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Adolescent Interpersonal Predictors of Early Therapeutic Alliance in Cognitive-Behavioral Therapy

Laura Levin
University of Miami, levin.laura@gmail.com

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ADOLESCENT INTERPERSONAL PREDICTORS OF EARLY THERAPEUTIC
ALLIANCE IN COGNITIVE-BEHAVIORAL THERAPY

By

Laura B. Levin

A DISSERTATION

Submitted to the Faculty
of the University of Miami
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ADOLESCENT INTERPERSONAL PREDICTORS OF EARLY THERAPEUTIC
ALLIANCE IN COGNITIVE-BEHAVIORAL THERAPY

Laura B. Levin

Approved:

_____
Jill Ehrenreich-May, Ph.D.
Associate Professor of Psychology

_____
Terri A. Scandura, Ph.D.
Dean of the Graduate School

_____
Heather Henderson, Ph.D.
Associate Professor of Psychology

_____
Craig Marker, Ph.D.
Clinical Assistant Professor

_____
Howard Liddle, Ed.D., A.B.P.P.
(Family Psychology)
Professor of Epidemiology and Public Health

_____
Jon Shaw, M.D.
Professor and Chief, Division of
Child & Adolescent Psychiatry,
Department of Psychiatry and
Behavioral Sciences

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This study examined interpersonal predictors of early therapeutic alliance in a cognitive-behavioral treatment study for adolescents with anxiety and/or depressive disorders. Client, therapist, and observer rated measures of alliance were obtained from the third session of treatment in a sample of twenty-seven adolescents. Results indicate that alliance ratings across the three perspectives are significantly associated with one another, but that pretreatment interpersonal variables were differentially associated with varying informant perspectives. Adolescents' perceptions of their relationships to their caregivers positively related to their perceptions of the therapeutic alliance, such that adolescents with more positive representations of relationships with their attachment figures were more likely to endorse stronger working alliances early in treatment. Adolescent-reported symptom severity at pretreatment predicted observer ratings of alliance, such that adolescents who indicated greater symptoms at pretreatment were rated as having stronger early alliances with their therapists by independent observers. Adolescent perceptions of social support also predicted observer ratings of alliance. Therapists perceived having weaker alliances with adolescents showing clinically significant depression, as compared to adolescents diagnosed with anxiety disorders alone. Future research is needed to examine whether identification of relevant interpersonal factors can help improve therapeutic engagement and outcomes for the psychosocial treatment of adolescents with anxiety and depressive disorders.

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Chapter 1: Introduction

The relevance of therapeutic alliance to treatment process and outcomes has long been a source of theoretical writing about a variety of intervention approaches (S. Freud, 1912/1958; Greenson, 1965; Rogers, 1957). Alliance refers to the degree to which the client and therapist agree on the goals and tasks of treatment and share a mutual, positive affective bond (Bordin, 1979). This clinical perspective is consistent with research in both adult (Horvath, 2001; Martin, Gaske, & Davis, 2000) and youth (Shirk & Karver, 2003) populations, suggesting that therapeutic alliance predicts treatment progress and outcomes across various client populations and treatment modalities. Alliance early in treatment is particularly predictive of treatment outcome (Gaston, 1990; Hersoug, Monsen, Havik, & Hoglend, 2002); a finding that has prompted interest in factors that influence early alliance formation. However, questions still remain about measurement issues related to alliance and about factors that contribute to the development of strong or weak alliances. Research in this area is particularly lacking in youth samples. Therefore, the purpose of the present study is to: 1) examine level of agreement between alliance rater perspectives (i.e., client, therapist, and observer ratings) and 2) examine adolescent pretreatment characteristics—and relationship variables in particular—that predict early (third session) alliance within a sample of adolescents receiving cognitive-behavioral treatment (CBT) for emotional disorders (i.e., anxiety disorders or unipolar depression).

Background and Significance

Although this is among the first studies to directly examine interpersonal antecedents of therapeutic alliance in a cognitive-behavioral treatment for adolescents with emotional disorders, recent research and literature suggests the importance of

studying relational factors in this treatment population. First, therapeutic approaches that are not known for overtly emphasizing relationship factors, such as cognitive-behavioral treatment approaches, have recently seen a surge in research findings supporting the importance of such factors for these interventions (e.g., Safran & Muran, 2001; Samstag et al., 2008; Shirk & Karver, 2003; Shirk, Gudmundsen, Kaplinski, & McMakin, 2008; Stevens, Muran, & Safran, 2003; Stevens, Muran, Safran, Winston, & Gorman, 2007). This, in part, reflects the growing emphasis on the relevance of interpersonal factors in the etiology of psychopathology. Recent research on another treatment approach—Interpersonal Psychotherapy for Adolescents (IPT-A)—for youth with similar concerns to those presenting in the current study population, has demonstrated positive findings with respect to outcomes (Mufson et al., 2004; Young, Mufson, & Davies, 2006). These findings, as well as other areas of adolescent development and adolescent developmental psychopathology literatures point to the relation between dysfunctional interpersonal relationships and internalizing problems in adolescents (e.g., Liddle, 1998). Recent shifts in cognitive-behavioral approaches from a solely individual-type modality to incorporate families into treatment interventions (e.g., Kendall et al., 2009) also suggests the potential need to understand the ways in which relationships serve to impact psychopathology in these interventions.

An additional impetus for this study is research indicating that alliance itself has a direct therapeutic effect on treatment process and outcomes in studies derived from similar treatment populations as the current study (Chu et al., 2004; Karver et al., 2008; Liber et al., 2010). A strong alliance in CBT has been emphasized because of the

potential for facilitating client engagement in therapeutic tasks and goals (Raue &
Goldfried, 1994). For example, Karver and colleagues (2008) found that early alliance in
depressed adolescents predicted later involvement in specific CBT tasks, and Chu and
colleagues (2004) found that alliance in youth with anxiety disorders predicted treatment
success in CBT. Furthermore, in a long-term follow-up study of children and adolescents
receiving CBT for anxiety disorders, youth patients rated the therapeutic relationship as
the most important aspect of treatment (Southam-Gerow, 1996). Given the importance of
alliance to treatment process and outcome in this population, knowledge of client
characteristics that contribute to the development of strong or weak alliances is essential
to increase treatment effectiveness. However, few studies have examined linkages
between client pretreatment characteristics and early alliance formation with adolescents,
and none have examined this specifically among anxious and depressed adolescent
populations.

It is critical to move beyond alliance-outcome investigations to clarify how
alliance develops (Ackerman, Benjamin, Beutler, Gelso, Goldfried, Hill, et al., 2001).
Research investigating pretreatment factors that may predispose a strong or weak alliance
in the adult literature has generally shown interpersonal variables (like the quality of
social relationships, level of social support, and attachment security) to be amongst the
best predictors of alliance formation, whereas demographic factors (e.g., age, gender,
race) and clinical variables (e.g., symptom severity and diagnosis) are generally found to
have little impact on alliance formation (Horvath & Symonds, 1991; Horvath &
Luborsky, 1993). However, little is know about predictors of alliance in adolescent

psychotherapy and whether findings with adults generalize to adolescent treatment populations is unclear (Hogue, Dauber, Stambaugh, Cecero, & Liddle, 2006; Shirk & Saiz, 1992).

Identifying alliance predictors in adolescents seems especially critical, given that adolescents are at heightened risk to drop-out of treatment prematurely—with drop-out rates reported between 40% and 60% (Kazdin, 1996; Wierzbicki & Pekarik, 1993)—and that adolescents who do not have strong alliances are more likely to leave treatment prematurely (Garcia & Weisz, 2002; Robbins et al., 2006). The unique circumstances that may bring adolescents into treatment psychotherapy (Diamond, Liddle, Hogue, & Dakof, 1999; DiGiuseppe, Linscott, & Jilton, 1996; A. Freud, 1965; Meeks & Bernet; Zack, Castonguay, & Boswell, 2007)—including their lack of self-referral or differences in their perspectives from parents on the source of their problems—underscores the critical importance of developing a positive working alliance as well as understanding alliance precursors. These factors create additional challenges for therapists, thus making the establishment of a positive therapeutic alliance with adolescents all the more crucial. As such, the lack of research examining additional correlates of alliance development represents a serious gap in the current adolescent literature (Green, 2006; Shirk & Saiz, 1992; Zack et al., 2007). To address this gap, the present study focuses on adolescent alliance and its pretreatment correlates. Clinically, such research may be especially useful in helping therapists anticipate sources of resistances that may interfere with alliance formation, and may also contribute to the development of strategies for therapists to use

when working with challenging adolescent clients to mitigate the influence of preexisting predictor variables (e.g., Diamond et al., 1999; DiGiuseppe et al., 1996; Robbins, Turner, Alexander, & Perez, 2003).

Alliance Rater Perspective

A major methodological challenge in studying alliance is in dealing with similarities and differences among the varying alliance perspectives (Horvath, 1994). Traditionally, alliance has been approached from three perspectives—that of the two participants in the process, the patient and the therapist, and that of independent observers. Issues related to each informant perspective have been described in the literature, and it appears that each informant may report on qualitatively different aspects of the alliance (Horvath & Bedi, 2002). The instruments most frequently used in previous research are patient and therapist self-reports, which assess participating members' subjective impressions of the relationship. Alternatively, nonparticipant raters can be used to evaluate alliance after viewing recordings of sessions, which permits replication and increased reliability. While observer alliance ratings avoid challenges of reporter bias inherent in self-reports, these apparent advantages can be seen as potential drawbacks since raters are forced to make inferences, based on limited available data, on subjective, attitudinal, motivational, and cumulative aspects of the alliance (Horvath & Greenberg, 1994).

Past research comparing agreement between therapist, patient, and observer informants indicates low or inconsistent agreement between informant (Fenton, Cecero, Nich, Frankforter, & Carroll, 2001; Hilliard, Henry, & Strupp, 2000; Tichenor & Hill, 1989), with clients showing higher estimates of alliance than therapist or observer ratings.

Studies comparing predictive validity of alliance measurements taken from each

perspective have sometimes shown differential relations to treatment variables (Horvath

& Greenberg, 1994). In a study evaluating alliance perspectives in a sample of substance-

abusing adults receiving CBT or twelve step facilitation, observer-rated measures, but not

therapist- and client-rated measures, significantly correlated with outcome (i.e., periods

of abstinence from drug use) (Fenton et al., 2001). In contrast, in a study by Marziali

(1984) of adults receiving brief psychodynamic psychotherapy, patients' and therapists'

ratings of the treatment relationship were better predictors of symptom change than

external judges' ratings. Interestingly, although ratings from the three informant sources

tended to converge for patients' *positive* contributions to the alliance, intercorrelations of

the three perspectives in their ratings of the patients' *negative* contributions were of lower

magnitude (Marziali, 1984). In interpreting these results, the author suggested that

although patient and therapist ratings of the treatment may be influenced by subjective

bias, they agree to some extent with nonparticipant judges, and are more powerful in

predicting the outcome of psychotherapy. These findings, taken together, underscore the

critical need to assess alliance from all three perspectives (i.e., client, therapist, and

observer perspectives) (Horvath & Bedi, 2002).

In studies of youth alliance, therapist alliance reports have shown stronger

predictive relations to outcome variables than youth self-reports (Shirk & Karver, 2003),

which tend to overestimate the quality of alliance in comparison to therapist or observer

perspectives (Kendall, 1994; Shelef, Diamond, Diamond, & Liddle, 2005). In prior

studies of children and adolescents receiving CBT for anxiety disorders (Kendall, 1994),

non-significant associations have been reported between youth-rated alliance and

outcome, with limited variability in the youths' ratings (all high), whereas significant

associations between therapist-rated alliance and outcome have been documented

(Kendall et al., 1997). In one of the few studies examining observer ratings of adolescent-

therapist alliance, Shelef, Diamond, Diamond, and Liddle (2005) found that observer

ratings of alliance were both more normally distributed and more predictive of outcome

(i.e., substance abuse and dependence symptoms) than adolescent self-report, suggesting

the additive value of utilizing observer informants to rate alliance in adolescents;

however, therapist alliance reports were not considered in this study. To overcome

methodological limitations of past research, and in accordance with recommendations

made by researchers in the field (Faw, Hogue, Johnson, Diamond, & Liddle, 2005;

Green, 2006; Shirk & Karver, 2003; Zack et al., 2007), this study examines the

therapeutic alliance from all three basic perspectives, enabling the examination of

similarities and difference in the perception of alliance, and how each perspective relates

to interpersonal predictors.

Client Pretreatment Interpersonal Functioning and Therapeutic Alliance

The quality of client interpersonal or relationship functioning is central to the

development and quality of a therapeutic alliance (Bordin, 1994; Gaston, Marmar,

Thompson, & Gallagher, 1988; Horowitz, Rosenberg, & Bartholomew, 1993; Meier,

Donmall, Barrowclough, McElduff, & Heller, 2005). Attachment theory (Bowlby, 1988)

provides a theoretical basis for understanding how the perceptions and beliefs, or mental

representations, a patient has about relationships prior to therapy may influence the

development of a therapeutic relationship. According to Bowlby (1988), clients may

initially have similar perceptions and expectations of their therapists as they do other

close relationships outside therapy, on the basis of internal working models (or mental representations) of relationships. These mental representations are thought to derive from early experiences of sensitivity and availability during interactions with a caregiver, which are presumed to shape not only current but also future interpersonal relationships (Hazan & Shaver, 1994). Individuals who experience greater levels of availability and sensitivity in their early caregiver relationship are presumed to develop more *secure* representations of others, characterized by supportive and trustworthy views of relationships. In turn, individuals with more secure mental representations are more inclined to trust others, to seek out others as a source of support, and to communicate openly (Bretherton & Munholland, 1999). Conversely, the lack of a secure base (or *insecure* attachment style) might lead one to withdraw from potentially helpful relationships (Feeney, Cassidy, & Marcuse, 2008), including the therapeutic relationship. Empirical links between the therapeutic alliance and constructs thought to reflect attachment and interpersonal relationship functioning have been well established in the adult psychotherapy literature (Horvath & Greenberg, 1989; Kivlighan, Patton, & Foote, 1998; Mallinckrodt & Nelson, 1991; Mallinckrodt, Coble, & Gantt, 1995; Meier, et al., 2005; Satterfield & Lyddon, 1998).

To date, only a few studies with adolescents have directly investigated the relation between interpersonal variables and the therapeutic alliance. Eltz, Shirk, and Sarlin (1995) examined interpersonal correlates of adolescent and therapist-rated alliance on the *Penn Helping Alliance Questionnaire* (Alexander & Luborsky, 1986), in a sample of psychiatrically hospitalized adolescents with a history of maltreatment. In this study, adolescents with a history of adversity within the caregiver relationship and with higher

levels of relationship problems (using the Interpersonal Problems scale of the Child

Behavior Checklist, CBCL, Achenbach, 1991) had poorer alliance, according to both

therapist and adolescent perspectives (Eltz et al., 1995). In addition, adolescents'

pretreatment self-reports on the *Network Orientation Scale* (Vaux, Burda, & Stewart,

1986)—a measure used to assess interpersonal expectancies about close relationships as

well as one's willingness to seek out and utilize his or her social support resources—

related to alliance formation from the adolescent's perspective only, but not the

therapist's (Eltz et al., 1995). These findings remained significant even after controlling

for severity of symptomology (which did not relate significantly to alliance), suggesting

the unique contribution of interpersonal aspects of functioning. The development of

adolescent alliance has more recently been explored in adolescent substance abusing

populations (e.g., Broome, Joe, & Simpson, 2001; Garner, Godley, & Funk, 2008). In one

such study by Garner, Godley, and Funk (2008), adolescents who reported higher levels

of social support also reported higher early alliance ratings, although this association was

only significant for therapist alliance ratings. Results from this study also indicated that

none of the clinical variables assessed (e.g., substance use) were related to alliance from

either therapists' or adolescents' perspectives.

  These findings, taken together, suggest the particular importance of adolescent

interpersonal qualities and social support in the development of alliance. Consistent with

an attachment perspective, these findings can be interpreted as indicating that certain

adolescents may enter treatment with negative expectations about close relationships that

interfere with alliance (e.g., Eltz, Shirk, & Sarlin, 1995). However, studies of interpersonal alliance correlates have not yet been examined in other adolescent treatment samples.

Present Study

The present study builds on this existing research and extends the investigation of alliance in youth psychotherapy by examining client predictors—and interpersonal predictors in particular—of early alliance formation within a research-based outpatient cognitive-behavioral treatment for adolescents with anxiety and depressive disorders. The question in the current study, therefore, is whether adolescents' perceptions and beliefs about aspects of interpersonal relationship functioning are associated with alliance early in therapy. In this study, adolescents' perceptions about their relationships were assessed via self-reports on measures of attachment security, level of perceived social support, and social functioning in current family and peer relationships. Although the broadness and potential overlap of these constructs is recognized (Mallinckrodt, 2000), they remain useful in this study because the focus here is on the potential importance of interpersonal relationships in clients, over and above information provided by symptom level alone (see Mallinckrodt, 2000, for a similar rationale). Therefore, the use of global indicators of interpersonal functioning is indicated.

The current study is unique in that alliance will be rated from all three basic perspectives. The use of multiple alliance rater perspectives in this study is an attempt to overcome the frequently encountered limitation of prior studies investigating the therapeutic alliance—namely, the reliance on a single source—usually patient self-report—to rate both alliance and patient characteristic variables. Reliance on a single

source to measure both alliance and patient characteristics may lead to inflated estimates of the magnitude of associations due to shared method variance. To address this potential limitation, this study utilizes a multi-informant approach in the assessment of therapeutic alliance, measuring alliance from three basic perspectives (i.e., patient self-report, therapist self-report, and independent observer ratings). The use of multiple informants to rate alliance is likely to be of particular value in studying alliance in children and adolescents, who may lack the insight and maturity to evaluate the alliance construct (DiGiuseppe, 1996; Shirk & Karver, 2003).

Study Aims and Hypotheses

Aim 1: To assess the degree of similarity across alliance rater perspectives (i.e., client, therapist, and observer ratings) early (i.e., in or immediately after the third session) in the course of cognitive-behavioral treatment for anxiety and depression in adolescents.

> Aim 1, Hypothesis 1: Consistent with findings from previous research (e.g.,
> Fenton et al., 2001; Hilliard et al., 2000; Tichenor & Hill, 1989; Tryon,
> Blackwell, & Hammel, 2007), low to moderate associations are expected between
> rater perspectives of session three alliance.

Aim 2: To examine adolescents' reports of their interpersonal functioning as possible predictors of alliance. These interpersonal predictors include adolescents' self-reports of attachment security, level of social support, and social (family and peer) relationship functioning.

> Aim 2, Hypothesis 2: Adolescents' self-reported pretreatment interpersonal
> functioning variables (i.e., CASAFS, MSPSS, AAQ, RQQ) are hypothesized to be
> associated with the quality of working alliance. Specifically, adolescents who

report more secure attachments, higher levels of perceived support, and higher quality of peer and family relationships are expected to form more positive alliances. This hypothesis is based on the widely held view that social relationships and interpersonal characteristics before treatment influence the development of the therapeutic relationship (Horvath & Bedi, 2002). Furthermore, it is expected that interpersonal factors will predict alliance, irrespective of symptom severity ratings (i.e., adolescent self-report RCADS).

Chapter 2: Method

Participants

Participants in the current study sample were participating in an ongoing randomized controlled trial of the *Unified Protocol for the Treatment of Emotional Disorders in Youth* (Ehrenreich, Buzzella, Trosper, Bennett, & Barlow, 2008), a transdiagnostic CBT protocol. Participants were required to have completed at least 3 individual treatment sessions for inclusion in this study. The final sample was comprised of 27 youths (13 male), aged 12 to 17 years (X = 15.3 years; SD = 1.8). Four (14.8%) were parent-identified as Caucasian, 18 (66.7%) as Hispanic American/Latino, 1 (3.7%) as African American, 1 (3.7%) as Asian, and 3 (11.1%) were identified as "multi-ethnic" or "other" ethnicity (see Table 1 for complete sample description). Adolescents' grade in school ranged from sixth to twelfth. Parents of adolescents identified their relationship status as married (*n* = 17; 65.5%), divorced (*n* = 5; 19.2%), never married (*n* = 1; 3.8%), or remarried (*n* = 2; 3.8%). Mean annual family income was $76,692 (range = $19,000-$300,000). Three adolescents (11.1%) were using psychotropic medication at or prior to admission. Sixteen adolescents (59.3%) received a principal diagnosis of an anxiety disorder only, 6 (22.2%) received a principal diagnosis of depressive disorder only, and 5 (18.5%) received a co-principal diagnosis of an anxiety disorder and unipolar depressive disorder. Principal Axis I diagnoses were Generalized Anxiety Disorder (33.3%), Social Phobia (22.2%), Obsessive Compulsive Disorder (7.4%), Panic Disorder (3.7%), Specific Phobia (3.7%), Anxiety Disorder Not Otherwise Specified (NOS) (3.7%), Major Depressive Disorder (18.5%), Dysthymic Disorder (3.7%), and Depressive Disorder NOS (3.7%). Inclusion criteria for the current study required that the youth's pretreatment

clinical severity rating (CSR) on a semi-structured diagnostic interview (Anxiety

Disorders Interview Schedule for DSM-IV, Child- and Parent-report Version (ADIS-IV-

C/P) (Albano & Silverman, 1996) for their principal anxiety or depressive disorder be

greater than a 4 on a 0-8 scale. The mean pretreatment clinical severity ratings (CSR) of

the principal diagnosis was 5.77 ($SD = .82$) and the mean of the total averaged diagnoses

was 4.82 ($SD = 1.01$). The mean current Global Assessment of Functioning (GAF)

(American Psychiatric Association, 2000) was 61.6 (range 33-80). Of the 27 adolescents,

8 were diagnosed with at least one comorbid disorder other than an anxiety or depressive

disorder (attention-deficit/hyperactivity disorder, $n = 3$; oppositional-defiant disorder, $n = 1$; selective mutism, $n = 1$; enuresis, $n = 1$; impulse control disorder, $n = 2$; substance-related disorder, $n = 1$; stuttering, $n = 1$.).

Treatment Context and Therapists

The data in this study were collected during the course of an ongoing randomized

control trial of the *Unified Protocol for the Treatment of Emotional Disorders in Youth*

(Ehrenreich et al., 2008). The Unified Protocol for the Treatment of Emotional Disorders

in Youth (Ehrenreich et al., 2008) is a cognitive-behavioral approach to treating

adolescents with emotional disorders (i.e., anxiety and unipolar mood disorders). The

treatment was adapted from its adult progenitor (Barlow, Allen, & Choate, 2004), with

revisions based on consideration of empirical research regarding normative adolescent

development and a lengthy treatment development and open trial evaluation process

during which modifications were systematically added and examined for their utility with

an adolescent sample. Similar to other cognitive-behavioral treatments, the overall goals

for treatment involve altering cognitive reappraisal, prevention of emotional avoidance,

and reduction of maladaptive behaviors (Barlow et al., 2004). However, the UP-Y is

unique from other cognitive-behavioral treatments in its *transdiganostic* approach, which

attempts to treat adolescents with a range of emotional disorders, rather than a single

disorder. Influenced by a model of emotion regulation described by Gross and Thompson

(2007), the treatment is designed to target maladaptive emotion regulation strategies

hypothesized to underlie the range of internalizing disorders. The protocol is broken up

into eight sections, including five required sections and three optional sections (Trosper,

Buzzella, Bennett, & Ehrenreich, 2009).

Adolescents between 12 and 17 years of age meeting diagnostic criteria for a

principal diagnosis of anxiety or unipolar depressive disorder, based on a clinical

composite diagnosis and clinical severity rating (CSR) of four or higher derived from the

ADIS-IV-C/P are eligible to participate in the treatment program (18-year-olds who are

still in high school are also eligible). Exclusion criteria include the presence of psychotic

symptoms, current suicidal or homicidal ideation, a prior course of cognitive-behavioral

treatment (as indicated by adolescent- or parent-report) or current ongoing involvement

in another type of therapy, and diagnoses such as schizophrenia, bipolar disorder,

pervasive developmental disorder, mental retardation, organic brain syndrome, severe

learning disorders, or any other cognitive impairment that may have prevented basic

comprehension of questionnaire or treatment materials. A medication stabilization period

(i.e., a consistent dose/type of medication for three months prior to the initial diagnostic

assessment; one-month stabilization period for benzodiazepines) was required for

individuals taking psychotropic medications. Adolescents were also asked to refrain from

changes in medication regimen throughout the treatment program; however, adolescents were not excluded for changes in medication usage once they complied with initial medication stabilization.

After an initial intake, adolescents were randomized to either immediate treatment or an eight-week waitlist/attentional-control condition. Those randomized to the waitlist condition begin treatment approximately 8 weeks following randomization, at which time they were administered a brief version of the ADIS-IV-C/P. Written informed consent from parents and assent from adolescents were obtained at the onset of the first interview and prior to beginning treatment.

Treatment was administered according to the protocol and guidelines of the UP-Y manualized protocol (Ehrenreich et al., 2008) for a minimum of 8 and a maximum of 21 sessions, with treatment lasting a maximum of 24 weeks. Clients were seen weekly, with each session lasting approximately 50 minutes. All sessions were held at the Child and Adolescent Mood and Anxiety Treatment Program at the University of Miami. Adherence ratings were collected on a random sample (approximately 20%) of treatment sessions to ensure compliance with procedures as set forth in the UP-Y manual.

Therapists ($n = 12$) were mostly doctoral-level graduate students in a clinical psychology program. One therapist held a doctorate degree in clinical psychology. They were mostly female (ten women, two men) and their ages ranged from their 20s to their 30s. All therapists received both initial training and attended weekly group supervision.

Measures

  Clinical status.

  Anxiety Disorders Interview Schedule, Child and Parent Versions (ADIS-IV-C/P;

Albano & Silverman, 1996). The ADIS-IV-C/P is a semi-structured clinical interview

that assesses anxiety and related disorders in children and adolescents on the basis of

criteria set forth in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.,

DSM-IV, American Psychiatric Association, 1994). This interview was conducted at the

initial intake by a trained faculty or graduate student. Composite diagnoses were derived

from diagnoses from each interview, using specific guidelines outlined by Silverman and

colleagues (Silverman & Nelles, 1988). Diagnoses assigned a clinical severity rating

(CSR) of four or above on an eight-point scale (e.g., 0 = absent; 8 = very severely

interfering/disabling), based on a clinician-rated consensus of parent and adolescent

reports, are considered clinical diagnoses, while those assigned a rating of less than four

are considered subclinical. A primary diagnosis of a specific anxiety disorder, depressive

disorder, or co-principal anxiety and depression, was assigned based on the diagnosis

with the highest CSR. The diagnosis with the highest severity rating on the ADIS-IV-C/P

during the initial interview was considered the principal diagnosis. Clinical severity

ratings (CSR) were derived from the mean clinician-rated CSR across all diagnoses.

Research demonstrates that the ADIS-IV-C/P has good interrater ($r = .98$ for the ADIS-

C; $r = .93$ for the ADIS-P) and test-retest reliability ($k = .76$ for ADIS-C; $k = .67$ for

ADIS-P) (Silverman & Nelles, 1988; Silverman & Eisen, 1992). A kappa of .92 was

found for overall principal diagnoses using combined ADIS-IV-C/P information

(Lyneham, Abbott, & Rapee, 2007).

Symptom severity.

Revised Child Anxiety and Depression Scale (RCADS; Chorpita,Yim, Moffitt, Umemoto, & Francis, 2000). The RCADS is a 47-item self-report measure that was administered to adolescents at pretreatment. Items ask about the frequency of symptoms and are rated on a 4-point scale from 0 (never) to 3 (always). The RCADS was designed to assess symptoms of DSM-IV anxiety disorders and depression, and evidences good internal consistency, reliability, and validity (Chorpita et al., 2000). In the present study, the RCADS Total Anxiety and Depression subscale is used as a continuous measure of overall symptom severity.

Adolescent-rated pretreatment relational characteristics.

Adolescent Attachment Questionnaire (AAQ; West, Rose, Spreng, Sheldon-Keller, & Adam, 1998). The AAQ is a 9-item self-report questionnaire designed to measure adolescents' perceptions of the relationship with their attachment figure. Items assess the adolescent's confidence in the availability and responsiveness of the attachment figure (Availability); the amount of anger in the adolescent-parent relationship (Angry Distress); and the extent to which the adolescent considers and is empathetic to the needs and feelings of the attachment figure (Goal-Corrected Partnership). Items are rated on a 5-point Likert-type scale, from *strongly disagree* (1) to *strongly agree* (5). For ease of interpretation, the AAQ score will be reversed in this study, with higher scores indicating fewer problems on the dimension being measured. For example, high scores on Availability indicate higher perceived available responsiveness of the attachment figure. This measure was selected both because of its brevity and because it has good theoretical and psychometric properties. The validity and

reliability of the AAQ has been established with clinical and nonclinical adolescent populations, with *alpha* coefficients ranging from .62 to .80 and test-retest reliability (over a 3-month period) with a normative sample ranging from .68 to .74 (West et al., 1998). The AAQ has also demonstrated strong convergent validity with the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1984-1996), the most commonly used classification of attachment in adults (West et al., 1998). For the purposes of the current study, only the total score is considered, as an index of adolescents' perceptions of the availability and responsiveness of their attachment figure. The AAQ showed excellent internal consistency within our sample (coefficient alpha = 0.90).

Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991). The RQ consists of four short paragraphs describing the four attachment styles: *Secure* ("It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having other not accept me."), *Fearful* ("I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely or to depend on them. I worry that I will be hurt if I allow myself to become too close to others."), *Preoccupied* ("I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them."), and *Dismissing* ("I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me."). Adolescents were asked to select the description that best describes them in their close relationships, yielding a categorical assessment of

attachment status, and then to rate their degree of correspondence to each prototype on a

7–point scale ranging from *not at all like me* (1)*,* to *very much like me* (7). These ratings

provide a *profile* of an individual's attachment feelings and behavior, offering a more

sensitive measure of attachment and enabling data to be obtained on differences among

subjects within the same attachment category (Collins & Read, 1990). Four continuous

variables corresponding to attachment patterns can be derived from the mean rating for

each of the four attachment patterns. The RQ has demonstrated good internal reliability,

as well as both discriminant and convergent validity (Bartholomew & Horowitz, 1991;

Griffin & Bartholomew, 1994). Among the strengths of the RQ is that it captures

constructs that are central to attachment theory, is brief, and has good psychometric

properties in adolescent populations. For the purposes of the current study, only the score

on the subscale 'attachment security index' was considered, as an indication of the

capacity to build strong personal relationships (see Meier et al., 2005).

Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem,

Zimet, & Farley, 1988). The MSPSS is a 12-item measure designed to assess perceptions

of social support adequacy from specific sources. In the current study, two subscales

(Friends and Family subscales) were rated by adolescents as an indicator of perceived

relationship support. The Friends subscale consists of four items evaluating the extent to

which the individual perceives that he or she receives help and support from friends. The

Family subscale consists of four items assessing the individual's perceptions of his or her

family members' support. Items were rated on a 7-point Likert-type scale, from *not*

suitable at all (1) to *very suitable* (7). Both internal consistency and test-retest reliability

have been established, with α = .87 for the Family subscale and α = .85 for the Friends

subscale, and test-retest reliabilities of .85 and .75, respectively. Construct validity has also been demonstrated, with high levels of perceived social support associated with low levels of depression and anxiety symptomology (Zimet et al., 1988). This measure was selected because it measures family and friendships as distinct sources of support and because it is relatively brief and easy to complete, facilitating its use under the constraints of this study. Total perceived support will be based on the sum of items from the Friends and Family subscales. Reliability analyses for the current study were good, with alphas of .92 for the Family subscale and .94 for the Friend subscale, and .85 for the Total Family and Friend score. Intercorrelations were nonsignificant between the "Family" and "Friends" subscales of this measure, $r(26) = .15$, *ns*.

Child and Adolescent Social and Adaptive Functioning Scale (CASAFS; Price, Spence, Sheffield, & Donovan, 2002). Peer and Family Relationships subscales of the CASAFS were used to assess adolescents' judgments about their competence or adequacy in social relationships (i.e., friend and family relationships). Peer Relationships subscale items assess the youth's judgments of the extent to which he or she has friendships of the opposite sex, has close friendships, has contact with friends, participates in social activities, spends spare time alone, and has difficulty making friends. Family Relationships subscale items indicate how well the youth gets along with individual family members (i.e., mother, father, siblings, and relatives), the extent to which the youth fights with his or her parents, and the availability of an adult with whom the youth can talk to about his or her problems. Adolescents answer questions on a 4-point scale from *never* (1) to *always* (4). Family relationship items include a fifth scoring category stating "does not apply to me," which was included for adolescents for whom

the question was inapplicable (e.g., adolescents without siblings or one of their parents).

The measure has adequate internal consistency, with coefficients alphas of .67 for Peer

Relationships and .74 for Family Relationships (Price et al., 2002). The CASAFS also

has excellent stability with 12-month test-retest correlations of .59 for Peer Relationship

subscale and .54 for Family Relationship subscale. The CASAFS has good concurrent

validity with significant correlations between the subscales and the Beck Depression

Inventory (BDI). Strengths of this measure include its development specifically to

examine social functioning in youth populations as well as its brevity and simplicity. The

Peer Relationships subscale and Family Relationships subscale were combined in this

study to form a measure of social relationship functioning; higher scores indicate higher

level of social functioning. The subscales had adequate reliability in the current study,

with alphas ranging of .72 for Family Relationships and .78 for Peer Relationships.

Intercorrelations were nonsignificant between the Family Relationships and Peer

Relationships subscales of this measure, $r(26) = .07$, *ns*.

Alliance assessment.

Working Alliance Inventory (WAI; Horvath & Greenberg, 1989; Tracey &

Kokotovic, 1989). Adolescents and therapists completed the short form of the WAI after

the third therapy session. The short version of the WAI includes 12-items rated on a 7-

point Likert-type scale *never* (1) to *always* (7), with items reflecting the three components

of alliance proposed by Bordin (1979): *agreement on tasks* (e.g., "My therapist and I

agree about the things I will need to do in therapy to help improve my situation"),

agreement on goals ("e.g., My therapist and I are working toward goals that we both

agree on"), and *bond* (e.g., "My therapist and I trust one another"). Client and therapist

versions of the scale are identical in content and format. The items on each measure are summed to provide a total score; higher scores reflect a higher quality of therapeutic alliance.

This measure was selected because it can be used to measure alliance in cognitive-behavioral therapy (Raue & Goldfried, 1994), and because it is commonly used in research with adolescent populations (e.g., Hintikka, Laukkanen, Marttunen, & Lehtonen, 2006). Extensive research has attested to diverse forms of reliability and validity of this inventory in adult psychotherapy (Horvath & Bedi, 2002). The WAI is the most commonly used self-report alliance scale and has demonstrated excellent reliability and validity (Horvath & Greenberg, 1994; Tichenor & Hill, 1989). The short form has been found to have comparably good reliability and validity as compared to the WAI () and has been used commonly in youth studies (e.g., Shelef et al., 2005; Tetzlaff et al., 2005; Wintersteen, Mensinger, & Diamond, 2005). The reliability estimate for the short-form has been reported as Cronbach's $\alpha = .98$ for the patient version and $\alpha = .95$ for the therapist version (Tracey & Kokotovic, 1989; Tryon & Kane, 1993). The WAI has been shown to predict treatment outcome in many studies, including cognitive-behavioral treatments (Raue, Goldfried, & Barkham, 1997; Rector, Zuroff, & Segal, 1999). Only the total score is used in the current study, given evidence of a general alliance factor in adolescents (e.g., DiGiuseppe et al., 1996). The WAI showed excellent internal consistency within this study sample, as indicated by Cronbach's coefficient alpha for the WAI adolescent report ($\alpha = .89$), and for the WAI therapist report ($\alpha = .91$).

Vanderbilt Therapeutic Alliance Scale-Revised (VTAS-R; Diamond, Liddle, Dakof, & Hogue, 1996). Observer ratings of therapeutic alliance were made using a revised version of the Vanderbilt Therapeutic Alliance Scale (VTAS; Hartley & Strupp, 1983), which defines the therapeutic alliance as a collaborative and task-oriented relationship determined by client behaviors and therapist-client relationship characteristics. The revised version includes 24 items, split into Patient Contribution (e.g., "To what extent did the patient acknowledge that he had a problem which the therapist could help him with?") and Patient-Therapist Contribution (e.g., "To what extent did the therapist and patient share a common viewpoint about the definition, possible causes, and potential alleviation of the patient's problems?") subscales; items reflect the three aspects of the therapeutic alliance (i.e., the bond, task, and goal components) proposed by Bordin (1979). Each item is rated on a Likert-type scale ranging from *not at all* (0), to *a great deal* (5). The revised VTAS has been implemented in a number of studies with adolescents (e.g., Diamond et al., 1999; Hogue, Dauber, Stambaugh, Cecero, & Liddle, 2006; Robbins et al., 2003; Shelef et al., 2005) and has demonstrated adequate reliability and construct and predictive validity. Analyses of the revised version indicate strong interrater agreement intraclass correlation: $ICC_{(1.11)} = .80$ and internal consistency of .95 (Diamond et al., 1999). Based on prior research with this measure suggesting one general alliance dimension in adolescents, only the total alliance score was used in this study.

Procedure

Data on client pretreatment characteristics were obtained at the intake assessment, during which adolescents and their parents completed a semi-structured interview (the ADIS-IV-C/P), as well as parent- and adolescent-report questionnaires. Data on client, therapist, and observer ratings of alliance were obtained during or immediately following the third therapy session with the adolescent. Session 3 was chosen because prior research (O'Malley, Suh, & Strupp, 1983) indicates that alliance assessed early in treatment is more predictive of treatment outcomes than alliance assessed later in treatment (Hersoug et al., 2002; Horvath & Symonds, 1991; Martin et al., 2000), and because alliance assessed early in treatment reduces the potential confound between alliance scores and symptom improvement over the course of therapy (Feeley, DeRubeis, & Gelfand, 1999). The adolescent and therapist independently completed the therapeutic alliance measure (the WAI) immediately following the third treatment session. Adolescents were informed that the therapist would not see or have access to the survey and placed the completed survey in a sealed envelope. Session three was recorded on DVD and subsequently viewed by trained raters assessing alliance.

Alliance Raters and Training

Raters were one graduate student (this author) and two external raters (one undergraduate and one post-baccalaureate rater; both with majors in Psychology) who completed rater-training procedures. All three raters were women, ranging in age from 19 to 28 years, who were of European American, Hispanic American, and South Asian American descents. The two non-graduate raters were selected to be naive to the study

design and hypotheses. The graduate rater (this author) received training to use the

VTAS-R, conducted primarily by one of the developers of the revised version of this

measure for use in adolescents. Following training, the two non-graduate student raters

were trained by this author. Training sessions were two hours in duration and were

conducted twice a week over the course of two months. Coder training included studying

the manual, viewing and independently rating videotapes, and ongoing discussions to

clarify scoring dilemmas. Training tapes were not drawn from participants included in the

present study sample. After this training, raters were given five practice sessions to rate.

Analyses showed that for these practice sessions, raters achieved excellent interrater

reliability (intraclass correlation coefficient [ICC = .94]) (Shrout & Fleiss, 1979), and

were therefore deemed competent to begin coding actual study tapes (Diamond et al.,

1999; Robbins et al., 2003).

Alliance Coding Procedure

The total number of alliance sessions coded was 24. The number of observer

alliances collected was slightly lower than the number of self- and therapist-rated

alliances because the families of two participants did not consent for permission to

videotape sessions. In one case, observer ratings could not be made because all sessions

were recorded without sound. In 20 of the 24 cases, the observer ratings of the alliance

were based on the same session as the therapist and client reports. In the remaining 4

cases, observer ratings were obtained within one or two sessions after self-reports due to

recording errors (e.g., sessions recorded without sound, camera and equipment problems,

etc.).

Session alliance was coded by one to two raters. Of the 24 alliance sessions that were coded, 15 (62.5 percent) were coded by a second observer to provide an estimate of observer agreement. Raters were assigned sessions in rotating, random order. Ratings were made independently after viewing the entire session, with one to two raters separately coding each alliance. Without consulting one another, a pair of raters watched session videotapes together. Final alliance scores were generated following discussion between the raters. Rater disagreements were discussed using their notes to substantiate their score. The ratings were averaged if an agreement could not be reached or if the ratings differed by only one point. Raters were not allowed to review the session DVD in the case of disagreements, to prevent any rater bias that could confound reliability. Only the segments of sessions in which the adolescent and therapist were alone were coded. This decision was made to minimize the possibility of confounding effects on adolescent-therapist alliance scores when parents were present during session. Raters were instructed to fast-forward any segments of the session during which parent(s) of the adolescent were present (e.g., parent "check-ins"). Weekly recalibration meetings were held during the study to prevent rater drift. Interrater reliability was computed regularly throughout the study.

VTAS: Interrater reliability and scale properties.

An analysis of interrater reliability using intraclass correlation coefficients (Shrout & Fleiss, 1979) was conducted with data from 15 sessions that were rated by multiple raters. Consistent with prior research on the VTAS (Shelef et al., 2005), raters were able to achieve a high degree of rater reliability. The ICCs for the items ranged from good (.65) to excellent (.91) (Cicchetti, 1994), except for three items: "Refer back to

experiences they have been through together (.23)," "Accept their different roles and responsibilities as part of their relationship (.33)," and "Make an effort to carry out therapeutic procedures suggested by the therapist (.59)." Because the three items could not be coded reliably, they were eliminated from all subsequent analyses. Raters achieved a mean ICC of .88 when the three items were removed for the total scale. An internal consistency analysis performed on the 21 VTAS items produced a Cronbach's coefficient alpha of .97. Similar results were reported by (Shelef et al., 2005), which suggests that the VTAS is a reliable measure of therapist-adolescent alliance for this population

Chapter 3: Results

Preliminary Analyses

  Descriptive statistics for independent (interpersonal) variables.

  Table 2 presents the means (or percentages) and standard deviations for

pretreatment measures for the present study sample. The sample size for each measure

varies slightly because of variations in the availability of data. Visual inspection of

histograms for the total scales of the MSPSS, the CASAFS, and the AAQ suggest near –

normal distributions. Adolescents' scores on the CASAFS were truncated, with most

items rated at a 3 or a 4 on a 4-point Likert scale. Due to a photocopying error,

insufficient data on the RQ measure was obtained; therefore, this measure was not

included in the analyses. Total scores across the three interpersonal measures (i.e., the

CASAFS, MSPSS, and AAQ) were moderately to strongly significantly correlated (see

Table 3).

  Descriptive data on alliance.

  The means and standard deviations for adolescent- and therapist-rated WAI scores

at session 3, as well as alliance scores rated by independent observers on the VTAS-R,

are presented in Table 2. Adolescent self-reported alliance scores ($N = 26$) ranged from

42.00 to 84.00, with a mean total score of 69.58 ($SD = 11.43$). The distribution of scores

had a skew of -0.77 ($SE = 0.46$) and kurtosis of 0 ($SE = 0.89$). Therapist-reported alliance

scores ($N = 27$) ranged from 40.00 to 77.00, with a mean total score of 64.60 ($SD = 8.85$).

The distribution of scores had a skew of -1.19 ($SE = 0.46$) and kurtosis of 1.27 ($SE =$

0.90). The mean ratings (from 1 to 7) for adolescent and therapist alliances were 5.80 (SD

$= 0.95$) and 5.27 ($SD = 0.93$), respectively. The two self-report alliance measures were

significantly different in magnitude, $t(26) = 2.37$, $p < .05$, with adolescents rating alliance higher than therapists. Visual inspection of histograms and frequency distributions indicate that adolescent self-report scores were truncated, with 54% of the sample scoring an average of 6 or above on the scale. In contrast, only 15% of the therapist rated alliance scores fell above 6. This difference was significant, $t(26) = 3.17$, $p < .01$. Independent observer alliance scores on the VTAS-R ($N = 25$) ranged from 10 to 93, with a mean total score of 67 ($SD = 22.5$). The distribution of scores had a skew of -0.77 ($SE = 0.46$) and kurtosis of 0.04 ($SE = 0.90$).

Hypothesis Testing

Hypothesis 1: Cross-informant agreement on therapeutic alliance.

Correlational analyses using two-tailed Pearson r's were conducted to examine the intercorrelations among the three alliance rater perspectives. Results indicate that observer ratings of alliance were strongly correlated with both therapist and client ratings, $r(23) = .55$, $p < .01$, and $r(23) = .65$, $p < .01$, respectively. Client and therapist alliance ratings were moderately correlated. This moderate correlation between youth and therapist reports is consistent with findings reported in past research (Hawley & Garland, 2008; Shirk, et al., 2003). These correlations demonstrate that while the three perspectives are related, there is still significant and unique variance captured by each informant's report.

Hypothesis 2: Predictors of alliance.

Initial analyses of demographic and clinical variables.

Initial analyses were conducted to determine whether client demographic and clinical variables were associated with therapeutic alliance (see Table 4). Examination of

the client demographic characteristics failed to reveal any significant associations. The presence of a comorbid depressive disorder was significantly associated with therapist-rated alliance scores, $t(23) = 1.89$, $p < .01$, indicating that therapists perceived a poorer alliance with participants exhibiting clinically-significant depressive symptoms. Inspection of mean differences indicated that therapists rated alliance lower in participants with a comorbid depressive disorder ($n = 17$, $M = 60.35$, SD $= 12.65$) than they did patients without a comorbid depressive disorder ($n = 9$, $M = 68.67$, SD $= 4.06$). Neither adolescent nor observer rater perspectives were found to differ significantly based on the presence of a depressive disorder. In addition, adolescents' self-reported ratings of symptoms based on the RCADS Total Scale score was significantly associated with observer ratings of alliance, $r(24) = .41$, $p < .05$, indicating that adolescents who reported a higher level of overall anxiety and depressive symptom severity were observed to establish stronger alliances with their therapists than adolescents who reported fewer symptoms. Adolescent symptom severity ratings were not associated with therapist or adolescent ratings of alliance.

Stepwise regression analyses predicting alliance from interpersonal predictors.

Stepwise regression analyses (Table 5) were used to identify the most salient interpersonal predictors of alliance in this sample. A recommendation put forth by Altman (1991) concerning an adequate sample size in multiple regression analyses is that the number of independent variables used should not exceed the square root of the sample size. The square root of the sample size in the present study is 5.

The three measures reflecting adolescents' self-reported perceptions of their interpersonal relations (i.e., CASAFS, MSPSS, AAQ), as well as adolescent self-reported symptomology (based on RCADS Total score) were entered as predictors into three separate regression models. The rationale for including RCADS into the regression was based on the recognition that adolescent participants present with varying levels of symptom severity that may have a confounding effect on their self-report (Muran, Segal, & Samstag, 1994). The dependent variable was the alliance score, with separate regressions for each alliance rater perspective. Stepwise analyses identified the AAQ as a statistically significant predictor of adolescents' alliance ratings, Standardized beta = .45, $t = 2.41$, $p < .05$, which accounted for 20% of the variance in adolescent-rated alliance ($R^2 = .20$, $p < .05$). This indicates that adolescents' perceptions of security in their relationships with their parents predicted their perceptions of alliance with their therapist. In addition, the MSPSS was a statistically significant predictor of observer ratings of adolescent-therapist alliance, Standardized beta = .51, $t = 2.69$, $p < .05$, which accounted for 26% of the variance in observer-rated alliance ($R^2 = .26$, $p < .05$). This finding indicates that adolescents who reported higher levels of support from their relationships with family and peers were observed by independent raters to have stronger alliances. None of the three interpersonal measures were related to therapists' ratings of alliance.

Chapter 4: Discussion

This study addresses the need for research on therapeutic alliance with adolescent populations and is among the first to examine client pretreatment variables predictive of early alliance among adolescents receiving cognitive-behavioral treatment for anxiety and depressive disorders. While much is known about the essential role of therapeutic alliance in treatment outcome, less is known about what predicts this critical relationship. This study sought to expand this knowledge base by examining predictors of early alliance among a sample of adolescents being treated for anxiety and depressive disorders.

To address the first goal of this research, the interrelations between the three distinct alliance rater perspectives were examined. The association between therapist and client alliance ratings was moderate, but each informant's report was strongly correlated with observer ratings. Such patterns are consistent with findings from previous research on adolescent alliance (Garner, Godley, & Funk, 2008; Hawley & Garlan, 2008; Shelef & Diamond, 2008; Shirk & Karver, 2003), and suggest that adolescent and therapist perceptions of alliance may reflect similar yet distinct constructs. In other words, adolescents and therapists may be reporting on slightly different aspects of the therapeutic alliance, whereas blind observers may be tapping into facets of each informant's perspectives. Consistent with past research, adolescents rated the alliance more positively than therapists, with over fifty percent of adolescents rating alliance at an average of 6 or above (on a 7-point scale), whereas only fifteen percent of therapists provided an average alliance score of 6 or above. This elevated level in client ratings of alliance is consistent with previous studies of both adolescent and adult alliance (Shelef et al., 2005). Fenton et al. (2001) suggested that elevated alliance scores in adult clients

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with substance abuse disorder may be due to a fear of expressing negative feelings about the therapist (Fenton et al., 2001). This may also be true for adolescents with anxiety and/or depressive disorders. Another factor that could account for the highly positive client ratings observed may be the lack of comparison to other standards (Fenton et al., 2001). In this study, adolescents likely had fewer points of reference from which to judge the quality of alliance, in contrast to therapist and observer ratings, each of whom rated alliance on multiple occasions and often across adolescent participants.

Given the substantial evidence for a link between alliance and treatment outcome indicating the role of a strong therapeutic alliance on successful treatment outcome (Horvath & Symonds, 1991; Martin, Gaske, & Davis, 2000), the second aim of this study was to explore factors contributing to the development of a strong alliance. Adolescents who reported higher levels of security in their relationship with their caregivers also reported higher levels of alliance. Not surprisingly, those adolescents who characterized their relationship with their caregiver via higher levels of availability and responsiveness to their own needs, higher levels of empathy, and lower levels of anger toward their caregivers were more likely to perceive the therapeutic relationship as trusting, warm, and amenable. These findings are all the more noteworthy in light of truncated adolescent-rated alliance scores, which might attenuate such associations. In addition, observer-rated alliance scores were predicted by adolescent-reported sense of social support, indicating that adolescents who reported perceiving increased levels of social support from family and peer relationships were observed by blind raters to have stronger relationships with their therapists. For example, adolescents who reported having people to talk to and rely on, or having people that could help them figure out how to cope with problems, were more likely to receive positive ratings of alliance from blind observers.

This finding is consistent with previous research which has found evidence for the importance of social support in predicting therapeutic alliance (Garner, Godley, & Funk, 2008; Meier et al., 2005). From an attachment-based perspective, higher self-reported ratings of social support and attachment security may reflect a positive working model and trust in the benevolence of other people. With their tendency to seek contact and help from the others, more secure adolescents may find it easier to create a trusting and emotionally close relationship with their therapists.

The self-reported measures of attachment security and social support accounted for 20% and 26% of the variance in adolescent-rated and observer-rated alliance respectively, while symptomology did not account for a significant proportion of variability in alliance. The important contributions of interpersonal factors to the formation of therapeutic alliances supports the potential usefulness of incorporating interpersonal relationship factors into assessment and intervention protocols using this treatment modality. For example, more thoroughly assessing pretreatment interpersonal factors in patients might improve early identification of patients who might require additional focus on alliance building factors early in treatment. Therapists could, in turn, use information both on patients' interpersonal problems as well as strengths to consider ways of engaging and motivating patients and family members more effectively. Therapists may also need to consider modifying their approach for clients with pretreatment indications of interpersonal problems and their families in order to engage them in a more productive relationship.

Therapist-rated alliance was not predicted by any of the three adolescent self-reported interpersonal measures. The majority of therapists in this study were at relatively early stages of training may which might, at least in part, explain the nonsignificant

findings with respect to predictors of therapist alliance ratings. Indeed, findings from other studies indicate differences in alliance ratings of novice therapists compared to more experienced therapists, suggesting that therapists with less experience may be more limited in their ability to effectively attain and process new information (Mallinckrodt, 1991). An alternative or additional explanation for the lack of prediction of interpersonal factors on therapist-rated alliance may be that therapists were unaware of issues related to attachment security or social support in their clients since assessment and discussion of these factors were not explicitly part of the treatment manual or the clinical assessment data they received prior to onset of treatment.

In contrast to the lack of association with interpersonal factors, therapist-reported alliance was related to the presence of a comorbid depressive disorder. Therapists' perceptions of lower alliances in depressed patients may be, in part, explained by the symptom constellation in depressed patients (i.e., decreased motivation and loss of interest), which may create reluctance on both sides to engage in the therapeutic relationship. Given research demonstrating a tendency for depressed adolescents to *withdraw* from family and friends (Puig-Antich, Kaufman, Ryan, & Williamson, 1993), it would not be surprising if depressed adolescents are also more likely to refuse to participate in aspects of treatment (e.g., homework assignments or in session activities). This may, in turn, increase negative emotions (e.g., hostility) in therapists. This finding points to the potential importance of helping therapists learn to work with and tolerate their negative emotional reactions and possible feelings of hostility and/or withdrawal from depressed patients, who represent themselves as less motivated and whose symptoms render them at odds for developing a productive therapeutic relationship.

While symptomology did not yield significant predictions in the regression models, correlational analyses revealed that adolescents who reported higher symptom levels on the RCADS were rated as having stronger alliances by blind observers. The positive association between alliance and symptom severity has been found in other research studies (Garner et al., 2008). This makes sense intuitively, since greater acknowledgement of one's problems may increase motivation and engagement in the therapeutic tasks to alleviate symptoms. Given that adolescents reported their own symptomology, higher ratings may reflect more acknowledgment of problems, which is in of itself an aspect for which the observer ratings are based. In addition, adolescents who acknowledge more problems may be more likely to want and accept the help, support, and feedback from the therapist, creating the circumstances for a positive working alliance. Moreover, therapists may become more comfortable with adolescents who report higher levels of symptoms—therapists may both feel gratified by the client's desire for their help and may also feel more confident in their own work because of the broader range of issues to work with.

Limitations

Although this study provides important information about potential interpersonal predictors of alliance in youth CBT, certain study limitations are acknowledged. First, given the small sample size, the likelihood of obtaining a statistically significant effect is reduced; therefore, future investigation should replicate these findings in a larger sample size to increase power. Second, indices used to assess interpersonal factors at pretreatment were only obtained from adolescents' own reports. This poses two distinct problems. The first is the issue of rater biases that come with using the same informant to report on both independent predictors and the dependent variable (alliance). In addition,

self-reported measures of attachment and interpersonal functioning are limited by the fact that some aspects of the interpersonal factors measured are implicit and may occur outside patients' awareness. Future studies, therefore, need to assess interpersonal qualities using multiple informants' perspectives. A third limitation in the current study is that only participant variables were assessed as alliance predictors. Given findings suggesting that some therapists consistently respond to their patients in ways that systematically influences the alliance, future research should include therapist characteristics (Dinger, Sachsse, & Schauenburg, 2009).

It is also worth noting that results from this study are based on clients for which sufficient data was collected (i.e., the completion of three treatment sessions), whereas adolescents who dropped out prior to the third session were excluded from the study. As such, it is possible that adolescents who dropped out prior to session three had certain interpersonal characteristics that may have predisposed them to problems in the alliance. In turn, the ratings on both interpersonal pretreatment characteristics and alliance may reflect overly positive scores with respect to these characteristics that pose a threat to the generalizability of these findings. Future studies would therefore do well by examining predictors of drop-out in addition to alliance. Another factor worth considering is that therapists were aware of which sessions were coded for alliance, which may have impacted the interactions during the third session. Finally, this study was restricted to the assessment of predictors of alliance. In order to develop a greater understanding of means to improve treatment outcome, future research might examine how alliance changes at different phases of development and factors related to ruptures and repairs in alliance, the

relation between adherence and alliance, how therapist and client variables interact to predict alliance, and therapeutic processes that mediate the relationship between client interpersonal functioning and alliance.

Implications and Future Directions

Despite these limitations, this study is the first to assess predictors of therapeutic alliance from the three basic rater perspectives within a research-based, cognitive-behavioral intervention for adolescents with anxiety and depressive disorders. This is especially important in light of research with similar treatment populations in which youth have rated the therapeutic alliance as the most important aspect of treatment (Southam-Gerow, 1996). Additionally, the findings of this study have important implications for the understanding factors related to the prediction of therapeutic alliance, which has been documented as being important in therapeutic outcome. Indeed, interpersonal factors may be useful to consider in identifying youth who may be more difficult to engage across psychosocial treatment approaches for anxiety and depression. This study increases our understanding of factors that may be of import in alliance and ultimately treatment outcome in adolescents in CBT. If pretreatment interpersonal factors may predispose therapeutic alliance problems, it seems important to identify such characteristics so that therapists can better recognize potential pitfalls with patients and adjust accordingly. Such information seems essential as researchers move beyond understanding treatment outcome studies to understanding how to remedy poor alliance and improve treatment efficacy (Muran et al., 1994). Learning more about the ways in which aspects of adolescents' relationship experiences influence the therapeutic alliance will help in planning psychotherapy interventions. Early therapists might also benefit

from explicit training in factors pertaining to evaluating and developing an alliance, including how to develop an alliance with difficult patients, how to recognize when the alliance is fragile, and how to work to develop and repair weak alliances.

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Table 1: *Participant characteristics*

Participant characteristics	*N* = 27	%
Age (mean, range)	15.3 (12-17)	
Gender		
Female	13	52
Male	14	48
Ethnicity		
Caucasian	4	14.8
Hispanic/Latino	18	66.7
African American	1	3.7
Asian	1	3.7
Mixed/Other	3	11.1
Grade		
Sixth	3	11.1
Seventh	1	3.7
Eighth	2	7.4
Nine	3	11.1
Tenth	5	18.5
Eleventh	9	33.3
Twelfth	4	14.8
Estimated annual income (mean, range)	76,692 (19,000 – 300,000)	
Youth parent marital status		
Married	17	65.5
Divorced	5	19.2
Never married	2	3.8
Remarried	1	3.8
Principal (or co-principal) Axis I Diagnoses		
Generalized anxiety disorder	12	
Social phobia	7	
Obsessive-compulsive disorder	2	
Panic disorder	2	
Specific phobia	2	
Anxiety disorder NOS	1	
Major depressive disorder	6	
Dysthymic disorder	1	
Depressive disorder NOS	1	
Impulse control disorder	1	
Co-Principal	7	
Other diagnoses		
ADHD	3	
Oppositional defiance disorder	1	
Selective mutism	1	
Enuresis	1	
Impulse control disorder	1	
Substance-related disorder	1	
Stuttering	1	
Clinical severity rating (mean, range)	5.30 (.70)	
Global Assessment of Functioning (mean, range)	61.6 (33-80)	

Note: Data are presented as frequency and percentage of patients unless otherwise specified.
GAD, Generalized Anxiety Disorder; ADHD, Attention-Deficit/Hyperactivity Disorder.

Table 2: *Means and standard deviations of study variables*

	n	M	SD	Min	Max
Predictor measures					
Youth symptoms					
RCADS- Total score (child)	27	56.98	15.16	37	90.0
CSR-Average	27	5.13	.70	4	6.5
Interpersonal variables					
AAQ Total	26	31.69	9.49	15	45
Availability	26	8.15	4.55	3	15
Angry/Distress	26	7.46	3.25	3	14
Goal-Corrected Partnership	26	6.69	3.22	3	15
MSPSS Total	26	37.46	10.47	20	56
Friends	26	17.96	7.23	4	28
Family	26	19.50	6.56	4	28
CASAFS	26	34.59	6.33	19	47
Peer Relationships	26	16.81	4.25	6	23
Family Relationships	26	17.78	4.41	8	24
Alliance scores					
WAI-C	26	69.58	11.43	42.00	84.00
WAI-T	25	64.60	8.85	40.00	77.00
VTAS-R	24	68.54	21.53	10.00	93.00

Note: RCADS, Revised Child Anxiety and Depression Scales; CSR, Clinical Severity Rating (mean clinician-rated CSR across all diagnoses); CASAFS, Child and Adolescent Social and Adaptive Functioning Scale; MSPSS, Multidimensional Scale of Perceived Social Support; AAQ, Adolescent Attachment Questionnaire; WAI-C, Working Alliance Inventory – Client report; WAI-T, Working Alliance Inventory – Therapist report; VTAS-R, Vanderbilt Therapeutic Alliance Scale-Revised.

Table 3: *Correlations of independent variables*

	MSPSS	AAQ	RCADS	CSR
CASAFS	.51**	.59**	-.21	-.06
MSPSS		.58**	-.05	.09
AAQ			-.04	-.05
RCADS				.30

Note: *p ≤ .05, **p≤.01, ***p≤.001 (two-tailed). All variables are total scores, to maximize reliability. RCADS, Revised Child Anxiety and Depression Scales; CSR, Clinical Severity Rating (Average); CASAFS, Child and Adolescent Social and Adaptive Functioning Scale; MSPSS, Multidimensional Scale of Perceived Social Support; AAQ, Adolescent Attachment Questionnaire.

Table 4: *Relationship between pretreatment variables and alliance ratings*

	WAI-C (*n* = 25)	WAI-T (*n* = 24)	VTAS-R (*n* = 23)
Interpersonal predictors			
CASAFS	.03	.18	.06
MSPSS	.19	.32	.51*
AAQ	.45*	.32	.33
Diagnostic predictors			
RCADS	.12	.16	.41*
CSR	.06	.25	.20
Presence of depression (*t* statistic, *df*)	.67 (16.36)	2.23 (21.56)*	-.21 (11.59)
Demographic variables			
Age	.06	-.16	.17
Grade	.03	-.08	.15
Gender (*t* statistic, df)	-1.14 (24), *ns*	-.41 (23), *ns*	-1.88(22), *ns*

Note: Data are presented as Pearson *r* correlations unless otherwise specified.*p ≤ .05, **p≤.01, ***p≤.001 (two-tailed). All variables are total scores, to maximize reliability.

Table 5: *Stepwise regression statistics for equations predicting alliance from interpersonal pretreatment measures*

	WAI-C					VTAS-R				
	B	*SE B*	*t*	*p*-Value	ß	*B*	*SE B*	*t*	*p*-Value	ß
Predictor variable										
CASAFS										
MSPSS						1.06	.39	2.69	.01	.51
AAQ	.51	.23	2.41	.02	.45					

Note: Variables having a significant prediction on alliance ($p <.05$) are presented.