In-Session Exposure Tasks and Therapeutic Alliance Across the Treatment of Childhood Anxiety Disorders

Philip C. Kendall
Temple University

Jonathan S. Comer
Columbia University–New York State Psychiatric Institute

Craig D. Marker
Nova Southeastern University

Torrey A. Creed
Children's Hospital of Philadelphia

Anthony C. Puliafico
Columbia University

Alicia A. Hughes
Pennsylvania State University

Erin D. Martin
National Institute of Mental Health

Cynthia Suveg
University of Georgia

Jennifer Hudson
Macquarie University

The study examined the shape of therapeutic alliance using latent growth curve modeling and data from multiple informants (therapist, child, mother, father). Children ($n = 86$) with anxiety disorders were randomized to family-based cognitive–behavioral treatment (FCBT; $N = 47$) with exposure tasks or to family education, support, and attention (FESA; $N = 39$). Children in FCBT engaged in exposure tasks in Sessions 9–16, whereas FESA participants did not. Alliance growth curves of FCBT and FESA youths were compared to examine the impact of exposure tasks on the shape of the alliance (between-subjects). Within FCBT, the shape of alliance prior to exposure tasks was compared with the shape of alliance following exposure tasks (within-subjects). Therapist, child, mother, and father alliance ratings indicated significant growth in the alliance across treatment sessions. Initial alliance growth was steep and subsequently slowed over time, regardless of the use of exposure tasks. Data did not indicate a rupture in the therapeutic alliance following the introduction of in-session exposures. Results are discussed in relation to the processes, mediators, and ingredients of efficacious interventions as well as in terms of the dissemination of empirically supported treatments.

Keywords: alliance, cognitive–behavioral therapy (CBT), anxiety disorders, child, growth curve modeling

Cognitive–behavioral treatments for childhood anxiety disorders that utilize exposure tasks have garnered empirical support (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall et al.,

1997; Silverman et al., 1999; Ost, Svensson, Hellstrom, & Lindwall, 2001). However, studies examining the processes that might predict outcome in such treatments are scarce. Analyses of processes within empirically supported treatments, and studies of the role of exposure tasks and the alliance, inform our understanding of the mechanisms at work within such treatments (Kazdin & Kendall, 1998; Weisz, Huey, & Weersing, 1998).

Therapeutic alliance refers broadly to the quality of the relationship between client and therapist, the nature of collaboration on treatment-related tasks and goals, and the personal bond that emerges in treatment (Horvath & Bedi, 2002; Kazdin, Whitley, & Marciano, 2006). Some research suggests that the therapeutic alliance might be an active feature in positive therapeutic outcome. In adults, alliance has a modest association with positive outcomes (e.g., Barber, Connolly, Crits-Cristoph, Gladis, & Siqueland, 2000). Horvath and Symonds's (1991) meta-analysis of the adult literature found a small weighted effect size ($ES_w = .26$) when examining the association between therapeutic relationship and

treatment outcomes. With regard to the source of the alliance rating, client reports of the alliance were most strongly associated with treatment outcome, followed by therapist and observer report. Martin, Garske, and Davis's (2000) meta-analysis of the adult alliance literature replicated the overall weighted effect size (alliance and outcome, $ES_w = .23$); however, alliance–outcome relations did not significantly differ by reporter of alliance or of outcome. The quality of the later studies included in the Martin et al. analyses buttressed the reported findings.

It has been suggested that a strong alliance may be particularly important for successful treatment with youths (Chu et al., 2004; Kazdin et al., 2006; Shirk & Karver, 2003; Sommers-Flanagan & Sommers-Flanagan, 1995). Youths do not typically volunteer to come to treatment and are usually brought to therapy by parents. They are often referred by a school, agency, court, or other social service provider for treatment of problems that they sometimes do not believe they have or cannot control (DiGiuseppe, Linscott, & Jilton, 1996; Kazdin, 2004; Shirk & Russell, 1998). The situations that bring youths into treatment thus present additional interpersonal struggles that may not be as common in adult therapy.

There is a growing literature examining therapeutic alliance in youth treatment. Shirk and Karver's (2003) meta-analysis of the child literature revealed a comparably small effect size with that found in adults when examining the association between relationship variables and outcome (ES = .22), although there were methodological limitations in several of the studies reviewed. More recently, although child–therapist alliance has failed to demonstrate an association with outcome in the cognitive–behavioral treatment of some specific types of psychopathology (e.g., adolescent substance abuse; Hogue, Dauber, Stambaugh, Cecero, & Liddle, 2006), studies of pre-adolescent youths with internalizing and/or externalizing disorders do suggest modest associations between child alliance and outcome. Kazdin et al.'s (2006) prospective study of alliance and treatment outcome in externalizing youths found the greater the quality of child-rated alliance, the more favorable the subsequent therapeutic change. McLeod and Weisz (2005) reported observer-rated child alliance to be associated with improvement in anxiety. Building a positive child–therapist collaboration predicted a favorable child-rated relationship (Creed & Kendall, 2005) and may be key to increasing motivation for therapy, retention in treatment, engagement in treatment-related tasks, and increased outcomes (Chu et al., 2004). Stronger alliance has been linked with greater task participation (e.g., Shirk & Saiz, 1992) and protection against premature attrition (Garcia & Weisz, 2002), which in turn may be associated with improved outcomes (Braswell, Kendall, Braith, Carey, & Vye, 1985; Chu & Kendall, 2004).

Parent–therapist alliance may also be important in fostering engagement in treatment-related tasks and retention in treatment, although this has been particularly understudied. Recent work in the treatment of externalizing disorders finds that the greater the quality of parent–therapist alliance, the greater the subsequent improvements in child functioning and in parenting practices (e.g., Kazdin et al., 2006). McLeod and Weisz (2005) found strong observer-rated parent–therapist alliance to be associated with improvement in both anxiety and depressive symptoms. Further, parent–therapist alliance has been associated with family participation and less frequent cancellations (Hawley & Weisz, 2005).

Despite emerging literature on the role of alliance in contributing to engagement in therapeutic tasks, research has yet to examine the impact of therapeutic task engagement on the alliance. Given the importance practitioners often attribute to alliance in determining outcome, this latter issue is critical to informing dissemination efforts of empirically supported treatments. In a survey of 1,179 child mental health practitioners, Kazdin, Siegel, and Bass (1990) found over 90% of practitioners rated the relationship between the therapist and the child as "very much" or "extremely" related to change. In contrast, only 50% reported specific therapeutic techniques as related to change. Similarly, Boisvert and Faust (2006) found mental health practitioners provided a mean rating of 5.38 on a scale of 1–7 (7 = *full agreement*), indicating the extent of their endorsement of the statement "The relationship between the therapist and client is the best predictor of treatment outcome." Thus, the extent to which mental health practitioners are willing to adopt empirically supported treatments may be contingent on their beliefs about the impact that associated treatment-related tasks may have on therapeutic alliance.

There is particular need to examine the impact of exposure tasks on alliance in the treatment of childhood anxiety. Arguably, exposure tasks are a key element for positive outcome (Kazdin & Weisz, 1998; Kendall et al., 2005). Exposure tasks provide youths with opportunities to experience distress. During cognitive–behavioral therapy (CBT) for anxious youths, the therapist and child develop an exposure hierarchy together and, with therapist guidance, the child engages in increasingly anxiety-producing imaginal and/or in vivo exposure tasks. Performing in-session exposure tasks requires the ongoing collaboration or negotiation between the child and therapist, which may result in changes to the exposure hierarchy as treatment progresses. Indeed, therapist-guided exposure tasks for children with anxiety disorders may present a prime opportunity for alliance ruptures, in that the therapist arranges for and encourages the child to confront anxiety-provoking situations. Alternatively, such exposure tasks may, in fact, provide opportunities to strengthen the therapeutic relationship, as transient alliance ruptures are repaired within the session. Research is needed to examine whether exposure tasks affect therapeutic alliance in the context of treatment for anxiety disordered youths.

Method

Participants

Participants were 86 children and their parents, who were referred to and received treatment at the Child and Adolescent Anxiety Disorders Clinic (CAADC). Children (51.3% female, 48.3% male) ranged in age from 7.15 to 14.44 years ($M = 10.19$, $SD = 1.7$); 86.2% were Caucasian, 7.2% were African American, and 6.6% were of another ethnicity. The range of annual household incomes was represented, wherein 8.6% earned less than $29,999; 22.4% earned between $30,000 and $59,999; and 61.8% earned $60,000 or more (six families withheld this information). All referred children met *Diagnostic and Statistical Manual of Mental Disorders* (Fourth ed.; *DSM–IV;* American Psychiatric Association, 1994) diagnostic criteria for separation anxiety disorder (SAD), generalized anxiety disorder (GAD), and/or social phobia (SP) based on the Anxiety Disorders Interview Schedule for Chil-

dren and Parents for *DSM–IV* (ADIS C/P) and were included unless (a) their IQ was below 80, (b) they exhibited psychotic symptoms at intake, or (c) they currently used prescribed anti-depressant or anti-anxiety medication. Sixty-seven families were single-parent. In all, 83 mothers and 68 fathers participated. Alliance data from 5 children were not completed, so these children were not included in analyses.

Measures

Diagnostic status. The ADIS-C/P (Silverman & Albano, 1996) is a semi-structured diagnostic interview that assesses child psychopathology, with particular coverage of internalizing disorders, in accordance with *DSM–IV* criteria. The ADIS-C (child version) and the ADIS-P (parent version) collected data on the child's and parents' reports of the child's anxiety. Silverman and Ollendick (2005) noted that the ADIS-C/P interviews have been the most widely used diagnostic interviews in randomized clinical trials examining the efficacy of CBT in reducing childhood anxiety disorders, likely due to their strong reliability, validity, and sensitivity to change. The anxiety disorders section of the ADIS-C/P for *DSM–IV* has demonstrated strong concurrent validity (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). In age ranges comparable with those of the present sample, the interview has demonstrated good reliability for parent (κ range from .65 to .88) and child diagnostic profiles (κ range from .63 to .88; Silverman & Ollendick, 2005; Silverman, Saavedra, & Pina, 2001).

Perceptions of the therapeutic alliance. The child's perception of the therapeutic relationship was measured with a revised Therapeutic Alliance Scale for Children (TASC; Shirk & Saiz, 1992) which has demonstrated strong internal consistency. The TASC was adapted (i.e., Child TASC-r) to assess the therapeutic relationship at each session. The Child TASC-r is a 12-item scale completed by the child (e.g., "I liked spending time with my therapist," "I felt like my therapist was on my side and tried to help me"). Items are rated on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much*). The total score equals the ratings on the 12 items. To reduce social desirability, children were informed that their ratings were kept confidential and that their therapist would never see their responses. The child completed the TASC-r away from the therapist at the conclusion of each session and deposited it in a sealed drop box.

In a sample of anxiety disordered youths, the Child TASC-r total scores had acceptable levels of internal consistency at each session (child from .88 to .92; therapist from .94 to .96; Creed & Kendall, 2005). Retest reliability is difficult because the quality of the alliance is expected to fluctuate over time (Safran, 1993; Safran & Muran, 2000). Perception of the alliance is highly subjective, so it is difficult to corroborate the child or therapist's ratings of a subjective experience through measures like observer ratings. Further, child and therapist ratings are not expected to be redundant (Shirk & Karver, 2003), and so although therapist, child, and observer ratings are often correlated, examining convergent validity is not appropriate. The therapist's perception of the therapeutic relationship was measured with a therapist version of the revised TASC. The 12-question Therapist TASC-r assessed the therapist's view, at each session, with items parallel in content to those included in the Child TASC-r (α > .70 for all sessions in present sample). Creed and Kendall found these TASC-r adaptations to

predict observer-rated therapist alliance-building behaviors in the treatment of childhood anxiety disorders. Parent perception of the therapeutic relationship was measured with a parent version of the revised TASC. The Parent TASC-r assessed the parent view of the therapeutic relationship at each session. The 12 TASC-r items for parents addressed the parent's impression of the relationship between the child and therapist (α > .80 for all sessions in present sample).

Procedures

Children were referred to the CAADC by parents, school personnel, and mental health professionals for anxiety disorder treatment. Families were informed that all sessions were audio and videotaped, parents signed informed consent, and children signed an assent form. As part of an intake battery, participants were administered the ADIS-C/P. For each child, separate diagnosticians conducted the parent and child ADIS interviews. Diagnosticians each conducted an approximately equal number of parent and child interviews to control for potential bias. Evaluation of agreement among diagnosticians revealed high inter-rater reliability (κ > .80).

Following an interview, each diagnostician independently assigned diagnoses (for details, see Silverman & Albano, 1996), resulting in three diagnostic profiles for each child: (a) child self-report diagnoses, (b) parent-report child diagnoses, and (c) composite child diagnoses (generated by integrating the independent diagnostic profiles using the "or" rule; see Comer & Kendall, 2004; Silverman & Albano, 1996). By using composite diagnoses, three overlapping groups were identified: children meeting criteria for SAD, for SP, and for GAD. As is typical (Verduin & Kendall, 2003), comorbidity among the anxiety disorders was high, with 60% of the participating youths meeting criteria for more than one of the three diagnoses. Thirty percent met criteria for attention-deficit/hyperactivity disorder, 14% met for oppositional defiant disorder, 10% percent met for major depressive disorder or dysthymic disorder, 7% met for functional enuresis, and 1% met for conduct disorder.

Eligible children were randomized to a manualized family-based cognitive–behavioral treatment (i.e., FCBT; *n* = 47) or to a manualized family-based education, support, and attention treatment condition (i.e., FESA; *n* = 39). Each treatment consisted of 16 sessions lasting 60 min per session with an average of one session per week. Both treatments focused attention on the child's problems in a family context, educated families about anxiety and emotions, provided experience with an understanding and caring therapist, and used homework assignments to keep families engaged in treatment outside of sessions. In FCBT, Sessions 1 to 8 entailed helping children to recognize bodily symptoms of anxiety, to identify and adjust maladaptive cognitions in anxiety-provoking situations, and to develop a repertoire of coping strategies. After learning this new skill set, treatment shifted to providing children with opportunities to practice these newly acquired skills in increasingly anxiety-provoking situations (i.e., in-session exposure tasks). Children in FCBT engaged in graduated exposure tasks in each session from Sessions 9 to 16 and were also assigned to engage in exposure tasks out of session, affording within-subject examination of the effect of exposure tasks on alliance. FESA had no in-session exposure tasks nor were FESA youths assigned to

engage in exposures out of session, affording between-subject examination of the effect of exposure tasks on alliance. Participants randomly assigned to FESA learned about emotions in general and anxiety in particular, were provided information about various theories to explain emotions (cognitive, behavioral, biological), and were provided with information about and an opportunity for discussion of the role of parents in children's emotional well-being. FESA did not address issues related to exposures, and abstract relationships between practice and mastery were not discussed.

A CAADC staff member, other than the therapist, had the child and parent complete the TASC-r forms at the end of each session and then fold and insert the form in a sealed box. Therapists independently completed the TASC-r at the end of each treatment session. Therapists, children, and parents were kept blind to all TASC-r ratings. Therapists were blind to study hypotheses.

Treatment integrity. All sessions were videotaped. Coders rated a randomly selected 15-min segment from 30% of the protocols from each condition (randomly selected) with a treatment integrity checklist. The checklist included a list of content/ strategies called for in sessions that the coder checked for occurrence. Experienced therapists served as raters and were trained as follows: The principal investigator listened to eight audiotapes with each rater and familiarized the raters with the ratings; the principal investigator and raters rated new audiotapes and reached a criterion of at least .85 (Cohen's κ). Four unannounced reliability checks were made, covering one-half of the total ratings. All raters met .85 criterion on reliability checks. Approximately 14% of treatment sessions were then randomly selected for an integrity check: Experienced therapists rated the randomly selected sessions, indicating whether the content indicated by the manual was covered (e.g., in-session exposure tasks in Sessions 9–16 of FCBT). The randomly selected videotapes were representative of each of the 16 sessions across both treatments. A ratio was computed that calculated the number of items covered by the therapist relative to the total number of items that should have been included in the session content—92% and 85% of intended content was covered in FCBT and FESA, respectively. Results indicated no differential effects by therapist or by session. For FCBT cases, treatment integrity was greater than 90% for all exposure sessions (i.e., Sessions 9–16). In addition, randomly selected videotape sessions of FESA were coded by three experienced CBT therapists to determine the extent to which CBT theory and/or strategies were employed in session. Each rater assessed one of three sessions (randomly selected from the 16 session treatment) for each FESA case. Raters watched the session, then rated along a 5-point scale the extent to which CBT elements were present in that session (i.e., that CBT bleeding occurred; 1 = *no CBT elements*; 5 = *indistinguishable from CBT session*). The mean observer rating across FESA sessions was 2.1 (*SD* = 1.10). Mean observer rating for FESA Sessions 9–16, during which time those in FCBT are engaged in therapist-guided in-session exposures, was 2.2 (*SD* = 1.03), which did not significantly differ from the mean observer ratings for FESA Sessions 1–8, indicating that within FESA there was not an increase in CBT elements in later sessions.

CAADC staff. Diagnosticians and therapists were advanced clinical psychology doctoral trainees. Additionally, three doctoral-level licensed clinical psychologists with a minimum of 4–5 years of experience at the CAADC provided treatment and supervision.

Results

Statistical Analysis

A series of latent growth curve models was tested to evaluate a potential impact of in-session exposure tasks on alliance. Linear models (one per alliance rater: therapist, child, mother, and father) tested growth in therapeutic alliance over the course of treatment in both the FESA and FCBT conditions. A second series of models compared whether alliance in the FCBT group may be better categorized by using a dual slope model (i.e., multiple group piece-wise latent growth curve model; e.g., Khoo, 2001; Wang, Siegal, Falck, Carlson, & Rahman, 1999), with one slope characterizing the first eight sessions (before in-session exposure tasks) and the other slope characterizing Sessions 9 through 16 (following the introduction/use of exposure tasks). Fit statistics of the models (linear slope vs. dual slope) and the significance of the slope parameters in the second slope were computed to examine whether in-session exposure tasks have a negative effect on therapeutic alliance. If alliance is ruptured following the onset of in-session exposure tasks, the dual slope model would better fit the data. Additionally, the second slope in the dual slope model would be significant and negative in direction. Latent growth curve modeling using Mplus software (Muthén & Muthén, 2006) was conducted by using full information maximum likelihood estimation to estimate parameters with all available data (i.e., cases with incomplete data were included; Enders, 2001). Given the robust nature of full information maximum likelihood estimation, mothers and fathers were included even if their data were absent from a given session. The proportion of data present across time points ranged from .89 to 1.0 for therapists, from .77 to .97 for children, from .74 to .97 for mothers, and from .62 to .90 for fathers. Analyses indicated that the pattern of missing data was adequate for the estimation of individual trajectories, which involves fitting an individual growth curve to each person.

Preliminary Analyses

Correlations of alliance ratings between therapist and child across sessions ranged from .22 to .52, with a mean correlation of .34. Correlations of alliance ratings between therapist and mother across sessions ranged from .05 to .33, with a mean of .18. Correlations of alliance ratings between therapist and father across sessions ranged from –.20 to .29, with a mean of .16. Inter-session correlations among therapist-rated alliance ranged from .32 to .83, among child-rated alliance ranged from .31 to .84, among mother-rated alliance ranged from .01 to .88, and among father-rated alliance ranged from .29 to .92. Comprehensive tables of all zero-order correlations are available by request from the corresponding author. Correlations separated by treatment conditions were similar. Skewness and kurtosis values for all study variables were within appropriate range, suggesting approximate normal distribution.

Growth Curve Models

Piece-wise growth models were conducted for each of the four alliance raters (therapist, child, mother, father) following the pro-

cedures outlined earlier. Parameter estimates for the growth models are presented in Table 1. For each model, absolute model fit is indicated by log-likelihood ratio chi-squares. Predictive fit statistics are also reported, including the Akaike Information Criterion, a widely used parsimony-adjusted index for model selection that favors simpler models (lower Akaike Information Criterion values indicate better fit) and the Bayes Information Criterion, which also penalizes model complexity (lower values of the Bayes Information Criterion indicate better fit). Plots of the estimated growth trajectories for each outcome are shown in Figure 1.

The top left portion of Figure 1 displays the dual slope model of alliance as rated by the therapist for FESA and FCBT. The FCBT condition displayed an increase in alliance across therapy as indicated by the significant slope parameter in the linear growth model (0.22, $p < .05$). Adding a second slope to model the alliance process after initiation of in-session exposure tasks did not indicate a rupture in alliance, as evidenced by the non-significant second slope (0.03, ns; 95% confidence interval [CI] = −.29, .30. Rather, the alliance in FCBT followed a similar pattern as in FESA (second slope, 0.02, ns; 95% CI = −.27, .31) with alliance leveling in later sessions, but not decreasing. Both the single slope model and dual slope model yielded similar fit statistics. Although there might be some justification to adding a second slope to model the

alliance growth (χ^2 difference $<$ .05), the second slope indicates a leveling off of the growth of alliance rather than an actual decrease in alliance. That is, both types of therapy show a similar leveling of alliance growth as evidenced by non-significant second slopes.

The top right portion of Figure 1 displays the dual slope model of alliance as rated by the child in FESA and FCBT. The FCBT and FESA conditions both displayed an increase in alliance across therapy as indicated by the significant slope parameters in the linear growth model (0.17 and 0.13, respectively; $p < .05$). Similar to the therapist ratings, adding a second slope did not indicate a rupture in alliance in FCBT after the onset of in-session exposure tasks—rather, the second slope indicated a leveling of alliance growth in both treatment groups, as evidenced by both groups' non-significant second slopes (FCBT= −.03, ns; 95% CI = −.28, .27; FESA = .05, ns; 95% CI = −.29, .28).

The bottom left portion of Figure 1 displays the dual slope model of alliance as rated by the mother in FESA and FCBT. Both treatments displayed an increase in alliance across therapy as indicated by the significant slope parameters in the linear growth model (0.14 and 0.17, respectively; $p < .05$). Similar to the therapist and child ratings, adding a second slope did not indicate a rupture in alliance in FCBT after the onset of in-session exposure tasks. Both conditions showed a leveling of

Table 1
Fit Indices and Parameter Estimates

	Linear model		Dual slope model		
Alliance variables	Initial status	Slope 1	Initial status	Slope 1[a]	Slope 2[b]
Therapist					
FESA	35.37*	0.13	34.89*	0.23	0.02
FCBT	35.40*	0.22*[c]	34.56*	0.39*[c]	0.03
Fit indices	Log-likelihood = −3,644.78 (df = 293) AIC = 7,311.56 BIC = 7,337.20		Log-likelihood = −3,623.39 (df = 287) AIC = 7,280.78 BIC = 7,320.40		
Child					
FESA	40.32*	0.17*	39.57*	0.28	0.05
FCBT	40.15*	0.13*	39.94*	0.26*	−0.03
Fit indices	Log-likelihood = −3,499.11 (df = 293) AIC = 7,020.21 BIC = 7,045.85		Log-likelihood = −3,479.80 (df = 287) AIC = 6,993.59 BIC = 7,033.21		
Mother					
FESA	43.22*	0.14*	43.21*	0.34*	−0.09
FCBT	44.18*	0.17*	43.71*	0.31*	−0.01
Fit indices	Log-likelihood = −2,830.72 (df = 293) AIC = 5,683.44 BIC = 5,709.08		Log-likelihood = −2,812.71 (df = 287) AIC = 5,659.42 BIC = 5,699.04		
Father					
FESA	40.76*	0.18*	39.97*	0.28*	0.05
FCBT	43.37*	0.12*	43.33*	0.25*	−0.06
Fit indices	Log-likelihood = −1,993.20 (df = 293) AIC = 4,008.39 BIC = 4,031.79		Log-likelihood = −1,984.93 (df = 287) AIC = 4,003.85 BIC = 4,040.01		

Note. All parameter estimates are unstandardized coefficients. FESA = family education, support, and attention treatment; FCBT = family cognitive–behavioral therapy; AIC = Akaike Information Criterion (lower scores are better); BIC = Bayesian Information Criterion (lower scores are better). [a] Before exposure for the FCBT group. [b] After exposure for the FCBT group. [c] Parameter value differs significantly ($p < .05$) between FESA and FCBT.
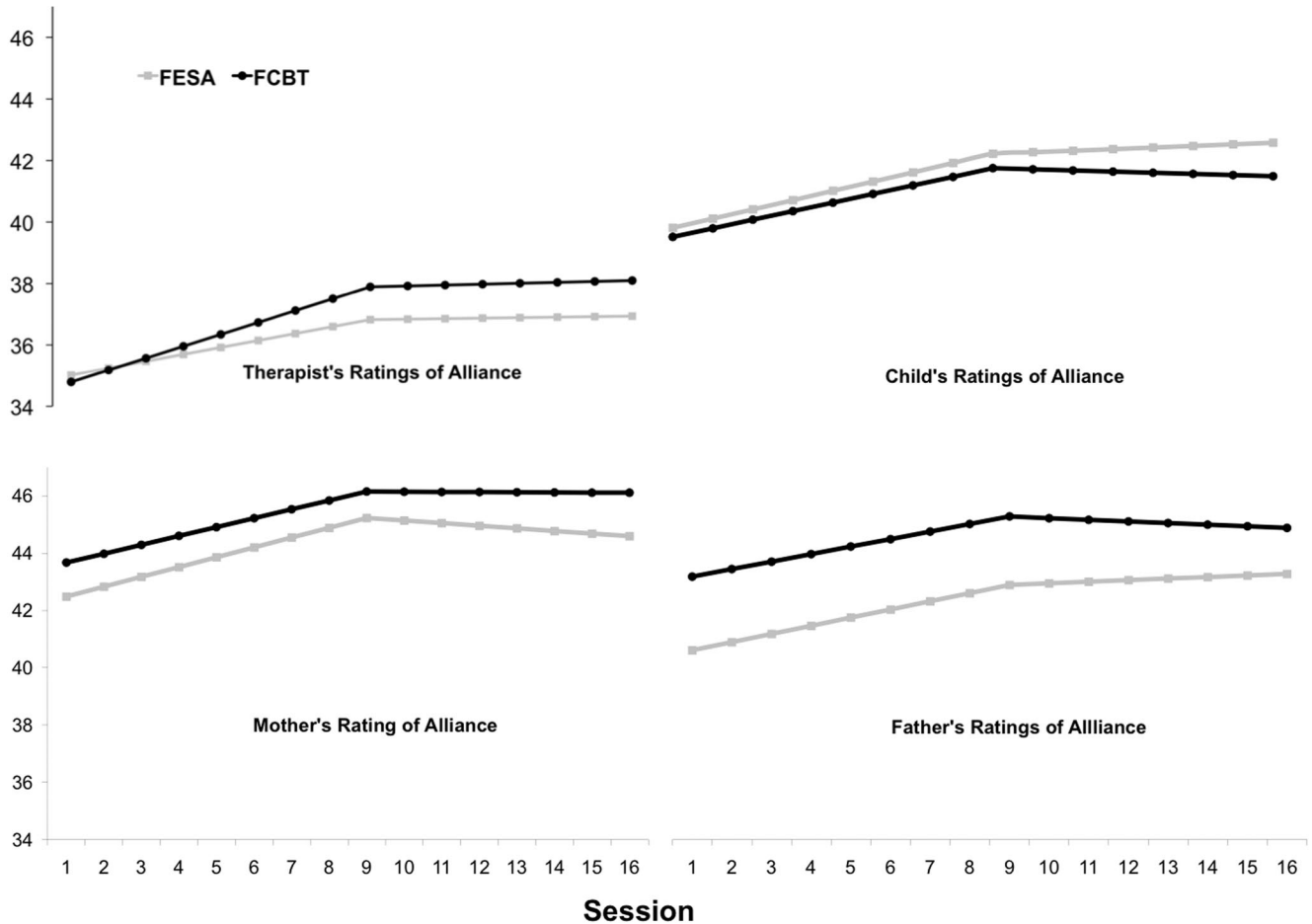* $p < .05$.

Figure 1. Alliance trajectories as predicted by dual slope latent growth curve modeling (therapist, child, mother, and father report). FESA = family education, support, and attention treatment; FCBT = family cognitive–behavioral treatment.

alliance growth in later sessions, as seen in non-significant second slope patterns (FCBT= –.01, *ns*; 95% CI = –.15, .15; FESA = –.09, *ns*; 95% CI = –.21, .19).

Alliance as rated by the father showed a very similar pattern as did the other ratings of alliance. The bottom right portion of Figure 1 displays the dual slope model. Both treatments displayed an increase in alliance across therapy as indicated by the significant slope parameters in the linear growth model (0.18 and 0.12, respectively; $p < .05$). Adding a second slope did not indicate a rupture in alliance in FCBT after the onset of in-session exposure tasks. Rather, both conditions evidenced a leveling of alliance growth in later sessions, as indicated by the non-significant second slope parameters (FCBT= –.06, *ns*; 95% CI = –.31, .19; FESA = .05, *ns*; 95% CI = –.16, .26). However, model fit indices did not provide strong rationale to choose dual slope model over the linear fit model (χ^2 difference > .05).

Discussion

In the treatment of childhood anxiety disorders, alliance ratings grew significantly across the course of treatment, regardless of the use of in-session exposure tasks. The convergence of results across therapist, child, mother, and father reports of alliance speaks to the findings' robustness. This alliance growth is characterized as concave, in which initial alliance growth is positive and steep, and the rate of change reduces over time. This adds to previous work documenting the critical importance of early child engagement (Chu & Kendall, 2004) and early therapist collaboration (Creed & Kendall, 2005) in the treatment of anxiety disordered youths. The early alliance may be especially important in child therapy given that children often deny symptoms and are brought to treatment by their parents (DiGiuseppe et al., 1996; Shirk & Russell, 1998).

Although recent work has begun to examine treatment process variables prospectively (e.g., Chu & Kendall, 2004), the present study is the first to utilize latent growth curve modeling to examine alliance change across child treatment. Growth curve modeling represents an improvement over more traditional two-wave approaches to longitudinal data, given the analytic approach's capacity to develop a common developmental trajectory from the data and to test the accuracy of a hypothesized growth form (Duncan, Duncan, & Strycker, 2006). Further, with multiple data points for alliance (rather than a simple two-wave, early-vs.-later, longitudinal approach), tests for nonlinearity can be performed, and param-

eter estimates are more precise. Future work examining treatment process variables will do well to similarly incorporate latent growth curve modeling into analyses of repeated measures.

A public conception may exist that exposure tasks are not appropriate (or are even cruel) within anxiety treatment, as evidenced by an editorial in the *New York Times* entitled "The Cruelest Cure" that described exposure tasks within a manualized CBT for adult anxiety (Barlow, 2001) as "surprisingly simple . . . but while many clinicians praise its well-documented results, others take a dimmer view of what one clinician calls 'torture, plain and simple'"(Slater, 2003, p. 34). Such perceptions could expectedly deter practitioners from adopting exposure-based treatments for anxious youths, as exposure tasks might be thought to rupture the therapeutic alliance. The present analyses provide no indication that therapeutic alliance suffers with the introduction of exposures. Both FCBT youths (who engaged in therapist-guided in-session exposure tasks) and FESA youths (who did not engage in such exposure tasks) demonstrated similar leveling of alliance growth in later sessions. Within FCBT youths, dual slope models (with one slope characterizing pre-exposure alliance growth and one characterizing post-exposure alliance growth) did not significantly improve the modeling of the alliance process.

As reported elsewhere (Kendall, Hudson, Gosch, Flannery-Schroeder, & Suveg, 2008), outcome data examined for the present sample revealed that FCBT outperformed FESA when considering whether (a) the child's principal anxiety disorder was no longer principal diagnosis after treatment (FCBT response = 64%; FESA response = 42%) and (b) the child's principal anxiety disorder was no longer present after treatment (FCBT response = 55%; FESA response = 37%). Given the paramount importance attributed to alliance by a sizable proportion of mental health practitioners (e.g., Boisvert & Faust; 2006), the present findings should inform dissemination efforts that promote the use of such empirically supported treatments. Indeed, practitioners who are hesitant to consider in-session exposure-based strategies to treat childhood anxiety disorders out of concern for the therapeutic relationship may more readily consider exposure tasks in the context of the present findings. Moreover, public rhetoric characterizing exposure-based treatments as "torture" (e.g., Slater, 2003) appears quite misguided, given that alliance ratings did not exhibit negative growth following the onset of in-session exposure tasks. Regrettably, such rhetoric may deter potential treatment consumers from electing to participate in treatments that research evidence supports.

The present study examined alliance across treatment, with alliance ratings provided at the conclusion of each session. Within session process variables were not assessed. It remains unclear whether or not in-session exposure tasks provide opportunities to "challenge" and then repair the therapeutic alliance within session. It may be that ruptures occur when exposure tasks are undertaken but that the alliance is repaired as self-efficacy improves and anxiety decreases. For example, a child may become anxious about doing an exposure task; may get upset with his therapist; and may become withdrawn, reluctant, or defiant about doing the exposure task in session (i.e., rupture). However, the therapist may be able to negotiate with the child and provide adequate encouragement to persuade the child to do the exposure task (i.e., repair). In-session exposure tasks may contribute to transient ruptures in alliance that repair over the course of the session. In-session exposure tasks for

children with anxiety disorders may present a prime opportunity for temporary ruptures, but their resolution may facilitate positive outcomes (Horvath & Symonds, 1991; Martin et al., 2000; Safran, Muran, Samstag, & Stevens, 2002; Shirk & Karver, 2003). Future research should code for and examine ruptures and repairs within therapy sessions.

Several limitations merit consideration. Participants were treated at a research clinic, and thus the extent to which findings generalize to community-based service clinics can be questioned. Although levels of internalizing symptoms may be comparable in research clinics and service clinics, research found greater levels of externalizing problems and a greater proportions of low-income and single-parent families in service clinics (Southam-Gerow, Weisz, & Kendall, 2003). The present sample consisted of predominantly Caucasian youths, and participants' annual family income was somewhat higher than the median U.S. household income. The present study was novel in its examination of alliance via a repeated-measures design across multiple (i.e., > 2) data points. Although such data inform our understanding of the shape of alliance across time, the administration of alliance measures across multiple data collection points may be an issue (e.g., multiple administrations may influence participant responses). Future work would do well to incorporate observational data as well as to examine reciprocal relationships between alliance and involvement in treatment-related tasks. In the absence of well-evaluated measures of parent perceptions of therapeutic alliance, the present study used a parental adaptation of the TASC (Shirk & Saiz, 1992). The measure demonstrated strong internal consistency and has demonstrated associations with observer-rated alliance-building behavior in session, but continued refinement of measures to assess parental alliance will benefit future work.

Recent findings address engagement in therapeutic tasks and improved outcomes (Chu et al., 2004; Garcia & Weisz, 2002; Hawley & Weisz, 2005; Shirk & Saiz, 1992). Future work is needed to continue to address this important issue, as well as the complex, transactional relationships between alliance, therapeutic tasks, and treatment outcome. Such efforts advance our understanding of the mechanisms at work within childhood anxiety disorders treatment, and they inform practitioners, treatment consumers, and the public at large about exposure-based treatments within the context of a collaborative and affectively bonded relationship.

References

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.

Barber, J. P., Connolly, M. B., Crits-Christoph, P., Gladis, L., & Siqueland, L. (2000). Alliance predicts patients' outcome beyond in-treatment change in symptoms. *Journal of Consulting and Clinical Psychology, 68,* 1027–1032.

Barlow, D. H. (2001). *Clinical handbook of psychological disorders: A step-by-step treatment manual* (3rd ed.). New York: Guilford Press.

Barrett, P. M., Dadds, M. R., & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64,* 333–342.

Braswell, L., Kendall, P. C., Braith, J., Corey, M. P., & Vye, C. S. (1985). "Involvement" in cognitive-behavioral therapy with children: Process and its relationship to outcome. *Cognitive Therapy and Research, 9,* 611–630.

Boisvert, C. M., & Faust, D. (2006). Practicing psychologists' knowledge of general psychotherapy research findings: Implications for science–practice relations. *Professional Psychology: Research and Practice, 37,* 708–716.

Chu, B. C., Choudhury, M. S., Shortt, A. L., Pincus, D. B., Creed, T. A., & Kendall, P. C. (2004). Alliance, technology, and outcome in the treatment of anxious youth. *Cognitive and Behavioral Practice, 11,* 44–55.

Chu, B. C., & Kendall, P. C. (2004). Positive association of child involvement and treatment outcome within a manual-based cognitive–behavioral treatment for children with anxiety. *Journal of Consulting and Clinical Psychology, 72,* 821–829.

Comer, J. S., & Kendall., P. C. (2004). A symptom-level examination of parent–child agreement in the diagnosis of anxious youths. *Journal of the American Academy of Child & Adolescent Psychiatry, 43,* 878–886.

Creed, T. A., & Kendall, P. C. (2005). Therapist alliance-building behavior within a cognitive–behavioral treatment for anxiety in youth. *Journal of Consulting and Clinical Psychology, 73,* 498–505.

DiGiuseppe, R., Linscott, J., & Jilton, R. (1996). Developing the therapeutic alliance in child–adolescent psychotherapy. *Applied and Preventive Psychology, 5,* 85–100.

Duncan, T. E., Duncan, S. C., & Strycker, L. A. (2006). *An introduction to latent variable growth curve modeling: Concepts, issues, and applications* (2nd ed.). Mahwah, NJ: Erlbaum.

Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement, 61,* 713–740.

Garcia, J. A., & Weisz, J. R. (2002). When youth mental health care stops: Therapeutic relationship problems and other reasons for ending youth outpatient treatment. *Journal of Consulting and Clinical Psychology, 70,* 439–443.

Hawley, K. M., & Weisz, J. R. (2005). Youth versus parent working alliance in usual clinical care: Distinctive associations with retention, satisfaction, and treatment outcome. *Journal of Clinical Child and Adolescent Psychology, 34,* 117–128.

Hogue, A., Dauber, S., Stambaugh, L. F., Cecero, J. J., & Liddle, H. A. (2006). Early therapeutic alliance and treatment outcome in individual and family therapy for adolescent behavior problems. *Journal of Consulting and Clinical Psychology, 74,* 121–129.

Horvath, A. O., & Bedi, R. P. (2002). The alliance. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients.* (pp. 37–69). New York: Oxford University Press.

Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. *Journal of Counseling Psychology, 38,* 139–149.

Kazdin, A. E. (2004). Psychotherapy for children and adolescents. In A. Bergin & S. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (5th ed., pp. 543–589). New York: Wiley.

Kazdin, A. E., & Kendall, P. C. (1998). Current progress and future plans for developing effective treatments: Comments and perspectives. *Journal of Clinical Child Psychology, 27,* 217–226.

Kazdin, A. E., Siegel, T. C., & Bass, D. (1990). Drawing on clinical practice to inform research on child and adolescent psychotherapy: Survey of practitioners. *Professional Psychology: Research and Practice, 21,* 189–198.

Kazdin, A. E., & Weisz, J. R. (1998). Identifying and developing empirically supported child and adolescent treatments. *Journal of Consulting and Clinical Psychology, 66,* 19–36.

Kazdin, A. E., Whitley, M., & Marciano, P. L. (2006). Child–therapist and parent–therapist alliance and therapeutic change in the treatment of children referred for oppositional, aggressive, and antisocial behavior. *Journal of Child Psychology and Psychiatry, 47,* 436–445.

Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62,* 100–110.

Kendall, P. C., Flannery-Schroeder, E., Panichelli-Mindell, S. M., Southam-Gerow, M., Henin, A., & Warman, M. (1997). Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65,* 366–380.

Kendall, P. C., Hudson, J. L., Gosch, E., Flannery-Schroeder, E., & Suveg, C. (2008). Cognitive–behavioral therapy for anxiety disordered youth: A randomized clinical trial evaluating child and family modalities. *Journal of Consulting and Clnical Psychology, 76,* 282–297.

Kendall, P. C., Robin, J. A., Hedtke, K. A., Gosch, E., Flannery-Schroeder, E., & Suveg, C. (2005). Conducting CBT with anxious youth? Think exposures. *Cognitive and Behavioral Practice, 12,* 136–150.

Khoo, S. T. (2001). Assessing program effects in the presence of treatment–baseline interactions: A latent curve approach. *Psychological Methods, 6,* 234–257.

Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relationship of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68,* 438–450.

McLeod, B. D., & Weisz, J. R. (2005). The Therapy Process Observational Coding System-Alliance Scale: Measure characteristics and prediction of outcome in usual clinical practice. *Journal of Consulting and Clinical Psychology, 73,* 323–333.

Muthén, L. K., & Muthén, B. O. (2006). Mplus users guide (4th ed.). Los Angeles, CA: Author.

Ost, L. G., Svensson, L., Hellstrom, K., & Lindwall, R. (2001). One-session treatment of specific phobias in youths: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 69,* 814–824.

Safran, J. (1993). The therapeutic alliance rupture as a transtheoretical phenomenon: Definitional and conceptual issues. *Journal of Psychotherapy Integration, 3,* 33–49.

Safran, J. D., & Muran, J. C. (2000). Resolving therapeutic alliance ruptures: Diversity and integration. *Journal of Clinical Psychology, 56,* 233–243.

Safran, J. D., Muran, J. C., Samstag, L. W., & Stevens, C. (2002). Repairing alliance ruptures. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 235–254). New York: Oxford University Press.

Shirk, S. R., & Karver, M. (2003). Prediction of treatment outcome from relationship variables in child and adolescent therapy: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 71,* 452–464.

Shirk, S. R., & Russell, R. L. (1998). Process issues in child psychotherapy. In A. Bellack, M. Hersen (Series Eds.), & T. Ollendick (Vol. Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulations and treatment* (pp. 57–82). Oxford, England: Pergamon Press.

Shirk, S. R., & Saiz, C. (1992). Clinical, empirical, and developmental perspectives on the therapeutic relationship in child psychotherapy. *Development and Psychopathology, 4,* 713–728.

Silverman, W., & Albano, A. M. (1996). *The Anxiety Disorders Interview Schedule for Children (DSM–IV).* San Antonio, TX: Psychological Corporation.

Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Lumpkin, P. W., & Carmichael, D. H. (1999). Treating anxiety disorders in children with group cognitive–behavioral therapy: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 67,* 995–1003.

Silverman, W. K., & Ollendick, T. H. (2005). Evidence-based assessment of anxiety and its disorders in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34,* 380–411.

Silverman, W. K., Saavedra, L. M., & Pina, A. A. (2001). Test–retest reliability of anxiety symptoms and diagnoses with the Anxiety Disorders Interview Schedule for *DSM–IV*: Child and Parent Versions. *Journal of the American Academy of Child & Adolescent Psychiatry, 40,* 937–944.

Slater, L. (2003, November 2). The cruelest cure. *The New York Times,* p. 34.

Sommers-Flanagan, J., & Sommers-Flanagan, R. (1995). Psychotherapeutic techniques with treatment-resistant adolescents. *Psychotherapy, 32,* 131–140.

Southam-Gerow, M. A., Weisz, J. R., & Kendall, P. C. (2003). Youth with anxiety disorders in research and service clinics: Examining client differences and similarities. *Journal of Clinical Child Psychology, 32,* 375–385.

Verduin, T. L., & Kendall, P. C. (2003). Differential occurrence of comorbidity within childhood anxiety disorders. *Journal of Clinical Child and Adolescent Psychology, 32,* 290–295.

Wang, J., Siegal, H. A., Falck, R. S., Carlson, R. G., & Rahman, A. (1999). Evaluation of HIV risk reduction intervention programs via latent growth model. *Evaluation Review, 23,* 648–662.

Weisz, J., Huey, S., & Weersing, V. R. (1998). Psychotherapy outcome research with children and adolescents. *Advances in Clinical Child Psychology, 20,* 49–91.

Wood, J. J., Piacentini, J. C., Bergman, R. L., McCracken, J., & Barrios, V. (2002). Concurrent validity of the anxiety disorders section of the Anxiety Disorders Interview Section for *DSM–IV*: Child and Parent Versions. *Journal of Clinical Child and Adolescent Psychology, 31,* 335–342.