

# The Association Between Therapeutic Alliance and Treatment Outcomes in a Group Triple P Intervention

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**Abstract** A growing literature has examined the association between therapeutic alliance and treatment outcomes in child therapy. Few studies, however, have specifically investigated the role of therapeutic alliance within evidence-based parenting programs for children with externalizing behavioural difficulties. The current study prospectively collected measures of therapeutic alliance for 117 families completing a Triple P parenting program in a community children's mental health center. Higher levels of mother and father rated therapeutic alliance were associated with greater gains in parenting skills and parental sense of competence. Parental rated therapeutic alliance was also associated with greater improvements in child conduct problems for mothers, but not fathers. However, therapist ratings of therapeutic alliance had limited associations with treatment improvement. The implications of the findings for clinical practice are discussed.

**Keywords** Therapeutic alliance · Triple P · Parenting · Evidence-based · Group

## Introduction

Therapeutic alliance, defined as the affective and collaborative components of the client–therapist relationship (Elvins and Green 2008), has been postulated to play a

critical role in facilitating better outcomes in therapy. As a result, considerable attention has been given to the putative role that therapeutic alliance may have with both the treatment process and outcome (Norcross 2011). Early meta-analytic studies of adult therapy found a moderate but consistent positive relationship between therapeutic alliance and treatment outcomes (Hovath and Symonds 1991; Martin et al. 2000). Much less studied, however, has been the possible contribution of therapeutic alliance within child and adolescent therapy. This is a significant gap in the child treatment field. While the nature of the therapeutic relationship, due to developmental and family system factors, may be different in child therapy, there are no a priori reasons to think that the therapeutic alliance would not play a critical role in the successful treatment of children.

The first meta-analytic review of the alliance–outcome relationship in child treatment studies used a broad construct of alliance, called the therapeutic relationship, and yielded only 23 studies (Shirk and Karver 2003). The mean weighted effect size of .22 found in this latter study was similar to the mean weighted effect sizes of .26 (Hovath and Symonds 1991) and .21 (Martin et al. 2000) established in reviews of the adult literature. This finding was more recently confirmed by Shirk et al. (2011) who narrowed their meta-analysis of the child treatment literature to include only prospective studies of individual child therapy using explicit measures of therapeutic alliance. Finding 16 studies, the authors again found a weighted mean effect size of .22. Thus, despite the important developmental differences that are inherent in child treatments, the strength of the therapeutic alliance association was found to be similar in adult and child therapy.

In another recent meta-analysis, McLeod (2011) provided a more cautious and complex conclusion about the role of

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therapeutic alliance in child treatments. McLeod (2011) included both published and unpublished child treatment studies that used an explicit measure of therapeutic alliance with a single therapist. Studies using the broader concept of therapeutic relationship, as done in Shirk and Karver (2003), were not included. McLeod (2011) found a total of 38 child treatment studies with an overall weighted mean effect size of .14 between therapeutic alliance and treatment outcomes. Similar to past reviews (Shirk and Karver 2003), the association between therapeutic alliance and treatment outcome was higher for children with externalizing ( $ES = .22$ ) than internalizing ( $ES = .10$ ) disorders. The timing of alliance assessment was also important. Alliance ratings that were collected late in treatment yielded significantly higher effect sizes compared to alliance ratings collected early in the treatment process. Differences were also found depending on who rated the therapeutic alliance. For example, the effect size for the alliance-outcome relationship was higher for parent ratings of the alliance ( $ES = .28$ ) than for child rated alliance ( $ES = .14$ ) or an independent observer ( $ES = .06$ ). When taken together, McLeod (2011) suggested that the overall smaller association obtained between therapeutic alliance and treatment outcomes in his review required further investigation. Importantly, the finding of multiple clinical and demographic moderators for the alliance-outcome association in child treatments highlighted the need to better understand the role of alliance within specific treatment modalities.

One potentially fruitful area of alliance investigation, based on past meta-analyses, is the treatment of children with externalizing disorders. While there are several different empirically-based modalities and approaches to ameliorating externalizing disorders in children, evidence-based parenting programs are considered to be one of the first lines and most effective forms of intervention (Eyberg et al. 2008). This latter finding may provide an important match and avenue for further research within the child alliance-outcome literature. Not only have meta-analytic reviews consistently found stronger positive alliance-outcome associations for the treatment of externalizing behavior disorders (McLeod 2011; Shirk et al. 2011), but McLeod (2011) also found relatively stronger effect sizes for parent ratings of alliance within single therapist interventions. When put together, these findings suggest that it may be important to investigate the alliance-outcome association in treatments for children with externalizing disorders, with particular attention given to evidence-based parenting interventions. Unfortunately, to date, there have been only a few studies, as described below, that have specifically investigated this issue.

One of the first studies examining the role of therapeutic alliance within an evidence-based parenting program came from a series of articles by Kazdin et al. (2005, 2006) and Kazdin and Whitley (2006). In these studies, child, parent

and therapist self-report ratings of alliance were measured at the fourth and eighth treatment sessions of an individually delivered 12-week evidence-based program incorporating both cognitive-problem solving skills training in children concurrently with parent management training. An average of the therapeutic alliance ratings (i.e., sessions four plus eight) were used within a hierarchical linear regression analysis to predict treatment outcomes. After controlling for the moderating factors of treatment outcome (i.e., child behavior severity, socioeconomic disadvantage, parent psychopathology), parent ratings of therapeutic alliance with the therapist was associated with greater improvements in parenting practices (Kazdin et al. 2006). However, therapist ratings of alliance were not associated with improvements in parenting skills. In a more recent study, Kazdin and Durbin (2012) reported that the child-therapist therapeutic alliance was also predictive of better outcomes and change.

Using a larger sample, Kazdin et al. (2005) found that mother ratings of therapeutic alliance with the therapist were associated with greater improvements in treatment outcomes as rated by children, parents, and therapists. However, therapist ratings of therapeutic alliance with the mothers only predicted better therapist-rated outcomes and not the treatment outcomes reported by either children or mothers. The authors suggested that this latter finding regarding therapist alliance ratings could be accounted for by shared method variance and likely reflected a lack of association between therapist ratings of alliance and treatment outcomes. This limited association between therapist ratings of alliance and treatment outcomes has also been found in other studies of adolescent outpatient treatment (Hawley and Garland 2008) and highlight the need to consider the impact of informant source on the alliance-outcome association in child therapy. In light of this latter issue, it is also important to note that in the series of studies by Kazdin and colleagues, only mothers, and not fathers, completed parental ratings of therapeutic alliance. While it is expected that alliance is equally important to the treatment outcomes with fathers as it is with mothers, this association still requires empirical investigation within an evidence-based parenting program.

Therapeutic alliance has also been investigated within a group-based parenting program for children with attention deficit hyperactivity disorder (ADHD; Lerner et al. 2011). The parental friendship coaching program is an 8 week manual-based parenting intervention designed to address the peer relationship problems experienced by children with ADHD. The authors examined the relationship between alliance and parent and child outcomes. Twenty-four of the 27 parents included in the study were mothers. Rather than using self-report ratings to assess therapeutic alliance, Lerner et al. (2011) used the therapy process observational coding system-alliance scale (TPOCS-A; McLeod and

Weisz 2005). The TPOCS-A involves coding video-taped treatment sessions for affective elements of the client–therapist relationship along a 6-point scale. Alliance ratings from session three of the group were used to represent “early” alliance for analysis. The authors found support for the association between parental alliance and improvements in some of the assessed parenting skills and child outcomes. The authors also found that early, and not late alliance, accounted for the improved parenting skills and child outcomes. This ruled out the possibility that the alliance-outcome association stemmed from the occurrence of symptom change which was preceded by the later alliance ratings. Importantly, Lerner et al. (2011), using an observational method of alliance assessment, was able to partially corroborate the findings of Kazdin and colleagues who used self-report measures of alliance. However, the associations found by Lerner et al. (2011) were not as strong as that reported by Kazdin and colleagues, suggesting possible influences from either method of measurement (e.g., self-report vs. observational) or treatment modality (individual vs. group treatment format). Given the limited number of available studies, it is not possible to reach any firm conclusions. Further research with other parenting programs is needed before clarity can be reached.

To continue to build on this small body of alliance research, it is helpful to look at other available parenting interventions which are commonly used in the field. For example, there are several other well established evidence-based parenting programs which have demonstrated effectiveness within everyday clinical practice (Eyberg et al. 2008). One such program, called Triple P (Positive Parenting Program), is a comprehensive multilevel prevention and intervention program, with varying levels of intensity (Levels 1–5), designed to enhance parenting knowledge, skills, and confidence with the target of improving behavioral and emotional outcomes for children (Sanders 1999, 2008). This program also has a broad international profile and is one the more commonly used evidence-based parenting programs worldwide (Sanders 2008). Triple P has considerable empirical support with multiple meta-analyses specifically focused on summarizing the Triple P outcome literature (de Graaf et al. 2008a, b; Nowak and Heinrichs 2008; Thomas and Zimmer-Gembeck 2007). However, despite the considerable body of Triple P research, the current authors were unable to find any published studies examining the alliance-outcome association for this evidence-based parenting program.

At the present time, very little is known about the role of therapeutic alliance within an evidence-based parenting intervention, despite the encouraging results obtained from recent meta-analyses in this area (McLeod 2011; Shirk et al. 2011). Moreover, most of the existing research in this area has come largely from one evidence-based treatment

program (i.e., Kazdin and colleagues), housed within a university clinic, and has ostensibly focused on the alliance reports obtained by mothers. In fact, the current authors were unable to find any published findings regarding the role of therapeutic alliance within an evidence-based parenting intervention for fathers, and very few studies examining the role of therapeutic alliance in group parenting interventions under conditions of everyday practice. Given the existing identified gaps, the purpose of the current study is to extend the nascent evidence-based parenting literature regarding the alliance-outcome association to a level 4, group-based Triple P intervention delivered under the normal practice conditions of a community-based children’s mental health center. Based on previous research, it was expected that parent rated therapeutic alliance would be associated with the attainment of enhanced parenting skills and greater improvements in externalizing child behavior problems, but that therapist ratings of therapeutic alliance would not be associated with improved outcomes. Since the role of therapeutic alliance with fathers has not been specifically examined in past parenting research, the current study conducted separate analyses for mothers and fathers.

## Method

### Participants

Participants were 187 families who had a child between the ages of 3 and 15 ( $M = 7.01$ ;  $SD = 2.84$ ) with an identified externalizing behavioral difficulty as assessed by the organization’s intake team. This represented all consecutively referred cases for the Triple P parenting intervention. Eight families declined to participate in the evaluation. Thus, 95.4 % families who were asked to take part in the study did. Of the 187 families who began treatment, 117 completed post-treatment outcome measures (109 mothers and 47 fathers). This response rate of 62.6 % in a community-based clinic is highly comparable to the 65–70 % retention rate found in a well-established university-based research clinic that provides evidence-based parenting interventions for children with externalizing behavior disorders (Kazdin and Durbin 2012). The 70 families where post measures were not obtained and could not be included in further analyses included parents who dropped out of treatment ( $n = 31$ ) and parents who participated in some level of treatment but did not complete the post-treatment measures ( $n = 39$ ). With respect to attendance, 85 % of the participating mothers and 82 % of the participating fathers attended five or more of the eight treatment sessions for each Triple P group.

Table 1 provides relevant demographic information regarding the 117 families in the current evaluation.

**Table 1** Demographic profile for families receiving Triple P services

	Sample (%) ( <i>n</i> = 117)	Mother (%) ( <i>n</i> = 109)	Father (%) ( <i>n</i> = 47)
Child gender			
Male	70.9		
Child relationship			
Biological		92.5	80.9
Step		1.9	10.6
Other		5.6	8.5
Parent marital status			
Married	42.6		
Common law	15.7		
Divorced/separated	25.9		
Never married	13.9		
Widow	1.9		
Family receives government benefits			
Yes	50.9		
Child prescribed medications	28.2		
Past/current child protection involvement			
Yes	55.4		

Roughly 70 % of the families were seeking treatment to address the behaviors of a male child. Roughly 58 % of the parents attended the Triple P groups as a couple. Many families had high financial needs and were receiving government benefits and assistance (i.e., 50.9 %), with a minority of mothers (22 %) and fathers (19 %) not completing high school. Reflecting the need for intervention services, 55 % of the families had past involvement or were currently involved with child welfare services.

## Measures

### *Strengths and Difficulties Questionnaire (SDQ)*

The SDQ is a behavioral screening questionnaire measuring a parent's perception of their child's problem and prosocial behavior (Goodman 1997, 1999). It is designed for children between the ages of three and 16 and includes five subscales, each with five items, assessing the domains of emotional symptoms, conduct problems, attention/hyperactivity, peer problems, and prosocial behavior. Each item is scored as a 0, 1, or 2, with each scale having a minimum and maximum score of 0–10, respectively. A total difficulties score, with a range of 0–40, can be obtained by summing the four problem behavior scales together. The total difficulties scale has strong test–retest reliability ( $r = .85$ ) and is able to discriminate well between clinical and normal populations (Goodman and Scott 1999).

### *Parenting Scale (PS)*

The PS is a 30 item questionnaire measuring dysfunctional discipline styles in parents (Arnold et al. 1993). The original version contained three subscales, assessing laxness, over-reactivity, and verbosity. The PS has been found to relate to self-report measures of child behavior problems and observational measures of dysfunctional discipline practices (Arnold et al. 1993). Test–retest results for the laxness ( $r = .83$ ), over-reactivity ( $r = .82$ ), verbosity ( $r = .79$ ), and total ( $r = .84$ ) scores are strong (Arnold et al. 1993). More recently, a psychometric study of the PS identified the three key factors as laxness, over-reactivity, and hostility (Rhoades and O'Leary 2007), which were the scales used in the present study.

### *Parenting Sense of Competence Scale (PSOC)*

The PSOC is a 16 item questionnaire which assesses a parent's view of their competence along two dimensions, efficacy and satisfaction (Johnston and Mash 1989). Nine items tap into a parent's parenting satisfaction, while another seven items reflect a parent's sense of self-efficacy in caring for their child. A PSOC total score is calculated by adding together the efficacy and satisfaction subscales. Six-week test–retest reliability values of .46 to .82 have been obtained along with internal consistencies for the PSOC total and subscales scores ranging from .75 to .79 (Johnston and Mash 1989). Normative data is also available from Johnston and Mash (1989) and Ohan et al. (2000).

### *Depression Anxiety Stress Scales (DASS)*

The DASS is a 42 item questionnaire that assesses symptoms of depression, anxiety, and stress in adults (Lovibond and Lovibond 1995). Items for each of the three symptom scales are scored on a 4-point likert scale. The DASS has demonstrated good psychometric properties, with internal consistencies reported between .81 and .91 across the three scales (Lovibond and Lovibond 1995).

### *Working Alliance Inventory-Short Form (WAI-S)*

The WAI-S was developed to assess therapeutic alliance according to a pantheoretical tripartite (tasks, bond, and goals) conceptualization (Horvath and Greenberg 1989). The WAI-S task subscale is related to therapist and client agreement on what needs to be done to achieve the client's treatment goals. The therapeutic bond taps into the level of trust, warmth, and confidence between therapist and client, while the WAI-S goal subscale identifies what the client hopes to gain from therapy. The 12 item short form version of the WAI was used in this study, which has been found to

have sound psychometric qualities, including internal consistencies for total and subscale scores ranging from .85 to .92 (Hatcher and Gillaspay 2006). Both parent and therapist versions of the WAI-S were completed.

### *Treatment Evaluation Inventories*

Parents and therapists completed respective versions of the Treatment Evaluation Inventories, developed by Kazdin et al. (1992). The parent version of the Treatment Evaluation Inventory (parent version; PEI), consists of 19 items, rated on a 5-point likert scale, assessing the amount of change achieved as a result of a parenting intervention. The PEI consists of two subscales consisting of acceptability (8 items) and progress (11 items). PEI acceptability assesses how well the treatment was received by the parent (i.e., enjoyed treatment, looked forward to attending sessions). PEI progress scale taps into how much was learned and how much the parent changed in their parenting style as a result of the parenting intervention. A parallel version was also completed by therapists. The Treatment Evaluation Inventory (therapist version; TEI) consists of 15 items, broken down into two subscales of progress (six items) and improvement (nine items). The TEI progress scale is similar in nature to the PEI progress subscale, while the TEI improvement subscale reflects the therapist evaluation of parent improvement such as the use of the parenting skills taught and the ability to maintain the changes achieved. These measures, which are completed at the end of treatment, have been used in previous parenting outcomes studies because they have been associated with change in parenting skills and improvement in child symptoms over the course of treatment (Kazdin and Whitley 2006; Kazdin et al. 2005).

### *Procedure*

All families consecutively referred for a level 4 Triple P group at a community-based children's mental health center were asked to participate in the current study. Families were referred by the clinic's intake program if they had a child with externalizing behavioral difficulties or when parenting difficulties were identified. The clinic's usual exclusion criteria for Triple P groups were used in this study: (1) recent sexual abuse of the child, (2) presence of a Pervasive Developmental Disorder, (3) current high conflict divorce/separation, and (4) serious and active parental addictions. All other appropriate families were referred to the Triple P program and no special exclusion accommodations, outside of usual clinical practice, were made for the study participants. Over the 4 year time period of the study, participating families were involved in one of 30 different level 4 Triple P groups that were run at

the clinic. The average number of study families coming from any one Triple P group was 3.9 (range = 2–8 families per group).

The standard sequence of sessions for a level 4 Triple P group includes four face-to-face group sessions, followed by three individual telephone sessions (15 min each), and a final face-to-face group session. However, many of the families taking part in this study were complex and high need (e.g., 55 % had involvement with child protection). As a result, group administration was slightly modified for some groups in order to allow for more teaching time with parents. This was done by changing scheduled 15 min individual telephone call sessions into 2-h face-to-face group sessions. Content was not altered or modified and resulted in the same number of eight scheduled sessions for each group. Seventy-five percent of the parents completed a group using eight face-to-face sessions, while 25 % of parents participated in the traditional four group sessions, three telephone calls, and one group wrap-up/review session. Triple P practitioners decided on the group format depending on the needs of parents in their particular group, reflecting the need to match service delivery of evidence-based treatments with client needs within effectiveness studies. This is also consistent with the need for "flexibility within fidelity" advocated by Mazzucchelli and Sanders (2010) for the delivery of Triple P interventions. Comparison of treatment outcomes (i.e., SDQ scales, PS scales, and PSOC scales) between the two modes of group delivery revealed no differences in treatment effectiveness (all  $ps > .10$ ). Thus, data was combined for these two modes of group delivery. No additional funding or supports beyond usual organizational service resources were used for the delivery of the Triple P program. Thus, this evaluation reflects the Triple P service as delivered in a community setting, with typical resources, with non-research clinicians who had normal and diverse clinical demands placed on them.

All Triple P groups were led by certified Triple P practitioners. Prior to facilitating groups, each practitioner was trained and formally certified as competent to administer the Triple P intervention by Triple P International. To promote fidelity, all practitioners participated in a monthly peer supervision/education group and had the support of the clinic's Triple P coordinator to troubleshoot any difficulties. All group practitioners completed a fidelity checklist at the end of each group session. This checklist listed the required content for each group session as defined by the Triple P authors. Based on these fidelity checklists, practitioners completed 90.4 % of the required content for each treatment session ( $SD = 10.7$  %; range = 65.5–100 %). Feedback from practitioners indicated that uncompleted content was due to a lack of time and not resulting from any intentional decision or pattern to exclude Triple P material. A total of 16



different practitioners co-facilitated the 30 Triple P groups. Group facilitators lead an average of 3.75 groups (range = 1–13). Triple P group practitioners ranged in education level with seven having a Child and Youth Worker degree, four with a Bachelor's degree, and five with a Master's level degree.

As is standard practice when providing Triple P services, parents completed a comprehensive pre-treatment assessment package including the SDQ, PS, PSOC, and the DASS. These measures were used to assess baseline functioning. Parents and therapists were also asked to complete the WAI-S at either the second or third group session depending on the group format. Each parent, including those coming as couples, independently rated their therapeutic alliance with the Triple P group facilitators as a pair. That is, each parent independently completed a rating of their therapeutic alliance with group facilitators and completed that rating based on their overall alliance with both leaders. Similarly, group facilitators completed a unique rating of therapeutic alliance with each parent, even for parents who attended as a couple. Groups with eight face-to-face sessions completed the WAI-S at the third session, while groups with four face-to-face sessions plus telephone calls completed the WAI-S at the second group session. Comparison of WAI-S scores for these two group formats, across mothers and fathers, did not reveal any significant differences (all  $ps > .10$ ). These WAI-S scores were grouped together and represented the “early” stage of treatment for further analyses. Following the completion of group treatment, parents were again asked to complete the SDQ, PS, and PSOC. Parents were also asked to complete the PEI, while therapists completed the TEI. The inclusion of therapist TEI ratings allowed for the use of multiple informant outcome ratings regarding parental change and a control for the issue of shared-method variance on treatment outcome indicators. Each family was provided with a \$25 voucher following the completion of all post-treatment evaluation measures. Ethical approval for the study was obtained through the participating children's mental health center and the Research Ethics Board of the local university.

## Results

### Selection Bias Analysis

All data was screened to examine for outliers and evaluate assumptions of statistical normality. Since all variables met normality assumptions, no transformations were needed. Analysis for possible selection biases was completed between the 117 families who completed post-treatment measures with the 70 who did not. For continuous variables,

multiple  $t$ -tests were conducted for both mothers and fathers. No significant group differences were found on the SDQ total or problem scales (emotion, conduct, hyperactivity, and peer problems), PS laxness, PS over-reactivity, PS hostility, PSOC efficacy, PSOC satisfaction, PSOC total, DASS depression, and DASS anxiety (all  $ps > .05$ ). While fathers who completed post-treatment measures were significantly higher on the pre-treatment DASS stress scale when compared to fathers who did not complete post measures, mother completers and non-completers did not differ on DASS stress. In addition, using Chi square tests for categorical variables, the following relevant demographic variables were not significantly different between completing and non-completing families (all  $ps > .05$ ): child gender, marital status of parent, mothers' and fathers' education level, family use of social assistance, presenting child's use of medication, and family involvement with the child welfare system. Given the limited evidence of a selection bias, the following results are considered to be a fair representation of all families who participated in group Triple P. Analyses were run with available data, with no corrections made for missing data.

### Treatment Effectiveness

The effectiveness of group Triple P in this sample was evaluated by examining changes in child conduct problems (i.e., SDQ conduct) and parenting behaviors which were measured by the PS subscales and the PSOC subscales and total score. Standardized mean gain effect sizes ( $ES_{sg}$ ; Becker 1988) were calculated for each of these important treatment outcomes for mothers and fathers. In addition to the calculated  $ES_{sg}$ , dependent samples  $t$ -tests were calculated for each variable to determine if statistically significant improvements in functioning had occurred. Mothers were found to obtain statistically significant changes on all treatment outcome measures, while fathers had statistically significant changes on all outcome variables except for the SDQ conduct scale. As shown in Table 2, the  $ES_{sg}$  for mothers ranged from a low of .33 for PS hostility to a high of .92 for PSOC total. Fathers obtained slightly lower  $ES_{sg}$  values with a low of .19 for SDQ conduct to a high of .49 for PS over-reactivity. These values are consistent with effect sizes reported in recent meta-analyses of Triple P research (Nowak and Heinrichs 2008; Thomas and Zimmer-Gembeck 2007), suggesting that the flexible delivery of the Triple P program in this sample was effective.

### Cross-Informant Agreement on Therapeutic Alliance

The level of agreement between mother, father, and therapist ratings of therapeutic alliance at the early stage of treatment was calculated using bivariate correlations. Interestingly, at

**Table 2** Treatment effectiveness for selected outcome measures for mothers and fathers who participated in the group Triple P service

Outcome measures	Pre-treatment mean (SD)	Post-treatment mean (SD)	Effect size ( $ES_{sg}$ )
<b>Mother (n = 109)</b>			
SDQ conduct***	4.08 (1.81)	3.21 (1.93)	.47
PS laxness***	3.18 (1.06)	2.43 (.96)	.74
PS over-reactivity***	3.54 (1.05)	2.77 (.97)	.76
PS hostility***	2.02 (1.08)	1.69 (.91)	.33
PSOC efficacy***	26.52 (6.62)	31.26 (5.41)	.77
PSOC satisfaction***	34.35 (7.36)	39.87 (6.47)	.79
PSOC total***	60.89 (12.09)	71.11 (10.40)	.92
<b>Father (n = 47)</b>			
SDQ conduct	4.00 (2.04)	3.62 (2.00)	.19
PS laxness**	2.70 (1.05)	2.29 (.99)	.40
PS over-reactivity**	3.48 (1.19)	2.94 (.99)	.49
PS hostility**	1.99 (.99)	1.62 (.75)	.41
PSOC efficacy**	27.13 (5.59)	29.70 (6.03)	.44
PSOC satisfaction*	36.77 (7.63)	39.62 (7.77)	.37
PSOC total**	63.43 (11.98)	69.21 (13.05)	.46

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

this early stage of treatment, minimal concordance was observed between therapists’ and parents’ rating of the parent–therapist therapeutic alliance. As displayed in Table 3, non-significant correlations were obtained between mother and therapist ratings of their respective therapeutic alliance, other than a small association on the WAI-S task alliance scale. Father ratings of the father–therapist alliance demonstrated a small to moderate association with therapist ratings on the WAI-S bond scale, but no concordance on the goal and task dimensions of alliance. When mother and father ratings of therapeutic alliance with group facilitators was correlated with each other, minimal non-significant agreement was found on bond, task, and goal alliance ratings. However, the overall WAI-S total alliance score was significant and showed a moderate level correlation between the mother and father ratings of their respective therapeutic alliance with group facilitators.

**Table 3** Correlation between mother, father, and therapist ratings of therapeutic alliance at the early stage of treatment

WAI-S scale	Mother–therapist (n = 90)	Father–therapist (n = 43)	Father–mother (n = 34)
Task	.21*	.08	.18
Bond	−.03	.35*	.09
Goals	.09	.15	.28
Total	.13	.26	.40*

\*  $p < .05$

### Association Between Therapeutic Alliance and Treatment Outcomes

In order to take into account potential clustering effects of parents within different parenting groups on treatment outcomes, multilevel modeling was first examined (Tabachnick and Fidell 2007). This is necessary as treatment outcomes may not only be affected by the overall Triple P intervention, but may also vary by groups which could differ on important treatment factors such as group dynamics, cohesion, and support. Multilevel modeling takes into account the impact of multiple layers of influence (i.e., overall Triple P intervention, specific treatment groups) on outcomes. Using the Mixed Models procedures outlined and recommended by Bickel (2007) for multilevel analyses, no significant grouping effects were found for the analyses completed in Tables 4 and 5 (all  $ps > .05$ ). Therefore, all analyses investigating the relationship strength between therapeutic alliance and treatment change was completed using a hierarchical linear regression that excluded the clustering of Triple P groups. The outcomes investigated in this sample included parent reported measures including SDQ conduct, PS subscales, PSOC subscales and total score, and PEI subscales. In addition, therapist reported measures of parental change and improvement through the completion of the TEI subscales for both mothers and fathers were included. Prior to running the regression analyses with the PEI and TEI subscales, internal consistency checks, using Cronbach’s alpha, were completed. Internal consistency of all PEI and TEI subscales, across mother, father, and therapist ratings, were .83 or greater. Thus, the internal consistency scores for these measures appeared to be acceptable and could be included in further analyses.

To examine the incremental variance accounted for by therapeutic alliance on treatment outcomes for mothers, the pre-treatment score for the dependent variable was entered in the first step of the hierarchical linear regression analysis. Since the PEI and TEI were only completed at post-treatment, the SDQ total difficulties score was entered in the first step for these outcome measures. In the second step of the regression analysis, two separate analyses were completed with mothers using the WAI-S total score and also the three WAI-S subscale scores (task, bond, and goal). The WAI-S total score analyses was first completed in order to allow comparison with past studies of therapeutic alliance and with the current results of father ratings of therapeutic alliance. A second set of analyses was done for mothers using the WAI-S subscales. This provided the ability to examine which components, if any, of the therapeutic alliance were associated with better outcomes, an analysis that has not been completed in past parenting studies. These analyses were done for both mother and therapist ratings of the mother–therapist therapeutic

alliance. Since this represents a preliminary analysis of unique data, it was important to maximize statistical power and detect all possible effects. As a result, there were no corrections (i.e., Bonferroni) made for multiple comparisons in the following analyses.

With respect to the association of the WAI-S total score and therapeutic outcomes for mothers, Table 4 displays the results of the second step of the regression analyses. Based on therapeutic alliance total scores, maternal ratings of the therapeutic alliance were found to be associated with better treatment outcomes for PS overreactivity, all PSOC and TEI scales, and TEI Improvement. Explained variance on these scales ranged from 3.6 to 9.0 %. With respect to therapist ratings of the mother–therapist relationship, a significant association was found on the SDQ conduct scale, with explained variance of 3.0 %, and on TEI improvement and progress subscales, with explained variance of 11.8 and 19.8 %, respectively. Given these positive findings, further analyses were conducted examining the association between treatment outcomes and subcomponents of the maternal ratings of the mother-therapeutic alliance.

The results of the maternal regression analyses using WAI-S subscales, displaying standardized coefficient values for alliance task, bond, and goal predictors, are also displayed in Table 4. Based on maternal ratings of mother–therapist alliance, therapeutic alliance subscales were found to be associated with better outcomes for SDQ conduct, PS over-reactivity, PSOC satisfaction, PSOC total score, and all PEI and TEI subscales. Explained variance for these outcomes ranged between 6.5 and 12.6 %, except for the PEI subscales where the therapeutic alliance subscales explained variance rose to 17.5 and 26.4 %. The higher findings for explained variance on the PEI may be partly accounted for by the shared method variance resulting from the similar likert-rating format on the WAI-S and PEI which were completed by the same informant (i.e., mothers). Importantly, mother reported therapeutic alliance was found to predict cross-informant therapist ratings of parent improvement on both TEI subscales. Therapeutic alliance subscales, as rated by therapists with mothers, did not predict maternal-rated treatment outcomes except for the TEI subscales.

Similar hierarchical regressions were conducted with fathers as was done with mothers. The small number of fathers in the sample required the need to minimize the number of variables included in the regression. Based on the number of cases recommended by Tabachnick and Fidell (2007), the current sample size of 35 fathers with complete alliance data would be inadequate for the inclusion of all three WAI-S subscales on the second step of the regression analyses. Thus, the first step of the regression for fathers included the baseline pre-treatment score of the

dependent variable or the SDQ total difficulties score for the PEI and TEI analyses. The WAI-S total score was used on the second step in order to minimize the number of variables entered. Results for the second step of the regression, displaying standardized coefficient values for WAI-S total scores, are shown in Table 5. When based on father ratings, therapeutic alliance was associated with better outcomes for PS laxness, all PSOC scales, PEI subscales, and the TEI improvement subscale. Explained variance ranged from 9.4 to 20.5 %, with highest associations occurring on the PEI subscales. There was little effect found for therapist ratings of therapeutic alliance with fathers. Only the PSOC self-efficacy and TEI subscales were significantly associated with therapist ratings of therapeutic alliance with fathers.

## Discussion

This is the first published study examining the alliance-outcome association for a group Triple P intervention. Across analyses using WAI-S total and WAI-S subscale scores, it was found that mother rated therapeutic alliance was associated with significant change on all treatment outcome measures except PS laxness and hostility subscales. This effect was also found to hold across independent raters including both parent and therapist (i.e., TEI) measures of treatment change. Higher levels of mother rated therapeutic alliance were associated with enhanced parenting skills, less over-reactivity when disciplining, greater parenting satisfaction and efficacy, and a decrease in child conduct behavior problems. Father rated therapeutic alliance was also associated with change in parenting skills as measured by the PS laxness subscale, all PSOC scales, both PEI subscales, and the TEI improvement scale. While a trend in the expected direction was also observed for fathers on the TEI progress scale ( $p = .07$ ), father-rated therapeutic alliance was not associated with improvements on the PS over-reactivity and hostility scales or SDQ conduct scale. In contrast to parental ratings, therapist ratings of therapeutic alliance demonstrated limited positive associations for either mothers or fathers except on the TEI subscales. This latter finding is possibly related to a methodological issue of shared method variance. Overall, both mother and father ratings of therapeutic alliance were related to important treatment improvements within a highly structured and manualized evidence-based parenting program, a result that is consistent with a small existing literature (e.g., Kazdin and Whitley 2006; Lerner et al. 2011).

For mothers, therapeutic alliance was examined using total alliance scores. Positive and significant associations were found across multiple important outcome measures.



**Table 4** Second step of hierarchical regression analysis displaying association between WAI-S subscales and WAI-S total score and selected treatment outcomes for mothers

Outcome measure	Mother rated mother–therapist alliance				Therapist rated mother–therapist alliance			
	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value
SDQ conduct		3.84	.068	.03		3.92	.036	.21
Task	−.36*				.07			
Bond	−.11				−.18			
Goals	.31*				−.08			
Total		1.89	.018	.13		1.94	.030	.05
	−.14				−.18*			
PS laxness		3.85	.049	.13		3.93	.016	.54
Task	−.21				−.19			
Bond	−.03				.01			
Goals	.00				.08			
Total		1.87	.026	.08		1.95	.014	.18
	−.16				−.12			
PS over reactivity		3.85	.125	.002		3.93	.018	.53
Task	−.33*				.01			
Bond	−.17				−.01			
Goals	.11				−.14			
Total		1.87	.090	.001		1.95	.021	.11
	−.30**				−.15			
PS hostility		3.85	.014	.63		3.93	.034	.13
Task	.05				−.14			
Bond	−.11				−.18			
Goals	−.07				.16			
Total		1.87	.005	.44		1.95	.023	.06
	−.07				−.15			
PSOC efficacy		3.86	.042	.13		3.94	.028	.26
Task	.05				.13			
Bond	.10				−.25			
Goals	.10				.15			
Total		1.88	.036	.03		1.96	.004	.45
	.20*				.06			
PSOC satisfaction		3.86	.094	.003		3.94	.003	.94
Task	.15				.03			
Bond	.26**				.02			
Goals	−.08				.02			
Total		1.88	.067	.002		1.96	.006	.37
	.26**				.08			
PSOC total		3.86	.086	.009		3.94	.010	.69
Task	.10				.08			
Bond	.23*				−.12			
Goals	.01				.10			
Total		1.88	.068	.002		1.96	.007	.33
	.27**				.08			
PEI progress		3.81	.232	<.000		3.89	.011	.80
Task	.69***				.03			
Bond	−.07				.01			
Goals	−.24				.08			

**Table 4** continued

Outcome measure	Mother rated mother–therapist alliance				Therapist rated mother–therapist alliance			
	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value
Total		1.83	.076	.008		1.91	.013	.26
	.28**				.12			
PEI acceptability		3.81	.168	.002		3.89	.027	.49
Task	.40*				.14			
Bond	−.10				−.13			
Goals	.06				.13			
Total		1.83	.061	.023		1.91	.022	.16
	.25*				.16			
TEI progress		3.73	.104	.040		3.76	.248	<.000
Task	.53*				.63**			
Bond	.04				.10			
Goals	−.35				−.23			
Total		1.75	.038	.089		1.78	.198	<.000
	.19				.46***			
TEI improvement		3.72	.127	.018		3.75	.122	.018
Task	.47*				.27			
Bond	.15				.03			
Goals	−.31				.08			
Total		1.74	.073	.017		1.77	.118	.002
	.27*				.35**			

This table represents the second step in a hierarchical regression analysis. Full table results with step one values can be obtained from the first author

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

These results are consistent with the small body of research which has found a positive association between therapeutic alliance and treatment improvement in an individual-based (Kazdin and Whitley 2006; Kazdin et al. 2005) and a group-based (Lerner et al. 2011) parenting intervention. Unique to this study, however, is the examination of the relationship between specific alliance subscales, including task, bond, and goal, on a range of important treatment outcomes within an evidence-based parenting intervention. The objective of these additional analyses was to examine which components of therapeutic alliance were most strongly associated with outcomes. The strength of the mother rated task alliance was related to parenting changes on the PEI and TEI, over-reactivity disciplining style, and child conduct behavior problems. Thus, ensuring a therapeutic task alliance by mothers within a structured parent group modality is central to enhancing both changes in parenting skills and child behavior problems. However, a different component of therapeutic alliance was associated with increased levels of parenting satisfaction by mothers. In this latter case, maternal rated bond alliance was associated with increases in the

level of experienced parenting satisfaction. These results highlight the need to give specific attention to the therapeutic task and bond for mothers within a parenting intervention. Early attention to the need and benefit of participating in a parenting intervention (i.e., task) may enhance the quality of the therapeutic task alliance and, in turn, improve important treatment outcomes. Maternal rated goal alliance, however, was not associated with enhanced outcomes for any of the treatment variables. In fact, an unexpected finding occurred on the SDQ conduct problem scale where a higher rating of goal alliance by mothers was associated with a higher level of conduct behavior problems. It is not clear why this anomalous relationship occurred and further replication is required to determine the stability of this result.

With respect to fathers, the small sample size limited the ability to investigate the specific components of therapeutic alliance. However, similar to the positive results with mothers, the association between therapeutic alliance and enhanced treatment outcomes was established with fathers across most treatment outcome indicators. All significant alliance-outcome relationships for fathers were in the

**Table 5** Second step of hierarchical regression analysis displaying association between WAI-S total score and selected treatment outcomes for fathers

Outcome measure	Father rated father–therapist alliance				Therapist rated father–therapist alliance			
	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value	$\beta$	<i>d.f.</i>	$\Delta R^2$	<i>p</i> value
SDQ conduct		1.34	.038	.15		1.39	.046	.07
WAI-S total	−.20				−.22			
PS laxness		1.34	.094	.03		1.39	.004	.63
WAI-S total	−.31*				−.07			
PS Over-reactivity		1.34	.059	.10		3.39	.001	.83
WAI-S total	−.25				−.03			
PS hostility		1.34	.034	.19		1.39	.019	.28
WAI-S total	−.18				.14			
PSOC efficacy		1.34	.108	.02		1.39	.065	.05
WAI-S total	.33*				.26*			
PSOC satisfaction		1.34	.123	.02		1.39	.029	.25
WAI-S total	.35*				.17			
PSOC total		1.34	.143	.009		1.39	.036	.18
WAI-S total	.38**				.19			
PEI progress		1.34	.194	.007		1.39	.043	.19
WAI-S total	.44**				.21			
PEI acceptability		1.34	.205	.005		1.39	.010	.54
WAI-S total	.45**				.10			
TEI progress		1.29	.104	.07		1.32	.180	.01
WAI-S total	.32				.42*			
TEI improvement		1.29	.123	.05		1.32	.199	.01
WAI-S total	.35*				.45*			

This table represents the second step in a hierarchical regression analysis. Full table results with step one values can be obtained from the first author

\*  $p < .05$

\*\*  $p < .01$

expected direction and reinforce the beneficial association between alliance and treatment outcomes. Since past parenting studies examining the role of alliance on outcomes have mostly considered only maternal ratings of alliance (Kazdin and Whitley 2006; Kazdin et al. 2005; Lerner et al. 2011), the current results extend the clinical implications of this important treatment process variable to fathers. Greater attention to engaging fathers in parent interventions may have important benefits to the success of treatment. For example, Bagner and Eyberg (2003) found that the involvement of fathers in parent training resulted in greater maintenance of obtained treatment effects. The results of the current findings suggest that an enhanced therapeutic alliance with therapists may also be important for fathers and play a role in their treatment success.

The positive alliance-outcome association was not found when therapist rated alliance was examined for either mothers or fathers. For instance, therapist ratings of alliance were not associated with treatment improvements on any outcomes for mothers except on the TEI subscales and

SDQ conduct scale. Similarly, for fathers, only the TEI subscales and PSOC self-efficacy scale were significantly associated with therapist rated alliance. The limited association between therapist rated alliance and treatment outcomes has been previously reported in the literature. For example, Hawley and Garland (2008), in a study of individual therapy with adolescents, found that adolescent but not therapist ratings of alliance were associated with better treatment outcomes. Moreover, Kazdin et al. (2006) found that parent but not therapist ratings of therapeutic alliance were associated with greater improvements in child functioning and parenting practices for children with externalizing behavior problems. These past results, in addition to the current findings, suggest that the therapists' view of the therapeutic alliance is less important than that of parents when treating children with externalizing behavior problems. Notwithstanding the possible role that therapists' perception of the therapeutic alliance has been found to be important with other childhood disorders such as anxiety (Marker et al. 2013), the current results have important

treatment implications for practitioners who deliver a group-based parenting intervention. The parents' experience of the therapeutic relationship is central to achieving enhanced outcomes and must be given close attention early in the treatment process. It is critical to ask about and evaluate the quality of the parent's therapeutic relationship. For example, the incorporation of alliance measures within the early sessions of group treatment may be particularly useful and provide therapists with salient clinical information to enhance the treatment process. This conclusion is particularly salient when one considers the weak cross-informant agreement of therapeutic alliance at the early stage of treatment. Only a small positive relationship was found between mothers and therapists on the therapeutic task scale, but no concordance for therapeutic bond or goals. This suggests that therapists and parents may not be in-synch with each other regarding the therapeutic relationship early in the treatment process. Similarly, concordance between therapists and fathers was absent on therapeutic task and goals, with a small to moderate relationship on therapeutic bond. The overall lack of concordance suggests that therapists must be cognizant of the relationship and make extra efforts to ensure they have a common understanding of treatment tasks and bond with the parent. Efforts to improve the quality of the parent rated therapeutic alliance early in the treatment process is critical and should be given considerable attention as part of normal clinical practice. Moreover, the current results highlight the importance of specifically paying attention to components of the therapeutic alliance such as task and bond.

Interpretation of these findings must be considered in light of several study limitations. There was no control for Type I errors despite the number of analyses completed. This was done because of the unique nature of the data and the objective to fully explore and maximize the results obtained. Results should be viewed with caution and seen as hypothesis generating and requiring further replication. In addition, there is no consensus in the literature about how clients should rate therapeutic alliance when two group leaders are present (Lerner et al. 2011). That is, should therapeutic alliance be rated separately for each group leader, or should alliance be rated with the group leaders as a pair. It is unknown how changing the way parents rated their therapeutic alliance with group facilitators may impact these outcomes and conclusions. Also, the impact of the relationships between parents, or group cohesion, is unknown and may have had an impact on treatment outcomes (Crowe and Grenyer 2008), although multilevel analyses in this sample did not find a grouping effect. There were also a low number of fathers participating in the study, preventing the analysis of the association between WAI-S subscales and treatment outcomes as was done with mothers. Moreover, therapeutic

alliance was measured only by parent and therapist self-reports, as opposed to using an observational measure. Future studies examining therapeutic alliance within evidence-based parenting interventions would be strengthened by incorporating multiple measures of alliance, such as the TPOCS-A (McLeod and Weisz 2005; see Lerner et al. 2011). This would provide the means of substantiating the strength of the current results which were based on self-report measures of alliance and treatment outcome. Finally, given the limited data available regarding treatment process issues like therapeutic alliance within parenting interventions, replication of the findings is needed to ensure the stability of the current findings.

Notwithstanding these limitations, it is important to recognize the relatively high external validity of the current results. The participants were consecutive referrals to a government funded children's mental health center who received an evidence-based parenting intervention under normal service conditions. The very high participation rate of recruited participants (i.e., 95 %), lack of selection bias on a wide range of clinical and demographic variables, and attrition rate similar to that found in university-based treatment clinics (Kazdin and Durbin 2012) suggest that the results of this sample can be generalized with some confidence to every day clinical practice. Moreover, ratings of therapeutic alliance were collected early in the treatment process which reduces the possible impact of symptom change preceding ratings of alliance and accounting for the alliance-outcome association as found by Marker et al. (2013) when treating anxious children. Similar to the work of Kazdin et al. (2005, 2006), Kazdin and Whitley (2006), this study used the Treatment Evaluation Inventories to assess treatment change. However, this study built on this work by utilizing additional outcome measures such as the SDQ, PS, and PSOC. This provides additional information about therapeutic alliance within a group-based parenting intervention and further complements the work of Lerner et al. (2011).

In conclusion, there is very limited information about the role of therapeutic alliance within manualized evidence-based parenting programs as used in every day practice. Given the central role that parenting interventions play in population level prevention efforts as well as tertiary clinic-based treatment services, increased understanding of treatment process factors like therapeutic alliance is clearly needed. The common difficulty of engagement and attrition issues within parenting interventions makes this latter point particularly salient. By placing an increased effort to enhance the therapeutic relationship, even within structured treatment programs like a level 4 Triple P group, there can be significant benefits for enhanced treatment change. Empirically establishing the reality of an important alliance-outcome relationship for a group-based parenting intervention

can lead to enhanced interventions and positive outcomes when therapeutic alliance is actively and prospectively addressed during the intervention process.

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