



# Child Involvement and Therapist Alliance- Building Behavior: In-session Behavior during Alliance Ruptures within Cognitive-Behavioral Therapy for Anxious Children

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Master Science Thesis

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## Abstract

Therapeutic alliance ruptures, short deteriorations of the quality of therapeutic alliance, are linked to positive as well as negative treatment outcomes. However, research on alliance ruptures within child psychotherapy is scarce. This study investigated the occurrence and accordance of children's and therapists' alliance ruptures, as well as children's and therapists' in-session behaviour during treatment sessions identified as ruptures. Participants were 89 clinically anxious children (aged 7-13 years), receiving cognitive-behavioral therapy by 19 therapists. Therapeutic alliance of children and therapists was assessed for treatment sessions using alliance questionnaires (TASC and WAI-T, respectively), yielding individual alliance time series of children and therapists. Tukey's Control Charts were applied to determine alliance ruptures. In-session behavior was obtained by coding audio recordings of sessions characterized as alliance ruptures, using the Child Involvement Rating Scale-Revised and the Therapist Alliance-Building Behavior Scale. Alliance ruptures were found within 18.6% of children's alliance time series and 32.1% of therapists' alliance time series. No accordance between children's and therapists' ruptures was found. Unexpectedly, child involvement (CI) and therapists alliance-building behavior (TABB) did not followed alliance patterns during children's alliance ruptures sequences. Partial resemblance of CI and TABB with alliance patterns during therapists' alliance rupture sequences was found. The findings suggest that children's and therapists' perception of alliance ruptures differ. Moreover, CI and TABB seem to representat therapists' alliance ruptures, however do not represent children's alliance ruptures.

It is widely accepted that *therapeutic alliance*, the most researched common factor in psychotherapy, plays a key role in successful psychotherapy (Wampold, 2015). A positive therapeutic alliance is defined as a personal bond between therapist and client and agreement on the goals and tasks of therapy (Bordin, 1979). A positive therapeutic alliance has been linked to positive treatment outcomes for psychological treatment irrespective of patient groups and theoretical orientations of clinicians (Zack, Castonguay, & Boswell, 2007). Recent meta-analyses found moderate alliance-outcome relationships among adults ( $r = .28$ ) and somewhat smaller effects among children ( $r = .14$ ; McLeod, 2011, to .22; Shirk & Karver, 2011).

Although alliance is essential for psychotherapy in general, it is considered especially important for child psychotherapy because formation of interpersonal relationships is a central developmental task in childhood (Zack et al., 2007). This idea is supported by studies which investigated the views of children, caregivers, and clinicians on therapeutic relationships and therapeutic alliance. Kendall and Southam-Gerow (1996) as well as Garcia and Weisz (2002) found that children and their parents viewed a good therapeutic relationship as a key component of treatment. Moreover, in a study with more than 1,000 clinicians, about 90% rated the therapeutic relationship as very or extremely important in their work with children and adolescents (Kazdin, Siegel, & Bass, 1990).

However, building a stable alliance with children is challenging because children often do not seek treatment on their own and therefore may disagree with parents and therapists on the necessity and goals of treatment (Baillargeon, Côté, & Douville, 2012; DiGiuseppe, Linscott, & Jilton, 1996). This can impede the development of an alliance, thereby jeopardizing positive treatment outcomes (Baylis, Collins, & Coleman, 2011). For example, Garcia and Weisz (2002) found that parents indicated problems in relationships with therapists as the foremost reason to quit therapy. Furthermore, therapeutic relationship was a factor included in the Barriers to

Treatment Participation Scale in child psychotherapy, which was predictive of problems in starting and maintaining therapy with children (Kazdin, Holland, Crowley, & Breton, 1997).

Given the importance of alliance in child psychotherapy, McLeod (2011) pointed out that research is needed to investigate what factors contribute to the formation and maintenance of a positive alliance and the factors associated with the deterioration of alliance. In order to do so, it is necessary to take into account the dynamic nature of alliance, being subject to constant changes in the course of psychotherapy (Ardito & Rabellino, 2011). In the last twenty-five years, there has been a gradual shift from static approaches to more process-focused approaches to investigate alliance by addressing the dynamic development of alliance during treatment (Ardito & Rabellino, 2011; Gelso & Carter, 1994; Kivlighan & Shaughnessy, 1995).

Besides investigating the overall shape of alliance in treatment, process-focused alliance research has identified a prominent alliance pattern characterized by brief, downward-directed, transitional fluctuations of alliance called *alliance ruptures* (Safran, Muran, & Eubanks-Carter, 2011; Stiles et al., 2004). Alliance ruptures can vary in severity from small shifts in the quality of alliance, accompanied by minor interpersonal tensions, to severe breakdowns of alliance, associated with a loss of clients' confidence in successful treatment (Safran et al., 2011). Changes in the quality of alliance seems inevitable in psychotherapy; however, it is necessary that therapists are sensitive to indications of alliance ruptures and to address interpersonal problems and repair alliance ruptures (Safran et al., 2011). Emphasizing the importance of repairing alliance ruptures, Safran and Kraus (2014) stated that alliance ruptures are not negative incidents per se but rather an opportunity for treatment since they are an "activation of dysfunctional interpersonal patterns [which] offer moments of potentially productive in-session exploration, [while] unrepaired ruptures are associated with deteriorations of the alliance" (p. 381). Evidence for this idea comes from several studies which found that alliance ruptures were associated with

positive treatment outcomes when ruptures were repaired and that they were predictive of dropout and less favorable outcomes when unrepaired (Coutinho, Ribeiro, Sousa, & Safran, 2014; McLaughlin, Keller, Feeny, Youngstrom, & Zoellner, 2014; Stiles et al., 2004; Strauss et al., 2006). However, not in all studies a positive rupture-outcome relationship could be established (Stevens, Muran, Safran, Gorman, & Winston, 2007).

Although alliance ruptures have gained a lot attention in psychotherapy research in adults, the idea of ruptures is largely neglected in child psychotherapy research. This is surprising given the importance of alliance in child psychotherapy and the difficulty of building a stable alliance with children (drop-out rates of 40-60% in child psychotherapy; Kazdin, 1996; Zack et al., 2007). The idea of alliance ruptures may provide a deeper understanding of the changing quality of alliance in child psychotherapy. To our knowledge, just two quantitative studies have examined alliance ruptures in child psychotherapy: Gersh and colleagues (2017) found that observer-rated ruptures during early treatment sessions were related to poorer treatment outcomes while ruptures in late treatment sessions were associated with better treatment outcomes. Kendall et al. (2009) in contrast did not find expected alliance ruptures after in-session exposures.

Given the importance of ruptures in understanding alliance dynamics, the present study applied the concept of alliance rupture to the field of child psychotherapy. Since this study was one of the first to investigate ruptures in child psychotherapy a descriptive approach was taken to examine the frequency of alliance ruptures during psychological treatment of children. Second, we explored the prevalence of alliance ruptures across different stages of therapy. To do so, this study adopted a quantitative analytic strategy to study alliance over the course of treatment, suggested for determination of change points in psychotherapy (Eubanks-Carter, Gorman, & Muran, 2012). In particular, we examined therapeutic alliance reported by both anxious children and therapists who participated in randomized controlled study on the effectiveness of cognitive

behavioral therapy (CBT) to treat childhood anxiety. We thereby addressed recent suggestions for alliance research to take into account clients' and therapists' perception of the alliance (Ardito & Rabellino, 2011). This further allowed us to investigate the accordance between children's and therapists' alliance ratings and to determine whether alliance ruptures were experienced similarly by children and their therapists. Concerning the occurrence, frequency and accordance of ruptures between therapist and children, no prior hypotheses were formulated due to the novelty of studying alliance ruptures in children.

In order to deepen our understanding of alliance ruptures in child psychotherapy, in the second part of the study we investigated whether alliance ruptures were linked to concrete in-session behavior of children and therapists. Several authors have recently called for an investigation of the link between alliance and treatment process variables (Kazdin & Durbin, 2012), such as client involvement and specific therapists' behaviors (Kazdin & Durbin, 2012; McLeod, 2011; Shirk & Karver, 2011). Following this line of research, the present study investigated *therapist alliance-building behavior* and *child involvement* by coding audio-recorded treatment sessions characterized as alliance rupture sequences. The term therapist alliance-building behavior stems from a study of Creed and Kendall (2005), who developed an eponymous coding scale consistent of therapists' behaviors which are thought to be predictive of alliance in child psychotherapy. Child involvement has recently been linked to positive alliance (Hudson et al., 2014; McLeod et al., 2014), and explicitly suggested "as a marker of critical sessions in which important processes occur (e.g. ruptures in the alliance)" (Chu & Kendall (2004, p. 827).

We expected that therapist alliance-building behavior and child involvement would show the same distinct pattern as alliance ratings during ruptures characterized by first a decrease and then an increase for repaired ruptures, summarized as high-low-high pattern. For unrepaired

ruptures, we expected a decrease without an immediate increase, summarized as high-low-low pattern.

By analyzing self-report data of alliance in a clinical sample of anxious children and therapists throughout treatment, we are one of the first to apply the idea of alliance ruptures to child psychotherapy. Additionally, by investigating therapist alliance-building behavior and child involvement during alliance ruptures by means of coding audio recorded treatment sessions, we aim to contribute to the theoretical understanding of alliance ruptures in child psychotherapy research and therapeutic alliance in children in general. This study may reveal insights in strategies of effectively managing alliance ruptures, thereby helping therapists to improve treatment outcome and to prevent early treatment termination in child psychotherapy.

## **Method**

### **Participants**

Eighty-nine children were selected for the original study by Van Doorn, Jansen, Bodden, Lichtwarck-Aschoff and Granic (2017), which compared a manualized CBT treatment to a treatment-as-usual condition (TAU) for clinically anxious children. Children aged between seven and 13 years ( $M = 9.98$ ,  $SD = 1.31$ ). Fifty-eight children were female (65.2%). Seventy-nine children were of Caucasian ethnicity (88.8%), two children were of different ethnicity (2.2%), and of eight children the ethnicity was unknown (9%).

A total of 19 Dutch agency-employed therapists participated in the study, aged between 22 and 61 ( $M = 39.95$ ,  $SD = 13.10$ ) with 1 to 32 years of professional experience ( $M = 13$ ,  $SD = 8.71$ ). Fifteen of the therapists were female (78.9%), four were male (21.1%). Sixteen therapists

were registered as clinical psychologist, health care psychologist or clinical child psychologist, while three therapists were registered as mental health care workers.

### **Procedure**

The original study was approved by the Ethic Committee of the Faculty of Social Science, Radboud University, Nijmegen (ECG16122010).

**Recruitment of participants.** For the original study children were selected in two waves. In the first wave, children who were referred to one of the three participating mental health care centers in the Netherlands, as well as their mothers filled in the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher, Chiappetta, Bridge, Monga, & Baugher, 1999). If children or mothers scored in the range of *high* or *at risk* on the total score of the SCARED or one of the following subscales: social anxiety, generalized anxiety, separation anxiety, or panic disorder, children were eligible for participation. In case additional assessment was needed, children were further examined within the mental health care center. Exclusion criteria were a diagnosis of posttraumatic stress disorder or obsessive compulsive disorder, an IQ score below 80, and the need of immediate intervention.

In the second wave, primary schools were approached for participation in this study. After parents gave active consent, children of grade three to six filled out the SCARED. If children scored in the range of *high* or *at risk* on the total SCARED or on one of the previously mentioned subscales their parents were contacted whether they recognized their child's anxieties and whether children were currently receiving treatment for anxiety. In case children did not received any other treatment and parents agreed on participation, children were included in the study. The exclusion criteria were identical to those of the first selection wave.

**Treatment.** In order to test the effectiveness of a manualized CBT program ("Thinking + Doing = Daring"; Bodden et al., 2008), which was the main goal of the original study, children

were randomly allocated to CBT or TAU condition. The CBT program consisted of 12 weekly sessions of approximately 60 to 90 minutes. In three of the 12 sessions parents also participated. Additionally, there were three sessions with the parents alone. The CBT program consists of a cognitive intervention (e.g. cognitive restructuring), behavioral intervention (e.g. exposure experiments) and psycho-education. In the TAU condition therapists were free to choose the kind, and length of treatment, and frequency of sessions they deemed appropriate. In almost all of the cases therapists used treatment also based on CBT principals (96%). Only 4% used psychomotor therapy, a form of creative art therapy.

**Assessment.** The first three months of treatment, participating families were called weekly by research assistants to administer questionnaires with child and mother, including the SCARED and the Therapeutic Alliance Scale for Children (TASC). Moreover, research assistants conducted family home visits to collect observational data of structured mother-child interactions. In addition, therapists made audio recordings of all treatment sessions. Furthermore, therapists weekly completed an electronic version of the Working Alliance Scale-Short (WAI-S) send to them by e-mail.

## Materials

**Screen for Child Anxiety Related Emotional Disorders (SCARED).** The two versions of this questionnaire, the child-report and parent-report version, were used for screening children with elevated anxiety symptoms (Birmaher et al., 1999). The reliability of the total scale and the separate subscales ranged from *adequate* to *excellent*, estimated with Cronbach's alpha. For a detailed description, see van Doorn et al. (2017). The SCARED played a role in selection of participants in the present study, but not in its research questions and data-analyses.

**Therapeutic Alliance Scale for Children (TASC).** The TASC is a 12-item, self-report measurement instrument to assess the child's perception and satisfaction of therapeutic alliance

(e.g. “I liked spending time with my therapist”) (Shirk & Saiz, 1992). Items are rated on a 4-point scale ranging from 1 (*not true at all*) to 4 (*very true*). For this study total scores were calculated. Because the TASC was filled out every week, Cronbach’s alphas were calculated separately for every week to test the TASC total score’s reliability and avoid interdependence of repeated measurements per participant. Reliability was *acceptable* for the first and the last week ( $\alpha = 0.72$ ;  $\alpha = 0.79$ , resp.) and *good* for the remaining weeks ( $\alpha = 0.81$  to  $\alpha = 0.87$ ).

**Working Alliance Scale-Short (WAI-S).** The WAI-S is a 12-item self-report measurement instrument to assess the therapist’s perception of the alliance (e.g. “We are working towards mutually agreed upon goals”) (Tracey & Kokotovic, 1989; Dutch adaption: Vervaeke & Vertommen, 1993). Items are rated on a 5-point scale ranging from 0 (*never*) to 5 (*always*). The WAI-S is based on Bordin’s three factor structure of working alliance: personal bond, agreement on goals, and agreement on tasks (Bordin, 1979). For the purpose of this study total scores were used. Identical to the TASC, Cronbach’s alpha was calculated for every week separately to avoid interdependence of repeated measurements within individual participants. Reliability of the total score was *excellent* for every separate week ( $\alpha = 0.91$  to  $\alpha = 0.96$ ).

**Child Involvement Rating Scale (CIRS).** This 6-item coding scale was used to examine children’s involvement and participation in treatment sessions using audio recordings (Chu & Kendall, 1999). Items are rated on a 6-point scale ranging from 0 (*not at all present*) to 5 (*a great deal present*). The CIRS consists of four positive child involvement items and two negative child involvement items. The four positive items are, (a) Initiation discussion, (b) Demonstrating enthusiasm, (c) Self-disclosure, and (d) Demonstrating understanding. The two negative items are (a) Withdrawal or passivity, and (b) Inhibition or avoidance (Chu & Kendall, 2004). The four positive items are summed to obtain the *Positive Child Involvement* subscale. The two negative

items were not formed to a subscale as they represent converse negative child involvement behavior.

**Therapist Alliance-Building Behavior Scale (TABBS).** The TABBS is a coding scale to assess therapists' behavior that is of importance for alliance building within psychotherapy with children (Creed & Kendall, 2005). The 11-item scale was used to rate audio recordings of treatment sessions. Therapists' behavior is rated on a 4-point scale ranging from 0 (*Not there, or not even up to an average standard*) to 4 (*Way about average – excellent*). The TABBS includes seven positive-valence therapists' behaviors and four negative-valence therapists' behaviors. The positive-valence items are (a) Customizing the session, (b) Being playful (c) Hope and encouragement, (d) Collaboration, (e) Validating, (f) General conversation, and (g) Common ground. The negative-valence behaviors are (h) Pushing the child, (i) Formality, (j) Not following through, and (k) Inappropriate talk. For a detailed description of individual items, see Creed and Kendall (2005). In this study, the positive-valence items were summed to obtain the *Positive Therapist Behavior* subscale. Because of low occurrence of negative-valence behaviors no negative therapist behavior subscale was formed.

#### **Coding Activities – Child Involvement Rating Scale (CIRS) and Therapist Alliance-Building Behavior Scale (TABBS)**

Children's and therapists in-session behavior of 69 sessions were coded by means of the CIRS and the TABBS. Four psychology students with at least a bachelor degree in psychology assisted in coding activities. These coders were divided in groups of two to work together with the first author with one of the two coding scale. Coders, including the author, were blind to which sessions they coded by using a random name generator to mask the original session names. After two months of training coders were deemed reliable in working with the CIRS or the TABBS. Training consisted of coding 20 practice treatment sessions with in between four

training sessions in which practice treatment sessions were discussed that showed deviating coding results. Twenty-five percent (17/69) of the treatment sessions used for the study were coded by all three coders to calculate inter-rater reliability. To ensure reliability of the final coding two practice sessions were held in which questions concerning specific codes were discussed.

**Reliability of coders and subscales.** For Therapist Alliance-building Behavior, the two negative-valence items Not following through and Inappropriate talk were coded only once in 17 sessions, therefore no ICC could be calculated and the items were omitted from further analyses. The interrater-reliability of the remaining nine items, examined with two-way mixed, agreement, single measure ICCs were *fair* for the items Customizing the session (0.51) and Hope and encouragement (0.41), *good* for items General conversation (0.61), Pushing the child (0.63) and Collaboration (0.72) and *excellent* for items Being playful (0.87), Validating (0.78) and Formality (0.94) (Cicchetti, 1994; Hallgren, 2012). To test reliability of the Positive Therapist Behavior subscale McDonald's coefficient omega was used instead of Cronbach's alpha to address the skewed distribution (Dunn, Baguley, & Brunsden, 2014; Revelle, 2018). Reliability of the Positive Therapist Behavior subscale, based on 17 sessions coded by three coders was *acceptable* ( $\omega = 0.61$ ).

Interrater-reliability for the six Child Involvement Rating Scale items, assessed using two-way mixed, agreement, single measure interclass-correlations (ICC), were *good* for the items Initiation discussion (0.61), Demonstrating enthusiasm (0.63), Self-disclosure (0.67) and Demonstrating understanding (0.63) and *excellent* for items Withdrawal or passivity (0.93) and Inhibition or avoidance (0.79) (Cicchetti, 1994; Hallgren, 2012). Reliability of the Positive Child Involvement subscale, based on 17 sessions coded by the other three coders was *good* ( $\omega = 0.86$ ).

### **Strategy of Analysis**

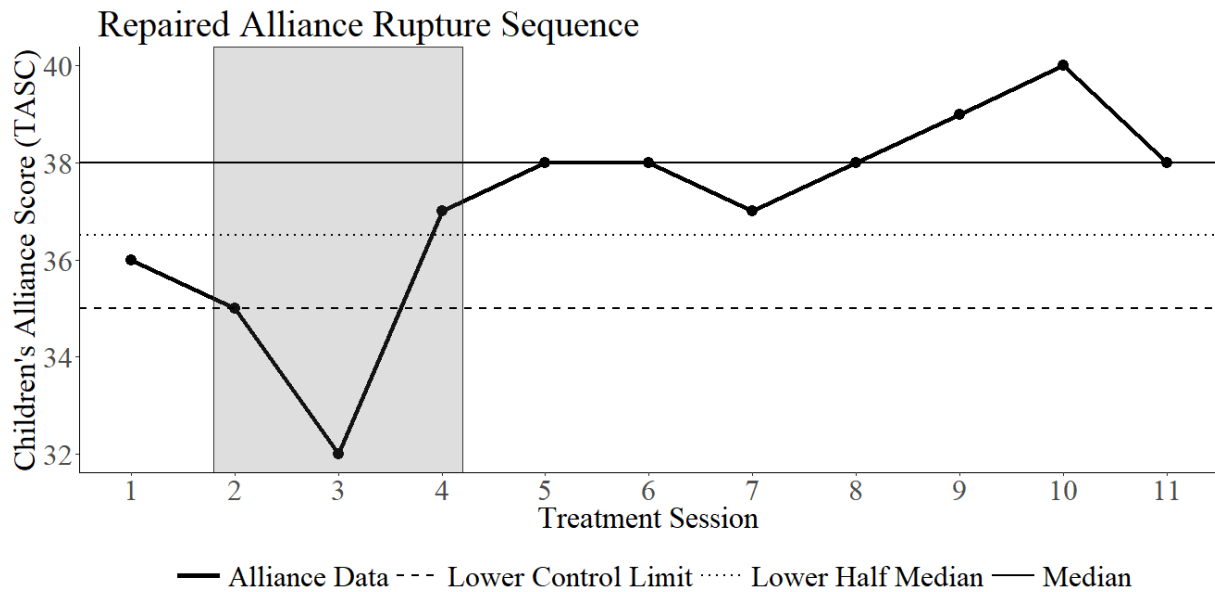
**Determination of repaired and unrepaired ruptures.** Building forth on others, a quantitative naturalistic approach was used to determine alliance ruptures within time-series of children's and therapists' alliance rating over the course of treatment (Eubanks-Carter et al., 2012). Time series of alliance scores were created by summing individual item scores of weekly measurements of the TASC. For this, treatment sessions were used with child alone and those in which both mother and child were present. The same was done for the WAI-S. Each single data point within the time series of the TASC or WAI-S reflects the children's or therapists' alliance rating of a single session. Conceptually, a rupture is seen as a meaningful drop in the alliance score of one session compared to the preceding session.

Following suggestions of Eubanks-Carter et al. (2012) on analytic strategies for change point detection in psychotherapy, we choose for *Tukey's Control Charts* (TCC) to determine alliance ruptures. TCCs are part of a range of Control Chart methods to track changes in time series data (Wheeler & Chambers, 1992). TCCs are a non-parametric version of Control Charts, making use of the median and interquartile ranges of time series, which makes them robust to outliers and deviation of normality (Alemi, 2004). Whereas other analyses of time series data often require high number of observations, TCCs can be applied to time series of the length of only seven data points, making them especially valuable for psychotherapy research with limited numbers of observations (Alemi, 2004; Eubanks-Carter et al., 2012). Another strength of TCCs is that the individual range of scores is used to determine significant deviating observations and thereby taking into account intra-individual variation.

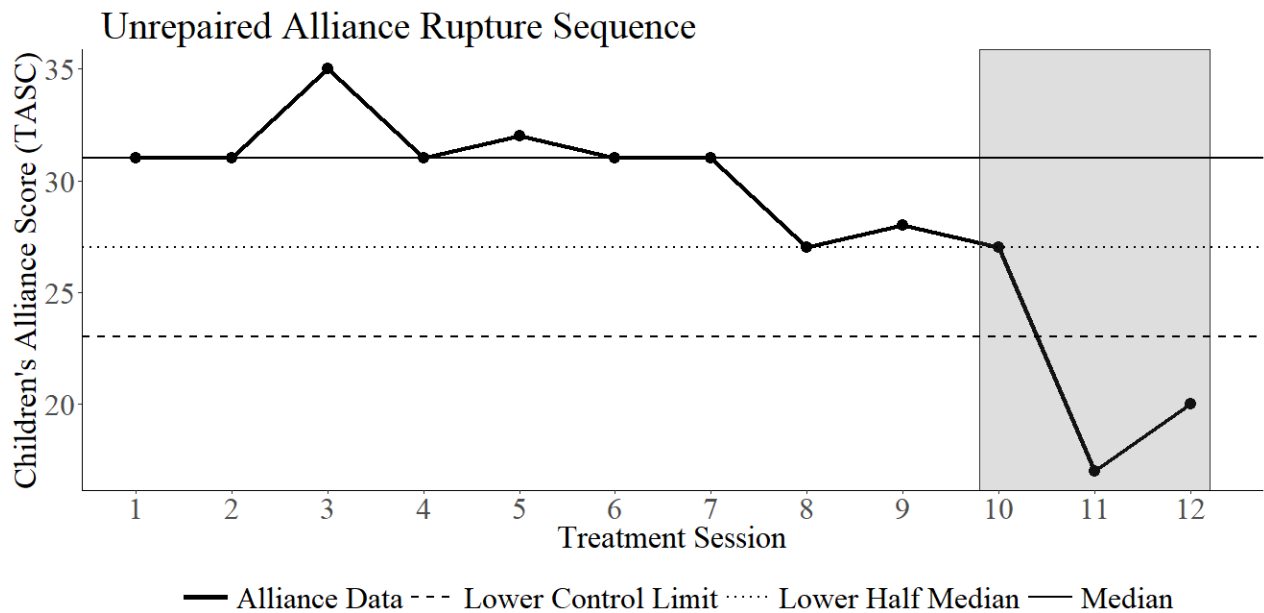
In order to determine whether an observation is significantly lower than the rest of the time series data points using TCCs, control limits need to be calculated for every individual time series by multiplying the interquartile range by 1.5 (Alemi, 2004). In the present study, we used more liberal control limits by multiplying the interquartile ranges by 1 to address exponentially

increasing control limits in time series data with high variability. Thereby, we decreased the chance of missing ruptures (Type II error), deemed adequate seen the exploratory nature of this study.

The central criterion of TCC for treatment sessions to be classified as alliance ruptures was that an alliance score fell outside the lower control limit. Such a session was termed as *central rupture session*. An additional criterion was that the alliance score of the preceding session had to be higher than the median of the lower half of the time series. The lower half median is obtained by ordering all time series data points according to their value and taking the median of the lower half of the data points. Thereby it was ensured that sessions were only classified as central rupture sessions when there was a significant decrease of alliance in comparison to the preceding session. The preceding treatment session is termed as *pre-rupture session*. The session following a central rupture session was termed the *post-rupture session*. Depending on whether the alliance score of a post-rupture session was higher or equal to the lower half median, the sequence of pre-rupture, central rupture and post-rupture sessions together formed a *repaired rupture*. If the alliance score of the post-rupture session was lower than the lower half median, the sequence of pre-rupture, central rupture and post-rupture sessions together formed an *unrepaired rupture*. Two examples of children's time series who participated in this study with a repaired rupture sequence and an unrepaired rupture sequence are shown in Figure 1 and 2.



*Figure 1.* Example of children's alliance time series data with a repaired rupture sequence. Treatment sessions 2,3, and 4 representing pre-rupture, central rupture, and post-rupture sessions.



*Figure 2.* Example of children's alliance time series data with an unrepaired rupture sequence. Treatment session 10, 11, and 12 representing pre-rupture, central rupture, and post-rupture sessions.

Finally, in order to assure that all clinically significant alliance deteriorations are identified an additional, absolute rupture criterion was used, used in a prior study on alliance ruptures (Strauss et al., 2006). For that purpose, the pooled standard deviation was calculated for all alliance time series of all children and for all alliance time series of all therapists. The absolute criterion was defined as decrease of an alliance score of two times the pooled standard deviation compared to the preceding alliance score. The pooled standard deviation of alliance scores of children measured with the TASC was 0.31 (not a reflection of original scale). For therapists' alliance scores measured with the WAI-S the pooled standard deviation was 2.75. In order to distinguish between repaired or unrepaired ruptures the same criteria were used as those for ruptures determined with TCCS.

**Primary Analysis.** To examine whether the pattern of in-session behavior, namely child involvement and therapist alliance-building behavior, resembles the alliance V-pattern of ruptures a range of non-parametric permutation tests were performed. Permutation tests are not subject to normal parametric assumption, except for the possibility that all treatment groups can be equivalent (LaFleur & Greevy, 2009). Moreover, permutation tests can be applied to situations when sample size would be too small for parametric tests (Collingridge, 2013; Frossard & Renaud, n.d.). Permutation tests methods are available for all standard parametric tests, including (repeated measures) analysis of variance (ANOVA) and mixed design ANOVA, usable within the R programming environment (Frossard & Renaud, n.d.; Renaud, 2015).

To test whether children's and therapists' in-session behavior indicate a drop between the pre-rupture and the central rupture session four one-way ANOVAs with permutation tests were conducted to test the effect of the within subject factor session type for both children's and therapists' rupture sequences. Additionally, four mixed design ANOVAs with permutation tests were conducted to examine the pattern of children's and therapists' in-session behavior between

the central rupture and the post-rupture session. Because it was hypothesized that children's and therapists' in-session behavior during repaired and unrepaired ruptures show distinct patterns between the central rupture and the post-rupture session we were only interested in the interaction effect of the within-subject factor session type and the between-subject factor rupture type. This mixed design ANOVAs with permutation test were performed for children's and therapists' rupture sequences. In case of statistical, significant interaction effects, post-hoc one-way ANOVAs with permutation tests were performed.

Because of the exploratory nature of the study, being one of the first to investigate alliance ruptures in child psychotherapy, also marginal significant effects ( $p < .1$ ) were interpreted. The necessary prudence was used when interpreting these effects.

## **Results**

### **Alliance Ruptures**

Out of the total sample of 89 child-therapist dyads, 78.7% (70/98) of children's alliance time series and 62.9% (56/98) of therapists' alliance time series were analyzed due to missingness. In order to account for missingness at item level of the WAI-S, a single mean imputation strategy was used by which the original matrix of the WAI-S was changed. A minimum of seven consecutive data points at total scale level was necessary to analyze alliance time series using TCCs. Children's average TASC alliance score for treatment sessions was 38.68 ( $SD = 2.75$ ). Therapists' average WAI-S alliance score for treatment session was 3.86 ( $SD = 0.31$ ).

Table 1

*Frequencies of Alliance Rupture Sequences, Ruptures Types of Children (based on TASC-scores) and Therapists (based on WAI-S scores)*

|            |                         | <i>n</i>                     |                   |                      |                        |                   |
|------------|-------------------------|------------------------------|-------------------|----------------------|------------------------|-------------------|
|            | Time series<br>analyzed | Time series<br>with ruptures | Ruptures<br>total | Repaired<br>ruptures | Unrepaired<br>ruptures | Coded<br>ruptures |
| Children   | 70                      | 18.6%<br>(13/70)             | 15                | 53.3%<br>(8/15)      | 47.7%<br>(7/15)        | 10                |
| Therapists | 56                      | 32.1%<br>(18/56)             | 20                | 80.0%<br>(16/20)     | 20.0%<br>(4/20)        | 13                |

**Alliance ruptures sequences in children's time series.** In total, we found in 18.6% (13/70) of the children's alliance time series of TASC scores a total of 15 alliance rupture sequences. There was one single time series in which three ruptures sequences occurred. Out of children's 15 alliance ruptures, 53.3% (8/15) were repaired ruptures and 47.7% (7/15) were unrepaired ruptures (see Table 1).

Analysis of variance revealed no statistically significant difference between children with and without alliance ruptures with regards to age,  $F(1,87) = 1.47, p = .23$ ; gender,  $F(1,87) = 0.86, p = .77$ ; and treatment condition,  $F(1,87) = 0.06, p = .80$ . Furthermore, analysis of variance showed no statistically significant difference of treating therapists' age ( $F(1,17) = 0.01, p = .99$ ), gender ( $F(1,17) = 0.56, p = .46$ ) and years of experience ( $F(1,17) = 0.04, p = .84$ ) when children's alliance time series indicated alliance ruptures in comparison to no alliance ruptures.

**Alliance rupture sequences in therapists' time series.** In 32.1% (18/56) of the therapists' alliance time series based on WAI-S scores a total of 20 alliance rupture sequences were identified. There were two of these time series in which two rupture sequences occurred.

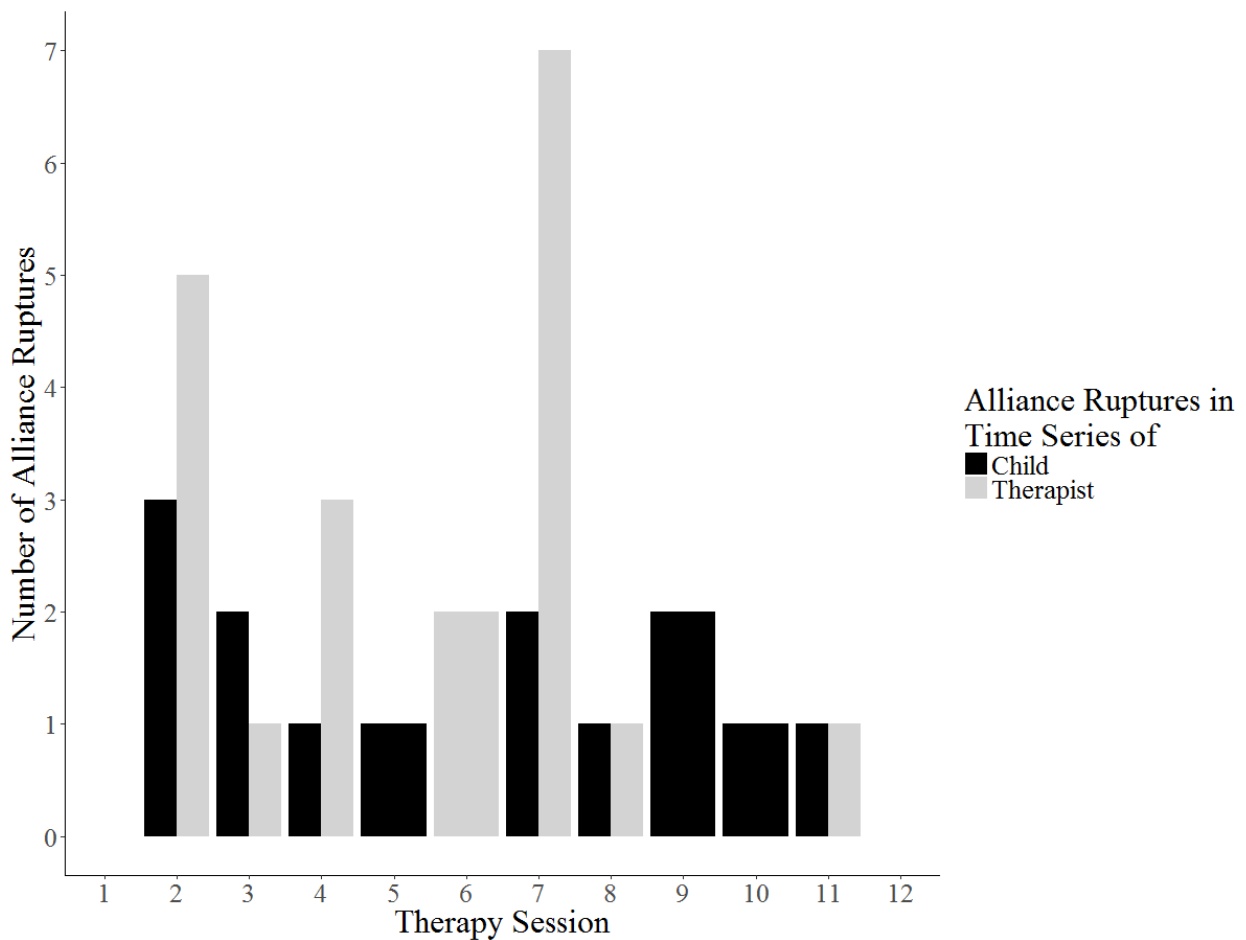
Out of therapists' 20 alliance ruptures 80.0% (16/20) were repaired ruptures and 20% (4/20) were unrepaired ruptures (see Table 1).

Analysis of variance revealed no statistically significant difference between therapists with and without alliance ruptures with regard to age,  $F(1,17) = 1.09, p = .31$ ; gender,  $F(1,17) = 1.12, p = .73$ ; treatment condition,  $F(1,17) = 0.32, p = .58$ ; and years of experience,  $F(1,17) = .81, p = .38$ . Furthermore, analysis of variance showed no statistically significant difference with regard to children's age  $F(1,87) = .01, p = .91$ , and children's gender  $F(1,87) = .91, p = .34$ , when treating therapist's alliance time series indicated ruptures in comparison to no alliance ruptures.

**Accordance of children's and therapists' alliance rupture sequences.** In 93.5% (29/31) of the time series with an alliance rupture only one, the child's or the therapist's alliance time series, revealed a rupture sequence. In the remaining 6.5% (2/31) of all time series with an alliance rupture, a rupture was found in the time series of both, child and therapist. But, in these two dyads with time series showing ruptures for both, the children's and the therapists' alliance score, no accordance was found in regard to the specific treatment session in which the rupture had occurred. In the first dyad, the child's alliance time series revealed the 11<sup>th</sup> treatment session as central rupture session, while the therapist's alliance time series revealed the 6<sup>th</sup> treatment session as central rupture session. For the second dyad multiple ruptures occurred in both time series. Within the child's alliance time series, the 2<sup>nd</sup>, 7<sup>th</sup> and 11<sup>th</sup> treatment sessions were indicated as central ruptures, while for the therapist the 4<sup>th</sup> and the 8<sup>th</sup> treatment sessions were central ruptures.

**Alliance ruptures over the course of treatment.** Figure 2 shows the distribution of central rupture sessions identified in children's and therapists' alliance time series over the course of treatment. Alliance ruptures found in the alliance time series of children were approximately equally distributed over the course of treatment with a small peak in the second session. In the 2<sup>nd</sup>

and 7<sup>th</sup> treatment session a peak of alliance ruptures was found in the alliance time series of therapists.



*Figure 3.* Distribution of central rupture sessions based on time series analyses of children's and therapists' alliance scores.

#### **Coded In-session Behavior during Alliance Rupture Sequences: Positive Child Involvement and Positive Therapist Behavior**

For the 15 alliance rupture sequences (pre-, central, post-ruptures session) found in the children's alliance time series, audio recordings of 10 complete rupture sequences were available, resulting in 30 audio recordings of treatment sessions representing children's alliance ruptures. For the 20 rupture sequences found in the therapists' alliance time series, audio recordings of 13 complete ruptures sequences were available, resulting in 39 audio recordings of treatment

sessions representing therapists' alliance ruptures. The 30 audio recordings of children's rupture sequences and 39 audio recordings of therapists' rupture sequences were both coded with the TABBS and the CIRS.

### **Children's rupture sequences.**

**Positive Child Involvement.** Unexpectedly, a statistical, significant increase was found for Positive Child Involvement between the pre-rupture sessions ( $M = 10.8$ ,  $SD = 2.97$ ) and the central rupture sessions ( $M = 12.8$ ,  $SD = 2.3$ ),  $F(1,10) = 6$ ,  $p = .04$  (see Figure 4). No other effects were statistically significant (see Table 2).

**Positive Therapist Behavior.** Contrary to the hypothesis, a statistical, marginal increase was found for Positive Therapist Behavior between pre-rupture sessions ( $M = 7.3$ ,  $SD = 3.27$ ) and central rupture sessions ( $M = 9.7$ ,  $SD = 2.87$ ),  $F(1,10) = 3.45$ ,  $p = .09$  (see Figure 5). No other effects were statistically significant (see Table 2).

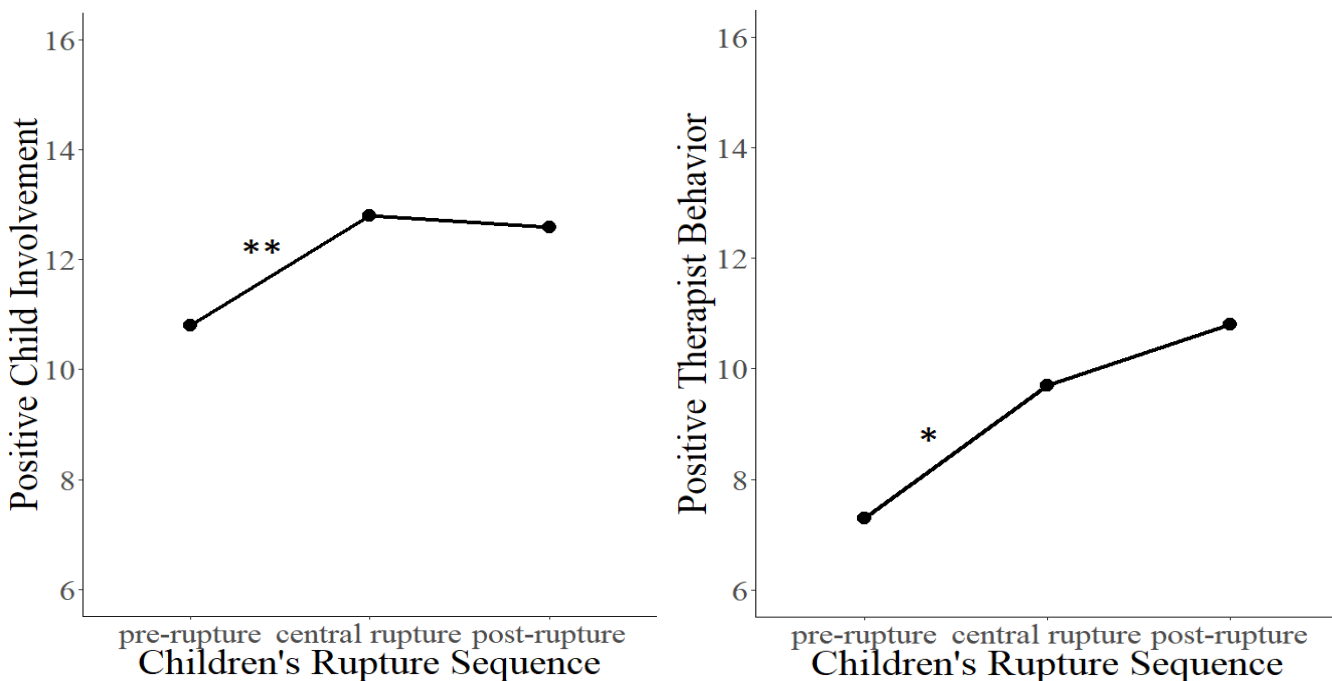


Figure 4 & Figure 5. Positive Child Involvement and Positive Therapist Behavior during children's rupture sequence (TASC) (\* $p < .1$ , \*\* $p < .05$ ).

Table 2

*Permutation test ANOVA of Positive Child Involvement subscale (CIRS) and Positive Therapist Behavior subscale (TABBS) during Children's Rupture Sequences (TASC)*

| <b>Rupture sequence of children</b>     |                        |           |          |          |
|---|------------------------|-----------|----------|----------|
| <b>Positive Child Involvement</b>       |                        |           |          |          |
|   | Source                 | <i>df</i> | <i>F</i> | <i>p</i> |
| <i>pre-rupture vs. central rupture</i>  | Session                | 1         | 6        | .04**    |
|   | Total                  | 9         |          |          |
| <i>central rupture vs. post-rupture</i> | Rupture type           | 1         | 0.76     | .41      |
|   | Session                | 1         | 0.04     | .86      |
|   | Session * Rupture type | 1         | 0.32     | .59      |
|   | Total                  | 9         |          |          |
| <b>Positive Therapist Behavior</b>      |                        |           |          |          |
| <i>pre-rupture vs. central rupture</i>  | Session                | 1         | 3.45     | .09*     |
|   | Total                  | 9         |          |          |
| <i>central rupture vs. post-rupture</i> | Rupture type           | 1         | 0.40     | .54      |
|   | Session                | 1         | 0.88     | .37      |
|   | Session * Rupture type | 1         | 0.18     | .68      |
|   | Total                  | 9         |          |          |

\* $p < .1$  \*\* $p < .05$ .

#### **Therapists' rupture sequences.**

**Positive Child Involvement.** A marginal significant increase of Positive Child Involvement was found between the central rupture sessions ( $M = 8.69$ ,  $SD = 3.33$ ) and post-ruptures sessions ( $M = 10.0$ ,  $SD = 4.12$ ),  $F(1,12) = 3.48$ ,  $p = .09$  (see Figure 6). Contrary to the hypothesis, this effect was not explained by an interaction effect between session type and rupture type (central rupture vs. post-rupture). All other effects were not statistically significant (see Table 3).

**Positive Therapist Behavior.** A marginal significant increase of Positive Therapist Behavior was found between the central rupture sessions ( $M = 7.62$ ,  $SD = 2.9$ ) and post-ruptures sessions ( $M = 9.23$ ,  $SD = 2.52$ ),  $F(1,12) = 4.24$ ,  $p = .06$ . As expected, the significant main effect of session type was qualified by a marginal, significant interaction effect between session type and rupture type for Positive Therapist Behavior  $F(1,12) = 4.24$ ,  $p = .07$  (see Figure 7). However, post-hoc tests revealed results oppositely from what was hypothesized. For unrepaired ruptures a statistical, marginal increase of Positive Therapist Behavior between central rupture sessions ( $M = 5.6$ ,  $SD = 1.67$ ) and post-rupture sessions ( $M = 9.8$ ,  $SD = 3.42$ ) was found,  $F(1,5) = 4.72$ ,  $p = .09$ . For repaired ruptures no significant difference was found for Positive Therapist Behavior between central rupture sessions ( $M = 8.88$ ,  $SD = 2.85$ ) and post-rupture sessions ( $M = 8.88$ ,  $SD = 1.95$ ). See Figure 8 for interaction effect. No other effects were statistically significant (see Table 3).

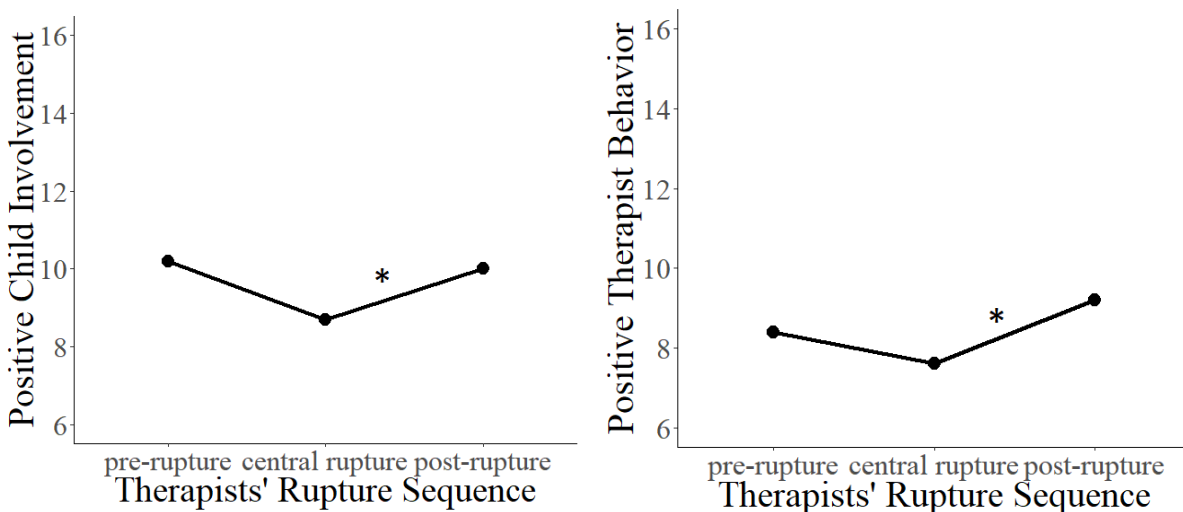


Figure 6 & Figure 7. Positive Child Involvement and Positive Therapist Behavior during therapists' rupture sequence (WAIS-S) (\* $p < .1$ , \*\* $p < .05$ ).

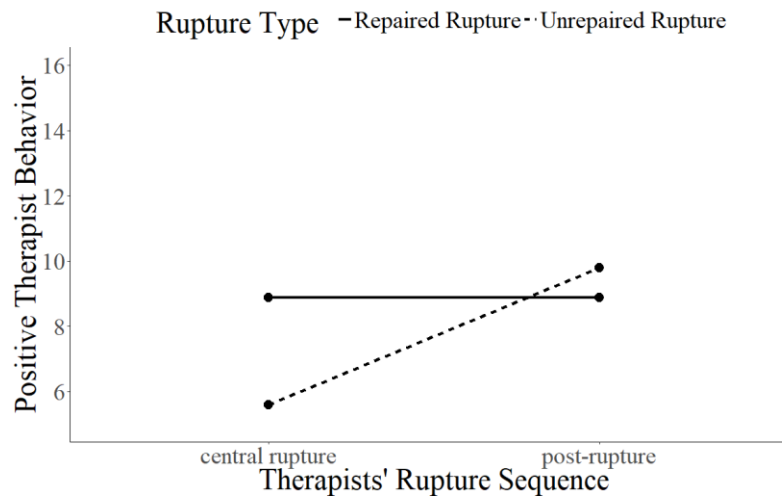


Figure 8. Interaction between session type and rupture type for Positive Therapist Behavior during therapists' rupture sequence (WAIS-S).

Table 3

Permutation test ANOVA of Positive Child Involvement subscale (CIRS) and Positive Therapist Behavior subscale (TABBS) during Therapists' Rupture Sequences (WAI-S)

| Ruptures sequence of therapists         |                        |    |      |      |
|---|------------------------|----|------|------|
| Positive Child Involvement              |                        |    |      |      |
|   | Source                 | df | F    | p    |
| <i>pre-rupture vs. central rupture</i>  | Session                | 1  | 1.20 | .29  |
|   | Total                  | 12 |      |      |
| <i>central rupture vs. post-rupture</i> | Rupture type           | 1  | 0.63 | .44  |
|   | Session                | 1  | 3.48 | .09* |
|   | Session * Rupture type | 1  | 2.97 | .11  |
|   | Total                  | 12 |      |      |
| Positive Therapist Behavior             |                        |    |      |      |
| <i>pre-rupture vs. central rupture</i>  | Session                | 1  | 0.79 | .39  |
|   | Total                  | 12 |      |      |
| <i>central rupture vs. post-rupture</i> | Rupture type           | 1  | 1.31 | .28  |
|   | Session                | 1  | 4.24 | .06* |
|   | Session * Rupture type | 1  | 4.24 | .07* |
|   | Total                  | 12 |      |      |

\* $p < .1$  \*\* $p < .05$ .

## Discussion

The present study investigated the occurrence and accordance of alliance ruptures in children's and therapists' alliance time series data as well as children's and therapists' in-session behavior during alliance rupture sequences, based on coded audio recordings of treatment sessions. Hereby, this study extends earlier research on alliance in child psychotherapy by using session-by-session alliance ratings of children and therapists to identify alliance ruptures. Moreover, this study establishes the link between the process variables positive child involvement and therapist alliance-building behavior during ruptures, thereby contributing to the conceptual understanding of alliance ruptures in children. First, the results of the descriptive part of the study concerning the prevalence of alliance ruptures found in children's and therapists' time series will be discussed, followed by an interpretation of patterns of child involvement and therapist alliance-building behavior during children's and therapists' alliance rupture sequences. Finally, both findings will be combined to contribute to the discussion on theory of alliance ruptures and therapeutic alliance in child psychotherapy in general.

### Occurrence and Accordance of Children's and Therapists' Ruptures

**Occurrence of children's ruptures.** With regard to occurrences of alliance ruptures, 13 out of 70 (18.6%) alliance time series of children revealed ruptures. After Kendall and colleagues (2009), the present study is the second to investigate alliance ruptures in child psychotherapy using alliance time series data. Contrary to their results, which revealed no ruptures after exposure tasks in child psychotherapy, we did find ruptures in about a fifth of the children's time series. These diverging results can be explained by the different analytic strategies applied. Kendall et al. (2009) identified ruptures by using latent growth curve models, thereby aggregating alliance scores over participants to compare the overall shape of alliance before and after exposure tasks. Contrary to their approach, we analyzed individual time series data to determine

ruptures using TCCs and were thereby able to capture drops in alliance of the length of only one session (Eubanks-Carter et al., 2012). The capability of lower time resolution to identify rupture in the present study may therefore explain the diverging results.

When comparing results of this study with findings from research investigating alliance ruptures in adult psychotherapy we found lower prevalence of alliance ruptures. Research on adults found alliance ruptures in about 20% to 55% of clients' alliance data (Stevens et al., 2007; Stiles et al., 2004; Strauss et al., 2006). Apart from the fact that comparison between children and adults have to be made with caution, it is difficult to generalize across these studies due to varying statistical definitions of alliance ruptures used. Given that the present study used relative rupture criteria to account for participants individual alliance variation as well as absolute criteria to consider variation of alliance of the total sample, we might have reached high sensitivity to detect alliance ruptures. Because of the novelty of the present study, no direct comparisons of prevalence of ruptures in child psychotherapy with other studies can be made.

However, seen that this study investigates alliance ratings of clinically anxious children, who are thought to display low fluctuation in their alliance ratings, low prevalent rates of ruptures are not surprising. Seen the specific symptomology of anxious children, which is among others characterized by high levels of rigidity in social interactions (Hollenstein, Granic, Stoolmiller, & Snyder, 2004) as well as avoidant coping behavior in stressful situations (Hudson & Rapee, 2001; Shortt, Barrett, & Fox, 2001), children may eschew to critically evaluate their therapists on alliance questionnaire. Moreover, Bickman et al. (2013) have argued that most alliance questionnaires for children are prone to ceiling effect due to social desirable and easy to endorse items, which might have contributed to lower rupture prevalence. This is affirmed, seen the generally high and stable mean alliance scores of children in the present study, which were also

found in previous research on child alliance (Accursoa & Garland, 2015; Zorzella, Rependa, & Muller, 2017).

In conclusion, this study is the first to allow for an estimation of prevalence rates of alliance ruptures in children, revealing that about 20% of children's individual alliance data indicating ruptures, which is somewhat lower than found for adults.

**Occurrence of therapists' ruptures.** In the present study 18 out of 56 (32.1%) alliance time series of therapists indicated alliance ruptures, which is a higher percentage than found for children's time series. This is in line with estimations made by Muran and Safran (2017) on the occurrence of therapists' ruptures, which is thought to be generally higher for therapists' than for clients. That therapists are more likely to report alliance ruptures compared to children was also found in a study by Accursoa and Garland (2015), who showed that therapists reported lower alliance ratings compared to children, and anticipated deteriorations in the alliance, although children's alliance ratings were stable over time. No other study is known that investigated the prevalence of alliance ruptures indicated by therapists in child psychotherapy.

**Accordance of children's and therapists' ruptures.** Remarkably, we found that children's and therapists' time series revealed almost no accordance regarding occurrence of alliance ruptures sequences, with just two child-therapist dyads in which both time series indicated ruptures. Particularly, the specific treatment sessions indicated as rupture sequences were different within these two dyads. To our knowledge, only Chen et al. (2016) have reported on clients' and therapists' accordance of alliance ruptures, who found that therapists' alliance ruptures were more predictive for the clients alliance rating in the following session when also the clients themselves reported a rupture. However, no indication was given on the quantity of client-therapist-consensus on alliance ruptures.

When considering research on accordance of alliance ratings of children and therapists in general, it fits our finding of a mismatch of children's and therapists' ruptures. Previous studies have found a disagreement on alliance ratings by therapists and their youth clients (Accursoa, Hawley, & Garland, 2008; Bickman et al., 2004; Bickman et al., 2013; Zack, Castonguay, & Boswell, 2007; Zandberg, Skinner, & Chu, 2015). Nonetheless, such a marked mismatch of children's and therapists' rupture is surprising. This indicates that children and therapists might have a different take on therapeutic alliance in this study.

The idea of different alliance perceptions of children and therapists is further affirmed by the finding of the present study that therapists' central rupture sessions were most often treatment sessions in which exposure tasks were introduced, while children's central rupture sessions were equally distributed over the whole treatment. Therapists might have interpreted the introduction of exposure tasks as challenging for a stable alliance, which was probably not the case for children. The link between therapists' ruptures and exposure tasks is unexpected, since Kendall et al. (2009) and Zorzella et al. (2017) found no deterioration of therapists' alliance ratings at all during exposure based therapy with children. In conclusion, a remarkable mismatch of alliance ruptures and the moment of their occurrence identified in children's and therapists' alliance time series was found.

### **In-session Behavior during Alliance Rupture Sequences of Children and Therapists**

The second aim of this study was to establish the link between in-session behavior of children and therapists during alliance ruptures in order to gain a better understanding of how alliance ruptures assessed by self-reports would manifest in actual behavior during treatment sessions. Contrary to our hypotheses, we did not find the hypothesized high-low-high pattern for repaired rupture sequences and high-low-low pattern for unrepaired ruptures sequences for child involvement and therapist alliance-building behavior during children's ruptures. For therapists,

mixed results were found without the expected decrease of child involvement and therapist alliance-building behavior between pre-rupture and central rupture sessions, but with a significant increase and interaction effect between central rupture and post-rupture sessions.

**In-session behavior during children's rupture sequence.** During children's alliance rupture sequences, we did not find the expected decrease but instead a significant increase of positive child involvement and positive therapist behavior between pre-rupture and central rupture sessions. Furthermore, different than hypothesized, no significant change and no interaction effect for different rupture types for both in-session behaviors was found between the central and the post-rupture sessions. Although prior studies have found a positive association between observer-rated child involvement and therapeutic alliance, we saw that child involvement significantly increased between treatment sessions characterized by a decrease of children's alliance ratings (Hudson et al., 2014; McLeod et al., 2014). In this study, apparently child involvement did not follow the same pattern as children's self-report based alliance ratings during special treatment situations characterized by alliance deteriorations. Therefore, children's alliance ratings seem not to be manifested in objectively coded child involvement during rupture sequences.

Similar results were found for positive therapist behaviors, which are thought to be conducive for positive alliance in children (Creed & Kendall, 2005). Similarly to child involvement, a significant increase was found for positive therapist behavior during two treatment sessions characterized by a decrease of children's alliance ratings. Here too, children's alliance ratings seem not to be represented by coded positive therapist behavior during rupture sequences.

**In-session behavior during therapists' rupture sequence.** During therapists' alliance rupture sequence patterns of positive child involvement and positive therapist behavior revealed

mixed results concerning the hypothesized high-low-high pattern. Although no decrease of both positive child involvement and positive therapist behavior was found between pre-rupture and central rupture sessions, we did find a significant increase for both process variables between the central-rupture and the post-rupture sessions, as well as an interaction effect for different rupture types. Therefore, positive child involvement and positive therapist behavior patterns show higher resemblance with therapists' alliance ratings between central rupture and post-rupture sessions, contrary to what was found during children's rupture sequences. It seems that these two objectively coded in-session behaviors function as a better indicator for therapists' alliance ratings than they do for children's alliance ratings.

### **Diverging Perception of Alliance Ruptures of Children and Therapists**

The different patterns of coded in-session behavior during children's and therapists ruptures, together with the mismatch of children's and therapists' alliance rupture sequences, seem to indicate that subjective experienced deteriorations of alliance are perceived differently by children and therapists. That children's and therapists' perception of alliance differ is supported by previous research that failed to support Bordin's (1979) three factor structure of alliance for children, suggesting that children's alliance perception is less differentiated due to lower cognitive capacities (DiGiuseppe, Linscott, & Jilton, 1996; Faw et al., 2005; Roest et al., 2016). It has been proposed that alliance perceived by children may primarily be an affective construct, based on the affective bond with their therapist (Accursoa, Hawley, & Garland, 2008; Ormhaug, Shirk, & Wentzel-Larsen, 2015). This in contrast to the therapist's alliance appraisal which is follows Bordin's three factor structure of alliance.

Although the alliance factor structure seems to differ between children and adults, much is still unknown about which aspects contribute to children's perception of a positive alliance and what might cause deteriorations in children's alliance. This is pointed out by Zack and colleagues

(2007), who state that until now “we have used the adult literature as a heuristic for understanding the nature and possible mechanisms of alliance in youth treatment” (p. 285). An exception represents qualitative research by Baylis et al. (2011), who conducted interviews with children on their experience of the therapeutic relationship with their therapist. This research brought forth the *Child Alliance Process Theory* which states that the therapeutic alliance with children relies on Alliance Dependent Behavior (ADB), skills that the therapist attend to build a therapeutic relationship, and Alliance Expectant Behavior (AEB), skills for therapeutic relationship that awaits opportunity for expression during treatment. It is suggested that during alliance rupture, therapists have to engage in ADB, such as less talk, active listening, and doing activities (Baylis et al., 2011).

However, ADB to address alliance ruptures in children differ from rupture solution strategies proposed for adult psychotherapy, such as active exploration of interpersonal conflicts (Safran et al., 2011). DiGiuseppe et al. (1996) have indeed found that exploration of a problematic therapeutic relationship by therapists negatively predicted youths’ alliance ratings. The present study may offer another example that children’s and therapists’ experience differ regarding promotive alliance behavior, seen the unexpected increase of positive therapist behavior between pre-rupture and central rupture sessions during children’s alliance rupture sequences (Figure 5). Since the positive therapist behavior subscale of the Therapists Alliance-building Behavior scale (TABBS; Creed & Kendall, 2005) is based on Bordin’s three-factor structure of alliance and was constructed of therapists conception of behaviors thought to be promotive for child alliance, the TABBS may not capture children’s subjective alliance perception. Baylis et al. (2011) have shown that children prefer less talk and active listening to (re-)establish the affective bond, which might not be fully represented by the positive therapist

behavior subscale. This might explain the mismatch of increasing positive therapists behavior and decreasing children's alliance ratings during children's alliance rupture sequences

In conclusion, different patterns of positive child involvement and positive therapist behavior during children's and therapists rupture sequence, together with marked mismatch of ruptures within child-therapist dyads, raises doubts whether children and therapists perceive alliance deteriorations equally.

### **Strengths, Limitations, Future Directions, and Implications**

The present study is characterized by its novel approach to apply the concept of alliance ruptures to the field of child psychotherapy by analyzing of session-by-session alliance data from a naturalistic treatment setting. Thereby, this study was able to capture the individual dynamic development of children's and therapists' alliance and to reach a narrow time resolution for investigation of ruptures (Eubanks-Carter et al., 2012). This enabled us to determine rapid fluctuations of alliance of the length of only one treatment session, and by that extending earlier research on alliance ruptures in children (Kendall et al., 2009). Moreover, different from Kendall et al. (2009), we used a person-centered analytic approach instead of aggregating alliance scores of participants, thus allowing for the first estimation of alliance rupture prevalence during child psychotherapy. Additionally, we investigated both children's and therapists' alliance ratings to capture both perception of alliance ruptures, thereby doing justice to the dyadic nature of psychotherapy. This approach revealed a striking mismatch of children's and therapists' ruptures.

Finally, we established the link of two process variable during alliance ruptures of children's and therapists' alliance. In this way, we contributed to the theoretical understanding of alliance ruptures to show their manifestations in objectively coded in-session behavior of children and therapists.

Despite the strengths of the present study, limitations should be noted. Although this study applied a high time resolution analyzing alliance ratings of every single treatment session, we did not investigate within-session changes of alliance. Given that frictions in therapeutic relationship can occur in the timeframe of seconds, it is of interest to apply qualitative analyses of ruptures within treatment sessions (Coutinho et al., 2014). To capture these interpersonal frictions, future research could use coding instruments such as the Rupture Resolution Rating System (3RS; Eubanks-Carter, Muran, & Safran, 2009) to identify causes of children's alliance ruptures and therapists' strategies. Thereby, research would contribute to the understanding of the children's subjective perception of alliance.

Second, in the present study no difference was made between children who scored high on different subscales of the SCARED. Children with different anxiety disorders might be characterized by different alliance patterns. Moreover, given that research found higher alliance-outcome associations for children with externalizing problems than internalizing disorder (Shirk & Karver, 2003), future research should investigate potential differences in occurrence of alliance ruptures for children with different psychopathology.

The present findings implicate that alliance ruptures do occur in psychotherapy with children which may hinder treatment progress and cause dropout. In order to build a stable therapeutic alliance with children, therapists have to carefully consider children's cognitive capacities which influence their perception of alliance.

## **Conclusion**

The present study reveals new insights to the field of child psychotherapy research by being one of the first to study alliance ruptures in children in psychological treatment. In about 20% of children's alliance data and 30% of therapists' alliance data, ruptures were found. Remarkably, no accordance was found between children's and therapists' alliance ruptures. In-

session behavior showed different patterns than children's alliance ratings during children's ruptures, but resembled therapists' alliance ratings during therapists' ruptures. These current findings raise questions on whether children's and therapists' perception on alliance during ruptures are similar. Moreover, therapists' strategies to address alliance ruptures in child psychotherapy may be inadequate due to children's different perception of alliance. More research is needed in order to understand children's concept of alliance and to reveal rupture-resolution techniques suitable for children.

In 2007, Zack et al. labeled children's alliance as a "clinical construct in need of empirical maturity". After ten years of empirical contributions to the topic, children's subjective experience of the therapeutic alliance remains not well understood. Therefore, today we rather see child alliance as a clinical construct in need of *theoretical* maturity.

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