstandings between participants. For example, role responsibilities may not be clearly delineated, or tasks may not be adequately defined.

3 = Some evidence against

The session involves some confusion on the part of the client. The therapist gives explanations that are somewhat clear, but the client doesn't understand some of it.

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

The client is able to understand some of the session, even though the therapist's explanations are confusing or misleading on several subjects. The client exerts extra effort in order to understand what the therapist is asking him/her to do.

6 = Considerable evidence for

Only some confusion is experienced during the session. The client is able to understand the therapist even though some of the therapist's explanations are unclear. In general, the session flows smoothly.

7 = Very strong evidence for

Participants are able to communicate in a clear and thorough manner. There is little to no confusion experienced within the session. There is a good connection between the participants.

Sample items on WAI—O Goals subscale

3. There is concern about the outcome of the sessions.

1 = Very strong evidence against

Client expresses satisfaction with progress. Participants evaluate progress positively and agree on how in-session tasks will facilitate client change.

2 = Considerable evidence against

Client works with therapist toward setting goals and evaluating progress. The client seems satisfied and excited with goals and progress. The client may make comments about how information learned in therapy is used during his/her daily life.

3 = Some evidence against

Client makes no comments about concern and appears to understand the goals of therapy. Participants seem satisfied with the rate of progress of therapy. The therapist and the client discuss concerns they may have and adjust the therapy to remedy such concerns.

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

Client expresses concern early in the session, but not in the latter parts of the

session. The client may express doubt regarding the benefits of therapy, and may also appear hesitant to engage in session tasks.

6 = Considerable evidence for

Client expresses concern throughout the session, especially towards the end. Attempts to redefine goals or how they are evaluated are generally unsuccessful. The client leaves the session dissatisfied with the amount of progress of therapy.

7 = Very strong evidence for

Client states throughout the session that he/she is worried about the progress of therapy. The client has consistently low expectations for achieving long-term change. As a result, the client may not be very active as a participant. The client is convinced that therapy will not be beneficial for him/her.

22. The client and therapist are working on mutually agreed upon goals.

1 = Very strong evidence against

Topics change constantly and abruptly without consideration of the other, mostly after interruptions by either participant. There is a good deal of clashing over the appropriateness, definitions, and/or boundaries of the client's goals.

2 = Considerable evidence against

Topics shift somewhat frequently before resolution or closure. The therapist may interrupt and redirect focus onto a less relevant topic without prompting from the client. Friction between the participants becomes evident – one or both may show dissatisfaction with the change in topics or the pace of therapy in general.

3 = Some evidence against

Some shifts are induced from a relevant to another relevant or non-relevant topic by either participant before closure has been established for the original topic. This is indicated by interruptions or ignoring the other's statement and moving on.

4 = No evidence or equal evidence regarding client comfort and/or discomfort

5 = Some evidence for

Some evidence that participants are making progress towards in-session goals via discussion of relevant topics.

6 = Considerable evidence for

Considerable progress made towards goals through thoughtful discussion of topics that both participants agree are relevant. Participants frequently agree with each other about what they are currently doing.

7 = Very strong evidence for

Participants completely agree upon goals through extremely productive discussions of more than one relevant topic. Participants almost always reach closure on current topic that the client recognized as a goal, before shifting to another relevant topic.