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2012

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SAN DIEGO STATE UNIVERSITY

Therapeutic Alliance and Outcomes in Usual Care Child Psychotherapy

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Clinical Psychology

by

Erin Cecilia Accurso

Committee in charge:

University of California, San Diego

Professor Ann F. Garland, Chair
Professor Lauren Brookman-Frazee
Professor Denise Chavira

San Diego State University

Professor Scott C. Roesch
Professor May Yeh

2012

The Dissertation of Erin Cecilia Accurso is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

Chair

University of California, San Diego
San Diego State University

2012

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ACKNOWLEDGEMENTS

This research was made possible by funding from the National Institute of Health (R01 MH66070, PI: Garland; F31 MH083399, PI: Accurso). I am greatly indebted to my advisor, Ann Garland, for providing exceptional mentoring and support throughout my training. I would also like to thank Scott Roesch for his guidance and patience during numerous statistical consultations. I am also grateful to Bill Ganger and Robin Taylor for their invaluable assistance. Finally, I would like to acknowledge the families and therapists who made this study possible.

VITA

EDUCATION

University of Illinois at Chicago 2011 - present

Clinical Psychology Internship, Child Track

Clinical Rotations: Eating Disorders Clinic and Behavioral Health Clinic for Bariatric Surgery

Research Rotations: Children's Mental Health Services and Latino Health and Obesity Internship Directors: Marc Atkins, Ph.D. & Susan Labott, Ph.D.

San Diego State University / University of California, San Diego 2006 - present

Joint Doctoral Program in Clinical Psychology

Ph.D. in clinical psychology, September, 2012

M.S. in clinical psychology, 2008

SDSU GPA: 3.98, UCSD GPA: 4.00

Master's thesis topic: Temporal stability of therapeutic alliance in usual care child psychotherapy
Dissertation topic: Therapeutic alliance and outcomes in usual care psychotherapy for children

Graduate advisor: Ann Garland, Ph.D.

Dartmouth College 2002 - 2006

B.A. in Psychology with High Honors, magna cum laude; Minors in Education and French

Major GPA: 3.81, Cumulative GPA: 3.77

Honors thesis topic: Automatic self-consciousness and self-referent encoding processes

Undergraduate advisor: Jay Hull, Ph.D.

PROFESSIONAL MEMBERSHIPS

Academy for Eating Disorders (AED)

Association for Behavioral and Cognitive Therapies (ABCT)

American Psychological Association (APA)

American Psychological Association of Graduate Students (APAGS)

Association for Psychological Science (APS)

Society for Psychotherapy Research (SPR)

Society of Clinical Child and Adolescent Psychology (APA Division 53)

Society for Child and Family Policy and Practice (APA Division 37)

RESEARCH GRANTS

National Institutes of Health, National Institute of Mental Health

Ruth L. Kirschstein National Research Service Award (NRSA), Grant #F31 MH083399

“Child-therapist and caregiver-therapist alliance in usual care psychotherapy”

Status: Funded, April 2008 - November 2011, Scored in top 0.2 percentile

RESEARCH EXPERIENCE

University of Illinois at Chicago

2011 - present

Psychology intern

- Co-author manuscripts addressing eating pathology, body image, and obesity in Latinos (Supervisor: Lisa Sanchez-Johnsen, Ph.D.)
- Participate in mental health services, treatment development, dissemination, and implementation research (Supervisor: Marc Atkins, Ph.D.)

University of California, San Diego

Jan - June 2011

Study therapist

- Participated as a therapist in a randomized clinical trial evaluating a parent-only treatment for childhood obesity weight loss groups and individual family therapy for overweight children and their parents
- Attended research and clinical meetings to ensure high fidelity of treatment implementation
- Advisor: Kerri Boutelle, Ph.D.

University of California, San Diego

2006 - present

Doctoral student

- Assisted with Practice and Research: Advancing Collaboration (PRAC), an NIMH-funded R01 observational study of usual care psychotherapy for youth, including coding psychotherapy videotapes using Therapeutic Processes Observational Coding System and conducting interviews in English and Spanish with youth and caregivers
- Participated in therapist-researcher collaborative group that met monthly for four years; co-led presentations
- Contribute to data analysis, manuscripts, and new proposal development
- Advisor: Ann Garland, Ph.D.

Dartmouth College

2005 - 2006

Honors research student

- Conducted three congruent experiments examining self-referent encoding processes
- Ran weekly data meetings to ensure proper data collection procedures
- Presented results in paper and poster formats for honors thesis to department faculty members
- Advisor: Jay Hull, Ph.D.

Dartmouth College

2003 - 2006

Presidential research scholar

- Assisted with studies involving language acquisition in bilingual children, including administering and scoring the Woodcock- Johnson III in Spanish and English, transcribing and coding children's oral, and assisting in data analysis
- Created stimuli for fMRI study examining language processing
- Trained, supervised, and monitored reliability of transcribers and coders
- Advisor: Laura-Ann Petitto, Ed.D.

Rutgers University/UMDNJ

Summer 2005

Research assistant

- Assisted with projects on biofeedback to treat depression and anxiety with comorbid asthma
- Scored and analyzed data, conducted literature searches, and contributed to manuscripts
- Participated in 2nd year medical school psychiatry lectures
- Advisor: Paul Lehrer, Ph.D.

CLINICAL EXPERIENCE

University of Illinois at Chicago

2011 - present

Eating Disorder & Behavioral Health Clinics

Psychology intern

- Individual and family therapy for adolescents and adults with a range of eating disorders, as well as Dialectical Behavior Therapy skills group for adults with eating disorders (Supervisor: Ellen Astrachan-Fletcher, Ph.D.)
- Psychological evaluations and follow-ups for patients considering bariatric surgery (Supervisor: Susan Labott, Ph.D.)

UCSD Eating Disorders Research and Treatment Program

2010 - 2011

Weight and Wellness Program, Rady Children's Hospital

Center for Healthy Eating and Activity Research

Practicum student

- Five-day intensive family-based treatment program with two to five families (i.e., parents, siblings, and the adolescent/young adult with anorexia nervosa)
- Adolescent day-treatment program for eating disorders, including groups, meal supervision, and parent coaching
- Weight-loss groups and individual family therapy for overweight children and their parents
- Clinical intakes and follow-ups for children with obesity and other significant health problems (e.g., sleep apnea, type 2 diabetes mellitus, fatty liver disease) presenting for medical treatment
- Supervisor: Kerri Boutelle, Ph.D.

Rady Children's Hospital Outpatient Psychiatry Clinic

2009 - 2010

Practicum student

- Individual and family therapy in English and Spanish for caregivers and children (ages 5-18) with disruptive behavior disorders, depressive disorders, anxiety disorders, eating disorders, and developmental disorders
- School-funded services provided, coordinating with school to achieve Individualized Education Program goals
- Neuropsychological, psychoeducational, and personality assessments for children with psychiatric disorders
- Multidisciplinary consultation treatment team with psychiatry, psychology, social work, and marriage/family staff
- Supervisors: Ann Garland, Ph.D., & Katherine Williams, Ph.D.

Veterans Administration San Diego Healthcare System

2008 - 2009

Practicum student

- Individual and group (up to 15 members) cognitive behavior treatment for depression in English and Spanish, as well as imagery rehearsal therapy for nightmares (veterans ages 25 to 85)
- Couples therapy in English and Spanish to veterans and spouses (veterans ages 30 to 85 years)
- Intake interviews and Structured Clinical Interviews for DSM Disorders (SCID)
- Multidisciplinary clinical team with nursing, psychiatry, social work, and psychology staff
- Supervisors: John McQuaid, Ph.D., Sean Drummond, Ph.D., & Ryan Trim, Ph.D.

San Diego State University Psychology Clinic

2007 - 2008

Practicum student

- Individual cognitive behavior and interpersonal treatments to adults with mood and anxiety disorders
- Parent training and behavior therapy for children with developmental disorders
- Cognitive behavior group for depression
- Administered and scored intelligence tests, personality inventories, and other standardized assessments
- Supervisors: Vanessa Malcarne, Ph.D., Michael Taylor, Ph.D., & Brenda Johnson, Ph.D.

TEACHING EXPERIENCE

San Diego State University

Spring 2011

Instructor, Introduction to Counseling and Therapy

- Developed curriculum and teaching materials (i.e., lectures, written assignments, exams, and reading selections) for an undergraduate level course with approximately 80 students
- Topics included ethical issues, assessment, clinical skills and common factors, evidence-based practice, multiple treatment models (e.g., CBT, IPT, MI, and DBT), and various types of therapy (e.g., child and family, couple, group)
- Taught all lectures and graded all assignments

San Diego State University

Fall 2008

Teaching Assistant, Seminar in Psychological Assessment

- Graded review papers and psychological reports in a class of 15 psychology graduate students
- Met with students individually to clarify class material and review drafts of papers
- Responsible for teaching parts of lectures

PUBLICATIONS

Garland, A. F., Haine-Schlagel, R., **Accurso, E. C.**, Baker-Ericzén, M. J., & Brookman-Frazee, L. (in press). Exploring the effect of therapists' treatment practices on client attendance in community-based care for children. *Psychological Services*.

- Accurso, E. C.**, Taylor, R. M., & Garland, A. F. (2011). Evidence-based practices addressed in community-based children's mental health clinical supervision. *Training and Education in Professional Psychology, 5*, 88-96.
- Chavira, D. A., **Accurso, E. C.**, Garland, A. F., & Hough, R. (2010). Suicidal behaviour among youth in five public sectors of care. *Child and Adolescent Mental Health, 15*, 44-51.
- Garland, A. F., Brookman-Frazee, L., Hurlburt, M. S., **Accurso, E. C.**, Zoffness, R., Haine-Schlagel, R., & Ganger, W. (2010). Mental health care for children with disruptive behavior problems: A view inside therapists' offices. *Psychiatric Services, 61*, 788-795.
- Garland, A. F., Hurlburt, M. S., Brookman-Frazee, L., Taylor, R. M., & **Accurso, E. C.** (2010). Methodological challenges of characterizing usual care psychotherapeutic practice. *Administration and Policy in Mental Health and Mental Health Services Research, 37*, 208-220.
- Arnold, E. C.** (2006). The science of breaking up: Factors leading to the dissolution of a romantic relationship. *Journal of Psychological and Brain Sciences, 1*, 32-38.

MANUSCRIPTS UNDER REVIEW

- Accurso, E. C.**, Hawley, K. M., & Garland, A. F. Psychometric Properties of the Therapeutic Alliance Scale for Caregivers and Parents. (Manuscript submitted for publication).
- Accurso, E. C.**, & Garland, A. F. Temporal stability and cross-informant agreement of alliance in usual care child psychotherapy. (Manuscript submitted for publication).
- Garland, A. F., **Accurso, E. C.**, Haine-Schlagel, R., Brookman-Frazee, L., & Roesch, S. C. Practice-based evidence in usual care: Links between treatment processes and outcomes for children with disruptive behavior problems. (Manuscript submitted for publication).
- Juarez, G., **Accurso, E. C.**, & Sanchez-Johnsen, L. A. P. A culturally-targeted intervention for body image dissatisfaction and inappropriate eating behaviors in Latina college women. (Manuscript submitted for publication).

MANUSCRIPTS IN PREPARATION

- Accurso, E. C.**, Madowitz, J., Crow, S., Norman, G. J., Rock, C. & Boutelle, K. N. The role of motivation in family-based guided self-help treatment for childhood obesity. (Manuscript in preparation).

Accurso, E. C., Garland, A. F., Haine-Schlagel, R., Brookman-Frazee, L., & Baker-Ericzén, M. Factors associated with reductions in caregiver strain for caregivers with children in usual care. (Manuscript in preparation).

INVITED BOOK CHAPTERS

Accurso, E. C., & Sánchez-Johnsen, L. (to be submitted, 2012). Behavioral weight loss. In J. Alexander, A. Goldschmidt, & D. Le Grange (Eds.), *Binge eating disorder, a guide for clinicians and advocates*. London: Routledge.

PROFESSIONAL PRESENTATIONS

Accurso, E. C., Atkins, M. S., Beidas, R., Beveridge, R., Brookman-Frazee, L., Fowles, T., & Garland, A. (November, 2011). *Training a new generation of dissemination and implementation scientists*. Panel discussion accepted for presentation at the annual conference of the Association for Behavioral and Cognitive Therapies, Toronto.

Accurso, E. C., & Garland, A. F. (November, 2011). Therapeutic alliance and outcomes in usual care psychotherapy for children. In E. C. Accurso, M. S. Karver, B. C. Chu, E. Peterson, J. I. Chen, & M. D. Lerner. *Longitudinal explorations of the therapeutic alliance and other treatment processes in youth psychotherapy*. Symposium accepted for presentation at the annual conference of the Association for Behavioral and Cognitive Therapies, Toronto.

Garland, A. F., Brookman-Frazee, L., & **Accurso, E. C.** (2011, May). A view inside therapists' offices: Examining usual care psychotherapy for children to improve dissemination of evidence-based practices. Symposium presented at the annual convention of the Association for Psychological Science, Atlanta, GA.

Haine-Schlagel, R., Brookman-Frazee, L., Baker-Ericzén, M. J., **Accurso, E. C.,** Garcia, A. R., & Garland, A. F. (2010, November). Associations between youth and parent satisfaction and therapists' use of evidence-based therapeutic strategies in usual care youth psychotherapy. Symposium presented at the annual conference of the Association for Behavioral and Cognitive Therapies, San Francisco, CA.

Accurso, E. C., Taylor, R. M., & Garland, A. F. (2010, August). Evidence-based practices addressed in community-based children's mental health clinical supervision. In A. F. Garland, R. Haine-Schlagel, L. Brookman-Frazee, M. J. Baker-Ericzén, E. C. Accurso, & M. Chaffin, *Improving effectiveness of*

community-based child mental health care: Data-driven recommendations.
Symposium presented at the annual conference of the American Psychological Association, San Diego, CA.

Haine-Schlagel, R., Brookman-Frazee, L., Baker- Ericzén, M. J., **Accurso, E. C.**, & Garland, A. F. (2010, August). Factors associated with engagement in community-based child psychotherapy. In A. F. Garland, R. Haine-Schlagel, L. Brookman-Frazee, M. J. Baker-Ericzén, E. C. Accurso, & M. Chaffin, *Improving effectiveness of community-based child mental health care: Data-driven recommendations.* Symposium presented at the annual conference of the American Psychological Association, San Diego, CA.

Accurso, E. C., Hawley, K. M., & Garland, A. F. (2010, June). Psychometric properties of the Therapeutic Alliance Scale for Children, Parent Report. In B. D. McLeod, M. D. Lerner, K. W. Fjermestad, E. C. Accurso, & T. H. Ollendick, *Clarifying the relation between the therapeutic alliance and clinical outcomes in cognitive behavioral therapy for youth with emotional and behavioral disorders.* Symposium presented at the World Congress of Behavioral and Cognitive Therapies conference, Boston, MA.

Arnold, E. C., & Garland, A. F. (2008, November). *Therapist characteristics associated with practice patterns in community-based clinics.* Poster session presented at the annual conference of the North American Chapter of the Society for Psychotherapy Research, New Haven, CT.

Arnold, E. C., Hill, B., & Campos, R. (2008, June). “*Stuck Cases*”: *Generating New Perspectives.* Symposium conducted at “A collaborative expo: Practice and research in community mental health services”, one-day clinical training presenting research findings on usual care psychotherapy, Therapists and Researchers: Advancing Collaboration group, sponsored by Pfizer, Rady Children’s Hospital, San Diego, CA.

Arnold, E. C., Karavidas, M., Malinovsky, I., & Lehrer, P. M. (2006, April). *Heart rate variability biofeedback: Preliminary data on mood state changes in the treatment of Major Depressive Disorder.* Poster presented at the annual meeting of the Association for Applied Psychophysiology and Biofeedback, Portland, OR.

HONORS & AWARDS

Society for Multivariate Experimental Psychology Minority Travel Fellowship, 2011

Curran-Bauer Analytics Student Tuition Fellowship, 2011
Outstanding Doctoral Teaching Award in Psychology, San Diego State University, 2010-2011
Scholars Without Borders Honor Society, San Diego State University, 2009
Phi Kappa Phi Honor Society, San Diego State University, 2008
Escobosa Honors Thesis Prize for the best thesis in Psychological and Brain Sciences, Dartmouth College, 2006
High Honors in Psychology, Dartmouth College, 2006
Magna Cum Laude, Dartmouth College, 2006
Rufus Choate Scholar, Dartmouth College, 2006
Dartmouth General Fellowship, 2006
Association for Applied Psychophysiology and Biofeedback Foundation Scholarship, 2005
Presidential scholar research assistantship, Dartmouth College, 2004-2005
National Society of Collegiate Scholars Award, Dartmouth College, 2004

ABSTRACT OF THE DISSERTATION

Therapeutic Alliance and Outcomes in Usual Care Child Psychotherapy

by

Erin Cecilia Accurso

Doctor of Philosophy in Clinical Psychology

University of California, San Diego, 2012

San Diego State University, 2012

Professor Ann F. Garland, Chair

Therapeutic alliance may be an important predictor of mental health outcomes for children and their families, but the research literature in this area is limited. This study examined the extent to which child and caregiver alliance are associated with therapeutic outcomes in a sample of 209 children (ages 4-13) with disruptive behavior problems and their caregivers who received usual care services in community mental health clinics. Children, therapists, and observers rated child-therapist alliance, while caregivers, therapists, and observers rated caregiver-therapist alliance at four, eight, and twelve months, provided the family was active in treatment within the given time point. All families were active in treatment at four months, but only 67% (n=141) were in treatment within eight months and 48% (n=100) within twelve months due to naturalistic attrition. Autoregressive cross-lagged models were used to examine alliance-outcome associations within and across time points with child symptom severity, positive parenting practices, and family functioning (positive versus negative family interactions) as outcomes.

Results indicated that child self-report of alliance and therapist-reported child alliance were simultaneously associated with less severe child symptomatology (at at least one time point), but neither predicted decreased symptomatology with cross-lagged associations. No associations were found between child symptoms and caregiver alliance across reporters. For family functioning, observer-coded child alliance and caregiver self-reported alliance were simultaneously associated with family functioning at each time point, but only caregiver ratings of their alliance with the therapist were predictive of improved family functioning at eight months. No other reports of child-therapist or caregiver-therapist alliance were associated with improved family functioning. Similarly, observer-reported child alliance and caregiver self-reported alliance were simultaneously associated with positive parenting practices, but only caregiver-reported alliance was predictive of later improvements in these practices at twelve months. Again, no other reports of child or caregiver alliance were associated with positive parenting practices.

This study helps to disentangle the differential impact of child-therapist and caregiver-therapist alliance, from multiple perspectives, on therapeutic outcomes in child psychotherapy. Given the predictive validity of the caregiver alliance for improved family functioning and parenting practices, future research might examine psychotherapy processes that impact this therapeutic alliance.

INTRODUCTION

Recent psychotherapy research in children has focused largely on identifying efficacious treatment techniques for specific mental health problems, with the ultimate goal of disseminating empirically supported treatments to the mental health community at large (Karver, Handelsman, Fields, & Bickman, 2005). This type of research is valuable, and it is one avenue through which mental health care for children may be improved. However, this research has focused on specific techniques and treatment models to the relative exclusion of common factors—process variables that are common to all types of psychotherapy.

In adult psychotherapy, common process factors independently account for 30% of the variance in outcomes, which is twice as much variance as is accounted for by specific therapeutic techniques (Lambert & Barley, 2002). One important common factor is the therapeutic alliance. In psychotherapy, the therapeutic alliance between the client and therapist provides the interpersonal context for delivery of specific therapeutic techniques. While the therapeutic alliance is only one common process factor, it has been found to consistently account for variance in therapeutic change across treatment approaches (Horvath & Symonds, 1991). With increasing emphasis and importance placed on applying research findings to the “real world” (i.e., community-based, non-research settings; Atkins, Frazier, & Cappella, 2006; Bickman, 2005; Southam-Gerow, Ringeisen, & Sherrill, 2006), some have proposed increasing research on common process factors, which might integrate more easily into current psychotherapy practice (Messer & Wampold, 2002).

Therapeutic alliance is an important common factor that is highly valued by

therapists working with children and adolescents (herein referred to as children unless specifically referring solely to adolescents). Indeed, more than 90% of 1,162 practicing child psychologists and psychiatrists rated the therapeutic alliance as highly related to therapeutic change (Kazdin, Siegel, & Bass, 1990). A more recent study also found that mental health clinicians who work with children highly value the therapeutic alliance (Bickman et al., 2000). Historically, the alliance has received considerable attention in adult treatment studies, with over 2000 studies of therapeutic alliance in adult psychotherapy (Singer & Willett, 2003). However, as of 2011, only 38 studies have examined the therapeutic relationship and outcomes in child psychotherapy (McLeod, 2011).

The most common definition of therapeutic alliance makes reference to the development of an affective bond, agreement on tasks, and agreement on goals (Bordin, 1979). The affective bond refers to how much the client likes the therapist, looks forward to therapy sessions, and considers the therapist to be an ally. Agreement on tasks and goals refers to how well the client and therapist work together to solve problems. Interviews with both children and caregivers confirm the importance of both the affective bond and agreement on tasks/goals (Thompson, Bender, Lantry, & Flynn, 2007). However, because children may enter treatment with less motivation and agency than adults, they may be unclear on the goals of treatment (Weisz & Hawley, 2002). In line with this possibility, it has been suggested that the affective bond may be more important for children than agreement on tasks/goals (DiGiuseppe et al., 1996). Similarly, agreement on tasks/goals may be more important for caregivers since they are primarily responsible for approving treatment goals or contracts.

Factor analysis of the most common measures of adult alliance has confirmed the presence of these components (i.e., affective bond and agreement on tasks and goals; Andusyna, Tang, DeRubeis, & Luborsky, 2001; Hatcher & Barends, 1996; Hatcher & Gillaspay, 2006; Munder, Wilmers, Leonhart, Linster, & Barth, 2010). Factor analysis in child alliance measures has also confirmed factors related to the affective bond (positive and negative) as well as a factor related to the tasks of therapy (Shirk & Saiz, 1992). Both components are important to evaluate when examining the alliance, yet neither has been well-examined in children or caregivers. Furthermore, therapeutic alliance in child psychotherapy is complicated by the fact that there are multiple relationships—the child-therapist relationship and the caregiver-therapist relationship. Finally, there are multiple perspectives on those relationships (e.g., therapist’s perspective on child alliance, child perspective on child alliance), not all of which are well-studied.

This study examines whose alliance, according to whom, is most strongly associated with child and caregiver reports of improvement (e.g., symptom or functioning change). Because this is an observational study, there was no random assignment of families to therapists or use of manualized interventions. Therefore, while it is not a controlled design, this study captures therapeutic alliance throughout the natural course of usual care child psychotherapy, which may have high relevance and utility to practice. The sample included 209 children (ages 4-13) and primary caregivers receiving psychotherapy in publicly funded outpatient mental health centers for disruptive behavior problems. The sample also included 92 therapists within one of the six community-based clinics. Data were collected from multiple perspectives (i.e., child, caregiver, therapist, and observer) for families active in treatment, up to 16 months.

What is Known about Therapeutic Alliance?

In adult psychotherapy research, therapeutic alliance is consistently and significantly associated with outcomes across cognitive, behavioral, gestalt, and psychodynamic therapies (Horvath & Symonds, 1991). Within adult process research, therapeutic alliance is the variable that is most often studied, and it has been studied extensively in adult outcome research as well (Castonguay, Constantino, & Holtforth, 2006). However, little is known about therapeutic alliance in child psychotherapy, and what is known is limited in scope and methodological strength. As a potential change mechanism, research on the therapeutic alliance in child psychotherapy holds significant promise, particularly because alliance early in adult psychotherapy has been found to predict subsequent improvement in symptoms, while the reverse was not found (Klein et al., 2003).

In several meta-analyses, the weighted mean effect size for the link between therapeutic alliance and outcomes in child psychotherapy has been estimated to be between .14 (n=38; McLeod, 2011) and .21 (n=10; Karver et al., 2006; n=23, Shirk & Karver, 2003). This effect size is surprisingly similar to the effect size in the adult literature (Martin, Garske, & Davis, 2000; Horvath & Symonds, 1991). Considering that therapeutic alliance is only one of many factors involved in the complex context of psychotherapy, this effect size represents meaningful explanatory power (Horvath & Bedi, 2002). Alliance in child psychotherapy has been associated with two broad outcomes— improved parenting (Kazdin, Whitley, & Marciano, 2006; Kazdin & Whitley, 2006; Tolan, Hanish, McKay, & Dickey, 2002) and reduced child symptomatology (Florsheim, Shortorbani, Guest-Warnick, Barratt, & Hwang, 2000;

Green et al., 2001; Hawley & Garland, 2008; Hawley & Weisz, 2005; Kazdin, Whitley, et al., 2006; McLeod & Weisz, 2005; Shirk, Gudmundsen, Kaplinski, & McMakin, 2008). However, these studies varied with respect to their context (i.e., treatment provided in controlled research setting versus usual care community-based setting). Potential differences attributable to context will be explored in subsequent sections. Certainly, these are not studies in which therapeutic alliance has been experimentally manipulated as is the standard in treatment efficacy studies, but this correlational research is still valuable.

Whose Alliance is Associated with Which Outcomes?

Very few studies have examined both child and caregiver alliance with the therapist. Most often, child alliance alone is assessed, whereas caregiver alliance has been examined in very few studies despite the fact that it appears to account for significant variance in outcomes (n=9; Karver et al., 2005). It is important to examine child and caregiver alliance since both are associated with a wide range of outcomes and each has somewhat different correlates. Interestingly, caregiver alliance appears to be more strongly associated with reductions in the child's general internalizing symptomatology (McLeod & Weisz, 2005), while child alliance plays a much greater role in externalizing symptomatology (Florsheim et al., 2000; Green et al., 2001; Hawley & Garland, 2008; Hogue, Dauber, Stambaugh, Cecero, & Liddle 2006; Shirk & Karver, 2003) and improved family functioning (Hawley & Garland, 2008). Indeed, a recent meta-analysis found that the average alliance-outcome effect size was twice as large for children with externalizing problems as internalizing problems (McLeod, 2011).

There are also several conflicting findings in the research that has examined the association between child alliance and outcomes. For example, while child alliance was not found to be associated with anxiety symptom improvement in several studies (Kendall et al., 1997; Kendall & Southam-Gerow, 1996), other studies have found associations between child alliance and reduced anxiety as well as reduced depression, even after controlling for number of sessions (Kendall, 1994; Shirk et al., 2008; respectively). In addition, alliance-outcome associations in treatments for eating disorders are inconsistent. Adolescent alliance was related to weight gain in family therapy for anorexia nervosa but was not related to less binge eating and purging in family therapy for bulimia nervosa (Pereira, Lock, & Oggins, 2006; Zaitsoff, Doyle, Hoste, & le Grange, 2008; respectively), despite being related to less binge eating and purging in individual supportive therapy for bulimia nervosa (Zaitsoff et al., 2008).

Which Alliance is Most Strongly Associated with Outcomes?

It is unclear whether child or caregiver alliance is more strongly associated with outcomes. Although child alliance accounted for more variance in child therapeutic outcomes than caregiver alliance in one meta-analysis ($r=.21$ versus $r=.11$; Karver et al., 2006), a more recent meta-analysis found that caregiver-reported alliance was more strongly linked to outcome than youth and observer reports (McLeod, 2011). In individual studies, the findings are ambiguous. In substance-abusing adolescents receiving family therapy, adolescent alliance was more strongly associated with decreased drug use than was caregiver alliance in one study, while the opposite was true in another study (Shelef, Diamond, Diamond, & Liddle, 2005; Hogue et al., 2006; respectively). For children with externalizing problems receiving evidence-based

treatment, therapeutic change was more strongly associated with child alliance than caregiver alliance (Kazdin, Marciano, & Whitley, 2005). In families receiving usual care community-based services, child alliance was also associated more with symptom severity decreases than was caregiver alliance (Hawley & Weisz, 2005). However, the opposite was true for children with internalizing problems in a similar context (McLeod & Weisz, 2005).

Therapeutic Alliance in Usual Care Settings

Few studies examining the therapeutic alliance have been conducted in usual care settings, despite the often large differences between usual care and research settings. Whereas therapists treating children in usual care tend to exhibit a non-directive approach to therapy and seldom employ core elements of evidence based treatment (e.g., role-playing, modeling, assigning/reviewing homework; Garland et al., 2010), therapists in research settings usually actively adhere to a priori agenda that emphasize evidence-based components. Relatedly, this may impact therapist-client agreement on goals and tasks of therapy, which is one of the components of therapeutic alliance.

Furthermore, treatment course and duration varies considerably in usual care, with mean number of sessions ranging from 17 to 23 (Brannan & Heflinger, 2005; Garland et al., 2010; Hawley & Weisz, 2005). In one study, a quarter of the original sample was still in treatment 16 months after initiating services (Garland et al., 2010). This is in direct contrast to psychotherapy conducted in research settings, where the total number of psychotherapy session tends to be predetermined (e.g., 12 or 16 sessions) and more consistently attended. It has been suggested that alliance might operate differently in nonmanualized interventions typically delivered in usual care (Hawley & Garland, 2008).

Because type, duration, and intensity of treatments delivered in usual care differ from those in research settings, and because of differences in patients and context, alliance may be particularly important in usual care psychotherapy. Indeed, child-reported alliance accounted for more than 9% of the total variance in symptom severity outcomes in one study conducted in usual care (Hawley & Garland, 2008), which is somewhat higher than estimates of 4.4% of the total variance in meta-analyses of treatment trials (Karver et al., 2006; Shirk & Karver, 2003).

In usual community-based outpatient services, both child and caregiver alliance were associated with decreased total and externalizing symptomatology, greater perceived social support, and greater satisfaction with therapy (Hawley & Garland, 2008). However, Hawley and Garland found that child alliance alone was associated with decreased internalizing symptomatology, whereas McLeod and Weisz (2005) found that caregiver alliance was more strongly associated with reductions in the child's general internalizing symptomatology. Still another study in usual care found that child alliance alone predicted symptom improvement (Hawley & Weisz, 2005). In addition, child alliance alone has been found to relate to improved family functioning and improved self-esteem (Hawley & Garland, 2008). Finally, Noser and Bickman (2000) found that adolescent-rated adolescent-therapist relationship was associated with interviewer and caregiver reports of improved functioning and symptom severity, respectively. However, face validity of the 5-item measure used in this study revealed that the construct being assessed was general "relationship" factors rather than therapeutic alliance specifically.

Consistent with meta-analytic findings reported above, child alliance in usual care also appears to play a greater role in externalizing symptomatology. One study found

that adolescent-therapist alliance accounted for more than one fifth of the variance in externalizing symptom severity outcomes, while it accounted for less than one percent of the variance in internalizing symptom severity outcomes (Hawley & Garland, 2008). Other studies have found that child alliance strength, child-staff alliance strength (inpatient unit), and improvements in adolescent alliance strength were all associated with reductions in externalizing behaviors at the end of treatment (Florsheim et al., 2000; Green et al., 2001; Hogue et al., 2006). It is possible that the role of the alliance is more important for children with externalizing problems because they are often referred or mandated to therapy by others (Shelef et al., 2005), may feel negatively about therapy (Robbins, Alexander, Newell, & Turner, 1996; Taylor, Adelman, & Kaser-Boyd, 1985), and may have more of a problem with authority figures (DiGiuseppe et al., 1996). Certainly, those who are court-ordered to therapy might feel more resistant to and negatively about being in therapy than those who are self-referred. The child with externalizing problems might also be less willing to engage in treatment than the child with internalizing problems due to differences in emotional discomfort (DiGiuseppe et al., 1996). Indeed, research has found that effect sizes for the alliance-outcome association are larger for children with externalizing problems (McLeod, 2011).

Understanding the Current Alliance-Outcome Findings

Child and caregiver(s) often disagree about therapy goals and how to meet them (Garland, Lewczyk-Boxmeyer, Gabayan, & Hawley, 2004; Hawley & Weisz, 2003; Yeh & Weisz, 2001). Children with externalizing problems may be even less likely to agree on the goals of therapy than children with internalizing problems. Therefore, building a strong alliance with these children may be particularly challenging as well as particularly

important for outcomes (Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Shirk & Karver, 2003). Overall, studies conducted with samples of children with externalizing problems do show a stronger association between alliance and outcome than do studies conducted with samples of children with internalizing problems (McLeod, 2011; Shirk & Karver, 2003). However, ratings of alliance by children with externalizing disorders are more variable than ratings by children with internalizing disorders, which may explain greater alliance-outcome associations in externalizing populations (Green et al., 2006). In addition to presenting problems, age is another factor to consider when examining the alliance. Most of the research on alliance has been conducted in samples of adolescents (Hawley & Garland, 2008; Hogue et al., 2006; Kendall & Southam-Gerow, 1996; Pereira et al., 2006; Shirk et al., 2008), with other samples including both young children and adolescents without analyses by age (Hawley & Weisz, 2005; Kazdin & Whitley, 2006; Kazdin, Marciano, et al., 2005; Kazdin, Whitley, et al., 2006; McLeod & Weisz, 2005). Nevertheless, there are preliminary data to suggest that younger children develop stronger affective bonds with the therapist than adolescents (DeVet, Kim, Charlot-Swilley, & Ireys, 2003). In addition, there is evidence that the alliance-outcome mean effect size is twice as strong for younger children as it is for older children (McLeod, 2011). Therefore, comparing results across studies is complicated by the fact that samples varied greatly with respect to age range.

Studies in which child alliance was not associated with outcomes may also be explained by the fact that children tend to rate alliance high overall with limited variability (Shirk & Karver, 2003), resulting in a ceiling effect that prevents strong alliance-outcome associations (Kendall et al., 1997). These results also might be

explained by moderation, given that alliance in adolescents participating in substance abuse treatment predicted outcomes only when caregiver alliance was high (Shelef et al., 2005). Furthermore, these findings might be influenced by the extent to which the caregiver is involved in therapy, and certain therapies target the caregiver more than the child. Caregivers are often key agents in child psychotherapy, aiding in the delivery and reinforcement of therapeutic content with the child. Indeed, caregivers who participated in parent management training and who reported stronger alliances showed greater improvements in parenting practices (Kazdin & Whitley, 2006; Kazdin, Whitley, et al., 2006; Tolan et al., 2002). In turn, improvements in parenting practices are associated with improvements in the child's behavior (Tolan et al., 2002). Therefore, caregiver involvement in therapy that emphasizes interventions at the caregiver level might impact outcomes more than the child's involvement in psychotherapy. Furthermore, the alliance-outcome association might be mediated by treatment attendance since caregiver alliance has been found to increase treatment attendance (Hawley & Weisz, 2005; Kazdin, Holland, & Crowley, 1997; Kazdin, Holland, Crowley, & Breton, 1997; Kazdin, Whitley, et al., 2006; Robbins et al., 2008; Shelef et al., 2005).

Differential caregiver involvement might explain the unexpected finding that alliance is more strongly associated with outcomes in certain treatment modalities than others. In one of the first randomized trials to examine alliance, adolescent alliance was significantly weaker in cognitive-behavioral therapy than in multidimensional family therapy, and it was not associated with retention or outcomes in the former (Hogue et al., 2006). However, the cognitive-behavioral therapy did not involve the caregiver(s), while the multidimensional family therapy emphasized developing a positive therapeutic

alliance with the caregiver. Differences in the literature on the child alliance-outcome associations might also be explained by the potential moderating effect of caregiver alliance on this association (Shelef et al., 2005). Furthermore, other studies have found that the imbalance of alliances is significantly associated with treatment dropout in Hispanic families, with those who completed therapy having smaller discrepancies between child and caregiver alliance ratings (Flicker, Turner, Waldron, Brody, & Ozechowski, 2008; Robbins et al., 2008). Additional research is necessary to understand which alliance is associated with which outcomes for what kinds of patients and therapies.

Whose Report of Alliance is Most Strongly Associated with Outcomes?

In addition to multiple alliances (i.e., child alliance and caregiver alliance), there are multiple perspectives on those relationships (e.g., self, therapist, and observer). Research has primarily focused on self-reports of child alliance, and to a lesser extent self-reports of caregiver alliance. Much less is known about therapist-reported alliance, and even less is known about observer-reported alliance. Therapist-reported child alliance appears to be more strongly associated with outcomes than child ratings of alliance (Shirk & Karver, 2003). However, in individual studies not included in Shirk and Karver's meta-analysis, child rated alliance was more strongly associated with child-, caregiver-, and therapist-rated outcomes than therapist-rated child alliance (Hawley & Garland, 2008; Kazdin, Marciano, et al., 2006; Kazdin, Marciano, et al., 2005). Shirk and Karver's meta-analysis is based on a relatively small number of studies (n=23), not all of which examined therapist ratings of child alliance.

It is also unclear whether the caregiver or therapist rating of caregiver alliance is

more strongly associated with outcomes. Caregiver ratings of alliance were more strongly associated with child improvement and improved parenting practices than therapist ratings of caregiver alliance (Kazdin, Whitley, et al., 2006; Kazdin & Whitley, 2006). However, caregiver ratings of alliance were more strongly associated with caregiver-rated outcomes whereas therapist ratings of caregiver alliance were more strongly associated with therapist-rated outcomes (Kazdin & Whitley, 2006). Therefore, alliance-outcome associations depend not only on the target outcome but also on who rates that outcome.

Very few studies have examined observer-rated alliance. In the few studies that have, observer-coded caregiver alliance correlated with decreased anxiety, depression, and total internalizing symptomatology following treatment (McLeod & Weisz, 2005), decreased drug use and externalizing behavior in substance-using adolescents (Hogue et al., 2006), and less treatment dropout (Robbins et al., 2008). Certainly, observer ratings of alliance are more time- and resource-intensive than self-report, but they may yield information that might not otherwise be captured in a self-report questionnaire. More work is needed to understand how different perspectives on alliance are related to each other and to outcomes.

Treatment Attendance, Engagement, and Completion

Therapeutic alliance is also related to participation in psychotherapy, which is crucial for treatment effectiveness. Participation includes amount of contact (i.e., session attendance) and intensity of contact (i.e., therapeutic engagement, or active involvement in and commitment to treatment). Therapy completion in child psychotherapy is an important issue since 40-60% of families terminate services prematurely in outpatient

care (Kazdin, 1996). Research supports the importance of therapeutic alliance for therapy completion (Hawley & Weisz, 2005; Kazdin, Holland, & Crowley, 1997; Kazdin, Holland, Crowley, et al., 1997; Kazdin, Whitley, et al., 2006; Robbins et al., 2008; Robbins et al., 2006; Shelef et al., 2005). Garcia and Weisz (2002) found that therapeutic relationship problems accounted for the most variance (16%) in premature dropout, with caregivers' reasons for termination encompassing Bordin's (1979) definition of the alliance, including agreement on goals (e.g., not understanding the treatment goals) and the affective bond (e.g., not liking the therapist). Caregiver-therapist disagreement on the goals of therapy seems to be particularly relevant to dropout (Pereira et al., 2006). Caregiver alliance also correlates significantly with frequency of cancellations and no-shows (Hawley & Weisz 2005). While both children (Kendall & Southam-Gerow, 1996) and caregivers (Motta & Lynch, 1990) view the therapeutic relationship as the most important aspect of treatment, mainly caregiver alliance has been found to be related to therapy attendance and completion. At the most basic level, caregivers are responsible for initiating psychotherapy, physically taking the child to psychotherapy appointments, and ultimately making the decision to discontinue therapy (Diamond, Diamond, & Liddle, 2000).

Caregiver alliance is also correlated with greater family participation in psychotherapy (Hawley & Weisz, 2005). Caregivers' perceptions of therapist empathy in particular were associated with treatment engagement (Green, 1996). These effects hold true regardless of child alliance, further suggesting that caregiver alliance might be central to the continuation of therapy (Hawley & Weisz, 2005; Kazdin, Whitley, et al., 2006).

Methodological Weakness of the Current Research

One of the methodological weaknesses of the child alliance research is measurement inconsistency, both with respect to the measurement being used as well as when and how often it is administered. It is not uncommon for studies to use different measures for child and caregiver alliance, which may operationalize the construct somewhat differently and use different response scales. This practice makes it very difficult to compare child and caregiver alliance scores. In addition, almost nothing is known about the stability of the therapeutic alliance throughout the natural course of treatment for children or adults because many studies administer therapeutic alliance measures once or twice during therapy. Most longitudinal studies have examined alliance during time-limited therapy. Despite its importance in understanding the relation between alliance and outcomes, little research has examined alliance patterns throughout the natural course of child or adult psychotherapy (Castonguay et al., 2006).

Short-term, limited assessment of therapeutic alliance makes premature assumptions about the temporal stability of alliance and the nature of the alliance-outcome relation. There is some evidence to suggest that both child and caregiver alliance are stable across time, with the former being more stable than the latter; however, observer reports of alliance appear to be less stable over time than client and therapist reports of alliance (Arnold, 2008). This instability may reflect observers' more limited perspective of the alliance in coding individual sessions rather than a more global evaluation. Alternatively, it may reflect error variance due to difficulty capturing the subjective nature of the alliance through observation. Designs with more repeated measures are necessary to further examine the interaction of symptom change and

alliance across time (Green, 2006).

Better understanding of both child and caregiver therapeutic alliance across informants is also necessary. There is a paucity of information on caregiver alliance in particular, despite the fact that it has clinically important correlates in those studies. Furthermore, there is some research to suggest that therapist-rated child alliance may explain more variance in child-, caregiver, and therapist-rated outcomes than child-rated alliance. It is unclear whether this might be true for caregiver alliance as well as child alliance, and understanding how these perspectives on alliance relate to different outcomes would be helpful. Finally, very little research has examined observer-rated child or caregiver alliance, and this perspective on alliance might enhance our understanding of the alliance-outcome association. When caregiver-reported alliance has been examined, caregivers have rated both alliance and outcomes. However, single informant studies that rely upon the same individual to rate both alliance and outcome generate stronger effects than multiple informant studies (McLeod, 2011). Therefore, there is a need for more than one informant for both alliance and outcomes in order to reduce common error variance.

As previously discussed, another methodological limitation of the current therapeutic alliance literature for children is that the majority of studies have been conducted in research contexts that differ greatly from those in usual care (Hawley & Weisz, 2005). Because of differences in treatment, client motivation, and referral pathways, alliance effects found in controlled manualized treatment studies may not be representative of alliance effects in the real world. Furthermore, intent-to-treat analyses have not typically been used in alliance-outcome studies. Therefore, participants who do

not complete treatment are most often excluded from data analysis, resulting in a skewed distribution of alliance scores—since dropout caregivers report weaker therapeutic alliance—and an unrepresentative sample, since families who drop out of treatment are of significantly lower socio-occupational status than families who remain in treatment (Kazdin, Whitley, et al., 2006). In several studies, children were treated by one therapist while caregivers were treated by a different therapist (Kazdin, Marciano, et al., 2005; Kazdin, Whitley, et al., 2006; Kazdin & Whitley, 2006); yet this structure does not reflect usual care (Garland et al., 2010). For these reasons, the comparison of child and caregiver alliance, as well as the generalizability of the alliance-outcome association might be compromised. Understanding the role that therapeutic alliance plays in community-based care is an important step in better understanding clinical practice.

Significance of Research Study

Mental health services research seeks to improve care in part by bridging the gap between empirical knowledge and practice in community settings (National Advisory Mental Health Council, 1998). Research with strong ecological validity (i.e., research conducted in “real world” settings with representative providers and patients) may have great potential for bridging the research-practice gap, especially when it addresses issues of clinical relevance and utility in collaboration with community stakeholders (National Advisory Mental Health Council, 2006). However, most research is not conducted in usual care settings. For example, very little research has examined psychotherapy processes for children in usual care settings, despite the potential of this research to inform efforts to integrate research and practice (Bickman, 2000; Garland, Hurlburt, & Hawley, 2006; Weisz, Jensen-Doss, & Hawley, 2006). In addition, research studies are

not often driven by the priorities identified by community stakeholders.

This study will examine an issue highly valued by community practitioners in the context of usual care. In addition, this study addresses some of the specific methodological limitations of current alliance research in child psychotherapy by collecting data on both child and caregiver alliance from multiple perspectives and across time. By examining alliance and various outcomes early and throughout the course of therapy, it might be possible to tease apart the directional nature of the alliance-outcome relation (Hawley & Garland, 2008; Hawley & Weisz, 2005). Temporal precedence might inform the direction of the alliance-outcome relation by examining alliance and outcomes in tandem (Tang & DeRubeis, 1992).

Assuming that there is some evidence of temporal precedence for alliance “predicting” outcomes, therapist behaviors and therapeutic processes that might impact alliance could be examined. Some researchers have already identified specific therapist behaviors that are associated with alliance, including alternating between eliciting information and fitting information to the treatment model, providing support and praise, and using cognitive restructuring and humor (Russell, Shirk, & Jungbluth, 2008), and this might serve to inform practice and ultimately improve care. This research might also complement current research on evidence-based practice. For example, evidence-based techniques might be even more efficacious if they concurrently fostered the therapeutic alliance, or certain techniques might be more efficacious at the beginning of therapy when the alliance has not yet been established or if it is particularly low. Because therapeutic alliance is so highly valued by practitioners, research on the alliance might be more accepted and readily integrated into real world practice.

HYPOTHESES

The primary aim of this study is to examine which alliance (child-therapist or caregiver-therapist), according to whom (child, caregiver, therapist, or observer), is most strongly associated with reports of observed symptom and functioning change in a sample of 209 children with disruptive behavior problems receiving usual care psychotherapy in community-based publicly-funded clinics. Outcomes include change at the child level (i.e., child symptomatology), caregiver level (i.e., parenting practices), and family level (i.e., family functioning).

Research question 1: Which alliance, according to whom, is most strongly associated with caregiver-reported improvements in child symptomatology?

Hypothesis 1a. Child alliance and caregiver alliance will be associated with improvement in caregiver-rated child total symptomatology, independent of reporter on alliance.

Hypothesis 1b. Observer- and therapist-reported child alliance will be more strongly associated with total symptom improvement than observer- and therapist-reported caregiver alliance. This hypothesis is based on studies that have found a larger effect of child alliance on symptoms, particularly in samples of children with externalizing problems. Observer-reported child and caregiver alliance are being compared because the outcome measure was caregiver-rated, so this comparison will allow for the comparison of child and caregiver alliance without the confound of common error variance. This hypothesis will only be investigated if child and caregiver alliance independently improve model fit, compared to a model that includes time as the only predictor of symptoms, as tested in Hypothesis 1a.

Research question 2: which alliance, according to whom, is most strongly associated with improvements in family functioning?

Hypothesis 2a. Child alliance and caregiver alliance will be associated with improvement in family functioning, independent of reporter on alliance or family functioning.

Hypothesis 2b. Child alliance will be more positively associated with improvements in family functioning than caregiver alliance, as suggested by the literature on alliance and improved family functioning. This hypothesis will be examined only if parallel reports of child and caregiver alliance independently improve model fit, compared to a model that includes time as the only predictor of family functioning, as tested in Hypothesis 2a.

Research question 3: which alliance, according to whom, is most strongly associated with improvements in parenting practices?

Hypothesis 3a. Caregiver alliance but not child alliance will be associated with improvements in parenting practices, independent of reporter on alliance or parenting.

Hypothesis 3b. Improvements in parenting practices will be most positively associated with observer-reported caregiver alliance, when compared with caregiver and therapist reports of caregiver alliance. This hypothesis will be explored only if reports of caregiver alliance improve model fit, compared to a model that includes time as the only predictor of parenting practices, as tested in Hypothesis 3a.

METHODS

This study utilizes data from the "Practice and Research: Advancing Collaboration" (PRAC) study. The PRAC study's main goal was to examine child psychotherapy processes and outcomes in usual care with a representative sample of children with disruptive behavior problems (Garland et al., 2010).

Participants

Children. The sample included 209 children with disruptive behavior problems (ages 4-13) who attended at least one service visit in a publicly funded outpatient mental health clinic in San Diego County. Initially, 218 families who called to initiate services were enrolled in the study, but nine of these never attended a session and were therefore excluded from the present study. The mean age of participants was 9 years ($SD=2.7$), and 68% ($n=141$) were male. Race/ethnicity was diverse, with 48% Caucasian ($n=100$), 29% Latino ($n=61$), 10% African American ($n=20$), 10% Multiracial ($n=20$), 3% Native American ($n=6$), and 1% Asian American/Pacific Islander. Children were included regardless of diagnosis so that the sample would be representative of children presenting with disruptive behavior problems (see inclusion criteria below). Children were also included regardless of comorbidity, due to the fact that the majority of children receiving community-based outpatient care have multiple diagnoses (Jensen & Weisz, 2002). Primary diagnoses assigned by therapists included Attention Deficit Hyperactivity Disorder (38%, $n=80$), Disruptive Behavior Disorder (22%, $n=45$), mood disorder (23%, $n=49$), anxiety disorder (8%, $n=17$), autism spectrum disorder (6%, $n=13$), and other (2%, $n=5$).

Recruitment of participants took place over approximately three years and was

facilitated by on-site research coordinators at each of the six participating clinics. Verbal permission to be contacted by the research team was obtained from caregivers who were identified by the research coordinators as potential participants when calling to initiate services for their child. All families for whom caregivers granted permission to be contacted were recruited. A baseline telephone screening interview was conducted by the research team to determine whether they met eligibility criteria. Inclusion criteria consisted of the following: 1) the child was between the ages of 4 and 13; 2) the caregiver self-identified at least one disruptive behavior problem (e.g., aggression, defiance, delinquency, attention problems) as a reason for initiating services; 3) the child was entering a new episode of outpatient psychotherapy care with a clinician who had previously agreed to participate in the study (see “Therapists” section below for more information); 4) the child had received no outpatient treatment at least three months prior to entry; 5) the baseline interview could be scheduled before the child had attended five psychotherapy sessions (mean = 1.4, sd = .9); 6) the child and caregiver spoke English and/or Spanish.

Children with mental retardation ($IQ < 70$), those with significant organic brain damage, and those with major medical problems were excluded from the study because these factors may have been associated with unique treatment characteristics. Of the 550 who agreed to be contacted and met the inclusion criteria listed above, 55% ($n=292$) did not end up following through with therapy appointments, leaving 258 potential psychotherapy participants who were actively recruited into this study. Eighty-five percent ($n=218$) of them agreed to participate in the study, and eighty-one percent ($n=209$) had at least one psychotherapy visit.

Caregivers. Caregivers (n=209) identified themselves as the child's primary caregiver and were responsible for physically taking the child to psychotherapy. Mean age of caregivers was 40 years (SD=10.1), and they were predominantly women (94%, n=197). Most were biological mothers (78%, n=162), but this sample also included grandmothers (9%, n=18), biological fathers (5%, n=11), foster mothers (3%, n=7), aunts (3%, n=6), and others (3%, n=6). Median household income was \$25,000, and mean income of \$36,205 (SD=30,205). Caregivers were married or living with a partner (45%, n=93), divorced (33%, n=69), never married and single (20%, n=41), or widowed (2%, n=5). There was diverse race/ethnic representation, with 53% Caucasians (n=111), 29% Latinos (n=61), 10% African Americans (n=21), and 8% Mixed/Other (n=16). Nineteen percent (n=40) of caregivers were Spanish-speakers.

Therapists. This sample included 100 therapists practicing in six community-based clinics in San Diego County. Initially, therapists were randomly selected for recruitment into the study from clinic lists of active therapists. Recruitment continued until cells were filled to reflect the distribution of therapists by mental health discipline, proportional to the size of the clinics in San Diego county. Subsequently, all new staff and trainees who worked at least half time in the clinics were recruited into the study. Of the 163 therapists recruited, 131 (80%) agreed to participate, and 100 initiated psychotherapy with a child participant in the study. Of these, 86 were primary therapists (i.e., therapist who initially saw the family) and 14 are secondary therapists (i.e., therapists to whom participating families were transferred during the course of the study). Data from both primary and secondary therapists are included in this study.

At entry into the study, mean therapist experience with psychotherapy was 2.9

years ($sd=3.6$ years; range: [0-25] years); 58% ($n=50$) were trainees and 42% ($n=36$) were staff. Most therapists were women (84%, $n=84$), and most were Caucasian (66%, $n=66$). Other race/ethnicities included Latinos (7%, $n=7$), African Americans (3%, $n=3$), and Mixed/Other (24%, $n=24$). Mental health disciplines included Marriage and Family Therapy (60%, $n=60$), Psychology (23%, $n=23$), and Social Work (17%, $n=17$). With respect to primary theoretical orientation, 35% ($n=35$) identified with family systems, 26% ($n=26$) eclectic, 28% ($n=28$) behavioral or cognitive behavioral, 4% ($n=4$) psychodynamic, 4% ($n=4$) Humanistic, and 3% ($n=3$) other.

Therapists were limited to maximum of eight participating families. When a participating family was transferred to a non-participating therapist at a participating clinic, the research team made attempts to recruit the new therapist. Written informed consent was obtained from caregivers and children over age 8, and verbal assent was obtained from younger children. Informed consent was also obtained from therapist participants and other family members who attended psychotherapy sessions. All participants were financially compensated for their participation in research interviews.

Data Collection

Videotaped psychotherapy sessions. All psychotherapy sessions with participating families were videotaped, from the time of entry into the study up until 16 months later, even when transferred to a new therapist—provided the participant family continued to be seen by a participating clinician. The principal investigator of the PRAC study, a post-doctoral fellow, and an advanced graduate student trained 17 individuals, three of whom were Spanish-English bilinguals, to code child and caregiver alliance with a parallel form of the Therapeutic Alliance Scales for Children, adapted for this study, in

order to assess observer-reported alliance (see measure description below).

Videotapes were randomly selected for coding using the following schedule: 0-4 months = four tapes; 5-8 months = three tapes; 9-12 months = two tapes; 13-16 months = one tape. This schedule capitalized on the increasing likelihood that therapy sessions would wane and terminate with time, therefore allowing for greater data collection. Because many families were not in treatment for 16 months, the maximum of ten videotapes was not available for most families. The average number of sessions coded per participant family was 6.36 (SD = 3.05; [1,10]), out of an average of 20.6 sessions attended (SD = 15.9; [0,70]). Overall, a total of 3,241 tapes was collected, with 1,215 tapes being coded and analyzed in this study. Of the 1,215 total coded sessions, 379 (31%) were randomly selected for double-coding to test inter-rater reliability, which is reported below.

Additional data collection. Follow-up phone interviews were conducted in the language in which the participant was most comfortable (English or Spanish) with both the caregiver and the child at 4 months, 8 months, 12 months, and 16 months, provided the child was older than 8 years of age. The following measures were administered in follow-up phone interviews: Eyberg Child Behavior Inventory (caregiver), About My Parent (child) and Parenting (Primary Caregiver) (caregiver), and Family Relationship Index (child and caregiver) to assess child behavior problems, parenting practices, and quality of family relationships, respectively. These measures were also administered in the in-person baseline interview. Additionally, information about therapeutic alliance was collected during 4-month, 8-month, 12-month, and 16-month phone interviews, provided the child was attending psychotherapy or had terminated within the previous

two months. Information about both child and caregiver-therapist alliance was also collected from therapists via facsimile communication at 4, 8, 12, and 16 months, provided their participating clients were still attending or had terminated therapy within the previous four month time period.

Measures

Therapeutic Alliance Scales for Children (TASC; Shirk & Saiz, 1992). The TASC was designed specifically to measure child therapeutic alliance, from both the child's and therapist's perspective. In accordance with Bordin's (1979) conceptualization of alliance, the TASC distinguishes between (a) the affective bond (e.g., I like spending time with my therapist, I feel like my therapist is on my side and tries to help me) and (b) client-therapist collaboration on therapeutic tasks (e.g., I think my therapist and I work well together on dealing with my problems, I use my time with my therapist to make changes in my life). The scale includes 12 items that are rated from 1 (not true) to 4 (very much true). The TASC has demonstrated good reliability and validity in previous studies (Creed & Kendall, 2005; DeVet, Kim, Charlot-Swilley, & Ireys, 2003; Hawley & Weisz, 2005; Shirk & Saiz, 1992) and had a Cronbach's alpha of .91 in this study. Only children ages 9 and older completed the TASC.

A parallel caregiver report form had been developed that demonstrates good internal consistency (Cronbach's alpha = .81) and one week test-retest reliability (correlation coefficient = .82; Hawley & Weisz, 2005). Reliability was good in this sample as well (Cronbach's alpha = .85). In addition, a parallel observer report form was developed in this study in order to code alliance in videotaped sessions. Reliability for therapist report of caregiver alliance (Cronbach's alpha = .86) and child alliance

(Cronbach's alpha = .87) was excellent. Observer TASC scores were averaged across sessions within each time point, yielding a single score for each time point in which the child was active in treatment. The mean of TASC scores was used instead of session TASC scores due to variability of total number of coded sessions (e.g., one family might have one coded session while another might have four coded sessions within a time point) as well as variability in timeline of sessions coded within a time point (i.e., randomly selected videotapes within the 4-month time point could have varied from sessions at 16 weeks, 22 weeks, 27 weeks, 31 weeks, etc.). In addition, averaging TASC scores created an equal number of data points within each family across observer, client, and therapist reports.

The intraclass correlation (ICC) for observer-coded child alliance (i.e., across all TASC items) was .78 in this study, representing excellent internal reliability. This internal consistency coefficient is fairly similar to those found in other observer-coded child-therapist alliance measures (.74; Faw, Hogue, Johnson, Diamond, & Liddle, 2005) and observer-coded caregiver-therapist alliance measures (.89; McLeod & Weisz, 2005). The ICC for observer-coded caregiver alliance was .48, representing fair reliability. Since caregivers were present in session for less time than children, observer-coded caregiver-therapist reliability may have been compromised because of insufficient information to make a good inference about the caregiver's perceptions of the therapist. Nevertheless, these ICC's are within acceptable reliability ranges (Cicchetti, 1994). Therapist-, client-, and observer-rated TASCs were each used as independent variables of child and caregiver alliance. ICCs between client, therapist, and observer reports on child and caregiver alliance were small to moderate (see Table 1).

Eyberg Child Behavior Inventory (ECBI; Eyberg & Ross, 1978; Eyberg & Pincus, 1999). The ECBI is a 36-item measure designed to assess behavior problems in children ages 2 through 16. The Intensity score quantifies the frequency with which each behavior currently occurs from 1 (never) to 7 (always), and the Problem score is calculated by summing the items that informants identify as problems. In this study, only the Intensity score will be analyzed. Short term test-retest reliability coefficients of .86 and .88 indicate that the inventory is reliable (Robinson, Eyberg, & Ross, 1980). It exhibits good convergent validity (Boggs, Eyberg, & Reynolds, 1990), excellent internal consistency (.98; Eyberg & Robinson 1983; Robinson, Eyberg, & Ross, 1980), and excellent discriminative power (Eyberg & Robinson, 1983; Eyberg & Ross, 1978; Rich & Eyberg, 2001). Internal consistency in this sample was also excellent (Cronbach's alpha = .92). The ECBI is a sensitive measure of therapeutic change (Eyberg & Ross, 1978; Schuhmann, Foote, Eyberg Boggs, & Algina, 1998). Finally, there are no mean score differences between Spanish and English versions of the ECBI completed by Latinos (Gross et al., 2007). Because of its strong psychometric properties and quick administration, the ECBI has been used in many treatment outcome studies for children with behavior problems (Edwards, C  illeachair, Bywater, Hughes, & Hutchings, 2007; Hutchings et al., 2007; Morawska & Sanders, 2007; Werba, Eyberg, Boggs, & Algina, 2006). This measure was administered to caregivers only and was used as an outcome measure for analyses involving total symptom severity.

Family Relationship Index (FRI; Holahan & Moos, 1983). The FRI is a 27-item true/false index that assesses the quality of family relationships. Derived from the three relationship subscales of the Family Environment Scale (Moos & Moos, 1986) the FRI

measures 1) Cohesion (e.g., Family members help and support one another), 2) Expressiveness (e.g., Family members often keep their feelings to themselves), and 3) Conflict (e.g., We fight a lot in our family). In a sample similar to that in this study, internal reliability estimates for caregiver and child reports were .75 and .70, respectively (Garland, Haine, & Boxmeyer, 2007). Cronbach's alphas in this sample for caregiver and child reports were .79 and .71, respectively. Good construct validity has also been demonstrated for the composite FRI measure and its subscales (Hoge, Andrews, Faulkner, & Robinson, 1989; Holahan & Moos, 1982; Holahan & Moos, 1983). It demonstrates sensitivity with at risk families (Edwards & Clarke, 2005), and scores improve over time for families whose children are attending psychotherapy for conduct problems (Kazdin & Wassell, 2000). For this reason, it has been used to assess family functioning in various treatment outcome studies (Hoge et al., 1989). Both child- (ages 9 and older) and caregiver-reported FRI scores were used as outcome measures for analyses involving family functioning.

About My Parent and Parenting (Primary Caregiver) Positive Parenting scales (AMP; Conduct Problems Prevention Research Group, 1994a; PPC; Conduct Problems Prevention Research Group, 1994b). The AMP and PPC positive parenting scales are parallel nine-item subscales that measure child and caregiver perceptions of positive parenting responses to the child's behavior, respectively. Failure to appropriately use positive reinforcement is associated with conduct problems in children (Bierman & Smoot, 1991; Frick et al., 1992; Laub & Sampson, 1988; Patterson, Dishion, & Bank, 1984; Strassberg, Dodge, Pettit, & Bates, 1994; Wells & Rankin, 1988). To examine these factors, items were adapted from the Loeber Youth Questionnaire (see Jacob,

Moser, Windle, Loeber, Stouthamer-Loeber, 2000; Krohn, Stern, Thornberry, & Jang, 1992) and the Control Mechanisms and Guidance Mechanisms Indices, created through the work of several research groups (Anthony & Kellam, 1991). On a scale from 1 (almost never) to 5 (almost always), this questionnaire assesses the consistency with which positive and negative reinforcement are employed when the child behaves in a pleasing manner. A couple studies have found that the AMP and PPC have coefficient alphas of .70 in normative samples and alphas of .71 and .67 in high-risk samples (McCarty & Doyle, 2000; McCarty & Doyle, 2001). In this sample, Cronbach alphas were .71 and .74 for caregiver and child reports, respectively. Various outcome studies have also used versions of the AMP and PCC to assess parenting practices (Blader, 2006; Clark, Thatcher, & Maistro, 2004; Webster-Stratton, 1998). The AMP (as rated by children ages 9 and older) and PPC were used as outcome measures for analyses involving parenting practices.

Analytic Plan

Autoregressive cross-lagged models within the multilevel modeling software package MPlus 4.2 (Muthén & Muthén, 2004) were used to examine all study hypotheses. These models allow for analyzing change over time within a structural equation modeling (SEM) framework. SEM allows for examination of relationships among multiple dependent variables simultaneously. Models examined therapeutic alliance and outcomes across 4, 8, and 12 months. Baseline scores were not included in models due to lack of therapeutic alliance data at or near baseline. Additionally, baseline scores could not feasibly be examined due to inadequate sample size needed to estimate additional parameters associated with the inclusion of baseline scores.

Autoregressive cross-lagged models also readily incorporate “missingness” in analyses with an assumption that data are missing at random. Finally, these models account for the hierarchical structure of these data, since there are repeated measures of alliance (level-1) nested within individuals (level-2). Both levels of this nested data structure are examined to determine whether either level violates the independence assumption, and analyses incorporated both levels. Ideally, all levels of nesting would be taken into consideration (i.e., nesting within clinicians and within clinics). However, these levels could not be accounted for due to the relatively small number of subjects.

Data Screening, Power, and Error Control

Preliminary data screening and cleaning involved examination of the data distributions for normality and missing data patterns at both the univariate and multivariate level. Given the assumption of multivariate normality in SEM and the fact that case outliers can greatly affect model fit, data were first screened for multivariate normality. Normalized estimates of Mardia’s coefficient for predictor-outcome pairs ranged from -0.85 to 1.29, indicating multivariate normality across analyses.

Missing Data Patterns

Because missing data are common to longitudinal designs, missing data patterns were be addressed. Of the family participants, 209 (100%) were active in treatment at 4 months (i.e., attended at least one session during first four months), 141 (67.5%) were active at 8 months, and 100 (47.8%) were active at 12 months. However, sample sizes for child-reported alliance are even smaller due to the age restriction on completing this measure, resulting in sample sizes of 90, 60, and 46 at 4, 8 and 12 months, respectively. Alliance and outcome measures at 4, 8, and 12 month follow-ups are the observed

variables.

Data were considered to be missing if the family was active in treatment during the time point for which there was missing information (i.e., the family was eligible). In addition, child participants needed to meet the interview age requirement in order for child report data to be considered missing. Missing child report therapeutic alliance data at 4 months were not significantly associated with child gender, age, race/ethnicity, household income, family environment at baseline, as reported by child and caregiver on the FRI (Holahan & Moos, 1983), caregiver-reported number/severity of child behavior problems at baseline, as measured by the ECBI (Eyberg & Ross, 1978; Eyberg & Pincus, 1999), and positive parenting practices at baseline, as measured by the PPC (Conduct Problems Prevention Research Group, 1994b) ($ps > .05$).

The only significant associations were at 8 and 12 months for positive parenting practices ($\chi^2 [1, N = 208] = 7.807, p = .006$; $\chi^2 [1, N = 208] = 5.369, p = .021$), 8 months for child race, and at 12 months for child age. At 8 months, child race was significantly associated with missing child report data ($\chi^2 [3, N = 82] = 13.177, p = .004$), with the amount of missing data differing between African Americans (0%, $n=3$), Latinos (56%, $n=25$), Caucasians (23.4%, $n=47$), and other/multiracial (0%, $n=7$). At 12 months, child age was significantly associated with missing child report data ($t[58] = -2.054, p = .045$), with younger children missing more data than older children ($M = 10.22, SD = 1.52$ v. $M = 11.08, SD = 1.44$).

Missing caregiver report therapeutic alliance data at 4, 8, and 12 months were not significantly associated with caregiver gender, age, race/ethnicity, caregiver-reported number/severity of child behavior problems at baseline, family environment at baseline,

or positive parenting practices at baseline ($ps > .05$).

Missing therapist report caregiver-therapist alliance data at 4 months were not significantly associated with therapist gender, age, race/ethnicity, theoretical orientation, caregiver-reported number/severity of child behavior problems at baseline, family environment at baseline, or positive parenting practices at baseline ($ps > .05$). Missing therapist report child-therapist at 4 months were not significantly associated with therapist gender, age, race/ethnicity, theoretical orientation, or caregiver-reported number/severity of child behavior problems at baseline, as measured by the Eyberg Child Behavior Inventory (Eyberg & Ross, 1978; Eyberg & Pincus, 1999) ($ps > .05$). The only other significant association was between therapist race and missing data at 12 months. Missing therapist report caregiver-therapist data and child-therapist data at 12 months ($\chi^2 [3, N = 99] = 9.481, p = .024$) differed between African American (75%, $n=8$), Latino (0%, $n=8$), Caucasian (41%, $n=63$), and other/multiracial therapists (45%, $n=20$).

Kline (2005) has suggested a ratio of cases to free parameters of 10:1. The most complex test of invariance models in the proposed study will estimate 19 parameters, which would suggest a minimum sample size of 190 subjects. While sample sizes at 8 and 12 months are not ideal, the SEM framework has been utilized successfully in previous analyses conducted with sample sizes of 131, 131, 99, and 75 subjects at 4, 8, 12, and 16 month time points, respectively (Haine, Brookman-Fraze, Roesch, Hurlburt, & Garland, 2007). Because these analyses focus on effect sizes in addition to tests of statistical significance, alpha-adjustment is less critical and typically not used in SEM.

Model fit will be determined by examining three non-inferential descriptive fit indices recommended by Bentler (2007): (1) the Comparative Fit Index (CFI; Bentler,

1990), with values greater than .95 indicative of a well-fitting model and values greater than .90 indicative of a plausible model; (2) the root mean square error of approximation (RMSEA; Steiger, 1990), with values less than .05 indicative of a well-fitting model and values less than .08 indicative of a plausible model; and (3) the standardized root mean square residual (SRMR; Hu & Bentler, 1999), with values less than .05 indicative of a well-fitting model and values less than .08 indicative of a plausible model. The likelihood ratio chi-square test are also reported; however, significant regression coefficients and significant r-square values will be interpreted in models that demonstrate adequate descriptive fit without regard to statistical fit. This interpretation is reasonable given the well-documented problems with the chi-square test statistic in addition to the fact that these models did not account for second and third order autoregressive paths, which greatly decreased statistical and descriptive model fit because of variance accounted for by these paths.

RESULTS

Reports of child alliance and reports of caregiver alliance were examined separately for each of the three outcomes (i.e., child symptom severity, family functioning, and parenting practices). It was hypothesized that both child and caregiver alliance would be associated with both child symptom severity and family functioning, with child alliance being more strongly predictive than caregiver alliance. Caregiver alliance only was hypothesized to be associated with parenting practices, with observer report being more strongly associated with change than caregiver or observer reports. Given the number of paths tested in each model, only the significant paths between alliance and outcomes will be reported below. See corresponding figures for all path coefficients and Table 4 for a summary of significant findings across the six autoregressive models.

Child Symptoms

Child alliance. The child report (CFI = .986, RMSEA = .066, SRMR = .028) and therapist report (CFI = .987, RMSEA = .064, SRMR = .025) models both fit well descriptively. Statistical fit was poor for child report ($\chi^2 = 21.919$, $df = 6$, $p = .001$) and therapist report ($\chi^2 = 16.998$, $df = 6$, $p = .009$). The observer report model was vulnerable to imprecise estimates due to the iterative process not converging within 500 iterations; therefore, this model will not be presented. When the iterative process does not converge, the model is interpreted as having poor model fit as specified. Therefore, it can be inferred that observer report of child alliance is not a good predictor of child symptoms, which is likely due to insufficient variability in the slope factor revealed in testing of the unconditional observer report child alliance model. Based on the model

Akaike information criterion (AIC), the therapist report model fit relatively better than the child report model ($5.00 < 9.92$). For the ECBI problem scale, both child-reported child alliance ($B = -.17, SE = .06, p < .001$) and therapist-reported child alliance ($B = -.18, SE = .07, p < .001$) at 8 months were associated with ECBI at 8 months. In addition, therapist-reported child alliance at 8 months was associated with ECBI at 8 months ($B = -.14, SE = .07, p < .05$; see Figure 1). All effects were in the expected direction, with stronger alliance associated with lesser child symptomatology. No other alliance-outcome paths were significant. Zero order correlations were non-significant, as seen in Table 2.

Caregiver alliance. The caregiver report (CFI = .982, RMSEA = .074, SRMR = .048) and therapist report (CFI = .990, RMSEA = .057, SRMR = .019) models both fit well descriptively, despite poor statistical fit for both (caregiver report: $\chi^2 = 17.915, df = 6, p = .006$; therapist report: $\chi^2 = 15.526, df = 6, p = .017$). As with child alliance, the observer report caregiver model was vulnerable to imprecise estimates due to non-convergence of the iterative process and is not presented. Again, lack of convergence is likely due to insufficient variability in the slope of observer-reported caregiver alliance, and therefore poor model fit. Based on the model AIC, the therapist report model fit relatively better than the caregiver report model ($3.53 < 5.92$). Between child and caregiver alliance models, therapist report models fit better than client report models, with the therapist report caregiver alliance model providing the best fit. Despite good fit, there were no significant paths for caregiver report or therapist report. Zero order correlations between caregiver alliance and child symptoms were also non-significant, as seen in Table 3.

Family Functioning

Child alliance. The observer report model had poor statistical fit ($\chi^2 = 22.202$, $df = 6$, $p = .001$) but good descriptive fit (CFI = .945, RMSEA = .068, SRMR = .111), and it was the only child alliance model that reached convergence in predicting family functioning. For caregiver-reported family functioning, observer-reported child alliance was associated with caregiver-reported family functioning at 4 months ($B = .22$, $SE = .07$, $p < .001$), 8 months ($B = .19$, $SE = .05$, $p < .001$), and 12 months ($B = .17$, $SE = .07$, $p < .01$; see Figure 3). All effects were in the expected direction, with stronger alliance associated with better family functioning. Zero order correlations corresponding to model paths between observer-report alliance and family functioning were non-significant, as seen in Table 2.

Caregiver alliance. The caregiver report (CFI = .922, RMSEA = .112, SRMR = .053; $\chi^2 = 24.003$, $df = 6$, $p < .001$), therapist report (CFI = .925, RMSEA = .113, SRMR = .051; $\chi^2 = 26.732$, $df = 6$, $p < .001$), and observer report (CFI = .912, RMSEA = .137, SRMR = .068; $\chi^2 = 30.679$, $df = 6$, $p < .001$) models fit well descriptively despite poor statistical fit. Based on the model AIC, the caregiver report model fit relatively better than the therapist report model, which fit better than the observer report model ($12.00 < 14.73 < 18.68$). However, the observer report child alliance model fit best of all models predicting family functioning (AIC = 10.20). Greater caregiver-reported alliance at 8 months was associated with child report of worse family functioning at 8 months ($B = -18.55$, $SE = 3.89$, $p < .001$), with the same simultaneous association at 12 months ($B = -14.61$, $SE = 4.17$, $p < .001$). The only significant zero-order correlation supports the direction of this relation—greater alliance at 12 months is associated with worse family

functioning at 12 months ($r = -.22$, see Table 3). However, the significant cross-lagged association found that greater caregiver-reported alliance at 4 months was predictive of better family functioning at 8 months ($B = 8.54$, $SE = 3.74$, $p < .05$). No alliance-outcome paths were significant in the therapist- or observer-reported caregiver alliance models, as can be seen in Figure 4.

Positive Parenting Practices

Child alliance. The observer report model had poor statistical fit ($\chi^2 = 28.393$, $df = 6$, $p < .001$) but good descriptive fit ($CFI = .911$, $RMSEA = .131$, $SRMR = .076$), and it was the only child alliance model that reached convergence in predicting positive parenting. Observer-reported child alliance was positively associated with caregiver-reported positive parenting practices 4 months ($B = .21$, $SE = .07$, $p < .01$), 8 months ($B = .18$, $SE = .05$, $p < .001$), and 12 months ($B = .18$, $SE = .07$, $p < .01$; see Figure 5). No other alliance-outcome paths were significant. Zero order correlations corresponding to model paths between observer-report alliance and positive parenting practices were non-significant, as seen in Table 2.

Caregiver alliance. The caregiver report ($CFI = .961$, $RMSEA = .078$, $SRMR = .041$; $\chi^2 = 18.960$, $df = 6$, $p = .004$), therapist report ($CFI = .951$, $RMSEA = .089$, $SRMR = .043$; $\chi^2 = 20.694$, $df = 6$, $p = .002$), and observer report ($CFI = .944$, $RMSEA = .107$, $SRMR = .061$; $\chi^2 = 20.913$, $df = 6$, $p = .002$) models all fit well descriptively despite poor statistical fit. Based on the model AICs, the caregiver report model fit relatively better than the therapist report model, which fit better than the observer report model ($6.96 < 8.69 < 8.91$). All caregiver alliance models fit better than the observer report child alliance model ($AIC = 16.39$). Caregiver-reported alliance at 8 months was associated

with child report of fewer positive parenting practices at 8 months ($B = -18.10$, $SE = 3.80$, $p < .001$) but predicted more positive parenting practices at 12 months ($B = 15.64$, $SE = 4.53$, $p < .001$; see Figure 6). Therapist report and observer report of caregiver alliance was not associated with positive parenting practices. Zero order correlations were generally not significant, as seen in Table 3. The only significant correlation supported that better therapist-reported alliance at 12 months was positively correlated with positive parenting practices at 12 months ($r = .31$).

Engagement in therapy

In addition to the main outcome areas, family engagement in therapy was also indirectly examined with respect to caregiver-reported alliance, given that caregivers' perception of the alliance has been found to be the most influential with respect to engagement. Indeed, caregiver-reported alliance at four months was significantly associated with total number of sessions attended ($B = .62$, $SE = .18$, $p < .001$). Poorer early caregiver alliance predicted subsequent caregiver reports of wanting to end therapy ($B = .07$, $SE = .03$, $p < .05$) and endorsing disliking the therapist as one of the main reasons for termination ($B = .05$, $SE = .02$, $p < .05$). Furthermore, poorer early caregiver-reported alliance predicted drop-out from therapy ($B = .07$, $SE = .03$, $p < .01$) and was negatively associated with therapist agreement with termination ($B = -.04$, $SE = .02$, $p = .09$).

DISCUSSION

This study examined which alliance (i.e., child- or caregiver-therapist), according to whom (i.e., child or caregiver, therapist, and observer), best predicted improvements for children with disruptive behavior problems in usual care psychotherapy. It is one of the first studies of usual care child psychotherapy to examine alliance-outcome associations longitudinally, despite the importance of such research in understanding this potential mechanism of change. These results support the importance of the alliance in child psychotherapy but also highlight some limitations in the predictive validity of this construct.

Three outcomes were examined in the context of child/family psychotherapy, which included child symptom severity, positive parenting practices, and family functioning. Child but not caregiver alliance was associated with lesser child symptom severity in this sample. This is consistent with previous research finding that child alliance is a stronger predictor of child symptomatology than caregiver alliance in usual care settings (Hawley & Garland, 2008; Hawley & Weisz, 2005). This finding is logical in Hawley and colleague's research given their sample of older adolescents, whose therapy may include less parental involvement. However, this finding is surprising in our younger sample. Therapy for younger children often requires caregivers as active participants in therapy, who may have a significant influence on child outcomes; however, these data do not support the caregiver-therapist alliance as being important for child symptom improvement.

Contrary to expectations, none of the alliance indicators was predictive of reductions in child symptoms. Therefore, it is possible that alliance was rated higher for

cases in which there had already been greater reductions in child symptom severity. Consistent with a meta-analysis of previous alliance research (Shirk & Karver, 2003), therapist-reported child alliance was more strongly associated with lower child symptom severity than child report. The lack of variability in child-reported alliance may account for this finding in our sample and greater variability in the alliance trajectories rated by therapists. It might also be the case that the therapist reporting a more positive alliance with the child is more effective in implementing therapeutic techniques in session, thus accounting for better outcomes. Consistent with other studies, therapist-reported child alliance was more strongly associated with child symptom severity than therapist-reported caregiver alliance (Kazdin, Whitley, et al., 2006; Kazdin & Whitley, 2006).

In addition to child symptom severity, family functioning and positive parenting practices were examined as outcomes. For child alliance models predicting family functioning and positive parenting practices, only observer report was examined due to child and therapist reports being too poorly associated with family functioning to estimate model parameters. Consistent with our hypothesis and previous literature finding that child but not caregiver alliance is associated with improvement in family functioning (Hawley & Garland, 2008), child alliance (observer report) was more strongly associated with family functioning than any report on caregiver alliance. Because child alliance could only be examined from the observer perspective, this was the only analogous comparison possible across child and caregiver models. Nevertheless, the inability to examine child- and therapist-reported child alliance was due to poor model fit, indicating that these reports on alliance were not good predictors of family functioning.

However, only early caregiver-reported alliance was predictive of improved

family functioning. Indeed, early caregiver-reported alliance predicted better family functioning at eight months, suggesting that caregiver-reported alliance may play an important role in improved family functioning, as rated by the child. Interestingly, however, caregiver-reported alliance at 8 and 12 months was associated with poorer family functioning within time, suggesting that families who are functioning at a lower level tend to form stronger alliance with their therapist than higher-functioning families. This is the first study to date to examine the relation between observer-coded alliance and family functioning, although observer-reported caregiver alliance has been associated with decreased internalizing symptomatology (McLeod & Weisz, 2005) and decreased externalizing symptomatology (Hogue et al., 2006) in previous studies. While both child and caregiver alliance were associated with family functioning, only caregiver alliance predicted later family functioning, suggesting that caregivers' perception of a positive alliance early in therapy may lead to improved family functioning. Nevertheless, higher alliance later in therapy (at 8 and 12 months) was associated with poorer family functioning.

Finally, caregiver-reported alliance also predictive of improved parenting practices at a subsequent time point. Consistent with the assumption that caregiver alliance is most important in changing parenting practices, this alliance was most associated with improvement. However, caregiver-reported alliance was the most predictive of parenting practices, contrary to our hypothesis that observer-reported caregiver alliance would be most strongly associated with parenting practices than other reports on caregiver alliance. Interestingly, therapist-reported caregiver alliance was not associated with improved parenting practices despite previous research finding

significant associations between the two (Kazdin & Whitley, 2006; Kazdin, Whitley, et al., 2006). As with family functioning, caregivers seems to offer a particularly important perspective on alliance that predicts improved parenting practices. It may be that self-report is more strongly associated with family and caregiver outcomes because caregivers are most responsible for making changes necessary to improve functioning in these areas. Similar to the findings in family functioning, caregiver-reported alliance was also associated with poorer parenting practices within time. This suggests that parents in greater overall distress (i.e., those with poorer parenting skills and poorer family functioning) report stronger alliances with their therapist than those in less distress. Parents in greater distress may feel a greater need for support and particularly aligned with their therapist. Although least associated with parenting practices, child alliance (as reported by observers) was nevertheless significantly associated with improvements in positive parenting across time. This was contrary to our hypothesis that child alliance would not be associated with parenting practices. This perspective has not been previously examined, although child alliance (as reported by therapists) has previously been linked to improved parenting (Kazdin, Whitley, et al., 2006).

While improved caregiver alliance predicted improved family functioning and parenting practices, this was only the case for caregiver report. Indeed, therapist and observer reports of caregiver alliance were not associated with changes in family functioning and parenting practices. However, therapist report of caregiver alliance was the most useful in understanding child symptom severity. Understanding whose perspective of child alliance is most associated with change in outcomes is complicated by the fact that there was insufficient variability in child-reported alliance to adequately

examine this association in the family functioning and positive parenting models. Nevertheless, it appears that both child and therapist reports of child alliance are associated with child symptomatology. In addition, observer-coded child alliance was associated with improvements in family functioning.

Others have also found limited variability in child alliance ratings (Shirk & Karver, 2003), resulting in a ceiling effect that interferes with examining alliance-outcome associations (Kendall et al., 1997). Ceiling effects have been found in samples of anxious children (Kendall et al., 1997), perhaps due to the emotional distress associated with internalizing disorders that is associated with greater motivation for treatment and greater likelihood to agree with the therapist about the tasks and goals of therapy (DiGiuseppe et al., 1996). However, this study found that children with externalizing disorders also tend to rate the alliance with minimal variability. This may also be related to this sample's younger age and their cognitive difficulty rating dimensions on a continuous scale.

This is the first study to date of therapeutic alliance in usual care child psychotherapy examining client, therapist, and observer perspectives on child and caregiver alliance. Alliance-outcome associations in the current literature are difficult to disentangle. This is in part because researchers have often examined the impact of either child or caregiver alliance on particular outcomes. Research has primarily focused on self-reports of child alliance, and to a lesser extent self-reports of caregiver alliance. Therapist and observer reports of alliance are even less well-studied. Furthermore, even when both child and caregiver alliance are examined, different measures are often used to assess each. One notable strength of this study was its examination of both child and

caregiver alliance from multiple perspectives using parallel measures to compare the predictive validity of each across several child and caregiver-rated domains.

Furthermore, assessing alliance at multiple time points allowed for more examination of how alliance temporally predicted therapeutic change.

The sample of children in this study was representative of those seen in community-based mental health settings with respect to the overrepresentation of boys (Eyberg, Nelson, & Boggs, 2008; Zima et al., 2005) and racial/ethnic minorities (Foster, Kelsch, Kamradt, Sosna & Yang, 2001; Zima et al., 2005). In addition, child diagnoses were relatively comparable to those found in other publicly-funded care settings (Foster et al., 2001; Rosenblatt & Rosenblatt, 2000). The therapist sample was also fairly comparable to a national survey of children's mental health providers with respect to educational level, gender, and ethnicity (Glisson et al., 2008). Although trainees were over-represented in this sample, other studies in community-based usual care also report high representation of trainees (Hawley & Weisz, 2005). Finally, therapists in the Marriage and Family Therapy (MFT) discipline constituted more than half of the sample, but this discipline represents a rapidly growing segment of the workforce across the U.S. that is over-represented in California (Northey, 2002).

Some of the limitations of this study include the lack of assignment to treatment conditions, such that no conclusions can be made about how treatment was associated with outcomes. However, the observational nature of this study allowed for naturalistic examination of this construct in usual care settings. While the study sample was comparable to that found in usual care, findings may not be generalizable to children with primary internalizing problems. Although never directly compared, it appears that

alliance may play a different role for children with externalizing problems versus those who present with internalizing problems. Furthermore, caregiver-reported alliance may differ depending on child diagnosis and the associated treatment modality/orientation, and these potential differences could not be examined with these data. Additionally, several reporters on alliance have unique limitations. For example, the sample of children who were old enough to provide child report data was quite small, and this sample is significantly older than the child sample as a whole. Certainly, results from the child-reported data are generalizable only to older children, who may differ significantly from the younger segment of the child sample with regard to presenting problem and treatment methods. In addition, some cases had more than one therapist reporting on alliance, such that therapist was not constant across time. Finally, the use of four-month intervals precluded better understanding of therapeutic improvements early in therapy, which may be particularly important given that the greatest decrease in symptoms in this sample occurred within the first four months of therapy (Garland et al., 2010).

Despite several limitations, this study offers an important contribution to better understanding how alliance is associated with functioning in children, parents, and families. Given the importance of the caregiver's role, caregiver alliance needs to be examined more often and with measures that take into account the context of child and family psychotherapy. Indeed, this study found that caregiver alliance was most important in examining change in parenting practices. Caregiver alliance also predicted later improvements in family functioning. This is not surprising given that caregivers are often key agents in child psychotherapy, aiding in the delivery and reinforcement of therapeutic content with the child. Furthermore, each perspective on child and caregiver

alliance was informative of improvement in at least one of the three domains examined, with the exception of observer-rated caregiver alliance.

Given the predictive validity of the alliance for improved family functioning and parenting practices, future research might examine psychotherapy processes that moderate or otherwise interact with therapeutic alliance. One promising line of research has already emerged in the discovery that there are individual differences in therapists associated with overall higher alliance ratings (Baldwin et al., 2007). While one might expect therapist orientation to be one indicator of therapist behavior, the association between the two was very weak in this sample (Arnold & Garland, 2008). However, behavioral differences regardless of theoretical orientation might provide targets for therapist training. Indeed, research has identified certain therapist behaviors associated with more positive youth alliance. For example, therapist use of collaborative language predicted a positive alliance early in therapy, whereas attempts to push the child to talk were negatively associated with early alliance (Creed & Kendall, 2005). Furthermore, providing support and praise as well as using humor were associated with improved adolescent alliance (Russell, Shirk, & Jungbluth, 2008). Furthermore, it has been found that therapist multicultural competence and therapist empathy are highly associated with therapeutic alliance (Fuertes et al., 2006). Further improvements in understanding therapist behaviors that impact the formation of a strong alliance might ultimately help to improve mental health services. The findings from this line of research could be integrated into current evidence-based treatments, which might increase treatment efficacy as well as treatment acceptability.

Indeed, given the high value placed on alliance by practitioners (Kazdin, Siegel,

& Bass, 1990; Bickman et al., 2000), complementary research on improving alliance in evidence-based treatments could potentially lead to greater implementation of such treatments in real world practice. Anecdotally, our perception is that one barrier to usual care therapists implementing more active and directive techniques is concern about these strategies negatively affecting the alliance. However, research has shown that such strategies (e.g., use of exposures in youth anxiety) is not associated with an alliance rupture; rather, the alliance with and without the introduction of exposures remains positive (Kendall et al., 2009). Furthermore, in community clinics for children, manualized treatments used in controlled research settings appear to be associated with stronger child alliance early in treatment when compared to treatment as usual (Langer, McLeod, & Weisz, 2011). This may be the result of more explicitly describing the goals and tasks of therapy early in manualized treatments, as well as increased structure in sessions through setting clear agendas. Further research clarifying how evidence-based practices impact the alliance might increase “buy-in” from therapists working in community-based settings. Furthermore, the different components of alliance (i.e., affective bond and agreement on tasks/goals) may be differentially associated with outcomes, and this should be further explored. Potentially, agreement on tasks/goals (within a context of an overall positive bond) may better predict outcomes because it is more directly associated with therapeutic “work.”

Consistent with the current view is that the alliance is a facilitative relationship that allows for the implementation of specific therapeutic techniques (Bordin, 1980, cited in Horvath & Greenberg, 1989), the alliance might allow for the implementation of effective strategies that are responsible for therapeutic outcomes rather than directly

impacting them. In other words, a positive alliance is not the end goal of treatment but rather provides a context through which therapeutic techniques may be more effectively implemented. Indeed, this study found that poorer parenting and family functioning was associated with parent reports of stronger alliances with their therapist, further elucidating why a strong alliance should not necessarily be the only goal of therapy. This conceptualization allows for an integrated perspective of relationship factors and specific techniques, with the alliance as the context in which an intervention can be more effectively implemented. Again, such an approach may also be meaningful to community clinicians in facilitating the implementation of research evidence into usual care practice. Better understanding of how the service setting context might influence the alliance is also important, given that findings from usual care differ somewhat from those from efficacy trials. Family characteristics associated with more positive alliance should also be examined. In this way, children and/or caregivers at risk for poorer alliance can be identified, and early treatment can be adapted to improve early alliance and reduce treatment drop-out. Finally, therapist behaviors associated with more positive alliance need to be better understood and utilized clinically to strengthen the alliance, which may positively impact early engagement in therapy and improve outcomes. Each of these efforts is important to better inform practice, which can ultimately improve quality of care for children and their families.

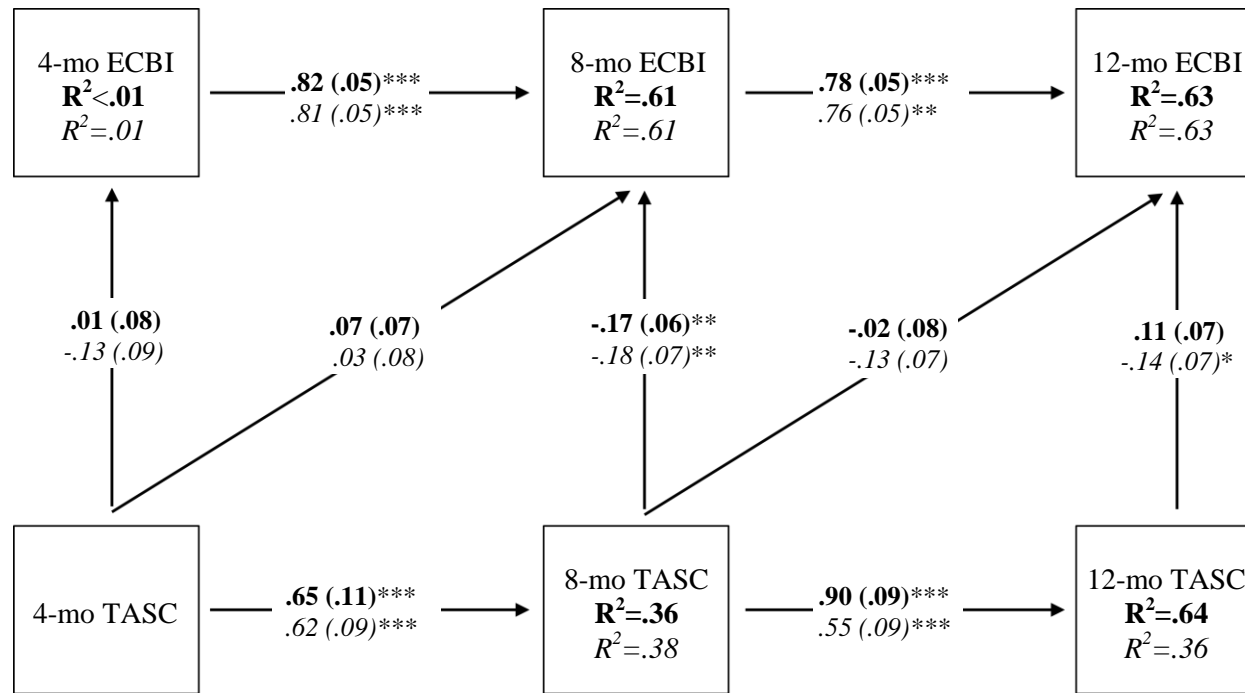


Figure 1. Child alliance predicting child symptomatology (ECBI)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). Two models are represented in this figure—the first line of text represents the child report alliance model and the second represents the *therapist report* alliance model. Sample size decreased from 4 months (Ns=90, 142, 182) to 8 months (Ns=60, 88, 141) to 12 months (Ns=46, 56, 101) for child, therapist, and observer reports, respectively.

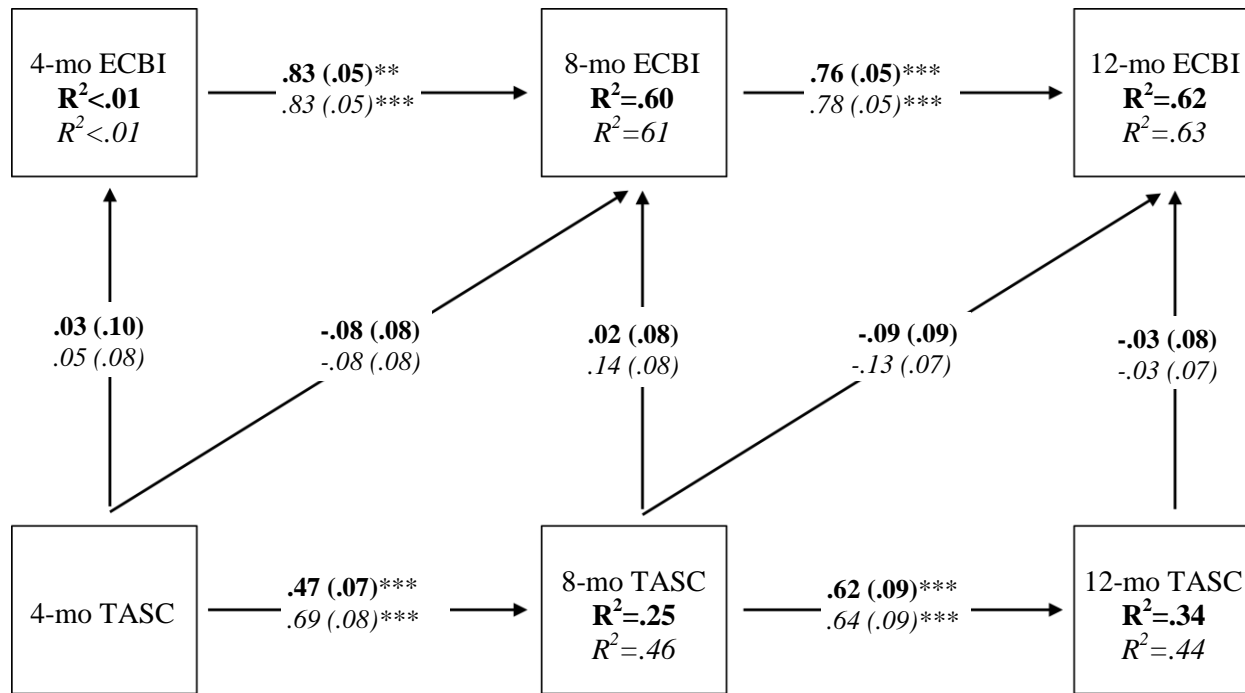


Figure 2. Caregiver alliance predicting child symptomatology (ECBI)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). Two models are represented in this figure—the first line of text represents the caregiver report alliance model and the second represents the *therapist report* alliance model. Sample size decreased from 4 months ($N_s=169, 143$) to 8 months ($N_s=126, 87$) to 12 months ($N_s=91, 56$) for caregiver and therapist reports, respectively.

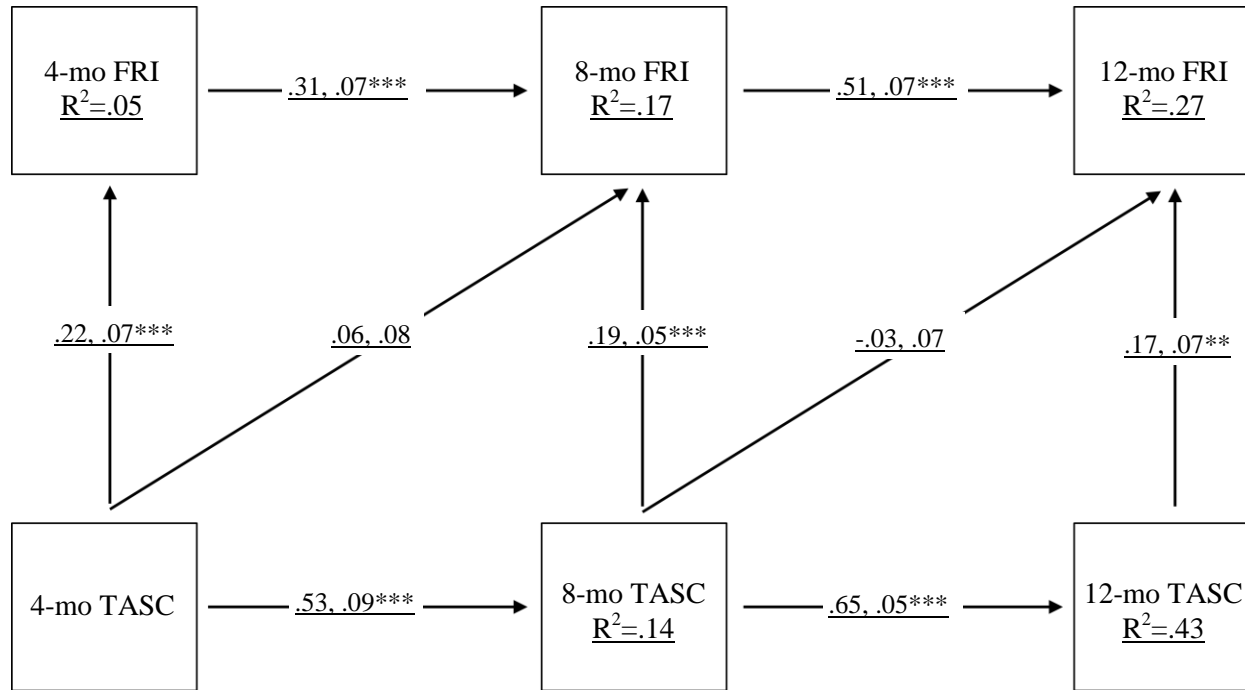


Figure 3. Child alliance predicting family functioning (FRI)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). This model represents the observer report child alliance model. Sample size decreased from 4 months ($n=182$) to 8 months ($n=141$) to 12 months ($n=101$).

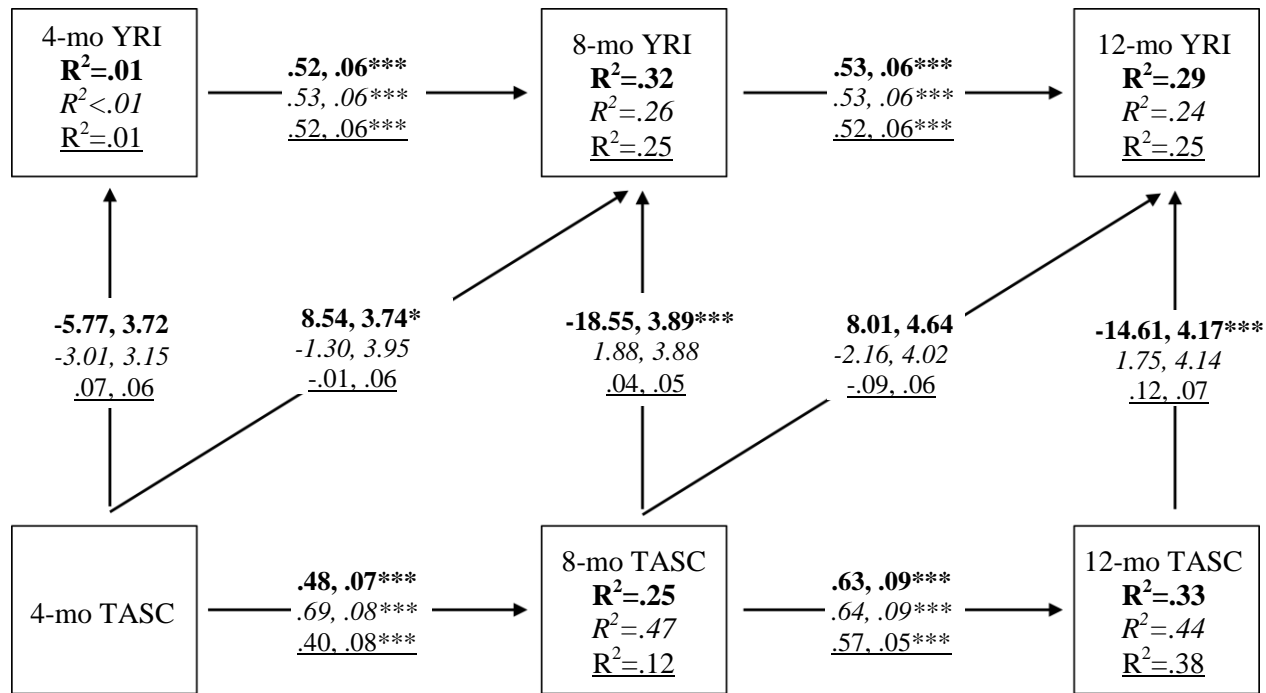


Figure 4. Caregiver alliance predicting family functioning (YRI)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). Three models are represented in this figure—the first line of text represents the caregiver report alliance model, the second represents the *therapist report* alliance model, and the final line represents the observer report alliance model. Sample size decreased from 4 months (Ns=169, 143, 167) to 8 months (Ns=126, 87, 127) to 12 months (Ns=91, 56, 103) for caregiver, therapist, and observer reports, respectively.

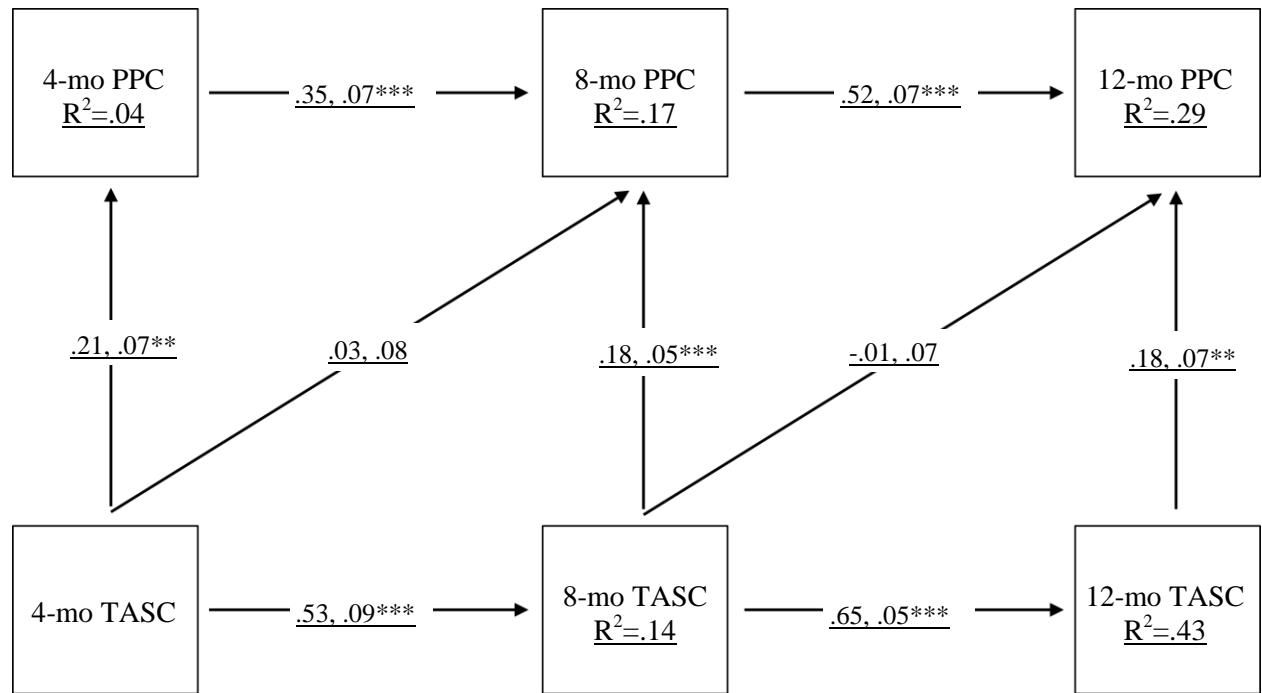


Figure 5. Child alliance predicting positive parenting practices (PPC)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). This model represents observer report alliance. Sample size decreased from 4 months ($n=182$) to 8 months ($n=141$) to 12 months ($n=101$).

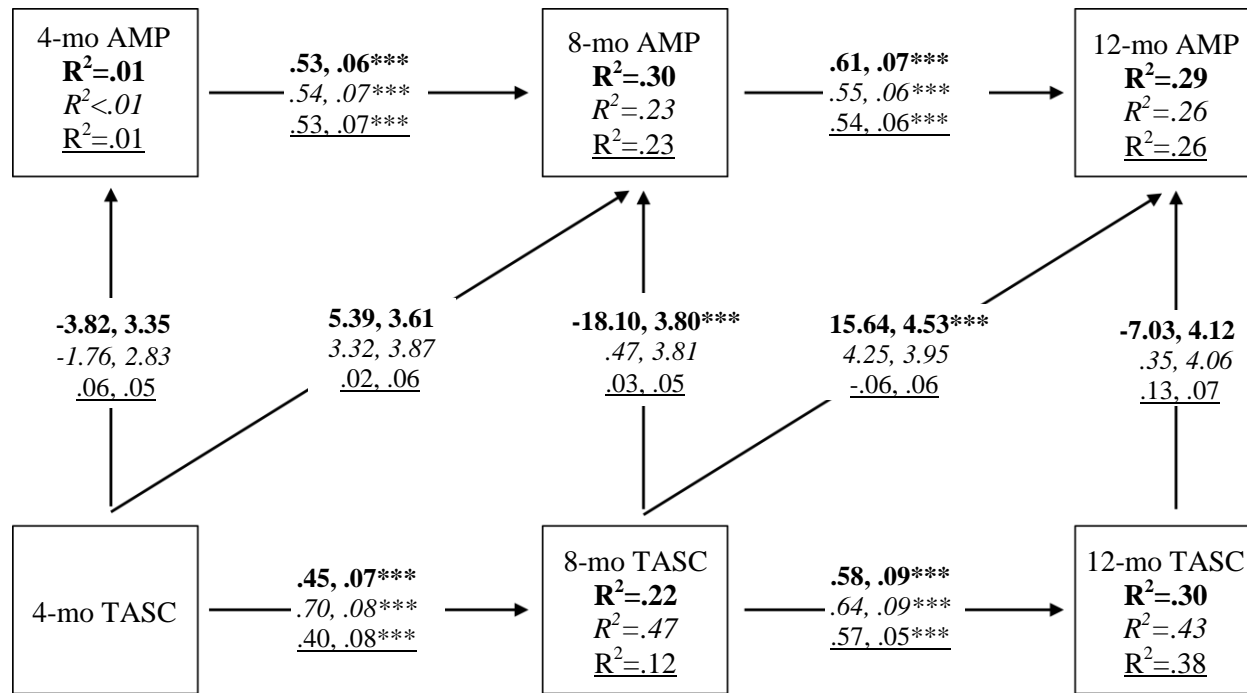


Figure 6. Caregiver alliance predicting positive parenting practices (AMP)

Note: Unstandardized regression coefficients (B) are reported first, followed by standard error values (SE) and statistical significance ($p < .05^*$, $p < .01^{**}$, $p < .001^{***}$). Three models are represented in this figure—the first line of text represents the caregiver report alliance model, the second represents the *therapist report* alliance model, and the final line represents the observer report alliance model. Sample size decreased from 4 months (Ns=169, 143, 167) to 8 months (Ns=126, 87, 127) to 12 months (Ns=91, 56, 103) for caregiver, therapist, and observer reports, respectively.

Table 1. Intraclass correlations across reports of caregiver and child alliance

		Caregiver Alliance			Child Alliance		
Reporter		Parent	Therapist	Observer	Child	Therapist	Observer
Caregiver Alliance	Parent	----					
	Therapist	.674 ^{***}	----				
	Observer	.196 ⁺	.470 ^{***}	----			
Child Alliance	Child	.535 ^{***}	.410 [*]	-.028	----		
	Therapist	.400 ^{**}	.524 ^{***}	.084	.497 ^{**}	----	
	Observer	-.070	.015	.484 ^{***}	.253 ⁺	.473 ^{***}	----

p < .07⁺, p < .05^{*}, p < .001^{**}, p < .0001^{***}

Table 2. Correlations between child alliance and outcomes

		Child symptoms (parent report)			Family functioning (parent report)			Positive parenting (parent report)		
		4 mo	8 mo	12 mo	4 mo	8 mo	12 mo	4 mo	8 mo	12 mo
Reporter	4 mo	-.07	-.13	.10	-.13	.01	.10	-.12	-.13	-.23*
Child	8 mo	-.20	-.19	-.23	-.09	-.24	-.22	<.01	.13	-.06
	12 mo	.04	.12	.09	-.11	-.30*	-.32*	.10	.08	.18
Therapist	4 mo	-.01	-.05	-.02	-.07	.01	-.04	-.01	-.06	-.10
	8 mo	-.13	-.19	-.11	.05	-.02	.08	-.10	-.07	-.11
	12 mo	-.17	-.12	-.19	-.06	-.30*	-.10	-.10	-.07	.01
Observer	4 mo	-.02	.02	.11	-.01	.03	-.07	-.08	-.13	-.19*
	8 mo	-.13	-.28	-.20	.03	.04	-.06	-.01	.02	<.01
	12 mo	-.06	-.12	-.08	.18	.10	.07	.10	.17	.11

$p < .05^*$, $p < .01^{**}$

Note: Associations directly tested in autoregressive models are shown in bold.

Table 3. Correlations between caregiver alliance and outcomes

Reporter		Child symptoms (parent report)			Family functioning (child report)			Positive parenting (child report)		
		4 mo	8 mo	12 mo	4 mo	8 mo	12 mo	4 mo	8 mo	12 mo
Caregiver	4 mo	-.05	-.05	-.06	.17*	.15	.03	-.05	-.05	-.05
	8 mo	-.10	-.06	.03	-.24**	-.09	-.22*	-.06	-.02	-.03
	12 mo	-.05	-.05	<-.01	-.10	-.22*	.01	-.08	-.09	-.04
Therapist	4 mo	.01	.03	-.02	.16	.09	.10	-.07	-.10	-.08
	8 mo	-.03	.10	-.05	-.10	-.05	-.16	.10	.13	.16
	12 mo	.17	.21	.05	-.15	-.26	-.10	.33*	.30	.31*
Observer	4 mo	-.05	<-.01	-.05	-.10	.01	.09	-.12	-.12	-.10
	8 mo	-.07	-.05	.05	.17	.17	.04	.11	.13	.08
	12 mo	-.11	-.03	.15	.14	.09	.11	.06	.12	.06

$p < .05^*$, $p < .01^{**}$

Note: Associations directly tested in autoregressive models are shown in bold.

Table 4. Summary of child and caregiver alliance-outcome models

		Informant					
		Client (Child/Caregiver)		Therapist		Observer	
Alliance		<i>simultaneous association</i>	<i>lagged association</i>	<i>simultaneous association</i>	<i>lagged association</i>	<i>simultaneous association</i>	<i>lagged association</i>
Child symptoms	<i>Child</i>	–	<i>ns</i>	–	<i>ns</i>	n/a	n/a
	<i>Caregiver</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	n/a	n/a
Positive parenting	<i>Child</i>	n/a	n/a	n/a	n/a	+	<i>ns</i>
	<i>Caregiver</i>	–	+	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Family functioning	<i>Child</i>	n/a	n/a	n/a	n/a	+	<i>ns</i>
	<i>Caregiver</i>	–	+	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

Note: Statistically significant associations are denoted with a sign (+/–) corresponding to the direction of the effect.

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