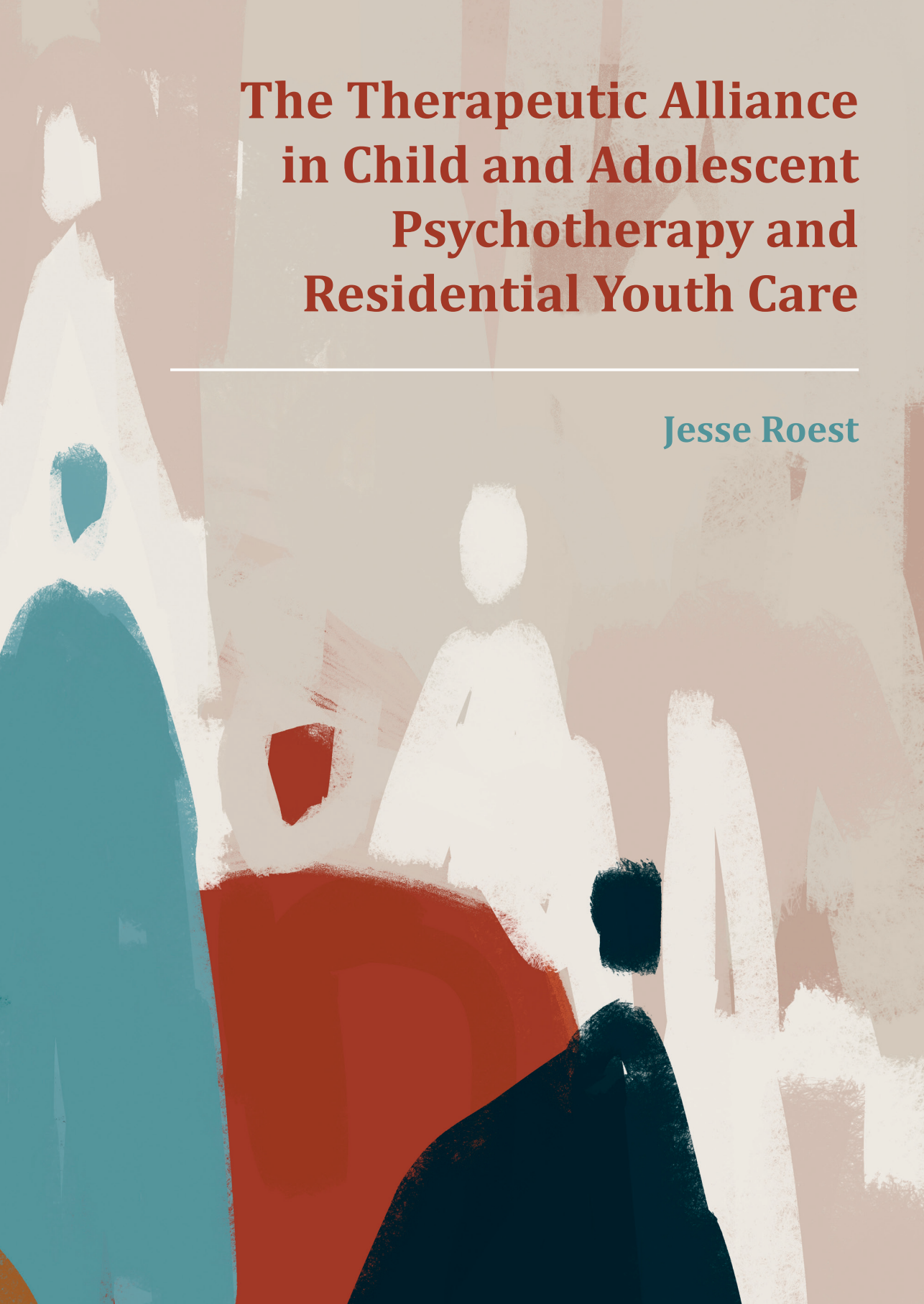
# The Therapeutic Alliance in Child and Adolescent Psychotherapy and Residential Youth Care

Jesse Roest



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The Therapeutic Alliance in Child and Adolescent Psychotherapy and Residential Youth Care

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Faculteit der Maatschappij- en Gedragswetenschappen

Umuntu ngumuntu ngabantu.

- Zulu saying, meaning “A person is a person through other people”,
which is a central concept in ubuntu philosophy.

# CONTENTS

*Chapter 1*

# General introduction

The therapeutic alliance - also referred to as working alliance - is arguably one of the most studied concepts in psychology. The notion that a friendly and affectionate stance toward the patient by the therapist is essential in order to build rapport has been greatly influential in psychoanalytic theory since the early works of Freud (1913, as cited in Seulin & Saragnano, 2012). Others have elaborated on and amended Freud's work on the process of collaboration in therapy, introducing the term 'alliance' (Sterba, 1934) and its predicates 'therapeutic' (Zetzel, 1956) and 'working' (Greenson, 1965), while others have defined the alliance as part of the broader term 'therapeutic relationship' (Gelso & Carter, 1985).

In recent literature, the therapeutic relationship is often defined as the feelings and attitudes that client and therapist exchange with each other, both consciously and unconsciously (Gelso & Carter, 1985, 1994; Norcross, 2002), while the alliance is defined as "the quality and strength of the collaborative relationship between client and therapist" (Horvath & Bedi, 2002, p. 44; Horvath, 2005; Norcross, 2011). However, the terms 'relationship' and 'alliance' are often used interchangeably in literature, often conflating the alliance into the relationship altogether (Hatcher & Barends, 2006).

Early conceptualizations of the therapeutic relationship mainly focused on transference and countertransference, and were at first defined as unconscious emotional intra- and interpersonal processes (Freud, 1913; Sterba, 1934; Zetzel, 1956). Later, the concept of therapeutic alliance was introduced, defined as a conscious process relating to the collaborative aspects of the relationship (Greenson, 1965; Rogers, 1957). Rogers' (1957) person-centered approach emphasized empathy, positive regard, and genuineness of the therapist in interaction with clients, and viewed the therapeutic relationship as curative in itself. Building on the work of Greenson (1965), Gelso and Carter (1985) defined the construct real relationship as the personal (transference-free) relationship between two people that consists of genuineness and the realistic perception of each other, existing at a personal level, both in- and outside therapy. This real relationship is conceived as a different aspect of the therapeutic relationship than the therapeutic alliance and the transference-countertransference interaction, and some argue that the real relationship acts as a precursor of the alliance (Gelso, 2009).

Prior to the conception of the real relationship definition, Bordin (1979) had theorized the therapeutic alliance - in his words, 'working alliance' - to consist of three dynamically interacting aspects; the personal bond between client and therapist, collaboration on tasks of therapy and mutual agreement on goals of therapy. The personal bond refers to the extent to which a client feels understood, respected and valued by the therapist, while the consensus on goals and collaboration on tasks refers to the collaborative nature of the alliance. The theory of task/goal alliance emphasizes the crucial role of the collaborative nature and the social context of psychotherapy, and adapting therapeutic tasks to the client's needs. Therefore, the affective bond between client and therapist is important, but not sufficient to progress in therapy; the collaborative work of client and therapist also has

therapeutic impact. This aspect of the alliance allows clients to feel more in control and motivated to engage in treatment, and stimulates their decision-making about treatment goals and specific tasks of treatment (Green, 2006, Hatcher & Barends, 2006).

Nowadays, the therapeutic alliance is viewed as an important ingredient of all helping relationships, applicable to various treatment modalities and theoretical orientations (Norcross & Lambert, 2018). The alliance is viewed as a 'common factor' within the contextual model of psychotherapy (Wampold, 2015; Wampold & Imel, 2015). An important proposition of this model is that therapy works through various mechanisms that entail aspects of the social interaction between therapist and client, such as trust and mutual expectations, as well as specific treatment ingredients (therapeutic actions and treatment protocols). Within this context, a well-established therapeutic alliance in the beginning of treatment is seen as essential for therapeutic success (Wampold, 2015).

Several meta-analyses found that the alliance accounts for approximately between 3 and 7% of the variance in treatment outcomes (Horvath & Bedi, 2002; Horvath et al., 2011; Karver et al., 2019; McLeod, 2011; Shirk et al., 2011). Although these effects are small to modest, they are larger than other predictors of treatment outcomes, such as specific techniques and therapist competence (Wampold & Imel, 2015; Webb et al., 2010). Furthermore, studies have found that therapist characteristics are associated with the quality of the alliance. Therapists who are flexible and responsive to the clients' needs, who are able to validate clients' treatment progress and encourage client responsibility, usually form stronger alliances with their clients (Ackerman & Hilsenroth, 2003; Bedi, 2006; Bedi & Hayes, 2020).

## Decades of research, yet there is much to discover about the alliance

During the past decade, the alliance is increasingly viewed as an ongoing dynamic process, leading to increasing attention in research on changes in alliance during treatment, alliance trajectories throughout treatment and early shifts in the alliance (Barber et al., 2014). This has led to new insights in the impact that the alliance has on treatment outcomes. Most studies measure the alliance after a few sessions in treatment, when the alliance may be the result of preceding symptom change (Barber et al., 2010). This 'reversed causation' poses a threat to the validity of the alliance as a predictor of treatment outcomes (Arnow & Steidtmann, 2014; Barber et al., 2010; Doran, 2016).

Studies on the role of the alliance in the therapeutic change process have led to discussions about the precise definition of the alliance and its defining aspects, whether the alliance is facilitative of treatment progress or rather curative in itself (leading to symptom improvement), and how different aspects of alliance interact throughout treatment. For instance, it is unclear whether mutual positive feelings between client and therapist lead to goal consensus or whether the alliance once established in terms of collaboration creates those positive feelings (Arnow & Steidtmann, 2014; Doran, 2016).

Research has also increasingly focused on agreement on alliance across informants (e.g., child, therapist, or observer). A meta-analysis of 63 studies on the alliance in adult psychotherapy (Tryon et al., 2007) found that clients' and therapists' views on the alliance are moderately and positively correlated, suggesting some overlap between both perspectives, but that they do not seem to be shared perspectives. Also, results indicated that clients in general showed higher mean scores than their therapists, indicating that clients rate their alliance more positively than their therapists (Tryon et al., 2007). Thus, a distinction can be made between the client's and therapist's perspective of the alliance. Because the alliance is an interpersonal construct, examining shared aspects of the alliance (i.e., alliance agreement) is an important step to understand the role of the alliance in therapy, its development throughout treatment, and the impact of the alliance on therapeutic outcomes (Elvins & Green, 2008; Fjermestad et al., 2016).

Another important critique of the alliance construct as described by Bordin is the predominant emphasis on the agreement and collaboration between client and therapist, which can be explained by the fact that the alliance construct was originally operationalized for therapy with clients entering treatment voluntarily (Brenner, 1979; Doran, 2016; Ross et al., 2008). These aspects of the alliance leave less room for conflicts, confrontation, and negative interactional processes that may occur in different (mandated) treatments, such as substance abuse treatment or probation services, and offender rehabilitation (Menger, 2018; Ross et al., 2008; Skeem et al., 2007; Sturm et al., 2022). Nowadays, an important aspect of alliance theory is the notion that the alliance can be damaged by a rupture, which has to be addressed during therapy. Alliance ruptures, identification of signs of an alliance rupture (rupture markers), and the rupture-repair process have received increasing attention over the past decade (Eubanks et al., 2018). However, these topics in alliance research have mostly been studied in adult psychotherapy, but knowledge of effective rupture-resolution strategies may also be important for other treatment contexts.

About a hundred years after Freud's "On beginning the treatment" (1913, as cited in Seulin & Saragnano, 2012), these are exciting times for alliance research. The alliance is recognized as an important (if not crucial) factor in psychotherapy, but also in other fields such as medicine, social work, and youth care (Ardito & Rabellino, 2011; Elvins & Green, 2008; Karver et al., 2019; McLeod, 2011). However, the alliance has been mainly studied in individual adult psychotherapy, and alliance research in youth has been found to lag behind alliance research in adults (Elvins & Green, 2008; Zack et al., 2007). Therefore, the current dissertation aims to contribute to the alliance literature by providing a comprehensive overview of the current state of research on the alliance in child and adolescent psychotherapy. Furthermore, treatment of children and youth differs in an important aspect compared to adults, because parents or caregivers are often involved, and treatment may be home-based or community based. In such cases, a professional needs to establish an alliance with parents or other members of the family.

Children and youth may receive treatment in a residential setting, which further complicates the establishment of a therapeutic alliance, because youth have to establish an alliance with multiple professionals. Also, several other factors, such as the nature and severity of the psychosocial and behavioral problems of youth as well as factors related to the residential setting, may influence the establishment of the therapeutic alliance, including the social (group) climate and interactions with other youth at the group and multiple professionals (sociotherapists) and the organizational climate of the institution. An important critique of residential care is that mechanisms through which therapeutic or behavioral change are achieved remain unclear, particularly with respect to long term outcomes (Harder, 2018; Harder et al., 2017), and that it is difficult to develop and implement evidence-based residential treatments (Harder, 2018; James, 2017; Stams & Van der Helm, 2017). Although the alliance in residential youth care has received increasing attention over the past decade, contributions to alliance research in residential youth care are urgently needed to better understand the dynamics of the alliance in order to achieve therapeutic change in working with youth in residential care. In the present dissertation, the term therapist is used to refer to the context of individual therapy, and the term professional is used to refer to mental health care professionals in other treatment contexts.

## The alliance with children and adolescents

It is not clear whether Bordin's theoretical model of the alliance applies to child and adolescent psychotherapy (Elvins & Green, 2008; Green, 2006, 2009; Karver et al., 2019; Zack et al., 2007). Literature on the conceptual understanding of the alliance construct in therapy with children and their parents is still scarce compared to research in adult populations. Recent studies by Gibson et al. (2016) and Ryan et al. (2021) investigated how children, parents, and therapists perceived their alliance in therapy. The results indicated that participants had different views on several aspects of the alliance, such as the nature of the personal bond, which therapeutic techniques were important, and even the role of the parent in therapy. Other studies have found that trustworthiness, kindness, shared activities, transparency (e.g., sharing information, open communication), and shared decision making are highly valued among children and parents (Baylis et al., 2011; Gibson et al., 2016; Nooteboom et al., 2020; Nuñez et al., 2021). These findings underscore the complexity of the alliance construct in therapy with children and youth compared to individual adult psychotherapy.

The alliance construct as perceived by youth may be composed of different aspects compared to the alliance in adult psychotherapy. Children and youth may have difficulty forming therapeutic relationships as a result of their age and cognitive capacities (Green, 2006, 2009; Shirk & Karver, 2003). Adolescents may be in conflict with their parents over the nature of the problem and the need for treatment. They have a developmental need for autonomy and self-reliance, and thus may additionally have problems with accepting authority, which could complicate the alliance with an adult professional (DiGiuseppe et al., 1996). Another important difference between youth and adult clients is that children and

youth generally do not choose to seek psychological treatment, and are often referred to therapy by their parents, teachers, or other authorities, such as social services, because of perceived problem behavior (DiGiuseppe et al., 1996; Shirk et al., 2010).

Qualitative studies on the alliance with adults and youth have found that the perception of a sincere, accepting and trustworthy therapist influences the client's evaluation of the appropriateness of therapeutic tasks and goals (Bachelor, 1995; Bedi & Hayes, 2020; Everall & Paulson, 2002; Manso et al., 2008). Research on how children and youth perceive their alliance with a therapist or professional remains a relatively unexplored territory, although recent qualitative studies have addressed the importance of the alliance in treatment of children and youth, both from the youth's perspective as well as the therapist's. It is interesting to note that collaboration (or lack thereof) is frequently mentioned by professionals as an important component of the alliance, while clients - adolescents in particular - report a good alliance mostly as a function of professional characteristics and behaviors (Baylis et al., 2011; Campbell & Simmonds, 2011; Hawks, 2015; Rauktis et al., 2008). It has also been proposed that alliance perceived by children may primarily be an affective instead of a cognitive construct, based on the personal bond with their therapist (Ormhaug et al., 2015).

Alliance measures that are used in child and youth psychotherapy are often derived from measures that have originally been developed for adults in individual psychotherapy (Elvins & Green, 2008). Interestingly, quantitative studies on the alliance in child therapy using alliance questionnaires often have found rather high mean scores and low variance in scores due to potential socially desirable answers and easy to endorse items, indicating a so-called 'ceiling effect' (Bickman et al., 2012; Green, 2006). This suggests that youth in general rate their alliance with the therapist as relatively positive, which is not very much different in adults (Meier & Feeley, 2021).

The treatment setting in which children and youth receive treatment is rather heterogenous compared to adult psychotherapy, because treatment may be individual, family- or community based, or in a (secure) residential treatment setting. Treatment in adult psychotherapy is often delivered individually, whereas treatment of children and youth nearly always involves a parent or caregiver, in which case a therapist or professional needs to form an alliance with the caregiver(s) in addition to the alliance with the child. Also, the relationship between the child and the parent may affect the alliance with the professional, illustrating a 'tri-directional' relationship (Karver et al., 2019). The complexity of measuring the alliance in family-based therapy and its relation to outcomes has recently been studied by Welmers-Van de Poll et al. (2018), who found an overall small-to-medium alliance-outcome association of $r = .18$. If youth are treated in a residential setting, both youth and parents need to establish a therapeutic alliance with multiple professionals who operate as a team.

## The alliance with youth in residential care

Treatment of youth in residential care settings poses important challenges to establishing a therapeutic alliance between youth and staff and to youth's compliance with treatment goals and tasks (Byers & Lutz, 2015; Orsi et al., 2010). Firstly, youth in residential care often are characterized by severe behavioral problems. Youth reactance and treatment resistance are widely cited problems by staff and become amplified when working with youth who have externalizing disorders, especially when treatment is mandatory (Abram et al., 2008; Chu et al., 2010; Orsi et al., 2010). Youth in residential youth care may have had positive or negative previous experiences with other youth care workers or even prior placements in residential care facilities, so they have to form multiple therapeutic alliances that lack stability and continuity. Additionally, some degree of coercion and restriction is often used within residential care settings, which further complicates the formation of an alliance between youth and professionals (Orsi et al., 2010).

Additionally, there are several contextual factors in residential youth care that may affect the youth-professional alliance. Firstly, youth are expected to form alliances with multiple staff members instead of only one therapist. Secondly, the social climate at the living group in terms of perceived support, autonomy and institutional repression as well as interactions with peers at the group are important aspects of the social environment of youth during their stay in the facility in relation to well-being, motivation for change and recovery, and treatment outcomes (De Valk, 2019; Sekol, 2013; Sonderman et al., 2020; Van der Helm et al., 2018). In addition, group care facilities often face major problems regarding staff turnover (Connor et al., 2003; Lakin & Leon, 2008; Seti, 2007), and working with youth in residential care is generally perceived as (emotionally) demanding, which may result in stress, compassion fatigue or even (secondary) traumatization in professionals (Zerach, 2013; Purdy & Antle, 2022). These factors all may complicate the formation of an alliance between youth and staff in residential care, and are a potential risk to discontinuity in the alliance and alliance ruptures. Hence, research on the alliance in this complex treatment setting is needed in order to gain a better understanding of the role of the alliance with youth in residential care and their parents.

## Aims and outlines of this dissertation

This dissertation focuses on the alliance in child and adolescent psychotherapy and residential youth care, and consists of five studies. The first chapter describes a series of multilevel meta-analyses of the differences and associations between child, parent, therapist, and observer ratings of the alliance. This meta-analytic review contains 78 studies, which are divided into various subgroups of studies in order to determine the degree of divergence (differences between raters) and convergence (associations between raters). These associations have not been examined using meta-analysis and are relevant for alliance theory in youth psychotherapy, and also of methodological interest for alliance research in general.

Chapter 2 describes a meta-analysis on the alliance-outcome association in child and adolescent psychotherapy. Although several meta-analyses on the alliance-outcome association have been conducted, this meta-analytic review reports on several types of alliance-outcome associations, distinguishing between child-therapist and parent-therapist alliance-outcome associations as well as alliance measured at a single time point, alliance change, child-therapist alliance congruence (alliance agreement) in relation to outcomes, and the alliance as a moderator of treatment outcomes. All these associations were addressed in separate meta-analyses in an attempt to provide an elaborate picture of the current state of alliance research on the alliance-outcome association in child and adolescent psychotherapy.

The third chapter describes a validation study of an alliance measure for use in a child population. Currently, no validated instruments are available measuring therapeutic alliance in young children (12 years and younger) in The Netherlands. Also, there are no instruments available measuring therapeutic alliance in children with mild intellectual disability, in which case a questionnaire should use simple language. The aim of this study was to address this by examining the factor structure, validity, and reliability of the Children's Alliance Questionnaire (CAQ), measuring therapeutic alliance in children receiving residential treatment and therapeutic day care in The Netherlands. In doing so, two versions of a therapeutic alliance measure were constructed for two age-groups of children (4-8 years and 8-14 years old).

Chapter four describes an empirical study on the association between alliance and treatment motivation in residential youth care. This study investigated the longitudinal relation between therapeutic alliance and treatment motivation in a sample of 174 adolescents receiving residential treatment in The Netherlands. The population consisted of youth in voluntary treatment settings, secure care facilities as well as youth prisons. Structural equation modeling (SEM) with a cross-lagged panel design was used to examine the relation between therapeutic alliance and treatment motivation up to nine months of treatment. This study design makes it possible to address the association between alliance and treatment motivation, specifically focusing on whether the alliance predicts treatment motivation or vice versa at various times during treatment.

The fifth chapter is an essay on alliance ruptures and rupture-repair processes in residential youth care. The alliance construct and alliance ruptures have been mainly studied in the field of clinical psychology and counseling. In the context of residential care, several factors are at play that influence the development and fostering of an alliance that are better understood by viewing the alliance from an ecological perspective based on social work and social pedagogy literature. This chapter consists of two parts: First, the concepts of alliance, alliance ruptures, and rupture-repair processes in youth psychotherapy are discussed. Second, the role of the alliance in residential youth care as well as challenges

regarding establishing and fostering a positive alliance are discussed. Also, strategies are discussed to establish, maintain, and resolve alliance ruptures with youth.

In the final chapter, the 'general discussion', results of the previous chapters are summarized, strengths and limitations are addressed, and overall findings are discussed. Also, implications for clinical practice and directions for future research are suggested.

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*Chapter 2*

# A Meta-Analysis on Differences and Associations Between Alliance Ratings in Child and Adolescent Psychotherapy

Roest, J. J., Welmers-Van de Poll, M. J., Van der Helm, G. H. P., Stams, G. J. J. M., & Hoeve. M. (under review). A meta-analysis on differences and associations between alliance ratings in child and adolescent psychotherapy. *Journal of Clinical Child and Adolescent Psychology.*

## ABSTRACT

**Objective:** The alliance in child and adolescent psychotherapy is widely recognized as an important factor in therapy. Therefore, increasing knowledge on the degree of convergence and divergence between child, parent, therapist, and observer alliance ratings in child and adolescent psychotherapy is important.

**Methods:** A series of three-level meta-analyses of 78 studies was conducted to investigate differences and associations between child, parent, therapist, and observer alliance ratings in child and adolescent psychotherapy.

**Results:** Findings indicated that children and parents in general rated the alliance more positively than their therapists ($d$ = 0.35, $d$ = 0.72, respectively), and that child-therapist and parent-therapist alliance ratings were moderately correlated ($r$ = .32, $r$ = .23, respectively). Associations between child and therapist ratings and observer ratings were moderate to large ($r$ = .43, $r$ = .53, respectively).

**Conclusions:** The small to moderate associations between alliance ratings indicate that individuals to some extent have a shared perspective on their alliance, and that the various perspectives on alliance should be acknowledged when dealing with children and parents in therapy. Implications for future research are discussed.

# INTRODUCTION

The therapeutic alliance - also referred to as working alliance - is widely recognized as an important factor in psychotherapy with adults, but also with children and their parents (Horvath et al., 2011; Karver et al., 2018; McLeod, 2011; Norcross & Lambert, 2018). The therapeutic alliance consists of three interdependent aspects: the personal and emotional bond between client and therapist, the agreement on therapy goals, and the agreement on tasks of therapy (Bordin, 1979, 1994). Most definitions focus upon these three aspects of the client-therapist alliance in adult as well as child and adolescent psychotherapy (Elvins & Green, 2008; Zack et al., 2007). However, it has been proposed that children have a different understanding of the alliance than adult clients (for a conceptual review, see Shirk et al., 2010; Zack et al., 2007), although it is unclear to what extent a multidimensional alliance construct is relevant in therapy with children and their parents, and which defining elements of the child-therapist and parent-therapist alliance are most important (Elvins & Green, 2008; Nuñez et al., 2021; Ryan et al., 2021).



Self-report alliance measures are widely used in clinical practice as part of client feedback and to monitor the alliance during treatment (Duncan et al., 2007; Rober et al., 2020). Actively monitoring the alliance by addressing the degree of alliance agreement or divergence is recognized as important to improve treatment efficacy (Horvath et al., 2011). In alliance research, increasing attention has been given to assessing both client and therapist alliance ratings and the degree of divergence or agreement to properly assess the alliance as a dyadic construct instead of using ratings of a single actor (i.e., client or therapist). Recent studies have found that alliance discrepancies as well as alliance agreement are an important predictor of therapeutic outcomes in the adult and youth psychotherapy literature (Fjermestad et al., 2016, 2020, Zandberg et al., 2015; Zilcha-Mano et al., 2017). Increasing knowledge on how alliance ratings of different actors are related is therefore important. Also, knowledge on the relation between child, parent, therapist, and observer alliance ratings is of methodological interest in studying how the alliance is related to therapy process factors and treatment outcomes. Therefore, the purpose of the present meta-analysis is to synthesize the empirical literature on the differences and associations between child, parent, therapist, and observer alliance ratings in child and adolescent psychotherapy.

## The Child-Therapist Alliance in Child and Adolescent Psychotherapy

There are several differences that have to be considered when examining the child-therapist alliance in child and adolescent psychotherapy compared to the alliance in individual adult psychotherapy. First, children and adolescents are often not self-referred for therapy. Instead, they are referred by their parents, teachers, or other authorities, such as social services, because of perceived problem behavior (DiGiuseppe et al., 1996; Shirk et al., 2010). As a consequence children may show more resistance to therapy, which makes it more difficult for therapists to establish a therapeutic alliance. Also, developmental issues may complicate the alliance between child and therapist. Younger children may have age-related cognitive

limitations in understanding the need of treatment (Shirk & Saiz, 1992). Adolescents may be in conflict with their parents over the nature of the problem and the need of treatment, and additionally experience problems with accepting authority (DiGiuseppe et al., 1996; Shirk et al., 2010). Moreover, adolescents orient themselves more toward their peers than parents or other adults (Harris, 1998). These developmental issues may cause resistance to therapeutic change, and may complicate the alliance with an adult professional (DiGiuseppe et al., 1996; Shirk & Karver, 2003). Thus, in child and adolescent therapy, a therapist needs to form a separate alliance with parents and possibly with other family members too, in addition to the alliance with the child, in order to create a therapeutic environment (Accurso et al., 2013; Green, 2006). Developmental differences between children and adults, and children's resistance to treatment may complicate the formation of a therapeutic alliance between therapist and children, possibly resulting in lower alliance ratings of the child than their therapists compared to adult clients.

Despite factors that may result in lower alliance ratings of children, research on the alliance in child populations has shown that child ratings of the alliance often indicate particularly high instead of low scores if comparisons are made between child and therapist ratings (Shelef et al., 2005; Shirk et al., 2010). Alternatively, some studies have found no significant differences between child and therapist alliance ratings, and some studies found lower child alliance ratings compared to therapist alliance ratings (Anderson et al., 2012; Fjermestad et al., 2016). In adult psychotherapy, studies have found that clients also rate the alliance higher than their therapist (Doran, 2016; Simmonds, 2016; Tryon et al., 2007). A meta-analysis on the difference between client and therapist ratings in adult populations showed that client ratings of the alliance were overall substantially higher than therapist ratings ($d$ = 0.63, Tryon et al., 2007). Further, Tryon et al.'s (2007) meta-analysis on alliance ratings in adult psychotherapy showed that client and therapist alliance ratings were moderately and positively correlated ($r$ = .36). This suggests that client and therapist perspectives overlap to some extent, but they can be seen as distinct perspectives too. Therefore, considering the increasing amount of studies on the alliance in child and adolescent psychotherapy, a meta-analytic study on differences and associations between child, parent, and therapist ratings is important to gain insight in the magnitude of these associations, but also to examine potential moderators of these differences and associations.

## Measuring the Alliance in Child and Adolescent Psychotherapy

Self-report alliance measures are a direct assessment of the perception of the alliance by children and their parents, and therefore important tools used in clinical practice for client feedback and monitoring of treatment progress (Duncan et al., 2007; Mihalo & Valenti, 2018). On a conceptual level, children, parents, and therapists may have different expectations, understandings, and experiences of their alliance with each other, meaning that there may be different defining aspects of the alliance that are relevant to each perspective, possibly resulting in difficulties regarding measurement of the child-therapist or parent-therapist alliance.

Several studies on self-report measures of alliance in child populations have found a different underlying factor structure than self-report measures in adults, indicating that the theoretically proposed three-factor alliance model by Bordin (i.e., personal bond, agreement on tasks, and agreement on goals) is not well supported empirically in children (Anderson et al., 2012; Cirasola et al., 2021; DiGiuseppe et al., 1996; Ormhaug et al., 2015). These studies show that the alliance concept in children may be viewed as a one-dimensional construct instead of the theoretically proposed alliance dimensions in adults, which could be explained by the child's incapacity to distinguish between the personal bond, task, and goal dimensions of alliance (DiGiuseppe et al., 1996; Zack et al., 2007). Studies on self-report measures to assess the parent-therapist alliance also indicate that the alliance construct could be best represented by two factors: personal bond and collaboration on therapeutic tasks (Accurso et al., 2013; Anderson et al., 2012). These findings indicate that assessment of the alliance between therapists, children, and parents using self-report measures may not capture all relevant aspects of the alliance from different perspectives, which could potentially lead to systematic errors in measurement and interpretation of alliance scores.



Several observer alliance measures have been developed for use in child and adolescent psychotherapy, of which the Therapy Process Observational Coding System (TPOCS-A, McLeod & Weisz, 2005) is the most widely used. Although observer-based measures do not assess the perception of the client directly, they are important to address several methodological issues in alliance research. Using observer measures requires training of multiple observers and is time consuming, but allows for a more in-depth and objective assessment of the alliance. Observer alliance measures are often used in studies on the alliance in relation to therapeutic outcomes or other therapy process factors to overcome common-method bias (e.g., use of self-report alliance ratings in relation to self-reported outcomes) or when measuring alliance repeatedly within-session. Using observer alliance ratings can overcome shortcomings of self-report alliance measures, such as potential ceiling effects or treatment effects reflected in client-rated alliance scores (McLeod & Weisz, 2005; Shelef et al., 2005). Studies have shown positive correlations between child and parent ratings and observer ratings of the alliance (Langer et al., 2011; McLeod & Weisz, 2005). A strong correlation between observer alliance measures and self-report alliance measures would indicate that observer measures are valid measures to study the alliance in child psychotherapy. A meta-analytic examination of the association between observer rated alliance and self-reported alliance in child therapy is therefore important to examine the degree of convergence of these ratings.

## The Present Study

To summarize, the differences and associations between alliance ratings of different actors in child and adolescent psychotherapy (i.e., child, parent, therapist, and observer) have not yet been subjected to meta-analysis. As the number of studies on the alliance in child and adolescent psychotherapy has substantially increased over the past decades, it is import-

ant to meta-analytically examine the associations between child, parent, therapist, and observer alliance ratings as well as the differences between these ratings.

The main aim of this study was to increase knowledge on the differences and associations between alliance ratings reported by child, parent, and therapist alliance ratings. We investigated whether study characteristics, such as age category, type of problem behavior, and timing of alliance moderated the differences and associations between alliance ratings. It was expected that children and parents would rate the alliance more positively than their therapists, and that child and therapist alliance ratings as well as parent and therapist ratings would demonstrate small to modest associations.

## METHODS

### Coding of the Studies

We considered a number of variables to include in moderator analyses, which are divided into study characteristics, sample characteristics, alliance characteristics, and treatment characteristics.

#### *Study Characteristics*

Information about the study was coded for each manuscript: author name(s), publication status, journal and journal impact factor, year of publication, and the country in which the study was conducted (United States, Europe, other).

#### *Sample Characteristics*

Information about the following variables was coded for each study: child mean age and age category (mean age above and below 12 years), child gender (percentage male), child race (percentage Caucasian), referral source (recruited, help-seeking, mandated, and not reported), and whether children had a DSM IV diagnosis. Regarding age category, studies were coded based on mean age of children above and below 12 years. The following information regarding child problem behavior was coded: target problem of the child for which the sample received treatment (internalizing problems, externalizing problems, mixed problems, substance abuse problems, and eating disorders).

#### *Alliance Characteristics*

Each alliance measure used in the studies was coded into the following categories: type of alliance (child-therapist alliance and parent-therapist alliance), alliance rater (child-report, parent-report, therapist-report, and observer-report), timing of alliance assessment (early, midtreatment, and late in treatment), type of alliance measure (questionnaire and observer measure), and whether the alliance measure was specifically developed for children or adults. The therapist alliance measure was coded into whether the measure assessed the child's or therapist's perspective on the alliance. Also, internal consistency coefficients (Cronbach's alpha) were coded for child, parent, and therapist versions of the

alliance measure. If a study did not provide this information, the mean value was used of the specific version of an alliance measure, based on the available alpha values in the total study sample.

### *Treatment Characteristics*

Treatments described in the studies were coded into several treatment characteristics: treatment setting (outpatient, inpatient, community/home-based, school, or not defined), use of a treatment manual, and treatment type (CBT and non-CBT). The studies that met the inclusion criteria were coded by the first author. Twenty percent of the studies was independently coded by the second author using a coding manual in order to calculate intercoder agreement. Reliability was computed with Cohen's kappa for categorical variables and intraclass correlations coefficients (ICCs) for continuous variables. The inter-rater reliability proved to be satisfactory, with Kappa's ranging from .78 to 1.00, and intraclass correlations (average measures) ranging from .73 to 1.00.



## Statistical Analyses

For the studies that reported means and standard deviations of different raters, we calculated the standardized mean difference between raters. Cohen's *d* was calculated based on means and standard deviations (Rosenthal & DiMatteo, 2001, p. 71). With regard to the studies that reported correlations between raters, almost all studies reported Pearson's *r* correlations and two studies reported Spearman's rho. One study that reported intraclass correlation coefficients (ICCs) was excluded, because ICCs are based on the absolute difference between scores, whereas Pearson's *r* correlations are based in the relative difference between scores. If an association was in the expected direction, a positive *r*-value or *d*-value was assigned, whereas a negative *r*-value was assigned to associations that were not in the expected direction.

We checked for outliers by calculating standardized scores of effect sizes in order to identify standardized scores larger than 3.29 or smaller than −3.29 (Tabachnik & Fidell, 2013). One effect size exceeding 3.29 was identified as an outlier. To reduce the impact of the outlier, the raw *d* value of this outlier was substituted by a new *d* value equal to the highest effect size within the normal range. Sensitivity analyses were conducted to test whether the outlier had an effect on the overall effect size estimate, by conducting the analysis including the outlier.

Each correlation was transformed to Fisher's *Z* before combined effect sizes were calculated and moderator analyses were conducted (Mullen 1989) and transformed back into Pearson *r* after analyses for reporting and interpretation. The resulting effect sizes were interpreted following Cohen's (1988) guidelines; *r* is a small effect when at least .10, *r* is a medium effect when at least .30, and *r* is a large effect when at least .50. The effect size Cohen's *d* for standardized mean differences is considered small when at least 0.20, *d* is a moderate effect when at least 0.50, and *d* is a large effect when at least 0.80.

Most studies reported on multiple raters of alliance and multiple times of measurement and therefore, more than one effect size could be calculated. It is assumed that the subjects in the study samples are independent (Hedges & Olkin, 1985) and calculating multiple effect sizes per study violates the assumption of non-independence (Lipsey & Wilson, 2001). To deal with this dependency we used a three-level random effects model (Cheung, 2014; Van den Noortgate et al., 2013, 2014) to calculate overall effect sizes and conduct moderator analyses. This approach models three sources of variance: sampling variance of the observed effect sizes (level 1), variance between effect sizes from the same study (level 2), and variance between studies (level 3). An important advantage of this three-level approach to meta-analysis is that (dependent) effect sizes extracted from the same study can be included in the analysis. By using all available effect sizes, all information can be preserved and more statistical power can be achieved compared to traditional approaches to meta-analysis.

For the statistical analyses we used the function "rma.mv" of the metafor package (Viechtbauer, 2010, 2015) in the R environment (version 3.4.1; R Core Team, 2015). The R syntax and protocol (Assink & Wibbelink, 2016) were based on procedures outlined by Van den Noortgate et al. (2013, 2014), modeling the three sources of variance. The *t*-distribution was used for testing individual regression coefficients of the meta-analytic models and for calculating the corresponding confidence intervals (Knapp & Hartung, 2003). This approach accounts for uncertainty of the amount of residual variance, which leads to a more accurate estimate of the standard errors and fewer type-I errors.

Iterative maximum likelihood estimation (MLE) procedures were applied to estimate unknown parameters. The intercept only model (without moderators) through MLE is equivalent to the traditional random-effects model by Hedges and Olkin (1985). In the overall model, covariates can be added to test potential moderators. Van den Noortgate and Onghena (2003) compared multilevel meta-analysis to the traditional meta-analytic approach and concluded that the results obtained by the maximum likelihood multilevel approach are not substantially different from the results of the traditional random-effects approaches for intercept only models. Moreover, the MLE procedure is in general superior to the traditional fixed-effects approaches (Van den Noortgate & Onghena, 2003).

For all associations, forest plots were generated based on the guidelines outlined by Fernández-Castilla et al. (2020) extended for use in three-level meta-analysis. Forest plots in traditional meta-analysis provide a visual representation of the effect size of a study based on the sample size and confidence interval of effect sizes. The extended forest plot contains additional confidence intervals based on the sampling variance of individual observed effect sizes within the study and the number of effect sizes within the study. Therefore the forest plots provide information about the variability in effect sizes among studies and the relative contribution to the overall effect size estimate.

When models were extended with categorical moderators consisting of three or more categories, the omnibus test of the null hypothesis that all group mean effect sizes are equal, followed an *F*-distribution. To determine whether the variance between effect sizes from the same study (level 2), and the variance between studies (level 3) were significant, two separate one-tailed log-likelihood-ratio-tests were performed in which the deviance of the full model was compared to the deviance of a model excluding one of the variance parameters. The sampling variance of observed effect sizes (level 1) was estimated by using the formula of Cheung (2014). All model parameters were estimated using the restricted maximum likelihood estimation method and before moderator analyses were conducted, each continuous variable was centered around its mean and dichotomous dummy variables were created for all categorical variables (Tabachnick & Fidell, 2012). In multilevel regression analyses, the intercept is the reference category, while the dummy variables test if, and to what extent, the other categories deviate from the reference category. The log-likelihood-ratio-tests were performed one-tailed and all other tests were performed two-tailed. We considered $p$-values < .05 as statistically significant.



## Publication Bias

The tendency of selected publication by journals to accept papers that report significant associations - referred to as publication bias - can influence the overall estimates of effect sizes in a meta-analysis and therefore its conclusions (Rosenthal, 1979; Rothstein, 2008). This problem was designated as the 'file drawer problem' by Rosenthal (1979). We obtained all unpublished material as best as possible, which is the simplest solution to the problem of publication bias (Mullen, 1989).

We applied three methods to address potential publication bias. First, we used Egger regression (Egger et al., 1997; Fernández-Castilla et al., 2021), which tests the degree of funnel plot asymmetry as measured by the intercept from regression of standard normal deviates (effect size divided by its standard error) against the estimate's precision (the inverse of the standard error). A significant Egger regression test indicates funnel plot asymmetry. Following Fernández-Castilla et al. (2021), an adapted version of the Egger's test was used in which we investigated the relation between the effect size and the standard error in order to account for dependency of effect sizes. In doing so, the standard error of the effect size was included as a moderator in the regression model. Consequently, the degree of funnel plot asymmetry was interpreted via the moderator's regression weight and associated $p$-value. A second method to address publication bias was the use of an extension of the funnel plot test for use in three-level meta-analysis (Fernández-Castilla et al., 2021).

For all associations, both funnel plots of all effect sizes and plots of study effects are depicted, following guidelines by Fernández-Castilla et al. (2020) on the use of funnel plots in three-level meta-analyses. Funnel plots of all effect sizes commonly used in meta-analysis to examine whether publication bias or selective reporting bias might be present (missing

effect sizes at the lower-left part of the funnel plot). In a funnel plot of study effects, separate random-effects meta-analyses are conducted on each study, resulting in a dot based on the sample size and the number of effect sizes within the study.

We also performed a trim and fill procedure for all associations (Duval & Tweedie, 2000), testing whether effect sizes are missing on the left side of the distribution - since publication bias would only be likely to occur in case of non-significant or unfavorable (i.e., negative) results, indicating that the overall estimate found in the meta-analysis is an overestimation of the true effect. Alternatively, the trim and fill procedure could also indicate missing studies on the right side of the distribution, indicating that the overall estimate found in the meta-analysis is an underestimation of the true effect due to possible selection bias.

Previous simulation studies have shown that effect size estimates based on imputation of effect sizes after the trim-and-fill procedure may not be accurate (Fernandez-Castilla et al., 2021; Peters et al., 2007). Therefore, we used the trim-and-fill procedure as outlined by Fernández-Castilla et al. (2021), which estimates the number of effect sizes imputed at the right side or left side of the distribution, to examine whether the overall effect size estimates were sensitive to potential presence of publication bias. Fernández-Castilla et al. (2021) have proposed a method in which the estimated number of effect sizes on the left side of the funnel plot distribution is related to a cutoff value of the estimator of the trim-and-fill method, based on the population ES (effect size) and power (number of effect sizes). If the number of imputed studies exceeds the cutoff value, this may be indicative of publication bias.

## RESULTS

### Descriptive Statistics of the Study Sample

Table B1 (see Appendix B) shows the characteristics of the study sample included in the meta-analyses. The sample contains a total of 78 studies, which is divided into different subgroups. The studies were completed between 1992 and 2021. Fifty-six studies reported means and standard deviations of child, parent, and therapist alliance ratings, producing 170 effect sizes. Sixty-four studies reported on the association between alliance ratings of several informants (e.g., child-therapist, parent-therapist), producing 145 effect sizes (ESs).

### Meta-analyses on Differences Between Alliance Ratings

Three separate meta-analyses were carried out on the mean difference between child-therapist alliance ratings, parent-therapist ratings as well as child-parent ratings (Table 1). Forty-one studies consisting of 47 independent samples reporting 92 effect sizes (ESs) presented means and standard deviations of child and therapist alliance ratings of 7,080 children and therapists. The mean overall estimate was significant ($d$ = 0.346, 95% CI = 0.222, 0.469, $p$ < .001), indicating a small difference between raters, showing that children report-

ed higher alliance ratings than their therapists. Sensitivity analysis including one outlier did not significantly change the overall ES ($d$ = 0.351, 95% CI = 0.222, 0.480, $p$ < .001). Twenty-three studies (including 23 independent samples and 47 ESs) reported on parent and therapist alliance ratings of 4,076 parents and therapists. A significant mean overall effect size was found ($d$ = 0.715, 95% CI = 0.527, 0.903, $p$ < .001). This indicates a moderate to large difference between raters, showing that parents reported higher alliance ratings than their therapists. Thirteen studies consisting of 18 independent samples reporting 31 ESs presented means and standard deviations of child and parent alliance ratings of 2,176 children and parents. The mean overall effect size was significant ($d$ = -0.406, 95% CI = -0.569, -0.243, $p$ < .001), indicating a small difference between raters. This finding suggests that parents reported higher alliance ratings of the parent-therapist alliance compared to child ratings of the child-therapist alliance. Forest plots of all associations are depicted in Appendix C.



### Meta-analyses on Associations Between Alliance Ratings

Next, we examined separate associations between child, parent, therapist, and observer alliance ratings (see Table 2). We found a significant moderate mean overall effect size ($r$ = .321, 95% CI = .275, .365, $p$ < .001) for the correlation between child and therapist alliance ratings of 3,316 dyads (43 independent samples, 59 ESs), indicating a small to moderate association between child and therapist alliance ratings. Further, an overall significant effect size ($r$ = .225, 95% CI = .158, .290, $p$ < .001) was found for the correlation between parent and therapist alliance ratings of 1,719 dyads (18 independent samples, 25 ESs), indicating a small to moderate association between parent and therapist alliance ratings. Also, an overall significant effect size ($r$ = .256, 95% CI = .184, .327, $p$ < .001) was found for the correlation between child ratings of the child-therapist alliance and parent ratings of the parent-therapist alliance of 1,127 dyads (16 independent samples, 27 ESs), indicating a small to moderate association between child and parent ratings of the alliance with their therapist.

Further, correlations with observer ratings were investigated. We examined correlations between child and observer ratings of the alliance (15 independent samples, 19 ESs). The mean overall estimate was significant ($r$ = .425, 95% CI = .296, .539, $p$ < .001), indicating a moderate to large association between child ratings and observer ratings of the child-therapist alliance. Nine studies specifically focused on the association between the TASC (Shirk & Saiz, 1992) and TPOCS-A (McLeod & Weisz, 2005). The mean effect size of these studies was significant ($r$ = .343, 95% CI = .187, .482, $p$ < .001). Six studies (seven independent samples, reporting 10 ESs) presented correlations between therapist and observer ratings of the child-therapist alliance. The mean overall estimate was significant ($r$ = .533, 95% CI = .426, .626, $p$ < .001), indicating a large association between therapist and observer ratings of the child-therapist alliance. Finally, a non-significant effect size ($r$ = .183, 95% CI = -.186, .507, $p$ = .240) was found for the association between observer rated child-therapist alliance and observer rated parent-therapist alliance (5 studies reporting on 5 ESs).

**Table 1.** *Results for the Overall Mean Effect Sizes for Differences Between Child, Parent, and Therapist Alliance Ratings*

| Type of difference | # Studies[a] | # ES | Mean *d* (SE) | 95% CI | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ | % Var. level 1 | % Var. level 2 | % Var. level 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| Child ratings - therapist ratings | 47 | 92 | 0.346 (0.062) | 0.222, 0.469 | <.001*** | 0.000 | 0.146*** | 17.8 | 0.0 | 82.2 |
| Parent ratings - therapist ratings | 23 | 47 | 0.715 (0.094) | 0.527, 0.903 | <.001*** | 0.000 | 0.176*** | 14.6 | 0.0 | 85.4 |
| Child ratings - parent ratings | 18 | 31 | -0.406 (0.080) | -0.569, -0.243 | <.001*** | 0.000 | 0.081** | 32.2 | 0.0 | 67.8 |

*Note.* CI = confidence interval; ES = effect size; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained; [a] The number of studies reflects the number of independent samples.

**Table 2.** *Results for the Overall Mean Effect Sizes for the Association Between Child, Parent, Therapist, and Observer ratings*

| Type of association | # Studies[a] | # ES | Mean *r* (SE) | 95% CI | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ | % Var. level 1 | % Var. level 2 | % Var. level 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| Child ratings - therapist ratings | 43 | 59 | .321 (0.025) | .275, .365 | <.001*** | 0.019** | 0.000 | 42.2 | 57.8 | 0.0 |
| Parent ratings - therapist ratings | 18 | 25 | .225 (0.034) | .158, .290 | <.001*** | 0.003 | 0.009 | 49.0 | 13.1 | 37.9 |
| Child ratings - parent ratings | 16 | 27 | .256 (0.037) | .184, .327 | <.001*** | 0.013 | 0.000 | 58.5 | 41.5 | 0.0 |
| Child ratings - observer ratings | 15 | 19 | .425 (0.071) | .296, .539 | <.001*** | 0.000 | 0.049* | 36.7 | 0.0 | 63.3 |
| Therapist ratings - observer ratings | 7 | 10 | .533 (0.062) | .426, .626 | <.001*** | 0.000 | 0.000 | 99.9 | 0.0 | 0.1 |
| Observer ratings parent alliance - observer ratings child alliance | 5 | 5 | .183 (0.135) | -.186, .507 | .240 | 0.026 | 0.026 | 39.8 | 30.1 | 30.1 |

*Note.* CI = confidence interval; ES = effect size; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained; [a] The number of studies reflects the number of independent samples.

## Moderator Analyses

The results of the overall effect size estimates of differences between alliance ratings, associations between child-therapist alliance ratings, and observer and child ratings showed that there was significant variability in effect sizes within studies (level 2), as well as between studies (level 3). This variability stressed the need for moderator analyses to explain this variance. We considered various moderators related to study characteristics, sample characteristics, alliance characteristics, and treatment characteristics (see Appendix D, Tables D1-D5).

### *Moderator Analyses on Differences Between Alliance Ratings*

Moderator analyses on the difference between child and therapist alliance ratings indicated no significant moderating effects for study characteristics, sample characteristics, alliance characteristics, and treatment characteristics. Moderator analyses on the difference between parent and therapist ratings showed that the reliability of the alliance measure of the therapist was a significant moderator, indicating larger differences between parent and therapist ratings when the reliability coefficient of the therapist measure was larger. No significant moderating effects were found for study characteristics, sample characteristics, and treatment characteristics. Moderator analyses on the difference between child and parent alliance ratings indicated that reliability of the alliance measure of the parent was a significant moderator, indicating larger differences between parent and child ratings when the reliability coefficient of the parent measure was larger. No significant moderating effects were found for study characteristics, sample characteristics, and treatment characteristics.

### *Moderator Analyses on Associations Between Alliance Ratings*

Moderator analyses on the association between child and therapist alliance ratings revealed that manualized treatment was a significant moderator, showing larger associations between child and therapist ratings than for non-manualized treatment. Also, larger associations between child and therapist ratings were found for CBT compared to non-CBT. Further, a trend toward significance ($p = .05$) was found for the reliability of the alliance measure of the child, indicating larger associations when the reliability of the measure was higher. No significant moderating effects were found for study characteristics and sample characteristics. For the association between child ratings and observer ratings of the child-therapist alliance, a significant moderating effect was found for age category, indicating larger associations between child and observer alliance ratings for children aged 13 years and older compared to children aged 12 and younger. No significant moderating effects were found for study characteristics and treatment characteristics.

## Publication Bias

Three methods were applied to address publication bias. First, we used extended versions of Egger regression (Egger et al., 1997) and the funnel plot test adapted from Fernández-Castilla et al. (2021) to test the degree of funnel plot asymmetry. We also conduct-

ed trim-and-fill analyses (Duval & Tweedie, 2000; Fernández-Castilla et al., 2021). The z-statistics and *p*-values of the Egger regression tests, funnel plot tests, and trim-and-fill analyses for all meta-analyses are depicted in Table 3. Funnel plots of all associations are depicted in Appendix E.

The results of both the Egger regression analyses and funnel plot tests revealed no indications of funnel plot asymmetry. Results of the trim-and-fill procedures indicated that for several associations, effect sizes had to be imputed on the left side of the plot. Based on the guidelines by Fernández-Castilla et al. (2021), the number of imputed effect sizes on the left side of the plot exceeded the cutoff value for the difference between child and therapist alliance ratings (8 effect sizes) and the association between therapist ratings and observer ratings (3 effect sizes). These findings indicate that the magnitude of these meta-analytic associations might present some overestimation of the true effect size, possibly indicating presence of publication bias.

**Table 3.** *Results for Publication Bias Analyses*

| Type of association | # *k* (# ES) | Funnel plot test | Egger test | Trim-and-fill analyses | | |
|---|---|---|---|---|---|---|
| | | | | # ES imp. L | # ES imp. R | # ES > cutoff |
| Child ratings - therapist ratings (*d*) | 47 (92) | z = 0.01, *p* = .99 | z = 0.56, *p* = .58 | 8 | 3 | yes |
| Parent ratings - therapist ratings (*d*) | 23 (47) | z = 0.71, *p* = .48 | z = -0.79, *p* = .43 | 3 | 0 | no |
| Child ratings - parent ratings (*d*) | 18 (31) | z = 1.56, *p* = .12 | z = -1.39, *p* = .16 | 2 | 0 | no |
| Child ratings - therapist ratings (*r*) | 43 (59) | z = 0.55, *p* = .58 | z = 0.21, *p* = .83 | 0 | 1 | no |
| Parent ratings - therapist ratings (*r*) | 18 (25) | z = -0.55, *p* = .58 | z = 0.79, *p* = .43 | 0 | 0 | no |
| Child ratings - parent ratings (*r*) | 16 (27) | z = 0.00, *p* = 1.00 | z = -1.53, *p* = .13 | 0 | 0 | no |
| Child ratings - observer ratings (*r*) | 15 (19) | z = 0.20, *p* = .84 | z = -0.03, *p* = .98 | 0 | 0 | no |
| Therapist ratings - observer ratings (*r*) | 7 (10) | z = -1.65, *p* = .10 | z = 1.55, *p* = .12 | 3 | 0 | yes |
| Observer ratings parent alliance - observer ratings child alliance (*r*) | 5 (5) | z = -0.72, *p* = .47 | z = 0.52, *p* = .60 | 0 | 0 | no |

*Note.* #*k* = number of studies; #ES = number of effect sizes; imp. L = number of effect sizes on the left side of the funnel plot distribution; imp. R. = number of effect sizes on the right side of the funnel plot distribution; #ES > cutoff = the number of imputed ES on the left side in relation to the cutoff value of the estimator of the trim-and-fill method proposed by Fernández-Castilla et al. (2021). This estimate is based on the population ES and power (number of effect sizes).

## DISCUSSION

A series of meta-analyses was conducted to increase knowledge on differences and associations between ratings of the therapeutic alliance by different raters in child psychotherapy. We found that children and parents in general rated the alliance more positively than their therapists, and that associations between child, therapist, and parent alliance ratings were small to moderate. The associations between child and observer ratings of the child-therapist alliance as well as the therapist and observer ratings of the child-therapist alliance were moderate to large. Several moderators were identified. Associations between child and therapist alliance ratings were stronger for CBT versus non-CBT and for manualized treatment versus non-manualized treatment. Also, reliability of child, therapist, and parent alliance measures moderated various associations, indicating larger differences or stronger associations between alliance scores when the reliability of the measure was higher. Further, the association between child alliance ratings and observer ratings was stronger for adolescents than for children.

The findings on the difference between child and therapist alliance ratings as well as the difference between parent and therapist ratings were in line with our expectations. Previous studies on differences between alliance ratings in adult psychotherapy have also found that clients rate the alliance more positively than their therapists (Tryon et al., 2007, 2008). In their meta-analysis, Tryon et al. (2007) found a moderate difference between adult client and therapist alliance ratings ($d$ = 0.63). Our findings yielded smaller differences between child and therapist alliance ratings ($d$ = 0.35), and larger differences between parent-therapist ratings ($d$ = 0.72). The higher alliance ratings of children and parents compared to their therapist could be explained by their frame of reference. Clients normally have no prior experiences with therapists, and may compare the nature of their interaction with the therapist to their interaction with friends or family members. When clients experience their interaction with their therapist as positive and helpful, meeting their expectations and therapeutic needs, this would result in a positive rating of the alliance. Therapists, on the other hand, may compare the interaction with the client to their experiences with previous clients (Hartmann et al., 2015; Tryon et al., 2007; Zilcha-Mano et al., 2016). In child psychotherapy, children and adolescents may evaluate their interaction with the therapist against their parents or other supportive adults, with whom they often disagree on the nature of the problem (Garland et al., 2004; Hawley & Weisz, 2003). In some cases, children and their parents may have had prior experiences with mental health care professionals, and may compare the interaction with their current therapist to previous therapists, which may also result in a positive rating of the alliance with their current therapist. However, to our knowledge there is currently no empirical evidence to fully justify this explanation.

The correlation between child and therapist alliance ratings found in the present study ($r$ = .32) is comparable to a previous meta-analysis in adult populations ($r$ = .36, Tryon et al., 2007), whereas the effect size for the association between parent and therapist ratings

was somewhat smaller ($r$ = .23). The significant associations between child, parent, and therapist alliance ratings indicate that they have a shared perspective on their alliance to some extent. However, given that the correlation was small to moderate, the perspectives of the different raters are not fully congruent. In alliance research, child ratings often show a restricted range in scores in the upper end of the scale, also referred to as 'ceiling effect' (Shirk et al., 2010). The restricted range of alliance scores could be an explanation for the small to moderate associations between child, parent, and therapist ratings.

Another explanation for the moderate degree of convergence between child, parent, and therapist alliance ratings could be that there are fundamental differences in how children, parents, and therapists perceive their alliance with each other, and that the alliance measures currently used do not capture all aspects of the alliance that are valued by children, parents, and therapists. The child-therapist and parent-therapist alliance have mainly been defined according to the pantheoretical concept of alliance by Bordin (1979), consisting of the dimensions personal bond, agreement on tasks, and agreement on goals. Literature on the conceptual understanding of the alliance construct in therapy with children and their parents is scarce. A recent study by Ryan et al. (2021) investigated how children, parents, and therapists perceived the alliance using qualitative methods. The results indicated that participants had different views on several aspects of the alliance, such as the nature of the personal bond, which therapeutic techniques were important, and even the role of the parent in therapy. Other qualitative studies have found that trust, kindness, doing activities together, transparency (e.g., sharing information, open communication), and shared decision making are highly valued among children and parents (Baylis et al., 2011; Crom et al., 2020; Houlding, 2014; Nooteboom et al., 2020; Nuñez et al., 2021). These findings illustrate the complexity and contextuality of the alliance in child therapy compared to individual adult psychotherapy.

It has to be noted that there are differences between the therapist versions of alliance measures, in that these measures do not assess the therapist rating of the child's perspective of the alliance to the same extent. For instance, the therapist version of the TASC uses the therapist rating of the child's perspective of alliance instead of the therapist's own perspective (with the exception of a small number of studies in which the measure was adapted), whereas the items of the WAI are based on both perspectives. Assessment of the therapist's rating of his or her own perspective of the alliance leads to different conclusions than the assessment of the therapist's rating of the child's perspective. For instance, if the therapist's rating of the child's perspective of alliance is lower than the client's rating, this might indicate that the therapist underestimates the client's value of the alliance. However, it is not an indication of how the therapist values the alliance with the client. We tested whether the association between child and therapist ratings was stronger for studies using a therapist version of a measure that assessed the child's perspective of alliance, but results were non-significant.

CBT and manualized treatment proved to be significant moderators of the associations between child and therapist alliance ratings, indicating stronger associations compared to non-CBT and non-manualized treatment. CBT typically is a manualized treatment; in our meta-analysis 88% of the included studies that were manualized offered CBT. The use of treatment manuals in psychotherapy has been criticized to potentially hinder the establishment of a therapeutic alliance, although empirical studies have repeatedly found no differences in strength of the child-therapist alliance between manualized treatments, mostly CBT, and treatment as usual (Langer et al., 2011; Ormhaug et al., 2014). Our results indicate that the association between child and therapist alliance ratings in CBT and manualized treatments are stronger than to non-manualized treatments and non-CBT. A possible explanation for this stronger association is that manualized treatment is highly structured and aims to clarify the trajectory of treatment for children, particularly in the early phase of treatment. Children may respond positively to this approach, and if recognized by the therapist, possibly resulting in a higher degree of convergence of alliance scores.

Our results show some empirical support for convergent validity of alliance measurements. The associations between child self-report ratings and observer ratings ($r$ = .43) and therapist and observer ratings ($r$ = .53) of the child-therapist alliance showed moderate to strong associations between these perspectives. This finding underlines that use of observer alliance measures in addition to self-report measures in alliance research is important to overcome measurement artifacts, such as a restricted range of self-report measures or relying on single-source ratings of alliance and outcome measures. Age category proved to be a significant moderator of the association between child alliance ratings and observer ratings, indicating stronger associations for adolescents (age 13 and older) compared to children. Although the study samples were relatively small (four adolescent studies compared to 11 child studies), this finding may be of interest in future research on self-report and observer alliance measures for children. It has been proposed that measuring alliance in young children is particularly difficult due to age-limited cognitive abilities and limited understanding of the alliance process in therapy, which could be an explanation for self-report alliance ratings of children failing to converge with alliance measures of other informants (McLeod et al., 2017).

## Limitations

An important methodological limitation is that the analyses regarding the association between observer ratings and therapist ratings of the child-therapist alliance, and the association between observer rated child-therapist alliance and observer rated parent-therapist alliance contained few studies, which makes it difficult to draw a valid and reliable conclusion from the results of these analyses. These analyses should be replicated with a larger number of studies in order to gain more accurate effect size estimates. Another limitation is that some categorical moderators contained relatively few studies, which possibly resulted in insufficient statistical power to detect significant effects.

To investigate the robustness of our findings, we applied several methods to address publication bias. We extended the Egger regression model with the standard error of the effect size as a moderator and used guidelines of Fernández-Castilla et al. (2021) with regard to the trim-and-fill procedure to examine whether our findings were sensitive to the presence of publication bias. The results indicated no funnel plot asymmetry, but the trim-and-fill procedure indicated possible presence of publication bias for two associations. The trim-and-fill method assumes homogeneity of the overall effect size distribution, which is rarely the case (Peters et al., 2007). It must be noted that every method has its limitations, therefore we used multiple methods to examine potential presence of publication bias. Moreover, for multilevel meta-analysis, specific methods to take into account dependency of effect sizes in the assessment of publication bias are still under development (Assink & Wibbelink, 2016; Fernández-Castilla et al., 2021; Rodgers & Pustejovsky, 2021).



Despite these limitations, several strengths can be noted. To the best of our knowledge, this is the first meta-analytic study on the alliance in child and adolescent psychotherapy that examined divergence and convergence of child, parent, therapist, and observer alliance ratings. We used an advanced method of multilevel meta-analysis, through which all available effect sizes of included studies could be used, increasing statistical power for moderator analyses. Consequently, the present meta-analysis provides an elaborate picture of the current state of alliance research in child and adolescent psychotherapy specifically focusing on differences and associations between alliance raters.

### Implications for Future Research and Clinical Practice

Several implications for future research should be considered. First, at a conceptual level, research on the alliance with children could benefit from investigations into the conceptual understanding of the alliance by children compared to parents and therapists. Different types of alliances may need different definitions (or defining elements) of the alliance construct. Youth, parent, and therapist perspectives on the operationalization of the alliance may also depend on the treatment setting, as individual therapy in an out-patient setting is very different compared to home-based treatment or inpatient treatment. A clear understanding of how children, parents, and therapists perceive the alliance could contribute to our knowledge on how to measure these types of alliances, how alliances develop during treatment and how they are related to therapy process factors and therapeutic outcomes. For instance, it is important to investigate which elements of the alliance are valued by parents with regard to their own alliance with the therapist and the alliance between their child and the therapist. The parent's perception of the child-therapist alliance has not yet received much attention in research. Also, the therapist's perception of the alliance could be better understood by addressing the therapist's own perception of the alliance in addition to their perception of the child's (or parent's) perspective of the alliance.

Second, alliance discrepancies and tensions or ruptures in the alliance seem relatively unexplored territories in alliance research in child populations (Baillargeon et al., 2012).

Valid and reliable measurement of disagreement on and negative perceptions of the alliance by child, parent, and therapist could also advance alliance research in child psychotherapy. Third, recent studies on the alliance in adult psychotherapy have focused on the alliance at a dyadic level, taking into account the interdependency of alliance ratings between client and therapist, as well as within and between person variance (Friedlander et al., 2012; Kivlighan, 2007; Zilcha-Mano, 2016; Zilcha-Mano et al., 2017). These relatively new analytic approaches in alliance research should be applied to child and adolescent psychotherapy in order to better understand the child-therapist and parent-therapist alliance as an interpersonal process.

Our findings have some implications for clinical practice as well. Our findings underline the importance of acknowledging the various perspectives on alliance when dealing with children and parents in therapy. Enabling children and parents to give feedback on the alliance with their therapist and to actively discuss and reflect upon this process could provide therapists and their clients insight into how children and parents perceive and experience the alliance. Also, monitoring and discussing the alliance between all participants in therapy could prove helpful to deal with strengths and difficulties during the therapeutic process and to prevent strains and ruptures in the alliance.

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# APPENDIX A. Studies included in the meta-analyses on differences and associations of alliance ratings

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# APPENDIX B Flow chart and summary of studies in the meta-analyses on differences and associations between alliance ratings

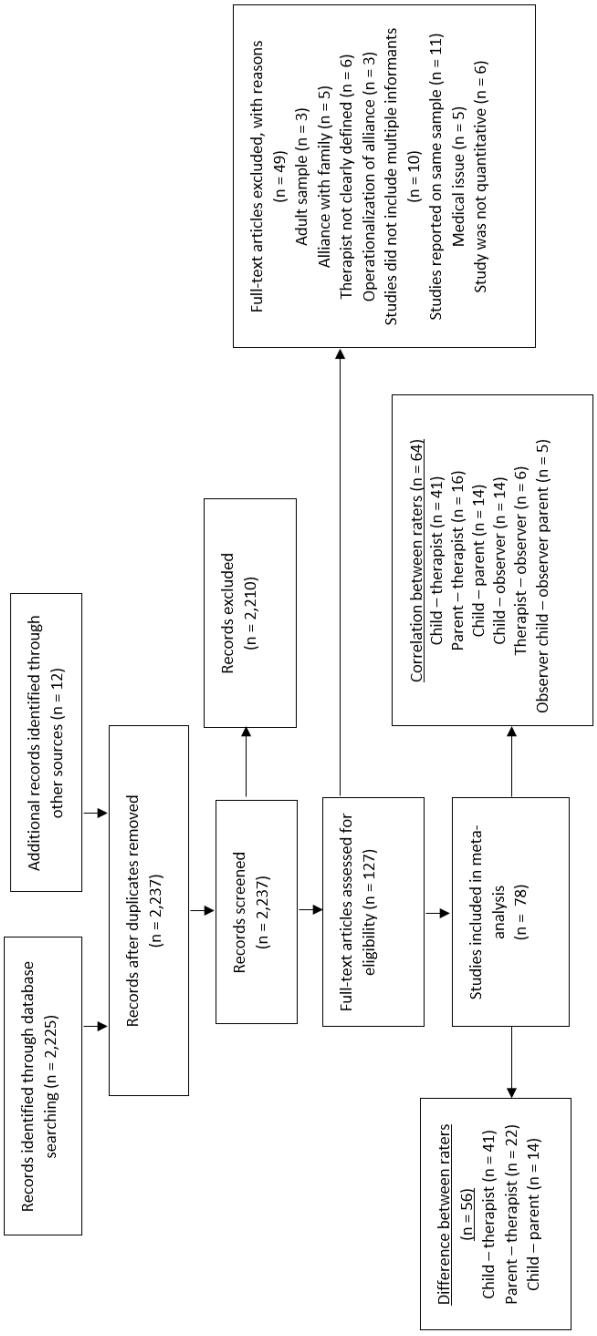


***Figure B1**. PRISMA Flow Chart of the Search Strategy and Identification of Studies*

**Table B1.** *Summary of Studies Included in the Meta-Analysis*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| | | | | P | TASC | P/T | 42 | 1.04 | | | | | | |
| Anderson et al. (2012) | Mixed | 12.12 | 47.0 | C | WAI-S | C | 131 | | -0.27 | | .20 | | | |
| | | | | P | WAI-S | P | 126 | | | | | | | |
| Auerbach et al. (2008) | Substance Use | 16.00 | 92.0 | C | WAI-S | C/T | 36 | 0.31 | | .17 | | | | |
| Avny (2011)[a] | Internalizing | 12.09 | 41.5 | C | TASC, TPOCS-A | C/O | 21 | | | | .48 | .41 | | |
| | | | | P | TASC | P | 21 | | | | | | | |
| Ayotte et al. (2015) | Mixed | 15.13 | 0.0 | C | WAI | C/T | 152 | -0.11 | | .36 | | | | |
| Bickman et al. (2012) | Mixed | 14.80 | 52.0 | C | TAQS | C/T | 209 | 0.37 | -0.20 | .27 | .13 | | | |
| | | | | P | TAQS | P/T | 203 | 0.56 | | .14 | | | | |
| Bickman et al. (2004) | Mixed | 14.00 | 88.8 | C | TAS | C/T | 178 | -0.11 | | .00 | | | | |
| Bourion-Bedes et al. (2013) | Eating Disorders | 15.30 | 5.6 | C | HAQ | C | 108 | 0.52 | -0.36 | | | | | |
| | | | | P | HAQ | P | 85 | 0.99 | | | | | | |
| Burnham Riosa et al. (2019) | ASD | 9.75 | 95.0 | C | TPOCS-A | O | 20 | | | | | | .58 | .34 |
| Carpenter et al. (2018) | Internalizing | 9.85 | 46.2 | P | WAI | P/T | 11 | -0.51 | | | | | | |
| Cavell et al. (2009) | Externalizing | 8.20 | 60.7 | C | MAS/NRI[b] | C/T | 75 | | | .24 | | | | |
| Champion (1998)[a] | Mixed | 8.50 | 57.9 | C | CTBS | C/T | 38 | | | .53 | | | | |
| Chirico et al. (2020) | Mixed | - | 70.0 | P | WAI-S | P/T | 30 | 0.98 | | | | | | |
| Christensen & Skogstad (2009)[a] | Internalizing | 12.10 | 45.0 | C | TASC, TPOCS-A | C/T/O | 20 | -0.11 | | .38 | | -.04 | .54 | |
| Cirasola et al. (2021) | Internalizing | 15.54 | 26.0 | C | WAI-S | C/T | 224 | 0.05 | | | | | | |
| Clarkson et al. (2013) | Substance Use | 16.29 | 42.2 | C | WAI-S | C/T | 45 | 0.79 | | .38 | | | | |

**Table B1.** *Summary of Studies Included in the Meta-Analysis (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| Creed (2007)[a] | Internalizing | 11.20 | 57.4 | C | TASC, TABBS-A | C/T/O | 68 | 0.57 | | .54 | | .47 | | |
| Creed & Kendall (2005) | Internalizing | 9.53 | 60.7 | C | TASC | C/T | 56 | 0.47 | | .31 | | .57 | .34 | |
| Darchuk (2007)[a] | Substance Use | 16.27 | 62.2 | C | WAI-S | C/T | 36 | 1.96 | | | | | | |
| De Greef et al. (2018) | Mixed | 10.74 | 60.4 | P | WAI-S | P/T | 146 | 0.95 | | .25 | | | | |
| De Nadai (2013)[a] | Mixed | 11.66 | 58.5 | C | TASC-R, TAQR | C/T | 65 | | | .03 | .20 | | | |
| | | | | P | WAI-S, TAQR | P/T | 65 | | | .17 | | | | |
| Diamond et al. (2006) | Substance Use | 15.70 | 81.0 | C | WAI-S | C/T | 353 | 0.72 | | .50 | | | | |
| Duppong Hurley et al. (2015) | Externalizing | 15.29 | 57.1 | C | TAQS | C/T | 94 | -0.30 | | .31 | | | | |
| Eltz et al. (1995) | Mixed | 15.00 | 65.8 | C | HAQ | C/T | 38 | 0.45 | | -.12 | | | | |
| Fernández et al. (2016) | Mixed | 15.90 | 25.0 | C | WAI | C/T | 13 | -0.02 | -0.07 | | | | | |
| | | | | P | WAI | P/T | 15 | 0.15 | | | | | | |
| Figueiredo et al. (2019) | Mixed | 11.31 | 61.5 | C | WAI | C | 109 | | | | .30 | | | |
| | | | | P | WAI | P | 57 | | | | | | | |
| Fjermestad et al. (2016) | Internalizing | 11.40 | 49.5 | C | TASC | C/T | 91 | -0.23 | | .19 | | | | |
| Fjermestad et al. (2012) | Internalizing | 12.43 | 56.0 | C | TASC, TPOCS-A | C/T/O | 52 | -0.28 | | .38 | | .50 | .54 | |
| Garner et al. (2011) | Substance Use | 15.50 | 78.3 | C | WAI-S | C/T | 295 | 0.44 | | .41 | | | | |
| Granic et al. (2012) | Externalizing | 13.70 | 69.7 | P | WAI-S | P/T | 87 | 0.26 | | .07 | | | | |
| Handwerk et al. (2008) | Mixed | 15.90 | 52.0 | C | WRS | C/T | 70 | 1.44 | | .29 | | | | |
| Hawley & Garland (2008) | Mixed | 13.50 | 61.5 | C | WAI-S | C/T | 78 | 0.60 | | .23 | | | | |

**Table B1.** *Summary of Studies Included in the Meta-Analysis (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| | | | | P | WAI-S | P/T | 78 | 0.72 | -0.03 | -.09 | | | | |
| Hawley & Weisz (2005) | Mixed | 11.90 | 58.5 | C | TASC | C | 65 | | | | .29 | | | |
| | | | | P | TASC | P | 65 | | | | | | | |
| Hintikka et al. (2006) | Mixed | 15.60 | 35.6 | C | WAI | C/T | 45 | | | .48 | | | | |
| Hogue et al. (2006) | Substance Use | 15.47 | 81.0 | C | VTAS-R | O | 100 | | | | | | | -.08 |
| | | | | P | VTAS-R | O | 44 | | | | | | | |
| Holmqvist et al. (2008) | Externalizing | 17.17 | 100 | C | HAQ | C/T | 34 | -0.69 | | .29 | | | | |
| Kang et al. (2021) | ASD | 12.41 | 79.0 | C | TPOCS-A, TASC | C/O | 34 | | | | | .19 | | |
| Karpenko (2010)[a] | Mixed | 14.26 | 43.0 | C | WAI-S | C/T | 113 | 0.23 | | .37 | | | | |
| Karver et al. (2008) | Internalizing | 14.60 | 15.0 | C | AOCS, WAI | C/O | 12 | | | | | .85 | | |
| Kazdin & Durbin (2012) | Externalizing | 9.60 | 75.3 | C | TASC | C/T | 97 | | | .41 | | | | |
| Kazdin et al. (2005) | Externalizing | 7.20 | 74.6 | C | TASC | C/T | 75 | | | | | | | |
| | | | | P | WAI | P/T | 185 | 0.81 | | | | | | |
| Kazdin & McWhinney (2018) | Externalizing | 7.30 | 76.5 | P | WAI | P//T | 234 | 0.82 | | .19 | | | | |
| Kazdin & Whitley (2006) | Externalizing | 7.00 | 75.7 | P | WAI | P/T | 218 | 0.78 | | .15 | | | | |
| Kazdin et al. (2006) | Externalizing | 9.60 | 75.5 | C | TASC | C/T | 77 | | | .37 | | | | |
| | | | | P | WAI | P/T | 77 | 1.12 | | | | | | |
| Keeley et al. (2011) | Internalizing | 13.16 | 56.0 | C | TASC | C/T | 25 | 0.22 | | | | | | |
| | | | | P | WAI | P/T | 25 | 1.19 | | | | | | |
| Kendall et al. (2009) | Internalizing | 10.19 | 48.7 | C | TASC | C/T | 81 | | | .34 | | | | |
| | | | | P | TASC | P/T | 76 | | | .25 | | | | |
| Kermarrec et al. (2006) | Mixed | 12.60 | 48.0 | C | HAQ | C/T | 148 | 0.58 | -0.06 | .25 | .33 | | | |

**Table B1.** *Summary of Studies Included in the Meta-Analysis (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| | | | | P | HAQ | P | 141 | 0.73 | | .42 | | | | |
| Kerns et al. (2017) | ASD | 10.81 | 81.0 | C | TASC | C/T | 61 | 0.38 | | .27 | .02 | | | |
| | | | | P | TASC | P | 53 | | | | | | | |
| Kim (2007)[a] | Mixed | 13.10 | 48.0 | C | RRS | C | 19 | | -0.36 | | .07 | | | |
| | | | | P | RRS | P | 22 | | | | | | | |
| Kirsch et al. (2018) | Internalizing | 12.52 | 32.3 | C | WAI-S | C | 65 | | | | .47 | | | |
| | | | | P | WAI-S | P | 65 | | | | | | | |
| Klebanoff et al. (2019) | ASD | 9.28 | 71.0 | C | TASC-R | C/T | 100 | -.06 | -1.02 | .34 | | | | |
| | | | | P | TASC-R | P/T | 100 | 0.89 | | .32 | | | | |
| Langer et al. (2011) | Mixed | 11.27 | 43.4 | C | TASC, TPOCS-A | C/O | 76 | | | | | .48 | | |
| Levin et al. (2012) | Internalizing | 15.90 | 45.2 | C | WAI-S, VTAS-R | C/T/O | 29 | 0.41 | | .39 | | .65 | .55 | |
| Loos et al. (2020) | Internalizing | 12.66 | 30.3 | C | WAI-S | C/T | 76 | 0.64 | -0.37 | .52 | .39 | | | |
| | | | | P | WAI-S | P/T | 57 | 1.03 | | .24 | | | | |
| Marker et al. (2013) | Internalizing | 10.19 | 48.7 | C | TASC | C/P/T | 81 | 0.61 | | | | | | |
| McLeod et al. (2016) | Internalizing | 10.56 | 52.8 | C | TPOCS-A, TASC | C/O | 89 | | | | | .38 | | |
| McLeod et al. (2017) | Internalizing | 10.28 | 60.0 | C | TASC, TPOCS-A, VTAS-R, | C/T/O | 50 | 0.36 | | .61 | | .26 | .62 | |
| McLeod & Weisz (2005) | Internalizing | 10.30 | 59.1 | C | TPOCS-A, TASC | C/O | 22 | | | | | .53 | | -.03 |
| | | | | P | TPOCS-A, TASC | P/O | 22 | | | | | | | |

**Table B1.** *Summary of Studies Included in the Meta-Analysis (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| Myers (2008)[a] | ASD | 6.95 | 73.0 | P | WAI-S | P/T | 44 | -0.04 | | | | | | |
| Ormhaug & Jensen (2018) | Internalizing | 15.10 | | C | TASC | C/T | 152 | | -0.81 | | .25 | | | |
| | | | | P | TASC | P/T | 96 | 1.68 | | .25 | | | | |
| Ormhaug et al. (2015) | Internalizing | 15.10 | 19.2 | C | TASC | C/T | 130 | 0.37 | | .39 | | | | |
| Pereira et al. (2006) | Eating Disorders | 15.10 | 9.0 | C | WAI | O | 28 | | | | | | | .57 |
| Pestle (2012)[a] | Internalizing | 10.70 | 65.3 | C | CTA, TPOCS-A | C/O | 75 | | | | | .28 | | |
| Rabbitt et al. (2016) | Externalizing | 8.48 | 58.0 | P | PTRS | P/T | 86 | 0.17 | | | | | | |
| Sarlin (1992)[a] | Mixed | 14.91 | 37.5 | C | HAQ | C/T | 46 | | | .17 | | | | |
| Schmidt et al. (2014) | Externalizing | 7.01 | 70.9 | P | WAI-S | P/T | 78 | | | .17 | | | | |
| Shelef et al. (2005) | Substance Use | 16.00 | 85.0 | C | WAI, VTAS-R | C/O | 57 | | | | | .43 | | .10 |
| | | | | P | VTAS-R | | 60 | | | | | | | |
| Shirk et al. (2008) | Internalizing | 15.80 | 33.3 | C | TASA | C/T | 50 | 0.62 | | .33 | | | | |
| Shirk & Saiz (1992) | Mixed | 9.50 | - | C | TASC | C/T | 62 | | | .23 | | | | |
| Simpson et al. (2013) | Externalizing | 16.81 | 100.0 | C | WAI | C/T | 58 | 0.45 | | .28 | | | | |
| Smith (1999)[a] | Mixed | 13.80 | 60.0 | C | HAQ | C | 48 | 0.26 | | .40 | | | | |
| Thompson (2016)[a] | Internalizing | 15.16 | 21.4 | C | WAI-S | C/T | 42 | 0.20 | | .16 | | | | |
| | | | | P | WAI-S | P/T | 42 | 0.25 | | .08 | | | | |
| Van Benthem et al. (2020) | Substance Use | 18.00 | 51.2 | C | WAI-S | C/T | 127 | 0.00 | | .08 | | | | |
| Van Orman (1996)[a] | Mixed | 14.50 | 47.0 | C | FTAS | C | 30 | | -0.87 | | | | | |
| | | | | P | FTAS | P | 26 | | | | | | | |

**Table B1.** *Summary of Studies Included in the Meta-Analysis (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [c] | Weighted mean effect sizes[d] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *d* C/P-T | *d* C-P | *r* C/P-T | *r* C-P | *r* C-O | *r* T-O | *r* OC-OP. |
| Ventura (2010)[a] | Externalizing | 14.86 | 57.1 | C | SRS | C | 56 | | -0.41 | | .21 | | | |
| Welmers-Van de Poll et al. (2021) | Mixed | 11.00 | - | C | WAI-S | C/T | 12 | 0.58 | -0.32 | .01 | -.03 | | | |
| | | | | P | WAI-S | P/T | 66 | 0.41 | | .49 | | | | |
| Zandberg et al. (2015) | Internalizing | 12.43 | 48.8 | C | TASC/ TASA | C/T | 50 | 0.40 | | | | | | |
| Zorzella et al. (2015) | Mixed | 9.58 | 30.8 | C | TASC | C/T | 60 | 0.60 | | .41 | | | | |

*Note.* AOCS = Alliance Observational Coding System; C = Child; C/P-T = Correlation between child or parent and therapist alliance ratings; CPTR = Child's Perception of the Therapeutic Relationship; SRS = Session Rating Scale; CTA = Child-Therapist Alliance questionnaire; CTBS = Child Therapeutic Bond Scale; FTAS = Family Therapeutic Alliance Scale; HAQ = Helping Alliance Questionnaire; MAS = Mentor Alliance Scale; NRI = Network of Relationships Inventory; O = Observer; OC = Observer child-therapist alliance; OP = Observer parent-therapist alliance; P = Parent; RRS = Relationship Rating Scale; T = Therapist; TA = Therapeutic alliance; TABBS-A = Therapeutic Alliance-Building Behavior Scale - Alliance subscale; TAQR = Therapeutic Alliance Quality Rating; TAQS = Therapeutic Alliance Quality Scale; TAS = Therapeutic Alliance Scale; TASA = Therapeutic Alliance Scale for Adolescents; TASC(-R) = Therapeutic Alliance Scale for Children (Revised); TPOCS-A = Therapy Process Observational Coding System - Alliance Scale; VTAS(-R) = Vanderbilt Therapeutic Alliance Scale (- Revised); WAI(-S) = Working Alliance Inventory (Short Form); WRS = Working Relationship Scale.

[a] Doctoral dissertation or master's thesis. [b] Two alliance measures combined into one score to assess child alliance. [c] Sample sizes are based on the mean of all calculated effect sizes. [d] Mean effect sizes are based on the mean of all calculated effect sizes within a study.

# APPENDIX C Forest plots of meta-analyses on differences and associations between alliance ratings

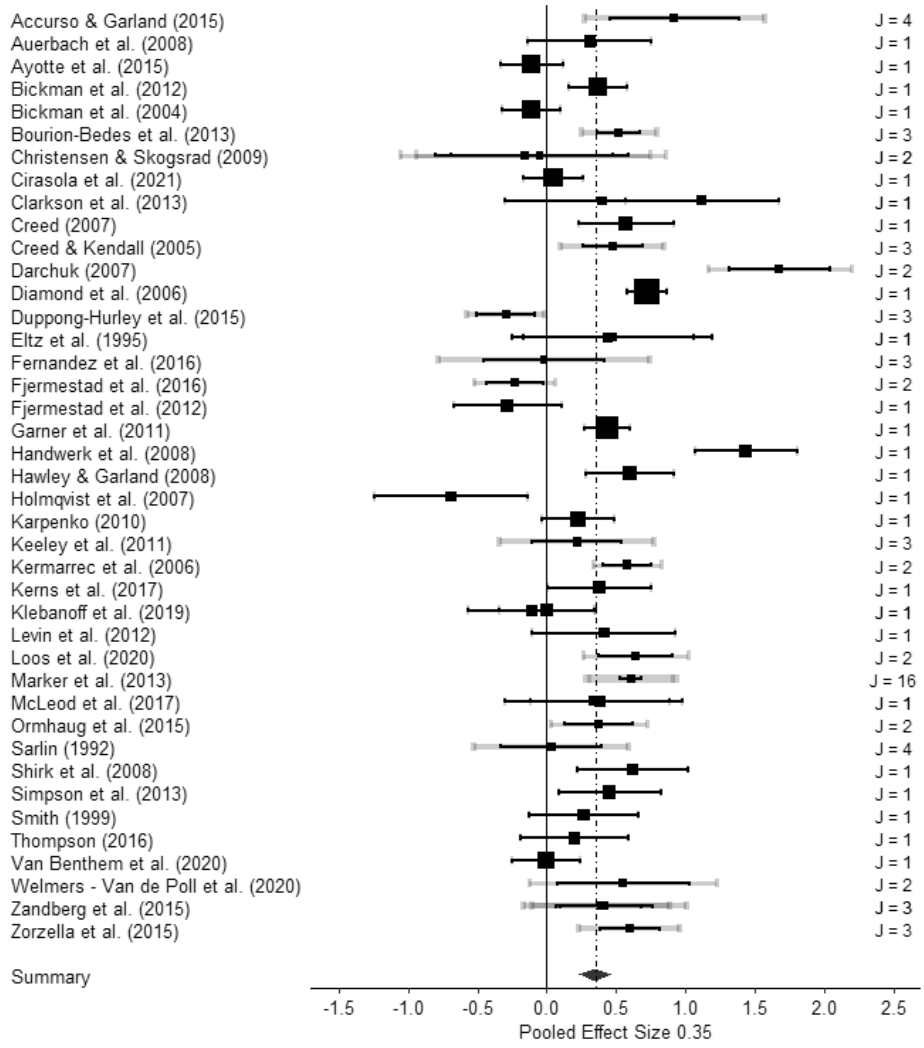


*Figure C1.* Forest plot of difference between child and therapist alliance ratings
*Note.* J = number of effect sizes

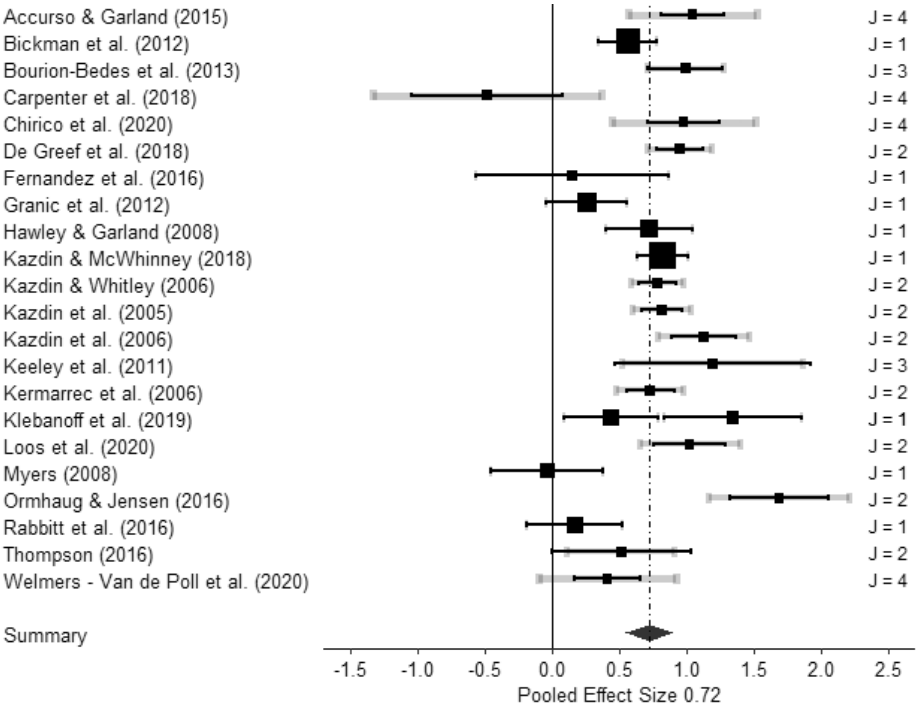


*Figure C2.* Forest plot of difference between parent and therapist alliance ratings
*Note.* J = number of effect sizes

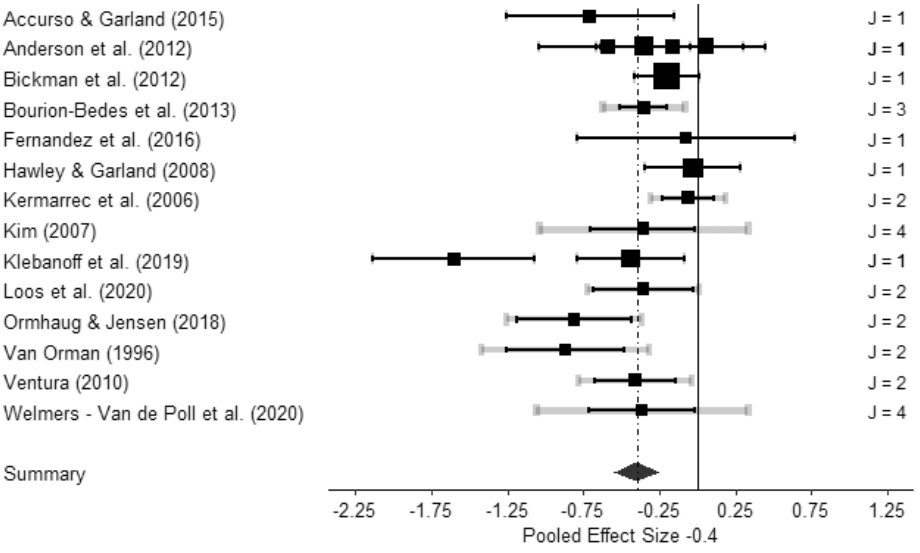


*Figure C3.* Forest plot of difference between child and parent alliance ratings
*Note.* J = number of effect sizes

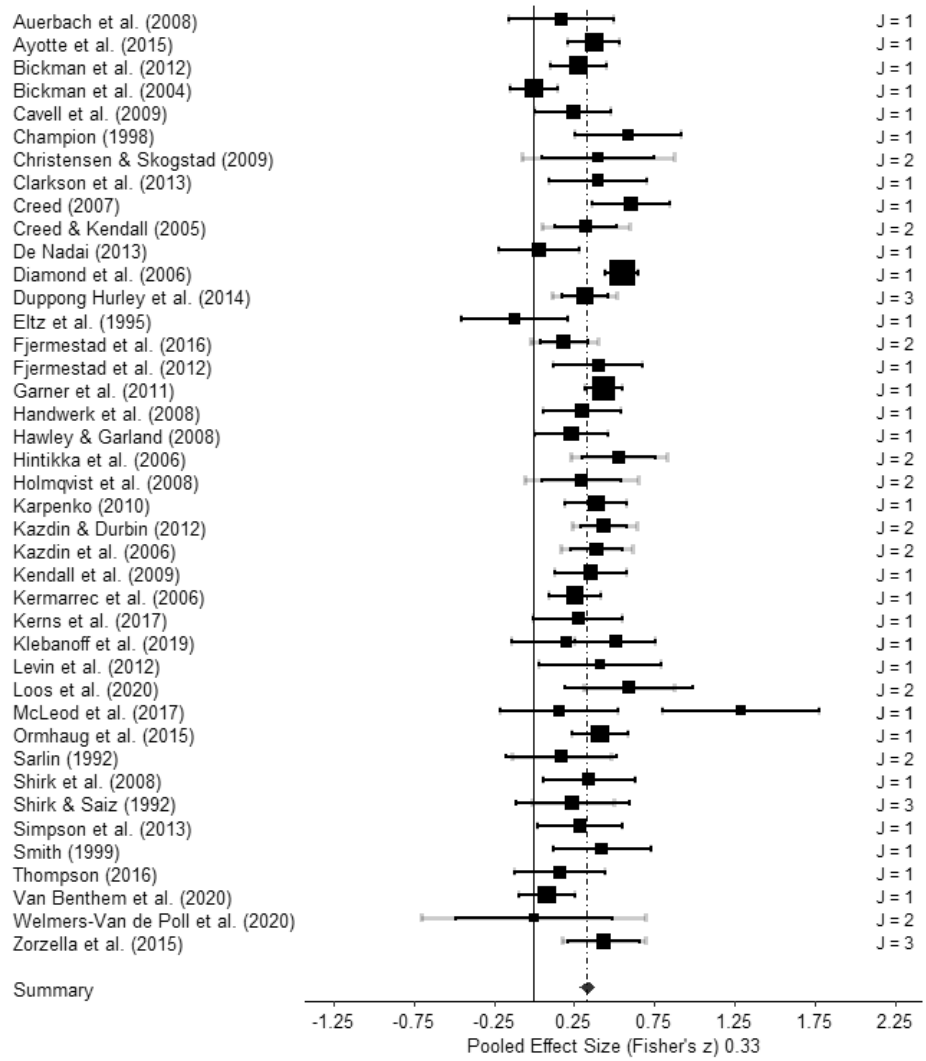


*Figure C4.* Forest plot of association between child and therapist alliance ratings
*Note.* J = number of effect sizes

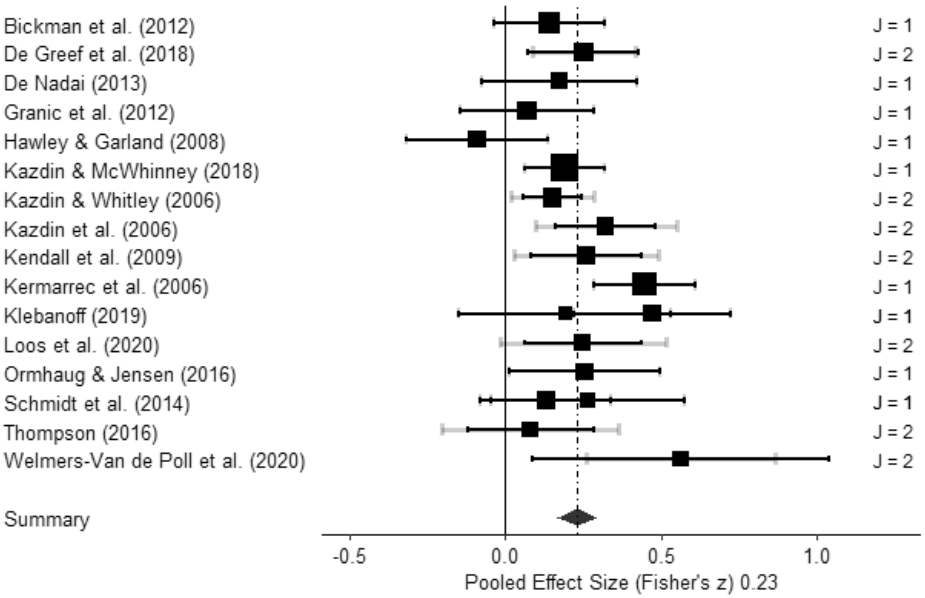


*Figure C5.* Forest plot of association between parent and therapist alliance ratings
*Note.* J = number of effect sizes

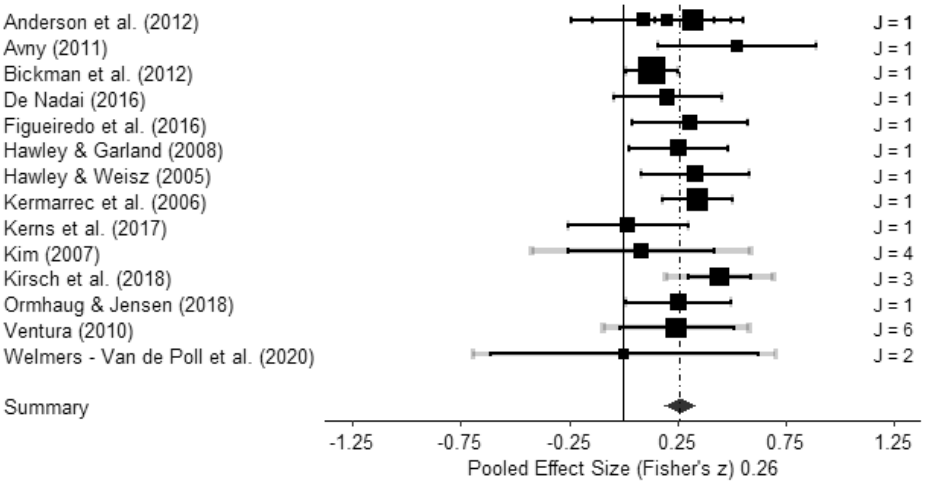


*Figure C6.* Forest plot of association between child and parent alliance ratings
*Note.* J = number of effect sizes

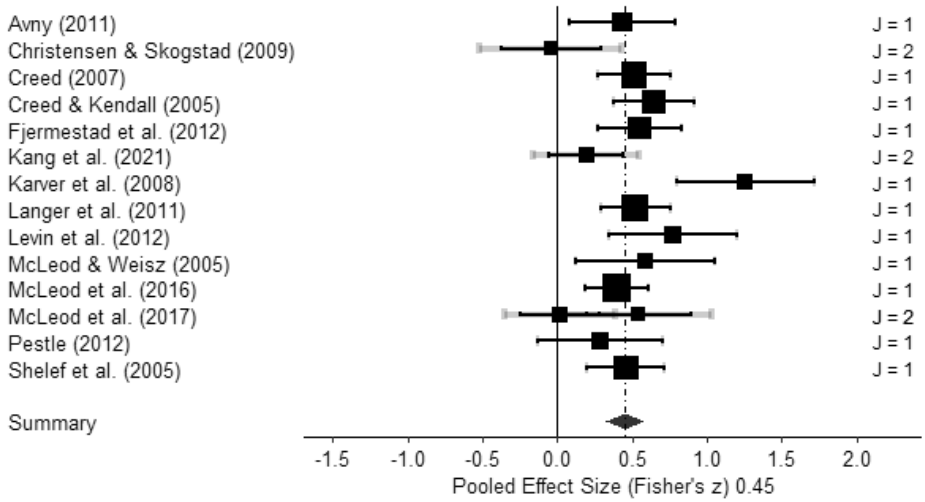


*Figure C7.* Forest plot of association between child and observer alliance ratings
*Note.* J = number of effect sizes

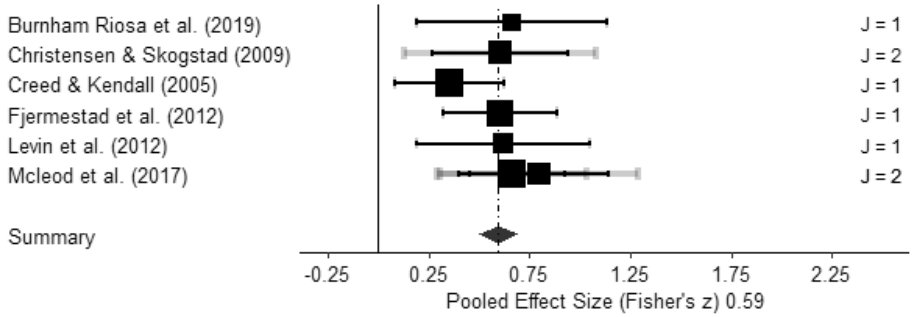


*Figure C8.* Forest plot of association between therapist and observer alliance ratings
*Note.* J = number of effect sizes

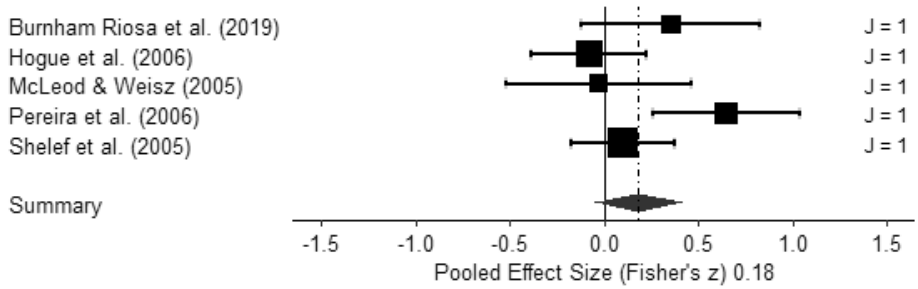


***Figure C9.*** Forest plot of association between observer ratings of child-therapist alliance and **observer ratings** of parent-therapist alliance
*Note.* J = number of effect sizes

# APPENDIX D. Tables of moderator analyses of the meta-analyses on differences and associations of alliance ratings

**Table D1.** *Results of Moderator Analyses for the Difference between Child and Therapist Alliance Ratings.*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 90) = 0.069$ | .794 | .000 | .150*** |
| Published (RC) | 40 | 79 | 0.339 (0.068)*** | 0.205, 0.473 | | | | | |
| Unpublished | 7 | 13 | 0.386 (0.167)* | 0.055, 0.717 | 0.047 (-0.310, 0.405) | | | | |
| Country | | | | | | $F(2, 89) = 1.695$ | .189 | .000 | .144*** |
| United States (RC) | 30 | 63 | 0.407 (0.077)*** | 0.254, 0.559 | | | | | |
| Europe | 12 | 20 | 0.153 (0.122) | -0.088, 0.395 | -0.253 (-0.539, 0.033) | | | | |
| Other | 5 | 9 | 0.449 (0.200)* | 0.052, 0.845 | 0.042 (-0.383, 0.467) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 90) = 0.039$ | .844 | .000 | .150*** |
| 13 years and older (RC) | 32 | 49 | 0.337 (0.079)*** | 0.185, 0.489 | | | | | |
| 12 years and younger | 15 | 43 | 0.363 (0.110)** | 0.145, 0.581 | 0.026 (-0.239, 0.292) | | | | |
| % Male | 46 | 90 | 0.341 (0.064)*** | 0.214, 0.468 | 0.016 (-0.376, 0.408) | $F(1, 88) = 0.006$ | .936 | .000 | .151*** |
| % Caucasian | 36 | 73 | 0.326 (0.059)*** | 0.209, 0.443 | -0.054 (-0.473, 0.365) | $F(1, 71) = 0.066$ | .798 | .000 | .086*** |
| Referral Source | | | | | | $F(3, 88) = 1.247$ | .298 | .000 | .143*** |
| Help-seeking (RC) | 27 | 63 | 0.267 (0.081)** | 0.106, 0.428 | | | | | |
| Recruited | 8 | 13 | 0.574 (0.152)*** | 0.271, 0.877 | 0.307 (-0.036, 0.650) | | | | |
| Mandated | 7 | 7 | 0.309 (0.157) | -0.003, 0.622 | 0.043 (-0.309, 0.394) | | | | |
| Not reported | 5 | 9 | 0.479 (0.190)* | 0.101, 0.857 | 0.212 (-0.198, 0.623) | | | | |
| Diagnosis Target Problem | | | | | | $F(1, 90) = 0.488$ | .486 | .000 | .149*** |
| Yes (RC) | 38 | 82 | 0.325 (0.069)*** | 0.188, 0.462 | | | | | |
| No | 9 | 10 | 0.439 (0.147)** | 0.146, 0.732 | 0.114 (-0.210, 0.437) | | | | |

**Table D1.** *Results of Moderator Analyses for the Difference between Child and Therapist Alliance Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Problem Type | | | | | | $F(5, 87) = 1.858$ | .125 | .000 | .137*** |
| Internalizing (RC) | 21 | 49 | 0.262 (0.091)** | 0.081, 0.443 | | | | | |
| Externalizing | 5 | 10 | 0.074 (0.182) | -0.287, 0.435 | -0.188 (-0.592, 0.216) | | | | |
| Mixed | 13 | 22 | 0.409 (0.115)*** | 0.181, 0.638 | 0.148 (-0.143, 0.439) | | | | |
| Substance Use | 7 | 8 | 0.654 (0.158)*** | 0.340, 0.968 | 0.393 (0.030, 0.755)* | | | | |
| Eating Disorders | 1 | 3 | 0.518 (0.379) | -0.234, 1.271 | 0.257 (-0.517, 1.030) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Reliability Child Measure | 43 | 86 | 0.344 (0.063)*** | 0.219, 0.469 | 1.479 (-0.699, 3.656) | $F(1, 89) = 1.820$ | .181 | .000 | .144*** |
| Reliability Therapist Measure | 42 | 85 | 0.341 (0.060)*** | 0.222, 0.460 | 1.644 (-0.222, 3.510) | $F(1, 83) = 3.070$ | .083 | .000 | .109*** |
| Timing of Alliance | | | | | | $F(3, 88) = 1.570$ | .202 | .000 | .150*** |
| Early (RC) | 28 | 38 | 0.389 (0.074)*** | 0.242, 0.536 | | | | | |
| Midtreatment | 14 | 21 | 0.412 (0.083)*** | 0.248, 0.577 | 0.023 (-0.113, 0.160) | | | | |
| Late | 18 | 25 | 0.296 (0.080)*** | 0.137, 0.455 | -0.093 (-0.219, 0.033) | | | | |
| Averaged | 8 | 8 | 0.217 (0.156) | -0.093, 0.526 | -0.172 (-0.515, 0.171) | | | | |
| Type of Alliance Measure | | | | | | $F(1, 90) = 0.405$ | .526 | .000 | .149*** |
| Developed for Children (RC)2 | 23 | 57 | 0.306 (0.090)*** | 0.129, 0.482 | | | | | |
| Developed for Adults | 24 | 35 | 0.385 (0.088)*** | 0.210, 0.560 | 0.080 (-0.169, 0.328) | | | | |
| Therapist measure | | | | | | $F(1, 90) = 0.001$ | .969 | .000 | .150*** |
| Child's perspective (RC) | 28 | 65 | 0.348 (0.082)*** | 0.185, 0.511 | | | | | |
| Therapist Perspective | 19 | 27 | 0.343 (0.098)** | 0.149, 0.537 | 0.005 (-0.258, 0.248) | | | | |

**Table D1.** *Results of Moderator Analyses for the Difference between Child and Therapist Alliance Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(2, 88) = 0.409$ | .747 | .000 | .154*** |
| Outpatient (RC) | 28 | 64 | 0.301 (0.082)*** | 0.139, 0.464 | | | | | |
| Residential | 14 | 22 | 0.301 (0.082)*** | 0.076, 0.585 | -0.080 (-0.207, 0.367) | | | | |
| Community/Home-based | 2 | 3 | 0.381 (0.119)** | 0.145, 0.618 | 0.066 (-0.588, 0.721) | | | | |
| Not defined | 3 | 3 | 0.563 (0.237)* | 0.092, 1.034 | 0.261 (-0.237, 0.759) | | | | |
| Manualized treatment | | | | | | $F(1, 90) = 0.005$ | .945 | .000 | .151*** |
| Yes (RC) | 26 | 57 | 0.342 (0.084)*** | 0.174, 0.509 | | | | | |
| No | 21 | 35 | 0.351 (0.094)** | 0.163, 0.538 | 0.009 (-0.242, 0.260) | | | | |
| CBT | | | | | | $F(1, 90) = 1.411$ | .238 | .000 | .145*** |
| Yes (RC) | 20 | 34 | 0.266 (0.092)** | 0.084, 0.447 | | | | | |
| No | 28 | 58 | 0.401 (0.077)*** | 0.247, 0.554 | 0.135 (-0.091, 0.361) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$.

**Table D2.** *Results of Moderator Analyses for the Difference between Parent and Therapist Alliance Ratings.*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 45) = 2.410$ | .128 | .000 | .163*** |
| Published (RC) | 21 | 44 | 0.758 (0.094)*** | 0.568, 0.948 | | | | | |
| Unpublished | 2 | 3 | 0.251 (0.313) | -0.379, 0.881 | -0.507 (-1.165, 0.151) | | | | |
| Country | | | | | | $F(2, 44) = 0.515$ | .601 | .000 | .189*** |
| United States (RC) | 13 | 24 | 0.744 (0.133)*** | 0.476, 1.013 | | | | | |
| Europe | 8 | 20 | 0.738 (0.152)*** | 0.431, 1.044 | 0.035 (-0.393, 0.463) | | | | |
| Other | 2 | 3 | 0.366 (0.356) | -0.352, 1.084 | -0.379 (-1.155, 0.398) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 45) = 0.168$ | .684 | .000 | .186*** |
| 13 years and older (RC) | 9 | 16 | 0.764 (0.154)*** | 0.453, 1.075 | | | | | |
| 12 years and younger | 14 | 31 | 0.683 (0.122)*** | 0.438, 0.929 | -0.081 (-0.477, 0.316) | | | | |
| % Male | 21 | 39 | 0.708 (0.105)*** | 0.496, 0.920 | 0.313 (-0.689, 1.314) | $F(1, 37) = 0.400$ | .531 | .001 | .200*** |
| % Caucasian | 18 | 35 | 0.700 (0.120)*** | 0.456, 0.944 | 0.350 (-0.756, 1.455) | $F(1, 33) = 0.415$ | .524 | .000 | .228*** |
| Referral Source | | | | | | $F(2, 44) = 0.050$ | .951 | .000 | .199*** |
| Help-seeking (RC) | 12 | 22 | 0.742 (0.136)*** | 0.467, 1.016 | | | | | |
| Recruited | 9 | 17 | 0.677 (0.151)*** | 0.373, 0.982 | -0.064 (-0.474, 0.346) | | | | |
| Not reported | 1 | 2 | 0.727 (0.455) | -0.191, 1.644 | -0.015 (-0.973, 0.943) | | | | |
| Diagnosis Target Problem | | | | | | $F(1, 45) = 0.187$ | .668 | .000 | .185*** |
| Yes (RC) | 17 | 34 | 0.739 (0.112)*** | 0.514, 0.965 | | | | | |
| No | 6 | 13 | 0.647 (0.183)*** | 0.277, 1.016 | -0.093 (-0.525, 0.340) | | | | |
| Problem Type | | | | | | $F(3, 43) = 0.398$ | .755 | .000 | .200*** |
| Internalizing (RC) | 7 | 15 | 0.808 (0.227)*** | 0.437, 1.178 | | | | | |
| Externalizing | 7 | 13 | 0.725 (0.175)*** | 0.372, 1.079 | -0.083 (-0.595, 0.429) | | | | |
| Mixed | 8 | 16 | 0.585 (0.169)** | 0.244, 1.926 | -0.223 (-0.726, 0.281) | | | | |
| Eating Disorders | 1 | 3 | 0.984 (0.455)* | 0.065, 1.902 | 0.176 (-0.815, 1.166) | | | | |

**Table D2.** *Results of Moderator Analyses for the Difference between Parent and Therapist Alliance Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Alliance Characteristics** | | | | | | | | | |
| Reliability Parent Measure | 22 | 43 | 0.675 (0.097)*** | 0.479, 0.870 | -2.808 (-6.211, 0.594) | $F(1, 41) = 2.779$ | .103 | .000 | .175*** |
| Reliability Therapist Measure | 22 | 43 | 0.663 (0.088)*** | 0.484, 0.841 | 4.302 (0.944, 7.661)* | $F(1, 41) = 6.693$ | .013 | .000 | .141*** |
| Timing of Alliance | | | | | | $F(3, 43) = 0.481$ | .697 | .000 | .174*** |
| Early (RC) | 14 | 18 | 0.716 (0.111)*** | 0.493, 0.939 | | | | | |
| Midtreatment | 7 | 11 | 0.800 (0.126)*** | 0.546, 1.054 | 0.084 (-0.114, 0.282) | | | | |
| Late | 10 | 11 | 0.761 (0.115)*** | 0.529, 0.993 | 0.045 (-0.099, 0.188) | | | | |
| Averaged | 7 | 7 | 0.622 (0.164)*** | 0.291, 0.954 | -0.094 (-0.472, 0.285) | | | | |
| Type of Alliance Measure | | | | | | $F(1, 45) = 3.805$ | .057 | .000 | .158*** |
| Developed for Adults (RC) | 17 | 35 | 0.615 (0.103)*** | 0.407, 0.823 | | | | | |
| Developed for Children | 6 | 12 | 1.016 (0.178)*** | 0.658, 1.373 | 0.400 (-0.013, 0.814) | | | | |
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(3, 43) = 0.572$ | .636 | .000 | .192*** |
| Outpatient (RC) | 16 | 33 | 0.767 (0.117)*** | 0.530, 1.003 | | | | | |
| Residential | 1 | 3 | 0.984 (0.446)* | 0.084, 1.883 | 0.217 (-0.713, 1.147) | | | | |
| Community/Home-based | 5 | 10 | 0.494 (0.206)* | 0.079, 0.908 | -0.273 (-0.750, 0.204) | | | | |
| Not defined | 1 | 1 | 0.719 (0.468) | -0.225, 1.663 | -0.047 (-1.021, 0.926) | | | | |
| Manualized treatment | | | | | | $F(1, 45) = 0.003$ | .960 | .000 | .187*** |
| Yes (RC) | 15 | 29 | 0.711 (0.119)*** | 0.470, 0.951 | | | | | |
| No | 8 | 18 | 0.721 (0.162)*** | 0.392, 1.047 | 0.010 (-0.395, 0.415) | | | | |

**Table D2.** *Results of Moderator Analyses for the Difference between Parent and Therapist Alliance Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| CBT | | | | | | $F(1, 45) = 1.594$ | .213 | .000 | .172*** |
| Yes (RC) | 8 | 17 | 0.879 (0.160)*** | 0.558, 1.200 | | | | | |
| No | 15 | 30 | 0.632 (0.114)*** | 0.402, 0.861 | -0.247 (-0.642, 0.147) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$

**Table D3.** *Results of Moderator Analyses for the Difference between Child and Parent Alliance Ratings.*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 29) = 0.522$ | .476 | .000 | .085** |
| Published (RC) | 15 | 23 | -0.380 (0.089)*** | -0.563, -0.197 | | | | | |
| Unpublished | 3 | 8 | -0.538 (0.195)* | -0.933, -0.136 | -0.155 (-0.593, 0.283) | | | | |
| Country | | | | | | $F(2, 28) = 0.941$ | .402 | .000 | .091** |
| United States (RC) | 8 | 13 | -0.522 (0.125)*** | -0.779, -0.266 | | | | | |
| Europe | 5 | 13 | -0.377 (0.147)* | -0.678, -0.077 | 0.145 (-0.250, 0.540) | | | | |
| Other | 5 | 5 | -0.237 (0.170) | -0.586, 0.112 | 0.285 (-0.148, 0.719) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 29) = 0.801$ | .378 | .000 | .086** |
| 13 years and older (RC) | 12 | 21 | -0.358 (0.099)** | -0.559, -0.156 | | | | | |
| 12 years and younger | 6 | 10 | -0.517 (0.146)** | -0.815, -0.216 | -0.158 (-0.519, 0.203) | | | | |
| % Male | 17 | 27 | -0.399 (0.083)*** | -0.571, -0.228 | -0.824 (-1.757, 0.108) | $F(1, 25) = 3.315$ | .081 | .000 | .083** |
| % Caucasian | 14 | 23 | -0.463 (0.107)*** | -0.718, -0.211 | 0.018 (-0.847, 0.883) | $F(1, 21) = 0.002$ | .966 | .000 | .122 |
| Referral Source | | | | | | $F(2, 28) = 1.378$ | .269 | .000 | .086** |
| Help-seeking (RC) | 11 | 18 | -0.313 (0.104)** | -0.525, -0.101 | | | | | |
| Recruited | 5 | 9 | -0.629 (0.160)*** | -0.957, -0.302 | -0.316 (-0.707, 0.074) | | | | |
| Not reported | 2 | 4 | -0.408 (0.231) | -0.882, 0.065 | -0.095 (-0.614, 0.423) | | | | |
| Diagnosis Target Problem | | | | | | $F(1, 29) = 0.174$ | .680 | .000 | .090** |
| Yes (RC) | 13 | 21 | -0.433 (0.103)*** | -0.645, -0.222 | | | | | |
| No | 5 | 10 | -0.361 (0.139)* | -0.645, -0.078 | 0.072 (-0.282, 0.426) | | | | |
| Problem Type | | | | | | $F(3, 27) = 0.578$ | .634 | .000 | .097** |
| Internalizing (RC) | 8 | 10 | -0.508 (0.146)*** | -0.775, -0.241 | | | | | |
| Externalizing | 2 | 3 | -0.529 (0.264) | -1.071, 0.013 | -0.021 (-0.718, 0.739) | | | | |
| Mixed | 7 | 15 | -0.278 (0.136) | -0.557, 0.001 | 0.230 (-0.241, 0.776) | | | | |
| Eating Disorders | 1 | 3 | -0.357 (0.322) | -1.017, 0.303 | 0.151 (-0.715, 1.104) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Reliability Child Measure | 13 | 19 | -0.414 (0.113)** | -0.652, -0.176 | 2.000 (-2.779, 6.778) | $F(1, 17) = 0.780$ | .390 | .000 | .130* |

**Table D3.** *Results of Moderator Analyses for the Difference between Child and Parent Alliance Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Reliability Parent Measure | 13 | 19 | -0.397 (0.085)*** | -0.577, -0.218 | 3.817 (1.068, 6.567)** | $F(1, 17) = 8.583$ | .009 | .000 | .061 |
| Timing of Alliance | | | | | | $F(3, 27) = 1.003$ | .406 | .000 | .084* |
| Early (RC) | 12 | 18 | -0.338 (0.097)** | -0.538, -0.138 | | | | | |
| Midtreatment | 3 | 4 | -0.433 (0.142)** | -0.741, -0.126 | -0.095 (-0.388, 0.197) | | | | |
| Late | 5 | 5 | -0.321 (0.128)* | -0.583, -0.058 | 0.018 (-0.235, 0.270) | | | | |
| Averaged | 4 | 4 | -0.648 (0.178)** | -1.013, -0.284 | -0.310 (-0.726, 0.106) | | | | |
| Type of Alliance Measure | | | | | | $F(1, 29) = 2.336$ | .137 | .000 | .080** |
| Developed for Children (RC) | 7 | 12 | -0.553 (0.125)*** | -0.808, -0.298 | | | | | |
| Developed for Adults | 11 | 19 | -0.305 (0.103)** | -0.516, -0.094 | 0.248 (-0.084, 0.579) | | | | |
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(4, 26) = 0.300$ | .875 | .000 | .116*** |
| Outpatient (RC) | 11 | 14 | -0.447 (0.121)*** | -0.695, -0.199 | | | | | |
| Residential | 1 | 3 | -0.357 (0.350) | -1.077, 0.363 | 0.091 (-0.671, 0.852) | | | | |
| Community/Home-based | 3 | 7 | -0.460 (0.218)* | -0.909, -0.012 | -0.013 (-0.525, 0.500) | | | | |
| School-based | 2 | 6 | -0.386 (0.265) | -0.931, 0.159 | 0.061 (-0.538, 0.660) | | | | |
| Not defined | 1 | 1 | -0.029 (0.377) | -0.804, 0.745 | 0.418 (-0.395, 1.232) | | | | |
| Manualized treatment | | | | | | $F(1, 29) = 1.021$ | .321 | .000 | .081** |
| Yes (RC) | 10 | 16 | -0.479 (0.108)*** | -0.699, -0.259 | | | | | |
| No | 8 | 15 | -0.317 (0.118)* | -0.560, -0.075 | 0.162 (-0.166, 0.489) | | | | |
| CBT | | | | | | $F(1, 29) = 0.913$ | .664 | .000 | .090** |
| Yes (RC) | 9 | 12 | -0.444 (0.117)*** | -0.684, -0.204 | | | | | |
| No | 9 | 19 | -0.371 (0.117)** | -0.611, -0.131 | 0.073 (-0.267, 0.412) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$

**Table D4.** *Results of Moderator Analyses for the Association between Child and Therapist Ratings.*

| Moderator | # Studies | # ES | $\beta_0$ Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 57) = 0.057$ | .778 | .020** | .000 |
| Published (RC) | 36 | 50 | .323 (0.027)*** | .274, .370 | | | | | |
| Unpublished | 7 | 9 | .307 (0.070)*** | .175, .428 | -0.018 (-0.168, 0.132) | | | | |
| Country | | | | | | $F(2, 56) = 0.741$ | .418 | .020** | .000 |
| United States (RC) | 32 | 41 | .305 (0.030)*** | .251, .358 | | | | | |
| Europe | 8 | 13 | .347 (0.060)*** | .238, .447 | 0.047 (-0.087, 0.180) | | | | |
| Other | 3 | 5 | .391 (0.084)*** | .239, .523 | 0.097 (-0.082, 0.276) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 55) = 0.297$ | .588 | .020** | .000 |
| 13 years and older (RC) | 24 | 29 | .301 (0.035)*** | .242, .357 | | | | | |
| 12 years and younger | 18 | 28 | .324 (0.037)*** | .263, .380 | 0.028 (-0.074, 0.130) | | | | |
| % Male | 41 | 54 | .327 (0.027)*** | .271, .357 | -0.080 (-0.331, 0.171) | $F(1, 52) = 0.406$ | .527 | .011 | .007 |
| % Caucasian | 35 | 45 | .326 (0.031)*** | .268, .382 | 0.063 (-0.166, 0.291) | $F(1, 43) = 0.304$ | .584 | .007 | .014 |
| Referral Source | | | | | | $F(3, 53) = 1.036$ | .384 | .020** | .000 |
| Help-seeking (RC) | 25 | 38 | .307 (0.032)*** | .251, .364 | | | | | |
| Recruited | 6 | 7 | .436 (0.080)*** | .297, .557 | 0.150 (-0.023, 0.324) | | | | |
| Mandated | 8 | 10 | .321 (0.060)*** | .210, .424 | 0.016 (-0.120, 0.152) | | | | |
| Not reported | 4 | 4 | .284 (0.088)** | .114, .437 | -0.025 (-0.212, 0.162) | | | | |
| Diagnosis Target Problem | | | | | | $F(1, 57) = 0.478$ | .492 | .020** | .000 |
| Yes (RC) | 33 | 47 | .328 (0.028)*** | .278, .377 | | | | | |
| No | 10 | 12 | .288 (0.059)*** | .175, .392 | -0.045 (-0.176, 0.086) | | | | |
| Problem Type | | | | | | $F(3, 55) = 0.365$ | .778 | .019* | .002 |
| Internalizing (RC) | 16 | 19 | .354 (0.048)*** | .266, .435 | | | | | |

**Table D4.** *Results of Moderator Analyses for the Association between Child and Therapist Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$, Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Externalizing | 7 | 12 | .295 (0.056)*** | .190, .393 | -0.066 (-0.213, 0.082) | | | | |
| Mixed | 15 | 23 | .304 (0.043)*** | .224, .380 | -0.055 (-0.185, 0.074) | | | | |
| Substance Use | 5 | 5 | .336 (0.079)*** | .188, .469 | -0.019 (-0.205, 0.166) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Reliability Child Measure | 42 | 58 | .339 (0.024)*** | .291, .388 | 0.716 (0.000, 1.432) | $F(1, 56) = 4.007$ | .050 | .016* | .000 |
| Reliability Therapist Measure | 37 | 51 | .358 (0.025)*** | .307, .409 | 0.475 (-0.356, 1.306) | $F(1, 49) = 1.321$ | .256 | .014* | .000 |
| Timing of Alliance | | | | | | $F(3, 55) = 1.224$ | .310 | .019* | .000 |
| Early (RC) | 25 | 26 | .305 (0.038)*** | .208, .373 | | | | | |
| Midtreatment | 11 | 12 | .315 (0.056)*** | .213, .410 | 0.011 (-0.123, 0.145) | | | | |
| Late | 14 | 14 | .388 (0.051)*** | .299, .472 | 0.095 (-0.033, 0.223) | | | | |
| Averaged | 7 | 7 | .252 (0.069)*** | .118, .377 | -0.057 (-0.216, 0.101) | | | | |
| Type of Alliance Measure | | | | | | $F(1, 57) = 0.034$ | .855 | .020* | .000 |
| Developed for Children (RC) | 23 | 32 | .325 (0.034)*** | .262, .385 | | | | | |
| Developed for Adults | 20 | 27 | .316 (0.038)*** | .247, .383 | -0.009 (-0.111, 0.093) | | | | |
| Therapist measure | | | | | | $F(1, 57) = 0.042$ | .838 | .020* | .000 |
| Child's perspective (RC) | 26 | 36 | .317 (0.033)*** | .256, .375 | | | | | |
| Therapist Perspective | 17 | 23 | .327 (0.039)*** | .254, .395 | 0.011 (-0.092, 0.113) | | | | |

**Table D4.** *Results of Moderator Analyses for the Association between Child and Therapist Ratings. (continued)*

| Moderator | # Studies | # ES | $\beta_0$, Mean *d* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(3, 55) = 1.041$ | .382 | .020** | .000 |
| Outpatient (RC) | 24 | 32 | .351 (0.034)*** | .289, .410 | | | | | |
| Residential | 11 | 18 | .291 (0.046)*** | .204, .374 | -0.067 (-0.183, 0.049) | | | | |
| Community/home-based | 3 | 4 | .185 (0.117) | -.047, .398 | -0.180 (-0.4242, 0.064) | | | | |
| Not defined | 5 | 5 | .300 (0.079)*** | .151, .437 | -0.057 (-0.229, 0.116) | | | | |
| Manualized treatment | | | | | | $F(1, 57) = 6.172$ | .016 | .016* | .000 |
| Yes (RC) | 22 | 30 | .373 (0.034)*** | .313, .430 | | | | | |
| No | 21 | 29 | .267 (0.034)*** | .203, .328 | -0.119 (-0.214, -0.023)* | | | | |
| CBT | | | | | | $F(1, 57) = 4.498$ | .038 | .018* | .000 |
| Yes (RC) | 17 | 24 | .380 (0.040)*** | .309, .446 | | | | | |
| No | 26 | 35 | .284 (0.031)*** | .225, .340 | -0.108 (-0.210, -0.006)* | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$

**Table D5.** *Results of Moderator Analyses for the Association between Child and Observer Ratings.*

| Moderator | # Studies | # ES | $\beta_0$, Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 17) = 1.437$ | .247 | .000 | .051* |
| Published (RC) | 11 | 14 | .466 (0.083)*** | .319, .592 | | | | | |
| Unpublished | 4 | 5 | .300 (0.141)* | .011, .541 | -0.196 (-0.542, 0.149) | | | | |
| Country | | | | | | $F(1, 17) = 1.019$ | .327 | .000 | .052* |
| United States (RC) | 13 | 16 | .420 (0.077)*** | .310, .570 | | | | | |
| Europe | 2 | 3 | .265 (0.195) | -.140, .594 | -0.212 (-0.656, 0.231) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 17) = 4.585$ | .047 | .000 | .038* |
| 13 years and older (RC) | 4 | 5 | .607 (0.135)*** | .397, .757 | | | | | |
| 12 years and younger | 11 | 13 | .358 (0.074)*** | .215, .486 | -0.330 (-0.654, -0.005)* | | | | |
| % Male | 15 | 19 | .424 (0.067)*** | .319, .533 | -0.837 (-1.767, 0.093) | $F(1, 17) = 3.608$ | .075 | .000 | .042* |
| % Caucasian | 14 | 17 | .445 (0.069)*** | .320, .555 | 0.137 (-0.314, 0.587) | $F(1, 15) = 0.417$ | .528 | .000 | .040* |
| Referral Source | | | | | | $F(1, 17) = 0.085$ | .774 | .000 | .057* |
| Help-seeking (RC) | 9 | 11 | .413 (0.093)*** | .238, .562 | | | | | |
| Recruited | 6 | 8 | .450 (0.123)** | .221, .632 | 0.045 (-0.281, 0.371) | | | | |
| Problem Type | | | | | | $F(3, 15) = 0.309$ | .818 | .000 | .068* |
| Internalizing (RC) | 12 | 15 | .444 (0.090)*** | .277, .584 | | | | | |
| Mixed | 1 | 1 | .481 (0.287) | -.086, .813 | 0.047 (-0.593, 0.688) | | | | |
| Substance Use | 1 | 1 | .430 (0.293) | -.163, .795 | -0.017 (0.670, 0.636) | | | | |
| Autism Spectrum Disorder | 1 | 2 | .191 (0.291) | -.403, .671 | -0.284 (0.933, 0.365) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Reliability Child Measure | 13 | 17 | .374 (0.064)*** | .251, .485 | -1.745 (-4.641, 1.152) | $F(1, 15) = 1.648$ | .219 | .000 | .027 |
| Reliability Observer Measure | 12 | 16 | .389 (0.073)*** | .249, .514 | 2.327 (-0.019, 4.467) | $F(1, 14) = 4.526$ | .052 | .000 | .037 |
| Timing of Alliance | | | | | | $F(1, 17) = 1.583$ | .126 | .000 | .041* |
| Early (RC) | 13 | 15 | .461 (0.073)*** | .498, .572 | | | | | |
| Late | 4 | 4 | .270 (0.128)* | .007, .498 | -0.221 (-0.511, 0.069) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$

# APPENDIX E. Funnel plots of meta-analyses on differences and associations between alliance ratings

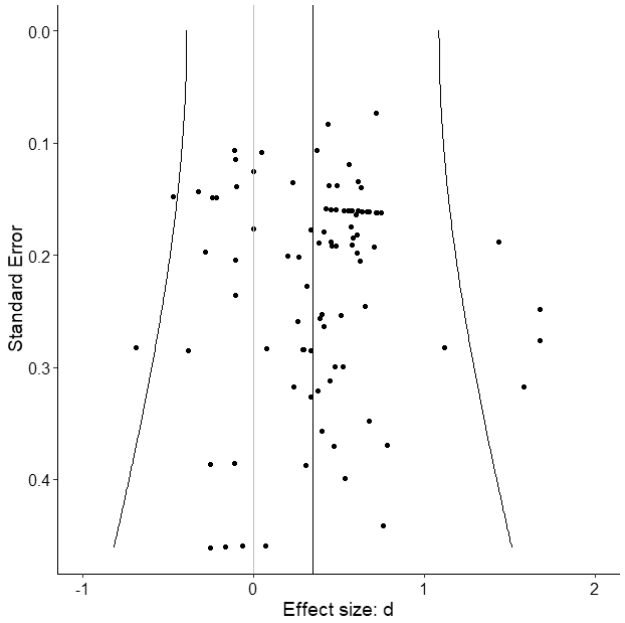


*Figure E1a.* Funnel plot of all effect sizes for the difference between child and therapist alliance ratings

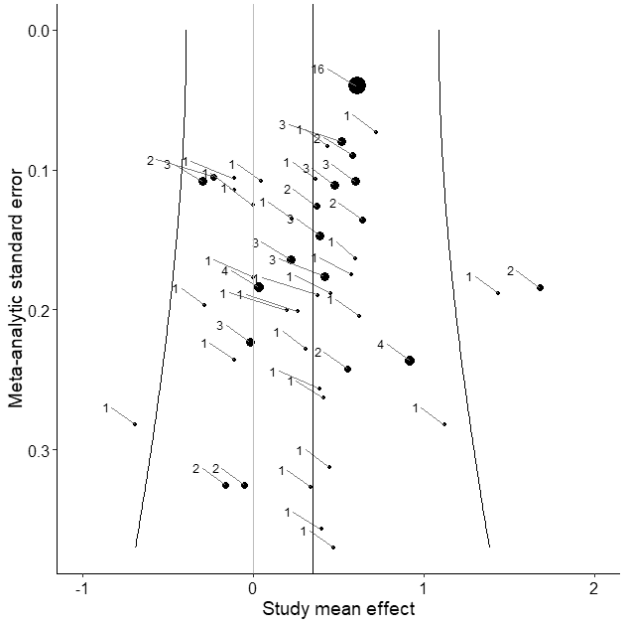


*Figure E1b.* Funnel plot of study effects for the difference between child and therapist alliance ratings

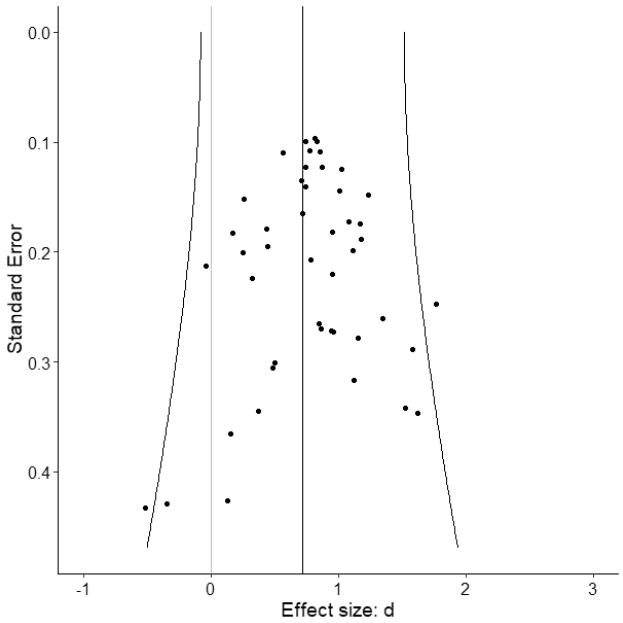


*Figure E2a*. Funnel plot of all effect sizes for the difference between parent and therapist alliance ratings

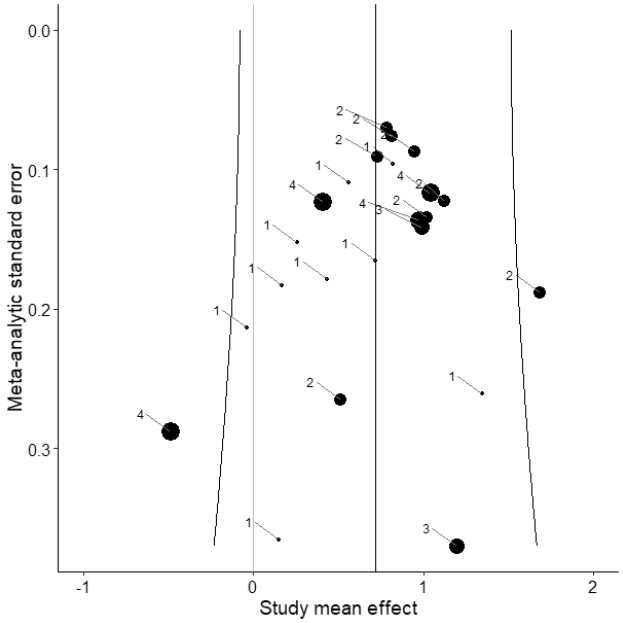


*Figure E2b*. Funnel plot of study effects for the difference between parent and therapist alliance ratings

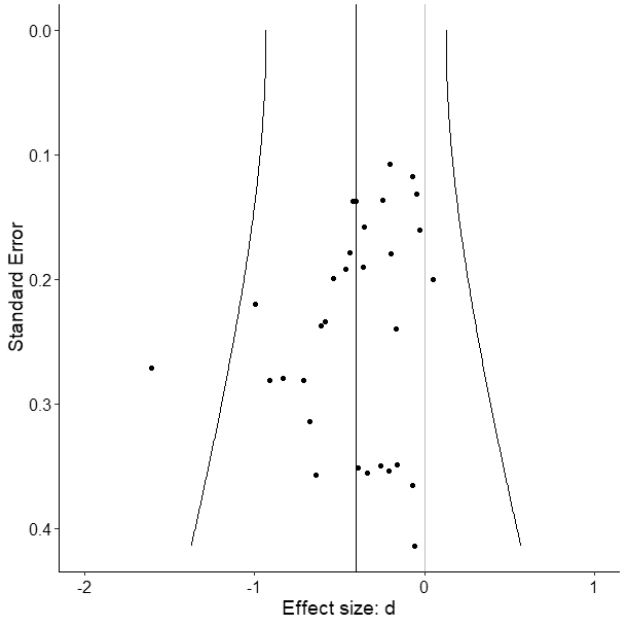


*Figure E3a.* Funnel plot of all effect sizes for the difference between child and parent alliance ratings

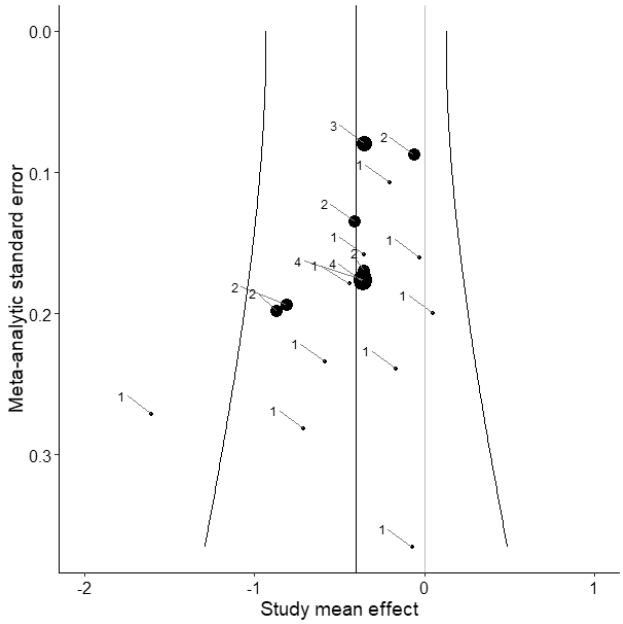


*Figure E3b.* Funnel plot of study effects for the difference between child and parent alliance ratings

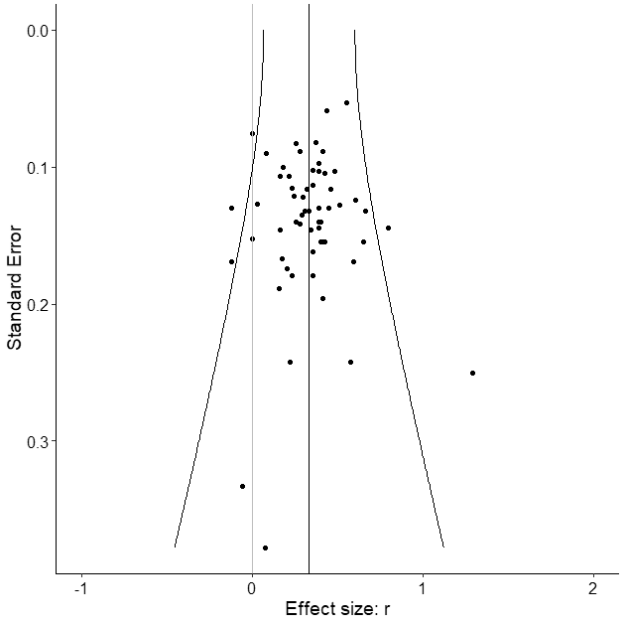


*Figure E4a.* Funnel plot of all effect sizes for the association between child and therapist alliance ratings

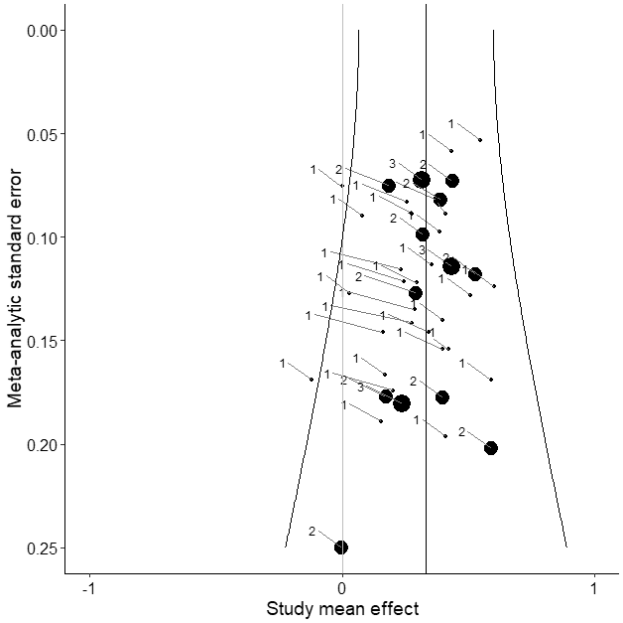


*Figure E4b.* Funnel plot of study effects for the association between child and therapist alliance ratings

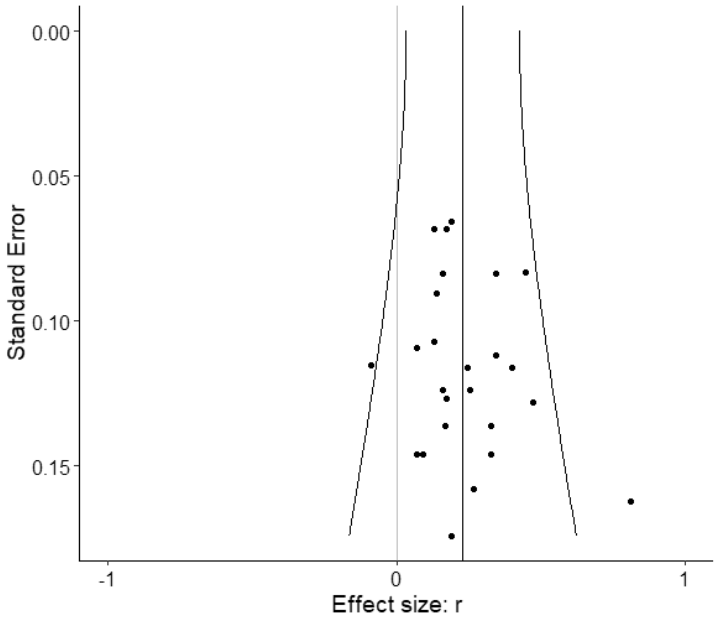


*Figure E5a.* Funnel plot of all effect sizes for the association between parent and therapist alliance ratings

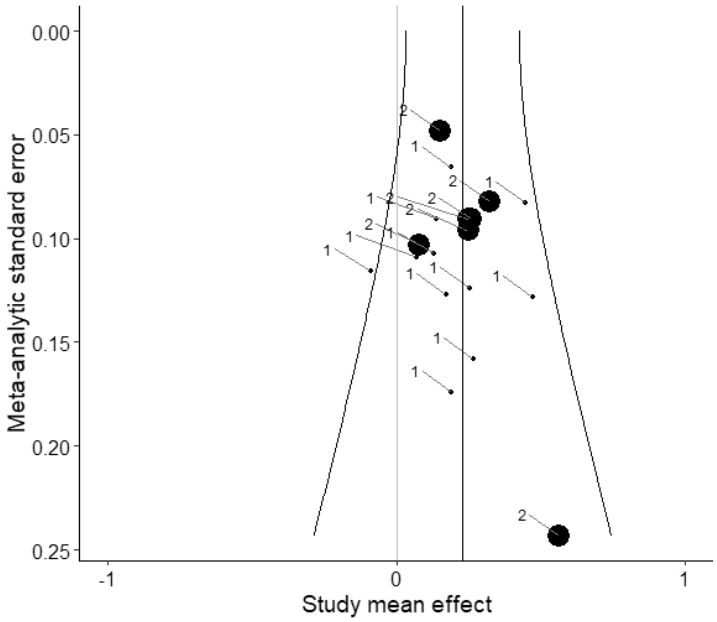


*Figure E5b.* Funnel plot of study effects for the association between parent and therapist alliance ratings

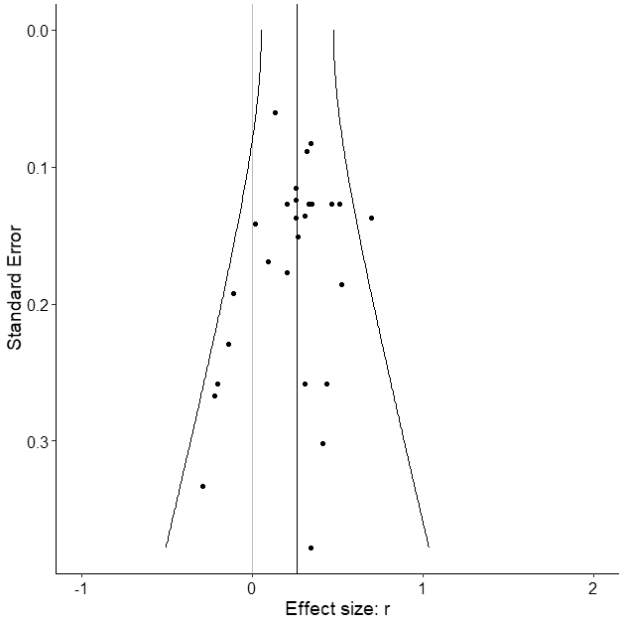


*Figure E6a.* Funnel plot of all effect sizes for the association between child and parent alliance ratings

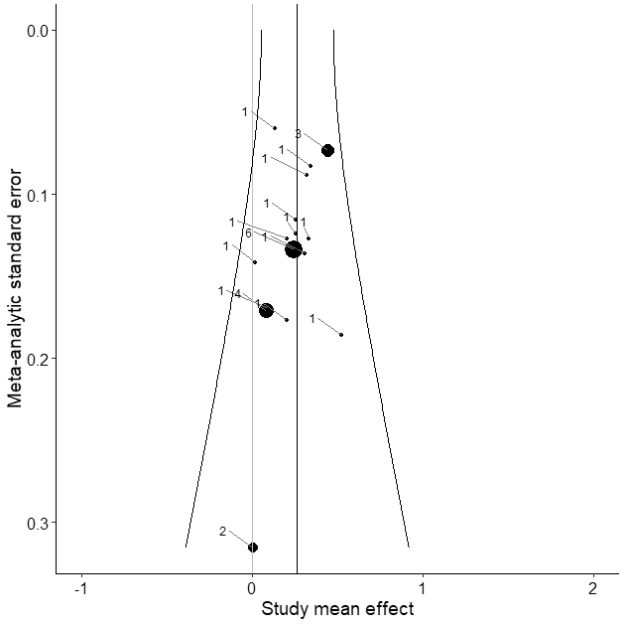


*Figure E6b.* Funnel plot of study effects for the association between child and parent alliance ratings

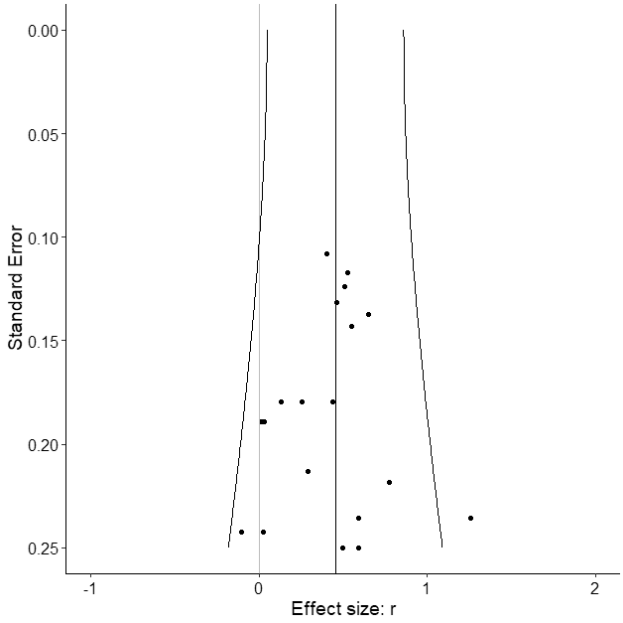


*Figure E7a.* Funnel plot of all effect sizes for the association between child and observer alliance ratings

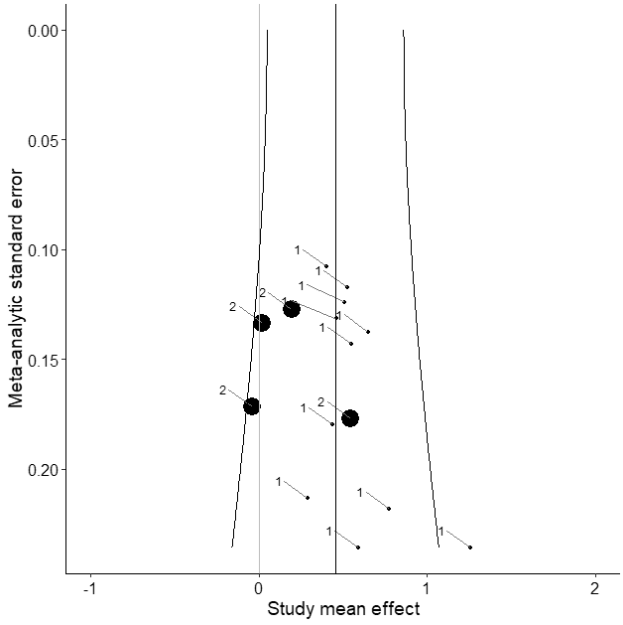


*Figure E7b.* Funnel plot of study effects for the association between child and observer alliance ratings

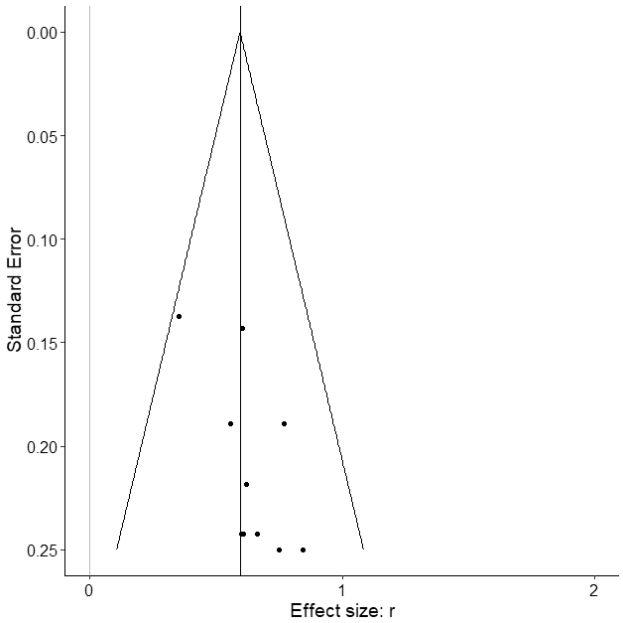


*Figure E8a.* Funnel plot of all effect sizes for the association between therapist and observer alliance ratings

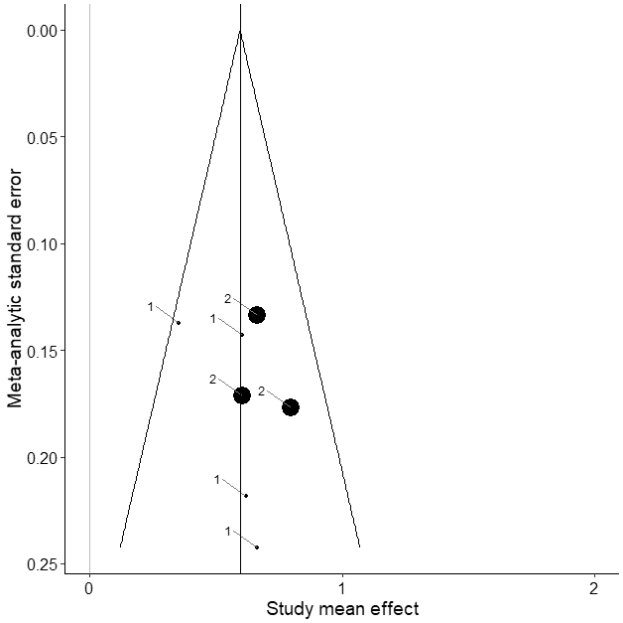


*Figure E8b.* Funnel plot of study effects for the association between therapist and observer alliance ratings

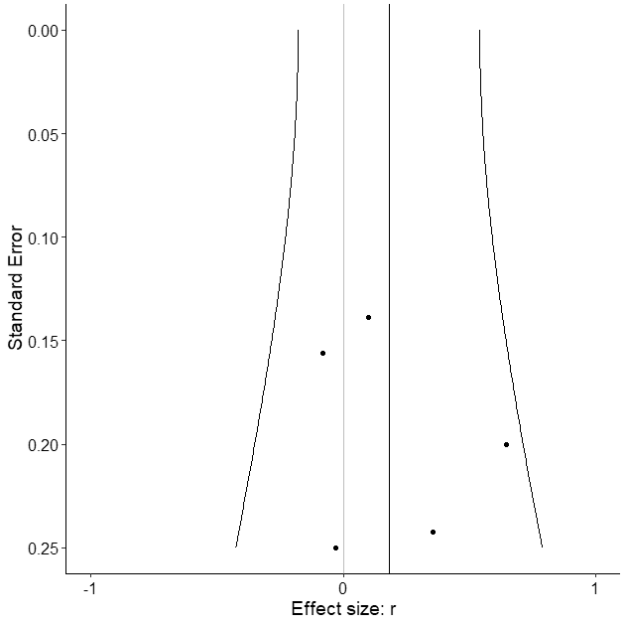


*Figure E9a.* Funnel plot of all effect sizes for the association between observer ratings of child-therapist alliance and observer ratings of parent-therapist alliance

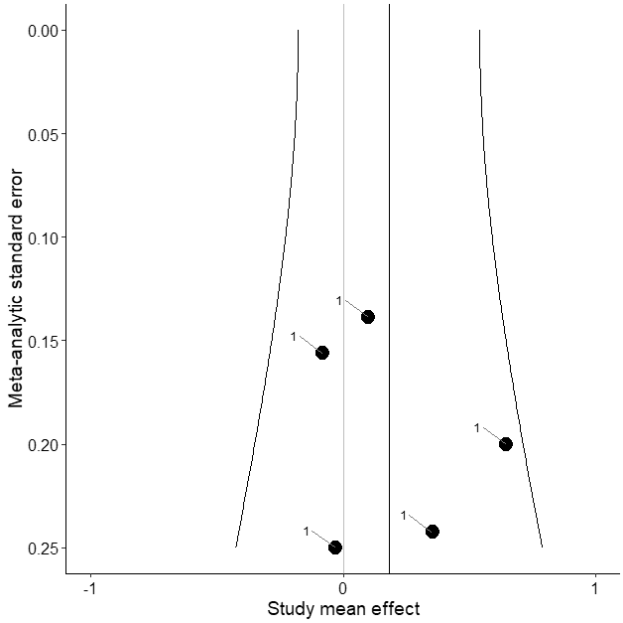


*Figure E9b.* Funnel plot of study effects for the association between observer ratings of child-therapist alliance and observer ratings of parent-therapist alliance

*Chapter 3*

# A Three-level Meta-Analysis on the Alliance-Outcome Association in Child and Adolescent Psychotherapy

Roest, J. J., Welmers-Van de Poll, M. J., Van der Helm, G. H. P., Stams, G. J. J. M., & Hoeve. M. (under review). A three-level meta-analysis on the alliance-outcome association in child and adolescent psychotherapy. *Research on Child and Adolescent Psychopathology.*

## ABSTRACT

**Background:** Previous meta-analyses have found small to moderate associations between child-therapist alliance and treatment outcomes. However, these meta-analyses have not taken into account changes in alliance (i.e., alliance shifts), alliance agreement (i.e., congruence or discrepancies between child-therapist ratings), and the role of alliance as a moderator in relation to treatment outcomes.

**Methods:** A series of multilevel meta-analyses of 99 studies was conducted to investigate several types of alliance-outcome associations in child and adolescent psychotherapy.

**Results:** Associations between child-therapist alliance and child outcomes ($r$ = .17), changes in child-therapist alliance and child outcomes ($r$ = .19), child-therapist alliance as a moderator of outcomes ($r$ = .09), and parent-therapist alliance and child outcomes ($r$ = .13) were small. Associations between child-therapist alliance agreement and outcomes ($r$ = .21) and between parent-therapist alliance and parent outcomes ($r$ = .24) were small to moderate.

**Conclusion:** This meta-analysis shows that the alliance can be considered as an important factor in child and adolescent psychotherapy. Alliance research in youth psychotherapy has increasingly focused on several complex aspects of the alliance-outcome association, such as the role of changes in alliance, alliance discrepancies, client and therapist variability, and the reciprocal association between alliance and prior symptom change in relation to treatment outcomes. Implications for future research and clinical practice are discussed.

## INTRODUCTION

Researchers and clinicians both claim that therapeutic alliance is an important factor for successful psychotherapy, not only with adults, but also with children and their parents (Flückiger et al., 2018; Horvath et al., 2011; Karver et al., 2018; McLeod, 2011; Murphy & Hutton, 2018; Norcross & Lambert, 2018). Therapeutic alliance has been defined in various ways (for a review, see Doran, 2016; Horvath, 2018), but most definitions consist of three interdependent aspects; these include the personal bond between client and therapist, the agreement on therapy goals, and the agreement on tasks of therapy (Bordin, 1979). In recent years, alliance research in child and adolescent psychotherapy has received increasing attention, specifically changes in alliance during treatment and the role of the parent-therapist and child-therapist alliance. Also, methodological advances in meta-analysis, such as multilevel modelling, have become available, making it possible to investigate multiple effect sizes within studies, which is often the case in alliance research. Therefore, the purpose of the present meta-analysis was to synthesize the empirical literature on the alliance in child and adolescent psychotherapy to examine the relation between child- and parent-therapist alliance and treatment outcomes.



### The Alliance-Outcome Association in Child and Adolescent Psychotherapy

Research on the association between therapeutic alliance and treatment outcome of child and adolescent psychotherapy remained sparse until the late 1990s, but since then the quantity of research grew considerably. As a consequence, various meta-analyses have been conducted. Alliance-outcome studies in child and adolescent therapy typically use a correlational design, in which the alliance may be measured in the beginning of treatment (often in the 3rd session), at midtreatment, or concurrently at posttreatment. The treatment setting is rather heterogenous when compared to adult psychotherapy, because treatment may be individual, family- or community based, or in a residential treatment setting.

Several meta-analyses on the alliance-outcome association in child populations using broad inclusion criteria found small to moderate effect sizes ($r$ = .20, $k$ = 43, Karver et al., 2019; $r$ = .14, $k$ = 38, McLeod, 2011; $r$ = .19, $k$ = 29, Shirk & Karver, 2011). A recent meta-analysis by Karver et al. (2018), focusing on the prospective association between alliance and outcomes, found a mean effect size of $r$ = .19 ($k$ = 28). Additionally, a recent meta-analysis specifically focusing on the association between self-report alliance ratings and outcomes in adolescent populations (mean age between 12-19) found a larger effect size ($r$ = .29, $k$ = 27, Murphy & Hutton, 2018).

Although previous meta-analyses have substantially increased knowledge on the alliance-outcome association in child and adolescent psychotherapy, several limitations remain. First, previous meta-analyses have used somewhat different inclusion criteria, making it difficult to conclude what variables have a moderating effect on the alliance-outcome association. Previous meta-analyses using broad inclusion criteria (e.g., concurrent

alliance-outcome relations within a broad range of therapies; McLeod, 2011; Shirk & Karver, 2011) found several moderators of the alliance-outcome association such as child age (showing larger effects for children than for adolescents); type of problem behavior (showing larger effects for children with externalizing behavior than for those with other types of problem behavior); and timing of alliance (showing larger effects for alliance measured later in treatment than for alliance measured early in treatment). A more recent meta-analysis by Karver et al. (2018), using more stringent criteria (focusing on prospective alliance-outcome associations), found that the alliance-outcome association was stronger for outpatient treatment (vs. inpatient treatment), non-RCT studies (vs. RCT studies), and internalizing disorders (vs. substance abuse treatment and eating disorders). Also, behavioral treatment showed larger effects than mixed treatment approaches. Murphy and Hutton (2018) focused specifically on the client-therapist ratio (number of therapists divided by number of clients) as a moderator of the alliance-outcome association, in order to investigate client and therapist contributions to the alliance-outcome association. However, no significant moderating effect was found.

Second, most studies have measured alliance at a single time point or several time points in relation to treatment outcome, using only these single time points or averaged scores. Some authors have suggested that changes in alliance may be more predictive of outcome than measurement of alliance at a single time point, considering that the alliance may be viewed as an ongoing dynamic process instead of a static characteristic at one point in time (Bickman et al., 2012; Chiu et al., 2009; Owen et al., 2016). Shirk and Karver (2011) found only two studies in which alliance change was measured, which makes it difficult to draw firm conclusions about the effect of alliance change on outcomes. In the meta-analyses by McLeod (2011), Karver et al. (2018), and Murphy and Hutton (2018), no distinction was made between alliance change and alliance measured at a single time point. More recently, studies on the alliance in child and adolescent psychotherapy have increasingly focused on (early) changes in alliance in relation to outcomes (Chiu et al., 2009; Marker et al., 2013; Owen et al., 2016). Therefore, the growing number of studies on alliance change and outcomes makes it possible to meta-analytically examine whether (early) alliance change is related to treatment outcomes in child and adolescent psychotherapy, and to examine whether this association is stronger than the alliance-outcome association based on alliance measurements at a single time point.

Third, previous meta-analyses have not yet investigated the effect of alliance agreement on treatment outcomes. Some authors have suggested that the level of agreement on the quality of the alliance (also referred to as alliance congruence or lack thereof, i.e. alliance discrepancy) between client and therapist is a better indicator of their attunement to each other than the assessment of client and therapist perspectives of alliance separately, because the alliance is an interpersonal (dyadic) process (Marmarosh & Kivlighan, 2012; Zilcha-Mano et al., 2016). Client-therapist agreement has gained increased attention in alliance research in child and adolescent psychotherapy (Fjermestad et al., 2016; Ormhaug

et al., 2015; Zandberg et al., 2015), which makes it possible to examine whether agreement between child and therapist alliance ratings is related to treatment outcomes.

Also, prior meta-analyses have not addressed the alliance as a potential moderator of treatment outcomes. A moderator of treatment outcomes can be seen as a variable that determines for whom or under which conditions an intervention has positive results (Kraemer et al., 2002). There are several definitions of moderation in the context of intervention research: Kraemer at al. (2002) stated that a moderating variable should precede treatment, whereas Baron and Kenny (1986) stated that a third variable may affect the outcome of treatment, regardless of timing of the assessment. The alliance has generally been studied as a predictor of treatment outcomes instead of a moderator of outcomes (Barber et al., 2010). Nonetheless, by examining the alliance as a moderator of treatment outcomes, particularly in studies focusing on different treatments or several groups (e.g., experimental vs. control), the strength of the alliance-outcome association in a given treatment relative to another treatment can be determined, which has not yet been addressed in previous meta-analyses. Therefore, we also examined the interaction effect of alliance and treatment condition on treatment outcomes.



Further, the parent-therapist alliance has received increasing attention in alliance research in child and adolescent therapy. Previous meta-analyses have examined the association between parent-therapist alliance and child outcomes, indicating small to moderate effect sizes ($r$ = .24; Karver et al., 2019; $r$ = .15; McLeod, 2011). The parent-therapist alliance is recognized as an important factor in establishing positive outcomes in child and adolescent therapy, considering that parents may play a large role in the therapy process, including the referral of youth and transportation to treatment, and active participation in home-based or family-based treatment (McLeod, 2011; Welmers-Van de Poll et al., 2018). Therefore, the present meta-analysis also focused on studies reporting the parent-therapist alliance in child and adolescent therapy. Addressing the various alliance-outcome associations in separate meta-analyses allows for moderator analyses to gain an in-depth understanding of these alliance-outcome associations.

## The Present Study

As the number of studies on the alliance in child and adolescent psychotherapy has substantially increased over the past decades, it is important to meta-analytically investigate important aspects of the alliance in relation to treatment outcomes, such as the changes in alliance and alliance agreement, as well as alliance as a moderator of treatment outcomes. In order to provide an accurate estimate of the alliance-outcome association, changes in alliance, alliance agreement, alliance as a moderator, type of alliance (child- or parent-therapist), and type of outcome (child or parent outcomes) need to be addressed in separate meta-analyses. Also, the increased number of studies makes it possible to test various moderators that might have an effect on these associations, and to test putative moderators

of the alliance-outcome association that failed to reach significance in previous meta-analyses, possibly due to lack of statistical power.

The main aim of this study was to increase insight into the importance of the therapeutic alliance as a factor for successful psychotherapy. In order to achieve this goal, we examined the association between therapeutic alliance and treatment outcomes, taking into account separate associations between child-therapist or parent-therapist alliance, and child or parent outcomes. We examined studies examining single time points or averaged time point measurement scores of alliance and studies on changes in alliance in separate meta-analyses. We also addressed the relation between child-therapist alliance agreement and child outcomes, and the moderating effect of alliance on treatment outcomes separately. Third, we investigated whether study characteristics, such as age category, type of problem behavior, and timing of alliance, moderated the alliance-outcome association. It was expected that the relation between child- and parent-therapist alliance and treatment outcomes would be small to moderate, and that alliance changes as well as alliance agreement would be more strongly related to treatment outcomes than alliance measured at a single time point.

## METHODS

### Sample of Studies

The inclusion criteria in the present meta-analysis were chosen to increase comparability with previous meta-analyses on the alliance-outcome association in child and adolescent psychotherapy using broad inclusion criteria (McLeod, 2011; Shirk & Karver, 2011). This strategy enabled us to also compare our results to recent meta-analyses using more stringent inclusion criteria (Karver et al., 2018; Murphy & Hutton, 2018). The following selection criteria were formulated in order to find relevant studies for inclusion in the separate meta-analyses: (a) the alliance construct had to be operationalized as a collaborative relationship, consisting of a *bond* aspect and a *collaborative* aspect; (b) the mean age of the child had to be below 18 years; (c) the child and/or parents had to receive a therapeutic intervention; (d) the child and/or parent had to be the unit of measurement (instead of the family as a whole); (e) the therapist with whom an alliance was formed had to be clearly specified (as opposed to forming an alliance with multiple therapists); and (f) the study had to include a validated (formal) measure of the alliance between therapist and child, adolescent, or parent; (g) the study had to contain some assessment of treatment outcome and; (h) the study had to report on the bivariate association between alliance and outcome. To be included in the analysis regarding the association between changes in alliance and outcomes, (i) the study had to either assess 'alliance shifts' (such as change scores between two time points) or measure alliance scores at different time points (opposed to using single time points or averaged scores). To be included in the analysis regarding the association between child-therapist alliance agreement and child outcomes, (j) studies had to assess the level of alliance agreement between child and therapist alliance ratings

(e.g., an interaction between ratings) in relation to outcome of treatment. We examined the moderating effect of alliance on treatment outcomes in a separate meta-analysis. To be included in this analysis, (k) the study had to report on an interaction effect between alliance and treatment condition. Studies were excluded if subjects were treated for a physical problem, if the alliance concept was not clearly described, or if the timing of alliance or outcome assessment was not clearly described.

In an attempt to find all relevant published articles, various stepwise search procedures were carried out. First, an online database search covering up to June 1st 2021 was conducted on Sciencedirect, Wiley Online Library, Taylor and Francis Online, SAGE Journals, Web of Science, and Springerlink. Also, a search was conducted in Google Scholar, ProQuest, and the Digital Commons database in order to identify possibly overlooked published studies and unpublished dissertations. In doing so, the terms *therapeutic alliance, working alliance, helping alliance, treatment alliance* and *therapeutic relationship* were crossed with *youth*, *child*, *adolescent*, and used in various combinations. A detailed search script can be requested from the first author. The results produced by this search method was limited by including the word *outcome* or *change* in abstract sections, resulting in 2,175 references.



Second, relevant research reviews and prior meta-analyses (e.g., Elvins & Green, 2008; Karver et al., 2006, 2019; McLeod, 2011; Murphy & Hutton, 2018; Shirk & Karver, 2003; Shirk et al., 2011) were used to identify possibly overlooked studies. Thirteen additional studies were identified by this method. In order to retrieve several studies and dissertations, authors were contacted.

The stepwise search method resulted in a pool of 168 studies of which the full text was reviewed. A total of 69 studies were excluded; primary reasons were that studies used a different operationalization of the alliance construct (e.g., Gatta et al., 2010; Smith et al., 2008). Also, some studies did not focus on a therapeutic outcome or a therapeutic intervention, or focused on the relation between alliance and other therapy process variables, or the outcome of a single session of therapy (e.g., DeVet et al., 2003; King et al., 2006; Langberg et al., 2016). Studies were also excluded if results regarding the same alliance-outcome associations were reported in another study using the same sample (e.g., Ayotte et al., 2016; Duppong Hurley et al., 2017; Fjermestad et al., 2018; Marcus et al., 2011; Shelef & Diamond, 2008; Zorzella et al., 2017).

If studies reported on outcomes of multivariate analyses, authors were contacted in order to obtain results of the bivariate association between alliance and treatment outcome. In total, 32 authors were contacted to obtain additional information regarding 38 studies. Thirteen authors responded to our inquiry. Five out of 13 authors who did respond, were able to provide the information requested. Thirteen out of 38 studies were excluded from the study sample, the remaining 25 studies could be included in at least one meta-analysis.

The search resulted in a total pool of 99 studies. Studies included in the meta-analysis are listed in Appendix F. A flow chart of our search strategy and screening process is depicted in Figure G1 in Appendix G.

## Coding of the Studies

We considered a number of variables to include in moderator analyses, which are divided into study characteristics, sample characteristics, alliance characteristics, outcome characteristics, and treatment characteristics.

### *Study Characteristics*

Information about the study was coded for each manuscript: author name(s), publication status, journal and journal impact factor, year of publication, and the country in which the study was conducted (United States, Europe, other).

### *Sample Characteristics*

Information about the following variables was coded for each study: child mean age and age category (mean age above and below 12 years), and child gender (percentage male). Regarding age category, studies were coded based on mean age of children above and below 12 years. Also, the client-therapist ratio (number of children or parents divided by the number of therapists) was coded. The following information regarding child problem behavior was coded: target problem of the child for which the sample received treatment (internalizing problems, externalizing problems, mixed problems, substance abuse problems, and eating disorders).

### *Alliance Characteristics*

Each alliance measure used in the studies was coded into the following categories: type of alliance (child-therapist alliance and parent-therapist alliance), alliance rater (child-report, parent-report, therapist-report, and observer-report), and timing of alliance assessment (early, middle, late, averaged, and posttreatment). For the meta-analysis on alliance change and outcomes, type of change was coded into changes across sessions, changes from early to midtreatment, and changes from early to posttreatment.

### *Outcome Characteristics*

Each outcome measure in the studies was coded into the following characteristics: symptom domain (symptom severity, functioning, treatment satisfaction, dropout/retention, and delinquency), outcome rater (child-report, parent-report, report by others, such as teacher, therapist, independent observer, or life event data), same rater of alliance and outcome, and outcome timing (midtreatment, posttreatment, and follow-up).

### *Treatment Characteristics*

Treatments described in the studies were coded into several treatment characteristics: treatment setting (outpatient, inpatient, community/home-based, school, or not defined), use of a treatment manual, and treatment type (CBT and non-CBT).

The studies that met the inclusion criteria were coded by the first author. Twenty percent of the studies were independently coded by the second author using a coding manual in order to calculate intercoder agreement. Reliability was computed with Cohen's kappa for categorical variables and intraclass correlations coefficients (ICCs) for continuous variables. The inter-rater reliability proved to be satisfactory, with kappas ranging from .78 to 1.00, and intraclass correlations (average measures) ranging from .73 to 1.00.

## Statistical Analyses



We calculated Pearson's *r* to estimate the association between therapeutic alliance and outcomes of therapy. All calculations and conversions were done using the formulas of Rosenthal (1991), Rosenthal and DiMatteo (2001), Lipsey and Wilson (2001), and Borenstein et al. (2009).

If an association was in the expected direction (i.e., higher levels of therapeutic alliance were related to improved outcome), a positive *r*-value was assigned, whereas a negative *r*-value was assigned to associations that were not in the expected direction. For three studies reporting non-significant results without reporting test-statistics, we could not calculate an effect size, since the necessary information to calculate Pearson's *r* was not available. In these cases, we assigned the value zero, which is a conservative estimate of the true effect size (Mullen, 1989). Sensitivity analyses were conducted to test whether the studies which were assigned an effect size of zero had an effect on the overall effect size estimate, by excluding these effect sizes from the dataset.

We checked for outliers by calculating standardized scores of effect sizes in order to identify standardized scores larger than 3.29 or smaller than −3.29 (Tabachnik & Fidell, 2013). Regarding the meta-analysis on the alliance-outcome association, four effect sizes (two exceeding 3.29 and two below −3.29) were identified as outliers. Regarding the meta-analysis on the alliance as a moderator of outcomes, one effect size exceeding -3.29 was identified as an outlier. To reduce the impact of these outliers, the raw *r* or *d* values of the outliers were substituted by a new *r* or *d* value equal to the highest (or lowest) effect size within the normal range. Sensitivity analyses were conducted to test whether the outliers had an effect on the overall effect size estimates, by conducting the analyses including outliers.

Each correlation was transformed to Fisher's *Z* before combined effect sizes were calculated and moderator analyses were conducted (Mullen 1989), and transformed back into Pearson *r* after analyses for reporting and interpretation. The resulting effect sizes were

interpreted following Cohen's (1988) guidelines; *r* is a small effect when at least .10, *r* is a medium effect when at least .30, and *r* is a large effect when at least .50.

Most studies reported on multiple raters of alliance, multiple times of measurement, and multiple outcomes. Therefore, in most studies, more than one effect size could be calculated. In traditional meta-analytic approaches, it is assumed that the subjects in the study samples are independent (Hedges & Olkin, 1985). Consequently, calculating multiple effect sizes per study violates the assumption of non-independence (Lipsey & Wilson, 2001). However, more recent approaches to meta-analysis use a three-level random effects model (Cheung, 2014; Van den Noortgate et al., 2013, 2014). A three-level meta-analytic approach models three sources of variance: sampling variance of the observed effect sizes (level 1), variance between effect sizes from the same study (level 2), and variance between studies (level 3). An important advantage of this three-level approach to meta-analysis is that (dependent) effect sizes extracted from the same study can be included in the analysis. By using all available effect sizes, all information can be preserved and more statistical power can be achieved compared to traditional approaches to meta-analysis.

In the present study, this three-level model was used to calculate an overall estimate of the difference between alliance ratings, the association between ratings, and the association between alliance and outcomes of psychotherapy. Also, it was used for moderator analysis to examine whether the observed variation was explained by theoretical or methodological characteristics of studies.

For the statistical analyses we used the function "rma.mv" of the metafor package (Viechtbauer, 2010, 2015) in the R environment (version 3.4.1; R Core Team, 2015). The R syntax and protocol (Assink & Wibbelink, 2016) were based on procedures outlined by Van den Noortgate et al. (2013, 2014), modeling three sources of variance. The *t*-distribution was used for testing individual regression coefficients of the meta-analytic models and for calculating the corresponding confidence intervals (Knapp & Hartung, 2003). This approach accounts for uncertainty of the amount of residual variance, which leads to a more accurate estimate of the standard errors and fewer type-I errors.

Iterative maximum likelihood estimation (MLE) procedures were applied to estimate unknown parameters. The intercept only model (without moderators) through MLE is equivalent to the traditional random-effects model by Hedges and Olkin (1985). In the overall model, covariates can be added to test potential moderators. Van den Noortgate and Onghena (2003) compared multilevel meta-analysis to the traditional meta-analytic approach and concluded that the results obtained by the maximum likelihood multilevel approach are not substantially different from the results of the traditional random-effects approaches for intercept only models. Moreover, the MLE procedure is in general superior to the traditional fixed-effects approaches (Van den Noortgate & Onghena, 2003).

For all associations, forest plots were generated based on the guidelines outlined by Fernández-Castilla et al. (2020) extended for use in three-level meta-analysis. Forest plots in traditional meta-analysis provide a visual representation of the effect size of a study based on the sample size and confidence interval of effect sizes. The extended forest plot contains additional confidence intervals based on the sampling variance of individual observed effect sizes within the study and the number of effect sizes within the study. Therefore the forest plots provide information about the variability in effect sizes among studies and the relative contribution to the overall effect size estimate.

When models were extended with categorical moderators consisting of three or more categories, the omnibus test of the null hypothesis that all group mean effect sizes are equal, followed an *F*-distribution. To determine whether the variance between effect sizes from the same study (level 2), and the variance between studies (level 3) were significant, two separate one-tailed log-likelihood-ratio-tests were performed in which the deviance of the full model was compared to the deviance of a model excluding one of the variance parameters. The sampling variance of observed effect sizes (level 1) was estimated by using the formula of Cheung (2014). All model parameters were estimated using the restricted maximum likelihood estimation method and before moderator analyses were conducted, each continuous variable was centered around its mean and dichotomous dummy variables were created for all categorical variables (Tabachnick & Fidell, 2012). In multilevel regression analyses, the intercept is the reference category, while the dummy variables test if, and to what extent, the other categories deviate from the reference category. The log-likelihood-ratio-tests were performed one-tailed and all other tests were performed two-tailed. We considered $p$-values < .05 as statistically significant.



To increase comparability with prior meta-analyses, we tested whether the alliance-outcome effect sizes changed by applying more strict inclusion criteria, similar to the work of Shirk et al. (2011), such as exclusion of studies in which alliance and outcome were measured concurrently, and exclusion of studies in which treatment was not delivered individually. We also examined the overall effect size by excluding studies in which the mean age of children was below 12 years, excluding studies that did not use child self-report alliance ratings, and excluding studies in which the outcome was dropout, treatment satisfaction, and delinquency, following the method of Murphy and Hutton (2018).

## Publication Bias

The tendency of selected publication by journals to accept papers that report significant associations - referred to as publication bias - can influence the overall estimates of effect sizes in a meta-analysis and therefore its conclusions (Rosenthal, 1979, 1991; Rothstein, 2008). This problem was designated as the 'file drawer problem' by Rosenthal (1979). We obtained all unpublished material as best as possible, which is the simplest solution to the problem of publication bias (Mullen, 1989; Rosenthal, 1991).

We applied three methods to address potential publication bias. First, we used Egger regression (Egger et al., 1997; Fernández-Castilla et al., 2021), which tests the degree of funnel plot asymmetry as measured by the intercept from regression of standard normal deviates (effect size divided by its standard error) against the estimate's precision (the inverse of the standard error). A significant Egger regression test indicates funnel plot asymmetry. Following Fernández-Castilla et al. (2021), an adapted version of the Egger's test was used in which we investigated the relation between the effect size and the standard error in order to account for dependency of effect sizes. In doing so, the standard error of the effect size was included as a moderator in the regression model. Consequently, the degree of funnel plot asymmetry was interpreted via the moderator's regression weight and associated *p*-value.

A second method to address publication bias was the use of an extension of the funnel plot test for use in three-level meta-analysis (Fernández-Castilla et al., 2021). For all associations, both funnel plots of all effect sizes and plots of study effects are depicted, following guidelines by Fernández-Castilla et al. (2020) on use of funnel plots in three-level meta-analyses. Funnel plots of all effect sizes are commonly used in meta-analysis to examine whether publication bias or selective reporting bias might be present (missing effect sizes at the lower-left part of the funnel plot). In a funnel plot of study effects, separate random-effects meta-analyses are conducted on each study, resulting in a dot based on the sample size and the number of effect sizes within the study.

We also performed a trim and fill procedure for all associations (Duval & Tweedie, 2000), testing whether effect sizes are missing on the left side of the distribution - since publication bias would only be likely to occur in case of non-significant or unfavorable (i.e., negative) results, indicating that the overall estimate found in the meta-analysis is an overestimation of the true effect. Concurrently, the trim and fill procedure could also indicate missing studies on the right side of the distribution, indicating that the overall estimate found in the meta-analysis is an underestimation of the true effect.

Previous simulation studies have shown that effect size estimates based on imputation of effect sizes after the trim-and-fill procedure may not be accurate (Fernandez-Castilla et al., 2021; Peters et al., 2007). Therefore, we used the trim-and-fill procedure as outlined by Fernández-Castilla et al. (2021) which estimates the number of effect sizes imputed at the right side or left side of the distribution, to examine whether the overall effect size estimates were sensitive to potential presence of publication bias. Fernández-Castilla et al. (2021) have proposed a method in which the estimated number of effect sizes on the left side of the funnel plot distribution is related to a cutoff value of the estimator of the trim-and-fill method, based on the population ES (effect size) and power (number of effect sizes). If the number of imputed studies exceeds the cutoff value, this may be indicative of publication bias.

# RESULTS

## Descriptive Statistics of the Study Sample

Table G1 (see Appendix G) shows the characteristics of the study sample included in the meta-analyses. The sample contains a total of 99 studies, which is divided into different subgroups. The studies were completed between 1992 and 2021. Eighty-one studies examined the association between child-therapist alliance and outcomes (including changes in child-therapist alliance, child-therapist alliance congruence and alliance as a moderator), 37 studies examined the association between parent-therapist alliance-outcomes (including child and parent outcomes), and 19 studies examined both child-therapist and parent-therapist alliance and outcomes. The majority of studies relied on self-report measures to assess alliance (child-therapist alliance, $n$ = 63, 77.8%; parent-therapist alliance, $n$ = 33, 89.1%). Thirty studies (37.0%) used therapist reports to assess child-therapist alliance and 13 studies (35.1%) used therapist reports to assess parent-therapist alliance. In 25 studies (30.9%), an observer measure was used to assess child-therapist alliance, and in 11 studies (29.7%) to assess parent-therapist alliance. Forty-six studies out of 99 alliance-outcome studies (46.4%) used multiple perspectives (i.e., client, therapist, or observer) to assess the alliance in relation to outcomes.



The studies reporting on the alliance-outcome association included a total of $N$ = 8,496 children, and $N$ = 3,442 parents. The mean sample size of children per study was $M$ = 111.79 ($SD$ = 341.05) and the mean sample size of parents per study was $M$ = 90.58 ($SD$ = 143.03). The mean age of the children was $M$ = 12.42 ($SD$ = 3.42; range 1.91-18.00).

## Meta-analyses on Correlations Between Alliance and Outcomes

In Table 1 all mean effect sizes of alliance-outcome associations are presented. First, several meta-analyses were conducted on the association between child-therapist alliance and child outcomes. The overall mean effect size ($r$ = .165, 95% CI = .128, .203, $p$ < .001) for the association between the child-therapist alliance and child outcomes was significant (62 studies, 66 independent samples, 399 ESs). This indicates that when children have a more positive therapeutic alliance with their therapist, they have a better outcome of therapy. Sensitivity analysis including four outliers did not significantly change the overall ES ($r$ = .169, 95% CI = .131, .207, $p$ < .001). Also, sensitivity analysis excluding the effect sizes which were assigned a zero due to non-significant findings reported in primary studies, did not result in a significant change in the overall ES ($r$ = .201, 95% CI = .160, .241, $p$ < .001, $k$ = 58, 351 ESs), based on the overlap of the confidence intervals.

Second, twenty studies (consisting of 23 independent samples, reporting 62 effect sizes) focused on changes in child-therapist alliance and child outcomes. The overall mean effect size for this association was significant ($r$ = .188, 95% CI = .101, .271, $p$ < .001), indicating that positive changes in child-therapist alliance during treatment are related to better outcomes of therapy. Third, we found an overall mean effect size ($r$ = .205, 95% CI = .015,

.382, $p$ = .036) for the association between child-therapist alliance agreement and child outcomes (seven studies, six independent samples, 27 ESs). Notably, this analysis did not include changes in the level of agreement of the child-therapist alliance during treatment in relation to outcomes of child therapy. Fourth, we found a significant overall mean effect size ($r$ = .092, 95% CI = .053, .131, $p$ < .001) for the child-therapist alliance as a moderator of child outcomes between treatment groups (e.g., experimental group vs. control group, 11 studies, 11 independent samples, 67 ESs). Sensitivity analysis including one outlier did not significantly change the overall ES ($r$ = .088, 95% CI = .033, .138, $p$ < .001). This finding indicates that the quality of the child-therapist alliance has a small moderating effect on treatment outcomes.

Fifth, we examined the influence of parent-therapist alliance on child and parent outcomes. Thirty-four studies (consisting of 38 independent samples, reporting 129 effect sizes) reported on the association between the parent-therapist alliance and child outcomes. The overall mean effect size for this association was significant ($r$ = .130, 95% CI = .081, .179, $p$ < .001). This indicates that when parents have a better therapeutic alliance with their child's therapist, children have a better outcome of therapy. The overall mean effect size for the association between the parent-therapist alliance and parent outcomes (13 studies, 14 independent samples, 86 ESs) was significant ($r$ = .235, 95% CI = .092, .367, $p$ = .002), suggesting that when parents have a better therapeutic alliance with their therapist, they have a better outcome of therapy. Forest plots of all associations are depicted in Appendix H.

**Table 1.** *Results for the Overall Mean Effect Sizes for the Association Between Child- or Parent-Therapist Alliance and Child- or Parent Outcomes*

| Type of association | # Studies[a] | # ES | Mean *r* (SE) | 95% CI | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ | % Var. level 1 | % Var. level 2 | % Var. level 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| Child alliance - child outcomes | 66 | 399 | .165 (0.020) | .128, .203 | <.001*** | 0.009*** | 0.015*** | 39.9 | 22.2 | 37.9 |
| Child alliance change - child outcomes | 23 | 62 | .188 (0.044) | .101, .271 | <.001*** | 0.019*** | 0.025*** | 18.4 | 35.2 | 46.5 |
| Child-therapist alliance agreement - child outcomes | 6 | 27 | .205 (0.094) | .015, .382 | .036* | .013** | .047*** | 17.7 | 17.5 | 64.8 |
| Moderating effect of child alliance on child outcomes | 11 | 67 | .092 (0.020) | .053, .131 | <.001*** | 0.000 | 0.002 | 86.8 | 0.0 | 13.2 |
| Parent alliance - child outcomes | 38 | 129 | .130 (0.025) | .081, .179 | <.001*** | 0.001* | 0.011*** | 39.2 | 6.8 | 54.0 |
| Parent alliance - parent outcomes | 14 | 86 | .235 (0.074) | .092, .367 | .002** | 0.026*** | 0.052*** | 11.0 | 29.9 | 59.1 |

*Note.* CI = confidence interval; ES = effect size; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained; [a] The number of studies reflects the number of independent samples.
** p < .01, *** p < .001.

## Moderator Analyses

The results of the overall effect size estimates of the various types of alliance-outcome associations showed that there was significant variability in effect sizes within studies (level 2), as well as between studies (level 3). This variability stressed the need for moderator analyses to explain this variance. We considered various moderators related to study characteristics, sample characteristics, alliance characteristics, outcome characteristics, and treatment characteristics (see Appendix I, Tables I1-I4). Although the results indicated significant within- and between-study variability for the association between alliance agreement and outcomes, this study sample contained only 5 studies, therefore moderator analyses were not carried out, given the small number of studies.

Moderator analyses on the association between child-therapist alliance and child outcomes indicated that problem type proved to be a significant moderator, indicating larger associations for youth with externalizing problems and mixed problems than for youth with internalizing problems. Alliance rater also was a significant moderator, indicating larger effects for child self-report alliance ratings compared to observer ratings. Regarding outcome characteristics, outcome domain proved to be a significant moderator; larger effects were found for treatment satisfaction than for symptom severity, functioning, or dropout. A significant moderating effect was also found for ratings of alliance and outcome by the same rater, showing larger effects for ratings of alliance and outcome by the same rater than for different raters. No significant moderating effects were found for study characteristics and treatment characteristics.

Further, moderator analyses were conducted on the association between change in child-therapist alliance and child outcomes. Type of alliance change proved to be a significant moderator, showing larger effects on outcome for change of alliance from early to posttreatment than for changes from early to midtreatment and studies that measured alliance each session. Also, larger effects were found for adolescents (age > 13 years) than for children. Ratings of alliance and outcome by the same rater also was a significant moderator, showing larger effects for ratings of alliance and outcome by the same rater than for ratings by different raters. No moderating effects were found for study characteristics and treatment characteristics.

Further, moderator analyses of the association between parent-therapist alliance and child outcomes were conducted. A significant moderating effect was also found for client-therapist ratio, indicating larger effects on outcome when the client therapist ratio was higher (fewer therapists per client). Also, a significant moderating effect was found for timing of outcome assessment, indicating larger effects when outcome was measured posttreatment compared to follow-up. Further, no moderating effects were found for study characteristics, alliance characteristics, and treatment characteristics.

We finally conducted moderator analyses on the association between parent-therapist alliance and parent outcomes. A significant effect was found for timing of alliance assessment; smaller effects were found for assessment of alliance early in treatment than for assessment of alliance at midtreatment, late in treatment, and compared to averaged alliance measurements. With regard to outcome characteristics, outcome domain proved to be a significant moderator, indicating larger effects were found for treatment satisfaction than for functioning or dropout. Also, a significant effect was found for ratings of alliance and outcome by the same rater, showing larger effects for ratings of alliance and outcome by the same rater than for ratings by different raters. No significant moderating effects were found for study characteristics, sample characteristics, and treatment characteristics.

### Publication Bias

Three methods were applied to address publication bias. First, we used extended versions of Egger regression (Egger et al., 1997) and the funnel plot test adapted from Fernández-Castilla et al. (2021), to test the degree of funnel plot asymmetry. We also conducted trim-and-fill analyses (Duval & Tweedie, 2000; Fernández-Castilla et al., 2021). The z-statistics and p-values of the Egger regression tests, funnel plot tests, and trim-and-fill analyses for all meta-analyses are depicted in Table 2. Funnel plots of all associations are depicted in Appendix J.

The results of both Egger regression analyses revealed no indications of funnel plot asymmetry and the funnel plot test proved significant for the association between parent-therapist alliance and child outcomes. Results of the trim-and-fill procedures indicated that for none of the associations, effect sizes were imputed on the left side of the plot. These findings showed no indication of the presence of publication bias.

**Table 2.** *Results for Publication Bias Analyses*

| Type of association | # *k* (# ES) | Funnel plot test | Egger test | Trim-and-fill analyses | | |
|---|---|---|---|---|---|---|
| | | | | # ES imp. L | # ES imp. R | # ES > cutoff |
| Child alliance - child outcomes | 66 (399) | z = -0.50, *p* = .62 | z = 0.19, *p* = .85 | 0 | 6 | no |
| Child alliance change - child outcomes | 23 (62) | z = 0.01, *p* = .99 | z = 1.01, *p* = .31 | 0 | 3 | no |
| Child-therapist alliance agreement - child outcomes | 6 (27) | z = 0.13, *p* = .90 | z = -0.37, *p* = .71 | 0 | 1 | no |
| Moderating effect of child alliance on child outcomes | 11 (67) | z = 1.35, *p* = .18 | z = -1.26, *p* = .21 | 0 | 0 | no |
| Parent alliance - child outcomes | 38 (129) | z = 2.54, *p* = .01 | z = 1.48, *p* = .14 | 0 | 3 | no |
| Parent alliance - parent outcomes | 14 (86) | z = 0.84, *p* = .40 | z = -0.55, *p* = .58 | 0 | 1 | no |

*Note.* #*k* = number of studies; #ES = number of effect sizes; imp. L = number of effect sizes on the left side of the funnel plot distribution; imp. R. = number of effect sizes on the right side of the funnel plot distribution; #ES > cutoff = the number of imputed ES on the left side in relation to the cutoff value of the estimator of the trim-and-fill method proposed by Fernández-Castilla et al. (2021). This estimate is based on the population ES and power (number of effect sizes).

### Comparing Our Findings with Prior Meta-Analyses

The main effect sizes for the alliance-outcome association were compared to main effect sizes found in previous meta-analyses, by using different inclusion criteria. After excluding studies in which alliance and outcome were measured concurrently in order to increase comparability with the meta-analysis of Karver et al. (2018), the mean effect size of the association between child-therapist alliance and child outcomes ($r$ = .168, 95% CI = .129, .206, $p$ < .001, $k$ = 60, 256 ESs), and the association between parent-therapist alliance and child outcomes did not change ($r$ = .111, 95% CI = .065, .157, $p$ < .001, $k$ = 34, 90 ESs). In order to compare our results with findings of Murphy and Hutton (2018), we excluded studies that used other than child self-report alliance ratings, studies that focused on children (mean age below 12 years), and studies focusing on dropout, treatment satisfaction, and delinquency. The mean effect size for the alliance-outcome association did increase ($r$ = .219, 95% CI = .164, .273, $p$ < .001, $k$ = 32, 125 ESs), however, based on the overlap of confidence intervals, this increase was non-significant.



## DISCUSSION

A series of meta-analyses was conducted to provide a comprehensive overview of the alliance-outcome association in child and adolescent psychotherapy by examining several types of alliance-outcome associations. We found that associations between child-therapist alliance and child outcomes, changes in child-therapist alliance and child outcomes, child-therapist alliance as a moderator of child outcomes, and parent-therapist alliance and child outcomes were small ($r$ = .09 - $r$ = .19). Associations between child-therapist alliance agreement and outcomes and between parent-therapist alliance and parent outcomes were moderate ($r$ = .21 and $r$ = .24, respectively). Ratings of alliance and outcome by the same informant was a consistent moderator across different alliance-outcome associations, showing larger effect sizes for studies in which alliance and outcomes were rated by the same informant. Also, alliance rater (larger effects for child self-report ratings compared to observer ratings), problem type (larger effects for externalizing behavior than for internalizing problems), and outcome domain (larger effects for treatment satisfaction compared to other types of outcome) were significant moderators of the association between child-therapist alliance and child outcomes.

The overall effect size estimate of the child-therapist alliance-outcome association ($r$ = .17) is comparable to previous estimates ($r$ = .20; Karver et al., 2019; $r$ = .14; Mcleod, 2011; $r$ = .19; Shirk & Karver, 2011). A novelty of the present study is that alliance change and congruence of child-therapist alliance scores (as opposed to measurement of a single perspective) were examined in relation to outcomes. Based on the notion that positive alliance shifts throughout treatment would be associated with better outcomes, we expected this association to be stronger than alliance measured at a single time point. However, the overall effect size was also small ($r$ = .19). Studies on the association between alliance congruence and treatment outcomes are currently few in number, although alliance con-

gruence is viewed as an important and perhaps better indicator of child-therapist alliance. The overall effect size found in this study was small to moderate ($r$ = .21). The association between parent-therapist alliance and child outcomes found in the present study ($r$ = .13) was smaller than in the most recent meta-analysis by Karver et al. ($r$ = .24; 2019). Of note, the number of effect sizes for parent-therapist alliance included in our sample was substantially larger (128 ES in our study vs. 54 in the study of Karver et al.). To conclude, the present meta-analytic review shows that the alliance-outcome association in child and adolescent psychotherapy is generally small to moderate, depending on the type of alliance being measured (child-therapist vs. parent-therapist alliance), and whether the alliance was measured at a single time point, as alliance change during therapy, or as alliance congruence.

The effect size for the association between child-therapist alliance and child outcomes found in the present study was smaller than the alliance-outcome association found in adult psychotherapy ($r$ ranging from .09 to .21 in the present study vs. $r$ = .28, Flückiger et al., 2018; $r$ = .21, Horvath & Bedi, 2002; $r$ = .28, Horvath et al., 2011; $r$ = .22, Martin et al., 2000, in adult populations). McLeod (2011) stated that comparing findings between meta-analyses on the alliance-outcome association in child and adult psychotherapy is difficult due to the variability in treatments in child and adolescent psychotherapy. Another problem regarding the comparison of meta-analyses on alliance and outcomes between child and adult psychotherapy are the different inclusion criteria that are used in meta-analyses. An important difference is that meta-analyses on the alliance-outcome association in adult populations have almost exclusively focused on individual therapy, and only included studies in which alliance was measured prior to outcome, whereas most meta-analyses in child populations also included studies in which alliance and outcome were measured concurrently. Shirk et al. (2011) addressed this problem by conducting a meta-analysis based on inclusion criteria used in adult studies (i.e., focusing on individual therapy and prospective alliance-outcome studies), and found only a slightly larger mean effect size of $r$ = .22. In the meta-analysis of McLeod (2011), the overall mean effect size of $r$ = .14 did not change after applying more strict inclusion criteria. More recently, Karver et al. (2018) found an overall effect size of $r$ = .19, focusing on the prospective alliance-outcome association. We also tested whether the alliance-outcome effect sizes changed after applying more strict inclusion criteria, resulting in a mean effect size of $r$ = .17. In addition, although the same differences apply, our finding regarding the association between parent-therapist alliance and parent outcomes ($r$ = .24) is comparable to the effect sizes found in adult populations. It can therefore be concluded that the association between child-therapist alliance and child outcomes is somewhat smaller than for the adult-therapist alliance. This might be explained by conceptual differences in the alliance concept between child and adult psychotherapy; the child-therapist and parent-therapist alliance in the context of child therapy may consist of different defining elements compared to the client-therapist alliance in adult psychotherapy (for a review, see Shirk et al., 2010).

Several moderator variables of the association between child-therapist alliance and child outcomes found in the present study are consistent with findings of previous meta-analyses (Karver et al., 2018; McLeod, 2011; Shirk et al., 2011). The finding that the alliance-outcome association is stronger in children with externalizing problems is consistent with previous meta-analyses (McLeod, 2011; Shirk & Karver, 2003, 2011), suggesting that children with externalizing behavior may benefit more from a positive alliance with their therapist. Single-source ratings of alliance and outcome proved to be a significant moderator, showing larger effects when alliance and outcome were measured by the same informant, which is consistent with results from previous meta-analyses. However, this finding should be seen as a form of bias due to common method variance (Hoyt, 2002; Podsakoff et al., 2003). It is therefore plausible that stronger associations found for self-report ratings and treatment satisfaction are a result of the same-informant artifact, and should therefore be interpreted with caution.



Age was also found to be a moderator (larger effects for adolescents than for primary school-aged children), but only for the alliance change - outcome association. This finding differs from McLeod (2011) and Shirk and Karver (2011) in which larger associations were found for children compared to adults. However, Karver et al.'s (2018) updated meta-analysis also did not find a moderating effect of age, suggesting that findings of alliance-outcome studies are mixed with regard to differences between age groups (Karver et al., 2018). Alliance timing was also identified in previous meta-analyses to moderate the alliance outcome association, suggesting larger associations when the alliance was measured later in treatment. Our findings indicated stronger associations, but it only proved to be a significant moderator of the association between parent-therapist alliance and parent outcomes.

No significant moderating effect was found for client-therapist ratio of the child-therapist alliance and child outcomes, which is consistent with a recent meta-analysis by Murphy and Hutton (2018). The client-therapist ratio may be seen as an index of the therapist's contribution to the alliance, and these findings thus imply that therapist variability in the child-therapist alliance is not related to child outcomes of therapy.

Considering the ongoing discussion in the psychotherapy literature regarding the relative importance of the alliance as a common factor in therapy versus specific factors, such as standardized treatment protocols, it is assumed that therapists are less focused on the alliance when using treatment protocols, whereas in usual clinical care therapists may be more prone to work on the alliance with the client (Flückiger et al., 2012). It is therefore suggested that stronger alliance-outcome correlations would be expected in non-protocolized care as usual compared to protocolized treatments. Several meta-analyses on the alliance-outcome association in adults have addressed this point, concluding that research design, use of treatment manual, and type of treatment (CBT vs. non-CBT) did not moderate the alliance-outcome association (Flückiger et al., 2012, 2018). In the

present meta-analysis, use of treatment manual and whether treatment was CBT did not moderate the alliance-outcome association.

Further, it should be noted that psychotherapy outcomes for both internalizing and externalizing problem behavior in child and adolescent therapy are generally small (Cuijpers et al., 2020; Weisz et al., 2017), and may even disappear in the case of comorbid and complex problems of youth (Weisz et al., 2013, 2017), if carried out with lack of treatment integrity (Goense et al., 2016), or if basic therapeutic conditions that relate to the basic needs for self-determination of youth are not fulfilled (Van der Helm, Kuiper, & Stams, 2018). Therefore, research on psychotherapy outcomes should focus on rigorous (multimodal) interventions, carried out with high levels of treatment integrity, that target specific (multiple) psychological and social problems over extend periods of time under clinically representative conditions, taking into account factors related to the complex interaction between therapist and client(s), in particular their alliance, and the context of treatment, including relevant common and specific therapeutic factors that have been shown to affect treatment outcomes (contextual model; Wampold & Imel, 2015).

## Limitations and strengths

The current study has various limitations. To increase comparability with previous meta-analyses, we only included studies that assessed the alliance between child or parent and therapist and excluded other types of alliances. This means that the alliance between the therapist and the family as a whole was not included in our meta-analysis. A recent meta-analysis on this type of alliance found an overall ES of $r$ = .18 (Welmers-Van de Poll et al., 2018). Also, in recent years, studies have been conducted on the alliance between child or parent and the treatment team as a whole - often found in residential treatment - and its relation to outcome (e.g., Lamers, 2016; Nevid et al., 2016; Rienecke et al., 2016). These studies were also not included in the current meta-analysis, because these types of alliance are not comparable to the individual child-therapist or parent-therapist alliance.

We chose to include effect sizes of bivariate alliance-outcome associations and exclude effect sizes that were the result of multivariate analyses. We contacted authors of studies in which bivariate associations were not reported. However, in most cases we were not able to obtain data to calculate an effect size and were forced to exclude studies from our sample. Another problem in general regarding the in- and exclusion of effect sizes pertains to the increased use of sophisticated analyses in primary studies, such as multilevel modeling and growth curve modeling to examine the alliance-outcome association. Karver et al. (2018) stated that while this development is of course beneficial for psychotherapy research, it may hinder meta-analytic studies with regard to calculation of effect sizes if primary studies do not include information on bivariate associations in a correlation table.

In contrast to the association between alliance measured at a single time point and treatment outcome, it is difficult to parameterize alliance change as well as alliance congruence

to assess the bivariate association with outcome. Studies used a variety of analyses to operationalize alliance change, such as simple gain scores, residualized change scores, or a difference test between groups (e.g., improved vs. not improved alliance), and most studies reported the association between alliance change and outcome, while controlling for other variables. We chose to include these studies in our meta-analysis on the association between alliance change and outcomes in order to compare this effect size estimate to the association between alliance measured at single time points in relation to outcome.

We used the client-therapist ratio as a moderator of the alliance-outcome association in order to examine the variability in clients and therapists in relation to treatment outcomes. However, the client-therapist ratio is an indirect indicator of client and therapist variability (Del Re et al., 2012, 2021). To properly address patient and therapist variability in relation to treatment outcome, studies should examine the alliance-outcome association using multilevel modeling to account for the within-therapist (i.e., client level) and between-therapist (i.e., therapist level) effects. In our study sample, relatively few studies reported analytic strategies to account for clustering of the data (multiple clients treated by the same therapist).



To investigate the robustness of our findings, we applied several methods to address publication bias. The results indicated no presence of publication bias, although these findings should be interpreted with caution, because specific methods to take into account dependency of effect sizes in the assessment of publication bias in three-level meta-analysis are still under development (Assink & Wibbelink, 2016; Fernández-Castilla et al., 2021; Rodgers & Pustejovsky, 2021).

Despite these limitations, several strengths can be noted. The present meta-analysis included a substantially larger number of studies than previous meta-analyses, 99 in total of which 62 were included in the child-therapist alliance - outcome association. We adopted broad inclusion criteria, while also applying more stringent inclusion criteria to compare our results to other meta-analyses. An important strength is that we addressed several types of alliance-outcome associations: alliance measured at a single time point, alliance changes, alliance congruence, and the role of alliance as a moderator in relation to treatment outcome in separate meta-analyses, resulting in the most comprehensive overview of the alliance-outcome association in child and adolescent psychotherapy that is currently available. We used an advanced method of three-level meta-analysis in which all available effect sizes of included studies could be used, increasing statistical power of the moderator analyses.

## Implications for Future Research and Clinical Practice

Several directions for future research should be acknowledged. Research on the conceptual differences between the client-therapist alliance in adult and child psychotherapy is needed to advance alliance research. Specifically, the child-therapist and parent-therapist alliance

in the context of child therapy may consist of different defining elements, especially compared to the client-therapist alliance in adult psychotherapy. Research found some evidence to suggest that child, parent, and therapist perspectives on alliance overlap to some extent, but can be seen as different perspectives (Roest et al., in preparation). It is therefore important that in examining the alliance-outcome association, multiple perspectives should be included as well as the congruence in alliance scores. In the present study sample, few studies focused on alliance agreement between child and therapist in relation to treatment outcomes, although in recent years there has been increased attention for this particular aspect of alliance (Fjermestad et al., 2016; Ormhaug et al., 2015; Zandberg et al., 2015).

Recent studies on the alliance in adult psychotherapy have focused on the alliance at a dyadic level, taking into account the interdependency of alliance ratings between client and therapist, as well as within and between person variance (Friedlander et al., 2012; Zilcha-Mano, 2016; Zilcha-Mano et al., 2016). These relatively new analytic approaches in alliance research should be applied to child psychotherapy in order to better understand the child-therapist and parent-therapist alliance. In addition, relatively few studies in alliance research in child psychotherapy have used statistical methods to account for therapist effects (i.e., multiple children are treated by the same therapists), when addressing the alliance-outcome association (e.g., Fjermestad et al., 2016; Marcus et al., 2011; Owen et al., 2016). Future studies should benefit from the available statistical methods to disentangle the alliance-outcome association.

Also, it is argued that measurement of alliance at a single time point is inadequate to measure its relation with outcomes (Crits-Cristoph et al., 2011; Doran, 2016). Relatively few studies in the current study sample reported on alliance changes and alliance shifts in relation to outcomes as well as alliance patterns (e.g., linear, quadratic) in relation to outcome. Most studies measured alliance at a single time point or did not measure alliance more than three times throughout treatment. Recent studies have focused on the development of alliance trajectories, although their relation to treatment outcomes has been rarely assessed (Chu et al., 2014; Halfon et al., 2019; Hudson et al., 2014). Future studies should address alliance changes and alliance trajectories in relation to outcomes to increase knowledge on the alliance-outcome association.

Finally, future research on the alliance-outcome association should focus on the relation between early symptom change and early alliance. In studying the alliance-outcome association, it is important to take into account the impact of early symptom change on early alliance, because early symptom improvement might lead to a positive alliance, which may overestimate the impact that alliance has on treatment outcome (Barber et al., 2010; Barber et al., 2014; Hendriksen et al., 2014; Xu & Tracey, 2015). This 'reversed causation' poses a threat to the validity of the alliance as a predictor of treatment outcomes (Barber et al., 2010; Doran, 2016; Kazdin, 2009; Norcross & Lambert, 2014; Zilcha-Mano et al., 2014). In a recent meta-analysis on the alliance-outcome association in eating disorders,

a reciprocal relation was found between alliance and outcomes, such that early symptom improvement was related to subsequent alliance quality, and that alliance was also related to subsequent symptom change (Graves et al., 2017). Few studies in our study sample addressed the reciprocal relation between (early) alliance and symptom change in child and adolescent psychotherapy, producing mixed results (Capaldi et al., 2016; Cirasola et al., 2021; Chiu et al., 2009; Keeley et al., 2011; Liber et al., 2010; Marker et al., 2013; Ormhaug et al., 2014; Reyes, 2013). At present, there is limited evidence that early symptom change predicts early alliance, and there is some evidence that early alliance predicts subsequent symptom change, controlling for previous symptom change.

Our findings have some implications for clinical practice as well. Despite the fact that the overall effect sizes of the alliance-outcome associations are in the small to moderate range, given that alliance quality is significantly associated with child outcomes, the alliance can be considered as an important factor in child and adolescent psychotherapy. Enabling children and parents to give feedback on the alliance with their therapist, and to actively discuss and reflect upon this process, could provide therapists and their clients insight into how children and parents perceive and experience the alliance. Also, discussing the alliance between all participants in therapy could prove helpful to deal with strengths and difficulties during the therapeutic process, and to prevent strains and ruptures in the alliance. Investing in the quality of the therapeutic alliance in child and adolescent psychotherapy should be considered at least as important as using a treatment protocol or specific well-established therapist techniques.

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# APPENDIX F. Studies included in the meta-analyses on the alliance-outcome association

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## APPENDIX G. Flow chart of the search strategy and summary of studies in the meta-analyses on the alliance-outcome association

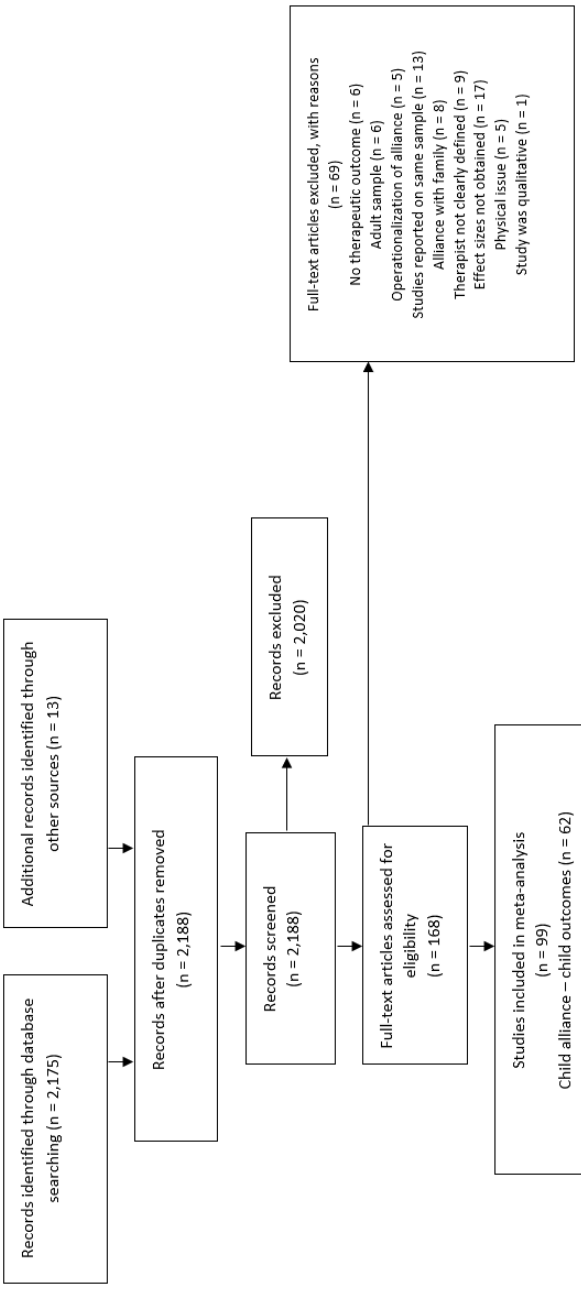


*Figure G1.* PRISMA Flow Chart of the Search Strategy and Identification of Studies

**Table G1.** *Summary of Studies Included in the Meta-Analyses*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| Accurso (2012)[a] | Externalizing | 9.00 | 68.0 | C | TASC | C/T/O | 85 | .08 | | | | | |
| | | | | P | TASC | P/T/O | 107 | | .01 | .00 | | | |
| Anderson et al. (2012) | Mixed | 12.12 | 47.0 | C | WAI-S | C | 131 | .15 | | | | | |
| | | | | P | WAI-S | P | 126 | | .10 | | | | |
| Auerbach et al. (2008) | Substance Use | 16.00 | 92.0 | C | WAI-S | C/T | 36 | | | | | | .14 |
| Avny (2011)[a] | Internalizing | 12.09 | 41.5 | C | TASC, TPOCS-A | C/O | 21 | .09 | | | | -.07 | |
| | | | | P | TASC | P | 21 | | .16 | | | | |
| Ayotte et al. (2017) | Mixed | 14.98 | 0.0 | C | WAI | C/T | 130 | .13 | | | | | |
| Becker (2011)[a] | Mixed | 6.50 | 38.0 | C | SRS | P | 24 | | .34 | | | | |
| Bickman et al. (2012) | Mixed | 14.80 | 52.0 | C | TAQS | C/T | 209 | | | | | .17 | |
| | | | | P | TAQS | P/T | 203 | | | | | | |
| Bhola & Kapur (2013) | Internalizing | 14.50 | 0.0 | C | WAI-S | C | 40 | .34 | | | | | |
| Boon et al. (2012) | Mixed | 16.10 | 57.1 | C | C-SRS | C | 28 | | | | | .50 | |
| Bourion-Bedes et al. (2013) | Eating Disorders | 15.30 | 5.6 | C | HAQ | C | 108 | .15 | | | | | |
| | | | | P | HAQ | P | 85 | | .00 | | | | |
| Boyer et al. (2018) | Externalizing | 14.41 | 72.5 | C | TPOCS-A | O | 69 | .21 | | | .17 | | |
| Brewe et al. (2020) | ASD | 15.28 | 78.4 | C | VTAS-R | O | 37 | .25 | | | | | |
| Capaldi (2010)[a] | Internalizing | 14.60 | 0.0 | C | WAI | O | 40 | -.04 | | | | | |
| Capaldi et al. (2016) | Internalizing | 15.30 | 0.0 | C | WAI-S | C | 61 | | | | .11 | | |
| Cavell et al. (2009) | Externalizing | 8.20 | 60.7 | C | MAS/NRI[d] | C/T | 75 | | | | .14 | | |
| Cavell & Hughes (2000) | Externalizing | 7.55 | 76.7 | C | MAS/NRI[d] | C/T | 48 | | | | .14 | | |
| Cenerelli (2013)[a] | Mixed | - | 69.3 | C | WAI-S | C | 60 | .43 | | | | | |
| Chiu et al. (2009) | Internalizing | 9.74 | 70.6 | C | TPOCS-A | O | 34 | .19 | | | | .24 | |

**Table G1.** *Summary of Studies Included in the Meta-Analyses (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| Cirasola et al. (2021) | Internalizing | 15.54 | 26.0 | C | WAI-S | C/T | 223 | | | | .15 | | |
| Creed (2007)[a] | Internalizing | 11.20 | 57.4 | C | TASC, TABBS-A | C/T/O | 68 | .18 | | | | | |
| Darchuk (2007)[a] | Substance Use | 16.27 | 62.2 | C | WAI-S | C/T | 36 | .04 | | | | | |
| Dauber (2004)[a,b] | Substance Use | 15.30 | 79.0 | C | VTAS-R | O | 53 | | | | .02 | | |
| De Greef et al. (2018) | Mixed | 10.74 | 60.4 | P | WAI-S | P/T | 146 | | | .31 | | | |
| De Haan et al. (2013) | Mixed | 13.00 | 38.2 | C | C-SRS | C | 70 | | | | | .24 | |
| Duppong Hurley et al. (2015) | Externalizing | 15.29 | 57.1 | C | TAQS | C/T | 94 | .21 | | | | .12 | |
| Ellison et al. (2012) | Eating Disorders | 14.57 | 5.1 | P | WAI-S | P | 46 | | .04 | | | | |
| Eltz et al. (1995) | Mixed | 15.00 | 65.8 | C | HAQ | C | 38 | .29 | | | | .62 | |
| Elvins (2012)[a] | Internalizing | 14.23 | 28.4 | C | VTAS | O | 112 | .00 | | | .06 | | |
| Feder & Diamond (2015) | Internalizing | 15.50 | 5.0 | P | VTAS-R(SF) | O | 19 | | .24 | | | | |
| Fernández et al. (2016) | Mixed | 15.90 | 25.0 | C | WAI | C/T | 13 | .33 | | | | | |
| | | | | P | WAI | P/T | 15 | | .51 | | | | |
| Fjermestad et al. (2020)[c] | Internalizing | 11.50 | 47.5 | C | TASC | C/T | 73 | | | | | | .15 |
| Fjermestad et al. (2016)[c] | Internalizing | 11.40 | 49.5 | C | TASC | C/T | 91 | .15 | | | | -.01 | .00 |
| Flicker et al. (2008) | Substance Use | 15.70 | 84.0 | C | VTAS-R | O | 43 | -.03 | | | | | |
| | | | | P | VTAS-R | O | 43 | | .17 | .17 | | | |
| Forsberg (2011)[a] | Eating Disorders | 14.41 | 9.0 | C | WAI-S | O | 78 | | | | .18 | | |
| Gatta et al. (2012) | Mixed | 12.00 | 69.4 | C | WAI-S | O | 60 | .00 | | | | | |
| | | | | P | WAI-S | O | 60 | | .00 | | | | |
| Guzder et al. (2011) | Mixed | 8.51 | 86.7 | P | WAI-S | P | 44 | | .00 | | | | |

**Table G1.** *Summary of Studies Included in the Meta-Analyses (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| Halfon et al. (2021) | Mixed | 6.86 | 51.9 | C | TPOCS-A | O | 79 | .00 | | | | | |
| Harvey (2008) | Mixed | 7.95 | 63.6 | P | TAS | P | 18 | | .52 | | | | |
| Hogue et al. (2006)[b] | Substance Use | 15.47 | 81.0 | C | VTAS-R | O | 100 | | | | | .07 | |
| | | | | P | VTAS-R | O | 44 | | | | | | |
| Holmqvist et al. (2008) | Externalizing | 17.17 | 100 | C | HAQ | C/T | 34 | .15 | | | | | |
| Hukkelberg & Ogden (2013) | Externalizing | 8.70 | 74.0 | P | WAI-S | P | 331 | | .14 | | | | |
| Karpenko (2010)[a] | Mixed | 14.26 | 43.0 | C | WAI-S | C/T | 113 | .38 | | | | | |
| Karver et al. (2008) | Internalizing | 14.60 | 15.0 | C | AOCS, WAI | C/O | 23 | .08 | | | | | |
| Kaufman et al. (2005) | Internalizing | 15.10 | 49.6 | C | WAI-S | C | 93 | .14 | | | | | |
| Kazdin & Durbin (2012) | Externalizing | 9.60 | 75.3 | C | TASC | C/T | 97 | .44 | | | | .11 | .50 |
| Kazdin & McWhinney (2018) | Externalizing | 7.30 | 76.5 | P | WAI | P/T | 234 | | | .35 | | | |
| Kazdin & Whitley (2006) | Externalizing | 7.00 | 75.7 | P | WAI | P/T | 218 | | .26 | | | | |
| Kazdin et al. (2006) | Externalizing | 9.60 | 75.5 | C | TASC | C/T | 77 | .40 | | | | | |
| | | | | P | WAI | P/T | 77 | | .21 | .34 | | | |
| Keeley et al. (2011) | Internalizing | 13.16 | 56.0 | C | TASC | C/T | 25 | | | | | .54 | |
| | | | | P | WAI | P/T | 25 | | | | | | |
| Kendall (1994) | Internalizing | 11.00 | 60.0 | C | CPTR | C | 47 | .06 | | | | | |
| Kendall et al. (1997) | Internalizing | 11.00 | 58.0 | C | CPTR | C | 94 | .00 | | | | | |
| Kerns et al. (2018) | ASD | 10.81 | 81.0 | C | TASC | C/T | 61 | .04 | | | | | |
| | | | | P | TASC | P | 53 | | -.12 | | | | |
| Kim (2007)[a] | Mixed | 13.10 | 48.0 | C | RRS | C | 19 | -.01 | | | | | |
| | | | | P | RRS | P | 22 | | | .42 | | | |
| Kirsch et al. (2018)[d] | Internalizing | 12.52 | 32.3 | C | WAI-S | C | 65 | .02 | | | | | |
| | | | | P | WAI-S | P | 65 | | .23 | | | | |

**Table G1.** *Summary of Studies Included in the Meta-Analyses (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| Krause et al. (2015) | Mixed | 15.00 | 25.0 | C | WAI | C/T | 20 | .27 | | | | | |
| Labouliere et al. (2017) | Internalizing | 15.89 | 36.8 | C | AOCS | O | 38 | .38 | | | | | |
| Lange et al. (2018) | Mixed | 15.30 | 66.0 | P | TAM-R | P | 848 | | .05 | | | | |
| Liber et al. (2010) | Internalizing | 10.22 | 57.7 | C | TPOCS-A | O | 52 | .06 | | | .20 | .00 | |
| Loos et al. (2020)[d] | Internalizing | 12.66 | 30.3 | C | WAI-S | C/T | 76 | .40 | | | | | |
| | | | | P | WAI-S | P/T | 57 | | .32 | | | | |
| Maaskant et al. (2016) | Mixed | 7.85 | 46.0 | P | WAI-S | P | 46 | | .00 | .00 | | | |
| Marker et al. (2013) | Internalizing | 10.19 | 48.7 | C | TASC | C/P/T | 81 | | | | | .19 | |
| Mattos et al. (2017) | Mixed | 15.30 | 49.0 | C | TASA | C | 59 | .15 | | | | | |
| McLeod et al. (2017) | Internalizing | 10.28 | 60.0 | C | TASC, TPOCS-A, VTAS-R, | C/T/O | 50 | .11 | | | | | |
| McLeod & Weisz (2005) | Internalizing | 10.30 | 59.1 | C | TPOCS-A, TASC | C/O | 22 | .21 | | | | | |
| | | | | P | TPOCS-A, TASC | P/O | 22 | | .29 | | | | |
| Myers (2008)[a] | ASD | 6.95 | 73.0 | P | WAI-S | P/T | 44 | | .30 | .70 | | | |
| Ormhaug & Jensen (2018)[e] | Internalizing | 15.10 | | C | TASC | C/T | 152 | .14 | | | | | |
| | | | | P | TASC | P/T | 96 | | .12 | | | | |
| Ormhaug et al. (2015)[e] | Internalizing | 15.10 | 19.2 | C | TASC | C/T | 130 | .12 | | | | | .07 |
| Ormhaug et al. (2014)[e] | Internalizing | 15.10 | 20.5 | C | TASC | C | 49 | .15 | | | .09 | .00 | |
| Owen et al. (2016) | Mixed | 14.91 | 48.0 | C | SRS | C | 2,990 | | | | | .23 | |
| Özsoy (2018)[a] | Mixed | 7.20 | 49.0 | C | TPOCS-A | O | 49 | .00 | | | | | |
| Pereira et al. (2006) | Eating Disorders | 15.10 | 9.0 | C | WAI | O | 28 | .04 | | | | | |

**Table G1.** *Summary of Studies Included in the Meta-Analyses (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| | | | | P | WAI | O | 28 | | .05 | | | | |
| Pestle (2012)[a] | Internalizing | 10.70 | 65.3 | C | CTA, TPOCS-A | C/O | 75 | .00 | | | | | |
| Rabbitt et al. (2016) | Externalizing | 8.48 | 58.0 | P | PTRS | P/T | 86 | | .16 | | | | |
| Ricketts (2014)[a] | Internalizing | 12.3 | 58.3 | C | CPTR | C | 11 | .17 | | | | | |
| Rimestad et al. (2020) | Externalizing | 6.4 | 75.6 | P | WAI-S | P | 64 | | .00 | .20 | | | |
| Robbins et al. (2006) | Substance Use | 14.90 | 80.0 | C | VTAS-R | O | 30 | .00 | | | | | |
| | | | | P | VTAS-R | O | 30 | | .00 | .00 | | | |
| Robbins et al. (2008) | Substance Use | 15.46 | 71.0 | C | VTAS-R | O | 23 | .42 | | | | | |
| | | | | P | VTAS-R | O | 23 | | .22 | .22 | | | |
| Robbins et al. (2003) | Substance Use | 15.00 | 58.8 | C | VTAS-R | O | 34 | .09 | | | | | |
| | | | | P | VTAS-R | O | 34 | | -.36 | -.36 | | | |
| Rodriguez (2011)[a] | Internalizing | 9.40 | 53.3 | P | WAI | O | 54 | | .24 | | | | |
| Sapyta (2006)[a] | Externalizing | 8.50 | 80.0 | P | WAI-S | P | 138 | | .00 | | | | |
| Sarlin (1992)[a] | Mixed | 14.91 | 37.5 | C | HAQ | C/T | 46 | .34 | | | | .42 | |
| Shirk et al. (2008) | Internalizing | 15.80 | 33.3 | C | TASA | C/T | 50 | .22 | | | | | |
| Smith (1999)[a] | Mixed | 13.80 | 60.0 | C | HAQ | C | 48 | .43 | | | | | |
| Smith (2010)[a] | Mixed | 3.00 | 62.0 | P | WAI-S | P | 24 | | .35 | | | | |
| Staehlin (2016)[a] | Mixed | 9.50 | 56.0 | C | C-SRS | C | 96 | | | | | .04 | |
| | Mixed | 14.60 | 38.0 | C | SRS | C | 239 | | | | | .27 | |
| Stjerneklar et al. (2019) | Internalizing | 15.2 | 22.0 | C | WAI-S | C | 65 | .15 | | | | | |
| Sullivan (2012)[a] | Mixed | 13.88 | 52.0 | C | SRS TAQS | C | 100 | | | | | .25 | |
| Tetzlaff et al. (2005) | Substance Use | 16.00 | 83.0 | C | WAI-S | C | 434 | .19 | | | | | |

**Table G1.** *Summary of Studies Included in the Meta-Analyses (continued)*

| Study | Problem Type | *Mean* Age | % Male | Type of TA | Measure | TA Rater | *N* [f] | Weighted mean effect sizes[g] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *r* C-CO | *r* P-CO | *r* P-PO | *r* Mod. | *R* ΔC-O | *r congr.* CT-CO |
| Thompson (2016)[a] | Internalizing | 15.16 | 21.4 | C | WAI-S | C/T | 42 | -.05 | | | | | |
| | | | | P | WAI-S | P/T | 42 | | .16 | | | | |
| Van Benthem et al. (2020) | Substance Use | 18.00 | 51.2 | C | WAI-S | C/T | 127 | .30 | | | | | .41 |
| Van Doorn et al. (2017) | Internalizing | 10.00 | 34.8 | C | TASC | C | 88 | .00 | | | -.11 | | |
| Van Orman (1996)[a] | Mixed | 14.50 | 47.0 | C | FTAS | C | 30 | .45 | | | | | |
| | | | | P | FTAS | P | 26 | | .36 | | | | |
| Vattuone (2013)[a] | ASD | 1.91 | 71.0 | P | WAI | P | 45 | | | .15 | | | |
| Ventura (2010)[a] | Externalizing | 14.86 | 57.1 | C | SRS | C | 56 | | | | | .31 | |
| Zack et al. (2015) | Substance Use | 17.39 | 68.0 | C | WAI-S | C | 98 | .28 | | | | | |
| Zaitsoff et al. (2008) | Eating Disorders | 16.10 | 2.5 | C | HAQ | C | 80 | .13 | | | | | |
| Zandberg et al. (2015) | Internalizing | 12.43 | 48.8 | C | TASC/ TASA | C/T | 50 | | | | | | -.01 |
| Zorzella et al. (2015) | Mixed | 9.58 | 30.8 | C | TASC | C/T | 60 | .21 | | | | .00 | |

*Note.* ΔC/P = Changes in child or parent alliance; AOCS = Alliance Observational Coding System; C = Child; CO = Child outcome; congr. = Congruence; C/P-T = Correlation between child or parent and therapist alliance ratings; CPTR = Child's Perception of the Therapeutic Relationship; (C-)SRS = (Child) Session Rating Scale; CTA = Child-Therapist Alliance questionnaire; FTAS = Family Therapeutic Alliance Scale; HAQ = Helping Alliance Questionnaire; MAS = Mentor Alliance Scale; Mod. = Moderating effect of alliance; NRI = Network of Relationships Inventory; O = Observer; P = Parent; PO = Parent outcome; PTRS = Parent-Therapist Relationship Scale; RRS = Relationship Rating Scale; T = Therapist; TA = Therapeutic alliance; TABBS-A = Therapeutic Alliance-Building Behavior Scale - Alliance subscale; TAM-R = Therapeutic Adherence Measure - Revised; TAQR = Therapeutic Alliance Quality Rating; TAQS = Therapeutic Alliance Quality Scale; TAS = Therapeutic Alliance Scale; TASA = Therapeutic Alliance Scale for Adolescents; TASC(-R) = Therapeutic Alliance Scale for Children (Revised); TPOCS-A = Therapy Process Observational Coding System - Alliance Scale; VTAS(-R) = Vanderbilt Therapeutic Alliance Scale (- Revised); WAI(-S) = Working Alliance Inventory (Short Form).

[a] Doctoral dissertation or master's thesis. [b] Studies used the same or overlapping samples. [c] Sample sizes are based on the mean of all calculated effect sizes. [d] Mean effect sizes are based on the mean of all calculated effect sizes within a study.

# APPENDIX H. Forest plots of meta-analyses on the alliance-outcome association

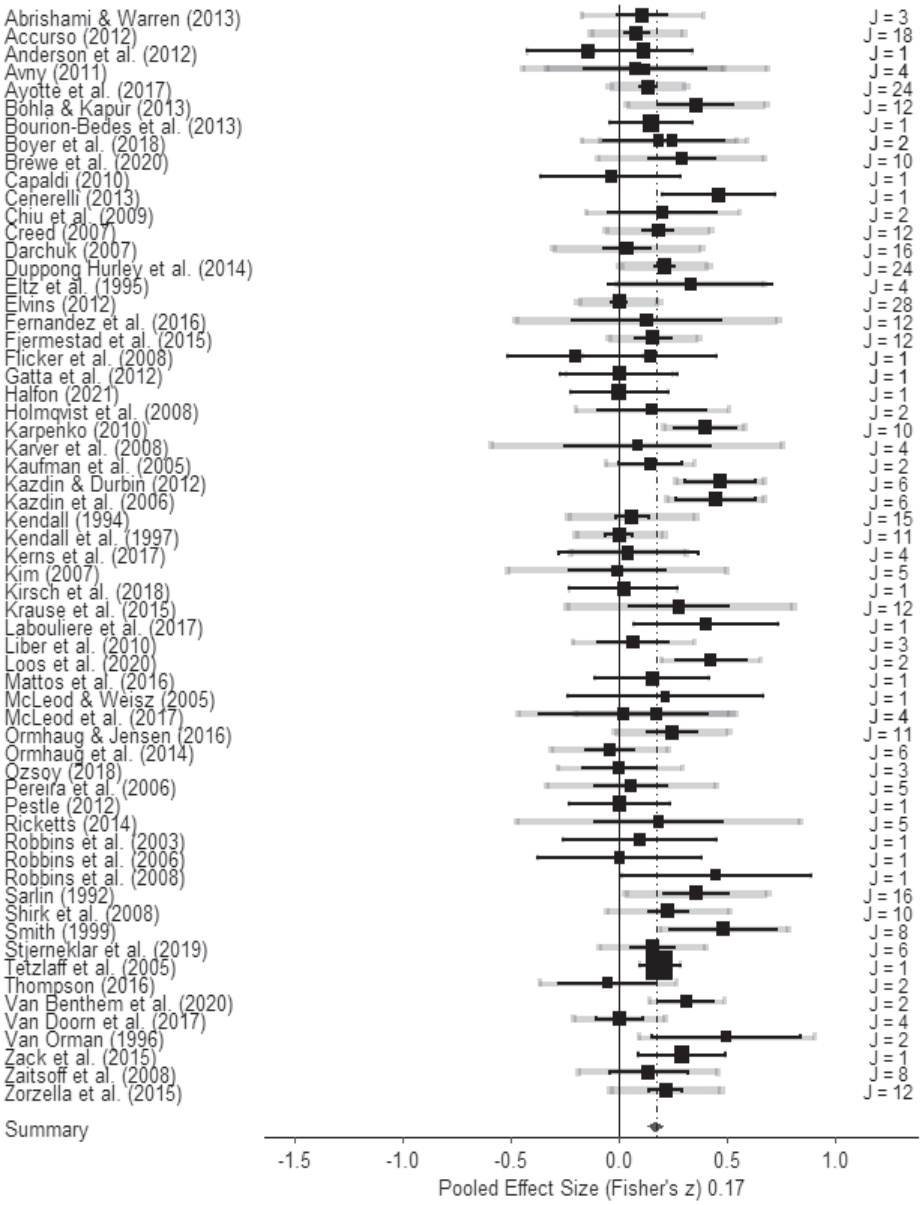


*Figure H1.* Forest plot of association between child-therapist alliance and child outcomes
*Note.* J = number of effect sizes

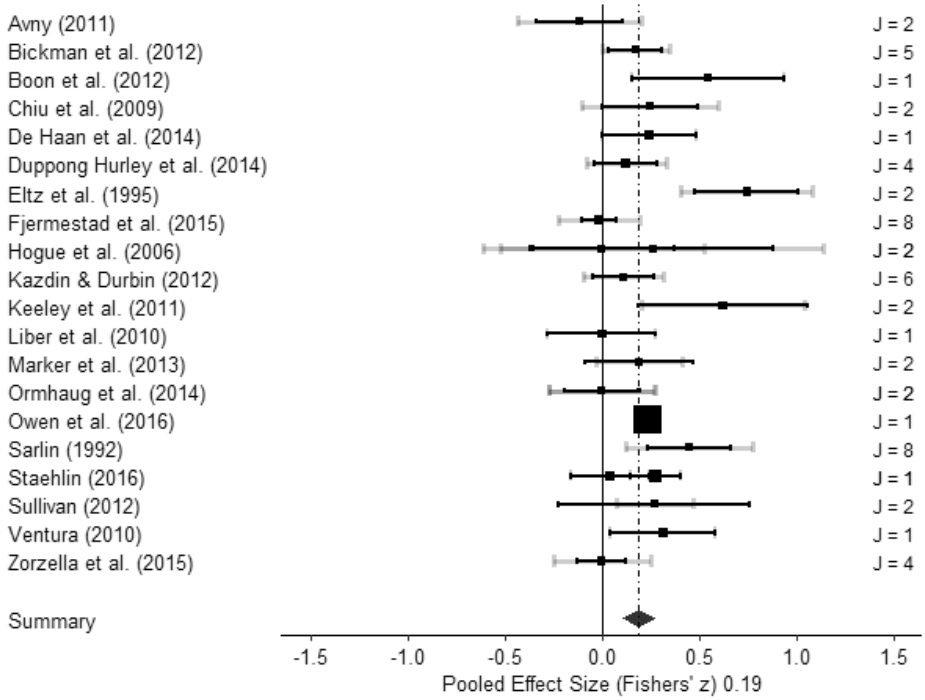


*Figure H2.* Forest plot of association between child-therapist alliance change and child outcomes
*Note.* J = number of effect sizes

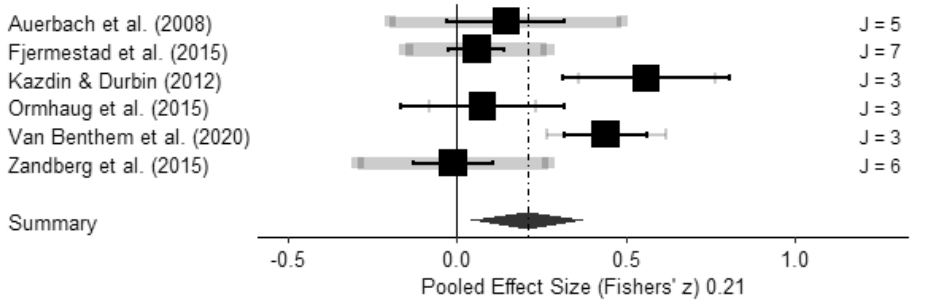


*Figure H3.* Forest plot of association between child-therapist alliance agreement and child outcomes
*Note.* J = number of effect sizes

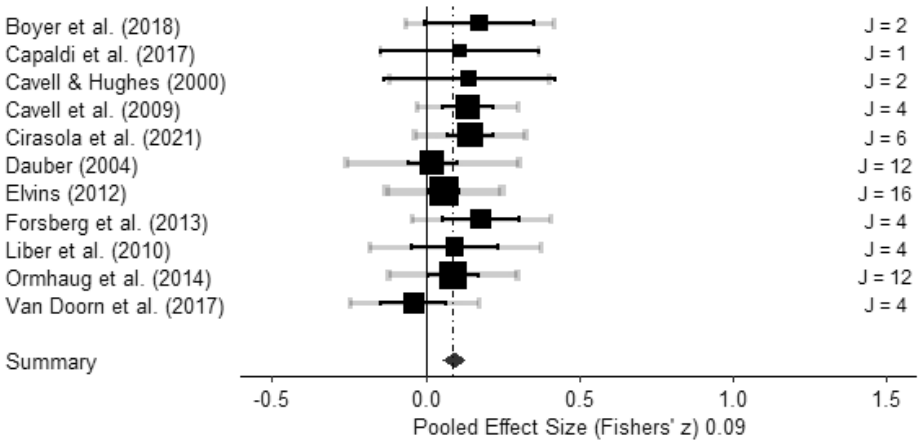


*Figure H4.* Forest plot of association between child-therapist alliance as a moderator of child outcomes
*Note.* J = number of effect sizes

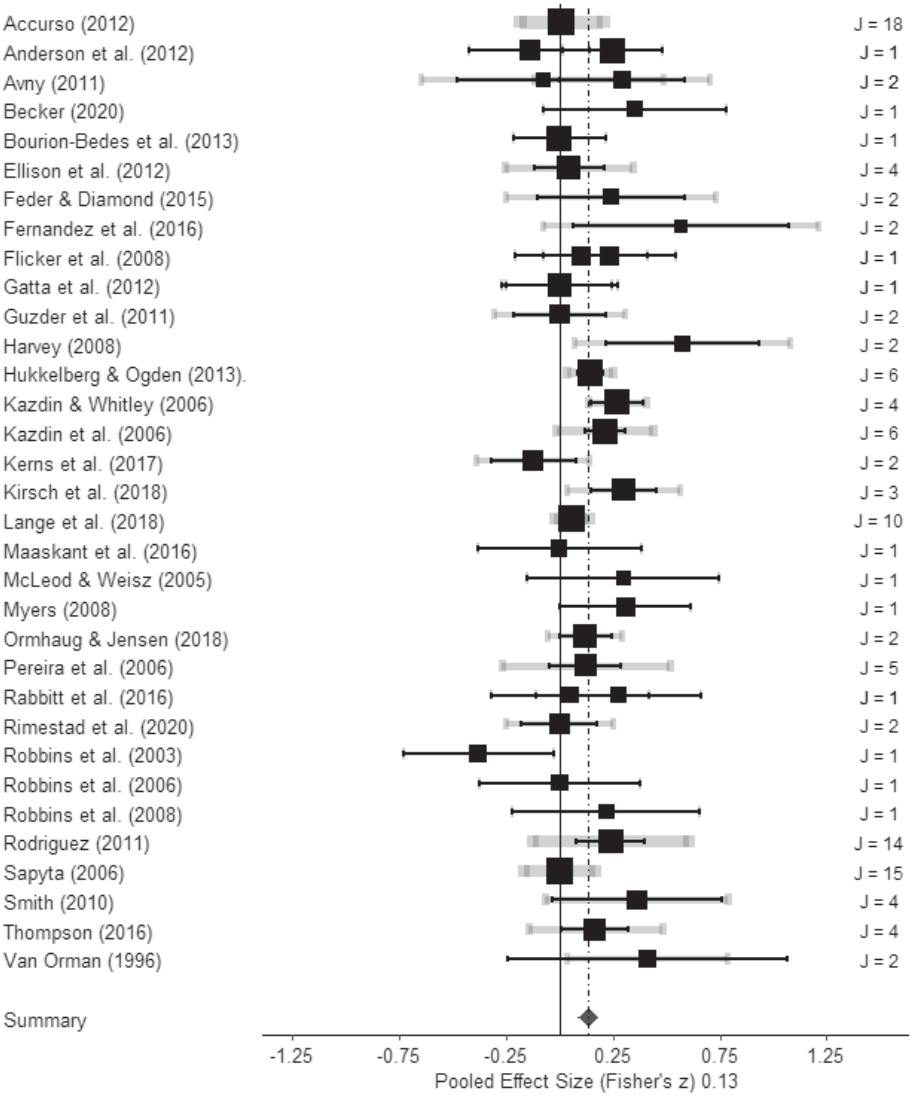


*Figure H5.* Forest plot of association between parent-therapist alliance and child outcomes
*Note.* J = number of effect sizes

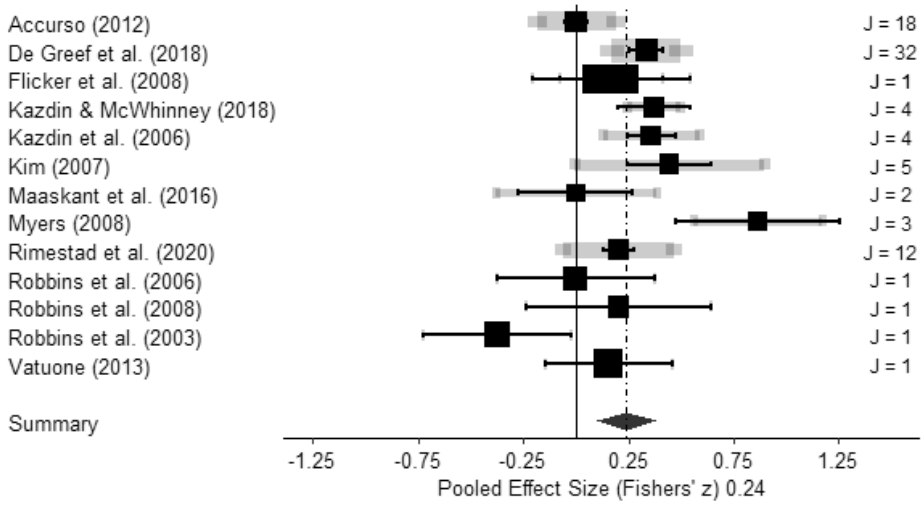


*Figure H6.* Forest plot of association between parent-therapist alliance and parent outcomes
*Note.* J = number of effect sizes

# APPENDIX I. Tables of moderator analyses of the meta-analyses on the alliance-outcome association

**Table I1.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance and Child Outcomes.*

| Moderator | # Studies | # ES | $\beta_0$, Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | F(1, 397) = 0.457 | .499 | .009*** | .015*** |
| Published (RC) | 50 | 271 | .173 (0.023)*** | .129, .216 | | | | | |
| Unpublished | 16 | 128 | .143 (0.039)*** | .066, .218 | -0.031 (-0.120, 0.059) | | | | |
| Impact Factor | 45 | 245 | .167 (0.022)*** | .125, .209 | 0.011 (-0.027, 0.019) | F(1, 243) = 0.135 | .714 | .005** | .012*** |
| Country | | | | | | F(2, 396) = 1.570 | .209 | .009*** | .014*** |
| United States (RC) | 43 | 249 | .185 (0.024)*** | .138, .231 | | | | | |
| Europe | 17 | 88 | .110 (0.035)** | .035, .182 | -0.077 (-0.166, 0.011) | | | | |
| Other | 6 | 62 | .191 (0.059)** | .076, .300 | 0.006 (-0.120, 0.133) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | F(1, 397) = 1.336 | .248 | .009*** | .015*** |
| 13 years and older (RC) | 45 | 273 | .182 (0.024)*** | .135, .227 | | | | | |
| 12 years and younger | 22 | 126 | .136 (0.033)*** | .073, .198 | -0.047 (-0.126, 0.033) | | | | |
| % Male | 66 | 399 | .163 (0.020)*** | .124, .201 | 0.056 (-0.108, 0.220) | F(1, 397) = 0.452 | .502 | .009*** | .015*** |
| Client-therapist ratio | 45 | 254 | .179 (0.024)*** | .132, .225 | 0.004 (-0.013, 0.021) | F(1, 252) = 0.201 | .654 | .012*** | .015*** |
| Problem Type | | | | | | F(4, 394) = 2.774 | .027 | .009*** | .012*** |
| Internalizing (RC) | 29 | 174 | .113 (0.027)*** | .059, .166 | | | | | |
| Externalizing | 8 | 61 | .251 (0.050)*** | .157, .342 | 0.144 (0.031, 0.257)* | | | | |
| Mixed | 17 | 125 | .228 (0.035)*** | .162, .292 | 0.119 (0.031, 0.206)** | | | | |
| Substance Use | 9 | 25 | .145 (0.059)* | .029, .256 | 0.032 (-0.096, 0.161) | | | | |
| Eating Disorders | 3 | 14 | .109 (0.085) | -.058, .269 | -0.004 (-0.180, 0.171) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Alliance Rater | | | | | | F(2, 396) = 3.422 | .034 | .009*** | .014*** |

**Table I1.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance and Child Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$, Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Child (RC) | 48 | 204 | .194 (0.022)*** | .151, .235 | | | | | |
| Therapist | 25 | 110 | .161 (0.025)*** | .112, .209 | -0.034 (-0.075, 0.007) | | | | |
| Observer | 25 | 85 | .111 (0.033)*** | .047, .173 | -0.085 (-0.155, -0.014)* | | | | |
| Alliance Timing | | | | | | F(4, 394) = 2.159 | .073 | .009*** | .013*** |
| Early (RC) | 46 | 196 | .133 (0.023)*** | .089, .179 | | | | | |
| Midtreatment | 13 | 61 | .144 (0.033)*** | .080, .206 | 0.011 (-0.053, 0.074) | | | | |
| Late | 8 | 30 | .180 (0.039)*** | .106, .252 | 0.047 (-0.026, 0.121) | | | | |
| Average | 12 | 36 | .240 (0.049)*** | .147, .328 | 0.110 (0.005, 0.216)* | | | | |
| Posttreatment | 14 | 76 | .214 (0.035)*** | .147, .278 | 0.083 (0.009, 0.157)* | | | | |
| **Outcome Characteristics** | | | | | | | | | |
| Outcome Domain | | | | | | F(5, 393) = 2.667 | .022 | .008*** | .015*** |
| Symptom Severity (RC) | 56 | 344 | .163 (0.020)*** | .123, .201 | | | | | |
| Functioning | 7 | 23 | .157 (0.042)*** | .076, .236 | -0.005 (-0.082, 0.072) | | | | |
| Treatment Satisfaction | 5 | 13 | .333 (0.053)*** | .237, .422 | 0.182 (0.083, 0.282)*** | | | | |
| Dropout/Retention | 9 | 16 | .143 (0.057)* | .032, .250 | 0.020 (-0.131, 0.091) | | | | |
| Substance Use | 1 | 1 | .185 (0.160) | -.127, .464 | 0.024 (-0.294, 0.342) | | | | |
| Delinquency | 1 | 2 | .150 (0.188) | -.216, .478 | -0.012 (-0.384, 0.360) | | | | |
| Outcome Rater | | | | | | F(3, 395) = 1.345 | .259 | .009*** | .015*** |
| Self-report (RC) | 38 | 201 | .188 (0.023)*** | .144, .231 | | | | | |
| Parent | 24 | 101 | .147 (0.030)*** | .090, .203 | -0.042 (-0.103, 0.019) | | | | |
| Other | 23 | 82 | .161 (0.029)*** | .106, .216 | -0.027 (-0.078, 0.023) | | | | |
| Objectified measure | 10 | 15 | .110 (0.055)* | .003, .214 | -0.080 (-0.189, 0.029) | | | | |
| Alliance – Outcome Rater | | | | | | F(1, 397) = 15.960 | <.001 | .008*** | .016*** |
| Same Rater (RC) | 35 | 157 | .219 (0.024)*** | .173, .265 | | | | | |
| Different Rater | 57 | 242 | .135 (0.021)*** | .094, .176 | -0.087 (-0.130, -0.044)*** | | | | |

**Table I1.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance and Child Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Outcome Timing | | | | | | F(2, 396) = 0.909 | .404 | .009*** | .015*** |
| Posttreatment (RC) | 66 | 348 | .164 (0.020)*** | .126, .202 | | | | | |
| Midtreatment | 6 | 39 | .195 (0.037)*** | .124, .263 | 0.031 (-0.033, 0.095) | | | | |
| Follow-up | 2 | 12 | .131 (0.051)** | .032, .227 | -0.034 (-0.128, 0.060) | | | | |
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | F(4, 394) = 0.937 | .442 | .009*** | .015*** |
| Outpatient (RC) | 45 | 265 | .151 (0.024)*** | .106, .196 | | | | | |
| Residential | 8 | 95 | .231 (0.051)*** | .134, .323 | 0.083 (-0.027, 0.192) | | | | |
| Community/Home-based | 8 | 10 | .130 (0.074) | -.014, .270 | -0.021 (-0.173, 0.132) | | | | |
| School-based | 3 | 18 | .262 (0.094)** | .082, .424 | 0.116 (-0.074, 0.306) | | | | |
| Not defined/Other | 2 | 11 | .127 (0.102) | -.073, .317 | -0.024 (-0.230, 0.181) | | | | |
| Manualized treatment | | | | | | F(1, 397) = 2.604 | .107 | .009*** | .015*** |
| Yes (RC) | 45 | 241 | .145 (0.024)*** | .099, .190 | | | | | |
| No | 23 | 158 | .206 (0.032)*** | .144, .265 | 0.063 (-0.014, 0.140) | | | | |
| CBT | | | | | | F(1, 397) = 0.005 | .943 | .009*** | .015*** |
| Yes (RC) | 29 | 168 | .164 (0.028)*** | .110, .217 | | | | | |
| No | 38 | 231 | .166 (0.026)*** | .117, .216 | 0.003 (-0.069, 0.075) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$.

**Table I2.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance Change and Child Outcomes.*

| Moderator | # Studies | # ES | $\beta_0$, Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 60) = 0.299$ | .586 | .019*** | .025** |
| Published (RC) | 17 | 47 | .173 (0.052)** | .072, .271 | | | | | |
| Unpublished | 6 | 15 | .226 (0.099)* | .057, .383 | 0.055 (-0.147, 0.257) | | | | |
| Impact Factor | 16 | 46 | .150 (0.050)** | .050, .248 | -0.035 (-0.092, 0.022) | $F(1, 44) = 1.560$ | .218 | .013*** | .023* |
| Country | | | | | | $F(2, 59) = 0.937$ | .398 | .019*** | .025*** |
| United States (RC) | 16 | 49 | .217 (0.051)*** | .110, .310 | | | | | |
| Europe | 5 | 7 | .118 (0.106) | -.092, .319 | -0.101 (-0.335, 0.133) | | | | |
| Other | 1 | 4 | .000 (0.184) | -.352, .352 | -0.220 (-0.602, 0.162) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 60) = 4.107$ | .047 | .019*** | .018** |
| 13 years and older (RC) | 16 | 38 | .242 (0.050)*** | .146, .335 | | | | | |
| 12 years and younger | 7 | 24 | .075 (0.068) | -.061, .209 | -0.172 (-0.342, -0.002) | | | | |
| % Male | 23 | 62 | .192 (0.045)*** | .104, .276 | 0.314 (-0.258, 0.886) | $F(1, 60) = 1.204$ | .277 | .019*** | .026*** |
| Client-therapist ratio | 17 | 52 | .174 (0.058)** | .058, .285 | 0.002 (-0.016, 0.019) | $F(1, 48) = 0.026$ | .874 | .016*** | .043*** |
| Problem Type | | | | | | $F(3, 58) = 1.350$ | .267 | .019*** | .022** |
| Internalizing (RC) | 8 | 21 | .097 (0.072) | -.047, .236 | | | | | |
| Externalizing | 3 | 11 | .153 (0.106) | -.058, .351 | 0.059 (-0.209, 0.327) | | | | |
| Mixed | 9 | 24 | .273 (0.063)*** | .153, .385 | 0.183 (-0.020, 0.386) | | | | |
| Substance Abuse | 2 | 4 | .089 (0.211) | -.320, .471 | -0.008 (-0.461, 0.445) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Type of Change | | | | | | $F(2, 57) = 13.284$ | <.001 | .019*** | .002 |
| Each session (RC) | 7 | 12 | .203 (0.053)*** | .100, .303 | | | | | |
| Early to midtreatment | 13 | 39 | .082 (0.035)* | .012, .151 | -0.125 (-0.252, -0.002) | | | | |
| Early to posttreatment | 3 | 11 | .460 (0.074)*** | .336, .568 | 0.291 (0.109, 0.472)** | | | | |

**Table I2.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance Change and Child Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Alliance Rater | | | | | | $F(2, 59) = 1.869$ | .163 | .018*** | .026*** |
| Child (RC) | 18 | 32 | .188 (0.051)*** | .087, .285 | | | | | |
| Therapist | 9 | 21 | .267 (0.063)*** | .146, .381 | 0.085 (-0.026, 0.195) | | | | |
| Observer | 5 | 9 | .057 (0.114) | -.169, .278 | -0.130 (-0.383, 0.123) | | | | |
| **Outcome Characteristics** | | | | | | | | | |
| Outcome Domain | | | | | | $F(3, 58) = 0.130$ | .942 | .020*** | .029** |
| Symptom Severity (RC) | 21 | 54 | .190 (0.048)*** | .095, .280 | | | | | |
| Functioning | 2 | 5 | .135 (0.130) | -.123, .377 | -0.056 (-0.314, 0.203) | | | | |
| Treatment Satisfaction | 1 | 2 | .243 (0.147) | -.046, .495 | 0.056 (-0.227, 0.339) | | | | |
| Dropout/Retention | 1 | 1 | .239 (0.253) | -.257, .635 | 0.052 (-0.464, 0.568) | | | | |
| Outcome Rater | | | | | | $F(3, 58) = 0.602$ | .616 | .019*** | .026*** |
| Self-report (RC) | 15 | 25 | .219 (0.055)*** | .113, .322 | | | | | |
| Parent | 8 | 18 | .114 (0.073) | -.032, .256 | -0.108 (-0.269, 0.054) | | | | |
| Other | 7 | 18 | .189 (0.071)** | .049, .320 | -0.025 (-0.170, 0.120) | | | | |
| Objectified measure | 1 | 1 | .239 (0.245) | -.242, .626 | 0.024 (-0.480, 0.528) | | | | |
| Alliance - Outcome Rater | | | | | | $F(1, 60) = 8.327$ | .005 | .015*** | .025*** |
| Same Rater (RC) | 15 | 25 | .269 (0.053)*** | .169,.364 | | | | | |
| Different Rater | 16 | 37 | .112 (0.051)* | .011, .211 | -0.164 (-0.278, -0.050)** | | | | |
| Outcome Timing | | | | | | $F(2, 59) = 1.125$ | .332 | .019*** | .024*** |
| Posttreatment (RC) | 23 | 55 | .188 (0.045)*** | .101, .273 | | | | | |
| Midtreatment | 2 | 3 | .290 (0.131)* | .037, .509 | 0.102 (-0.167, 0.372) | | | | |
| Follow-Up | 3 | 4 | .031 (0.127) | -.219, .278 | -0.159 (-0.408, 0.089) | | | | |

**Table I2.** *Results of Moderator Analyses for the Association Between Child-Therapist Alliance Change and Child Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(3, 58) = 2.282$ | .089 | .019*** | .028* |
| Outpatient (RC) | 16 | 38 | .121 (0.049)* | .024, .217 | | | | | |
| Residential | 3 | 14 | .377 (0.098)*** | .198, .532 | 0.275 (0.056, 0.494)* | | | | |
| Community/Home-based | 2 | 7 | .185 (0.139) | -.092, .435 | 0.065 (-0.231, 0.360) | | | | |
| School-based | 2 | 3 | .280 (0.143)* | .000, .519 | 0.165 (-0.138, 0.469) | | | | |
| Manualized treatment | | | | | | $F(1, 60) = 2.603$ | .112 | .020*** | .019** |
| Yes (RC) | 12 | 33 | .119 (0.059)* | .002, .233 | | | | | |
| No | 12 | 29 | .246 (0.057)*** | .136, .349 | 0.131 (-0.031, 0.293) | | | | |
| CBT | | | | | | $F(1, 60) = 2.928$ | .092 | .019*** | .019** |
| Yes (RC) | 8 | 22 | .087 (0.071) | -.056, .226 | | | | | |
| No | 16 | 40 | .231 (0.053)*** | .135, .322 | -0.148 (-0.025, 0.320) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$.

**Table I3.** *Results of Moderator Analyses for the Association Between Parent-Therapist Alliance and Child Outcomes.*

| Moderator | # Studies | # ES | $\beta_{0,}$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 127) = 0.357$ | .551 | .001* | .013*** |
| Published (RC) | 27 | 56 | .119 (0.032)*** | .056, .182 | | | | | |
| Unpublished | 11 | 73 | .152 (0.045)*** | .064, .237 | 0.033 (-0.076, 0.143) | | | | |
| Impact Factor | 25 | 53 | .132 (0.033)*** | .067, .197 | 0.007 (-0.029, 0.044) | $F(1, 51) = 0.162$ | .689 | .003* | .011* |
| Country | | | | | | $F(2, 126) = 0.216$ | .806 | .001* | .014*** |
| United States (RC) | 22 | 76 | .142 (0.036)*** | .071, .212 | | | | | |
| Europe | 10 | 41 | .107 (0.046)* | .016, .196 | -0.036 (-0.152, 0.080) | | | | |
| Other | 6 | 12 | .146 (0.073)* | .003, .283 | 0.004 (-0.157, 0.165) | | | | |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 127) = 0.104$ | .748 | .001* | .012*** |
| 13 years and older (RC) | 18 | 43 | .120 (0.040)** | .043, .197 | | | | | |
| 12 years and younger | 20 | 86 | .137 (0.034)*** | .071, .202 | 0.017 (-0.086, 0.120) | | | | |
| % Male | 38 | 129 | .129 (0.026)*** | .079, .179 | -0.045 (-0.250, 0.160) | $F(1, 127) = 0.189$ | .665 | .001* | .012*** |
| Client-therapist ratio | 21 | 81 | .164 (0.036)*** | .094, .235 | 0.011 (0.003, 0.019)** | $F(1, 79) = 7.581$ | .007 | .001* | .014*** |
| Problem Type | | | | | | $F(4, 125) = 0.812$ | .520 | .001* | .014*** |
| Internalizing (RC) | 11 | 34 | .147 (0.050)** | .049, .242 | | | | | |
| Externalizing | 8 | 53 | .113 (0.049)* | .017, .206 | -0.009 (-0.151, 0.133) | | | | |
| Mixed | 11 | 27 | .192 (0.055)*** | .086, .293 | 0.050 (-0.099, 0.199) | | | | |
| Substance Use | 5 | 5 | .035 (0.097) | -.156, .224 | -0.100 (-0.317, 0.116) | | | | |
| Eating Disorders | 3 | 10 | .059 (0.086) | -.110, .226 | -0.076 (-0.273, 0.121) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Alliance Rater | | | | | | $F(2, 126) = 0.235$ | .791 | .001* | .012*** |
| Parent (RC) | 27 | 79 | .137 (0.028)*** | .083, .193 | | | | | |
| Therapist | 6 | 15 | .126 (0.041)** | .045, .206 | -0.011 (-0.087, 0.064) | | | | |

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Observer | 12 | 35 | .110 (0.040)** | .032, .188 | -0.028 (-0.109, 0.054) | | | | |
| Alliance Timing | | | | | | $F(4, 124) = 0.784$ | .517 | .001* | .012*** |
| Early (RC) | 24 | 47 | .112 (0.030)*** | .054, .170 | | | | | |
| Mid-treatment | 5 | 18 | .122 (0.037)*** | .051, .194 | 0.010 (-0.053, 0.073) | | | | |
| Late | 6 | 25 | .157 (0.034)*** | .090, .222 | 0.045 (-0.012, 0.102) | | | | |
| Average | 9 | 25 | .150 (0.040)*** | .071, .227 | 0.038 (-0.045, 0.120) | | | | |
| Posttreatment | 7 | 14 | .142 (0.054)** | .035, .245 | 0.030 (-0.082, 0.141) | | | | |
| **Outcome Characteristics** | | | | | | | | | |
| Outcome Domain | | | | | | $F(2, 126) = 0.115$ | .892 | .001* | .012*** |
| Symptom Severity (RC) | 28 | 108 | .125 (0.028)*** | .071, .178 | | | | | |
| Functioning | 4 | 7 | .161 (0.085) | -.007, .319 | 0.037 (-0.140, 0.214) | | | | |
| Dropout/Retention | 10 | 14 | .138 (0.045)** | .049, .225 | 0.013 (-0.075, 0.101) | | | | |
| Outcome Rater | | | | | | $F(3, 125) = 0.367$ | .777 | .002* | .012*** |
| Child (RC) | 15 | 40 | .110 (0.040)** | .032, .188 | | | | | |
| Parent | 15 | 49 | .153 (0.034)*** | .087, .217 | 0.043 (-0.052, 0.137) | | | | |
| Other | 11 | 26 | .138 (0.035)*** | .069, .205 | 0.028 (-0.068, 0.123) | | | | |
| Objectified measure | 9 | 14 | .116 (0.046)* | .026, .205 | 0.006 (-0.109, 0.121) | | | | |
| Alliance - Outcome Rater | | | | | | $F(1, 127) = 1.321$ | .252 | .001* | .012*** |
| Same Rater (RC) | 15 | 40 | .151 (0.031)*** | .089, .211 | | | | | |
| Different Rater | 30 | 89 | .121 (0.027)*** | .069, .174 | -0.029 (-0.021, 0.079) | | | | |
| Outcome Timing | | | | | | $F(2, 126) = 3.568$ | .031 | .001 | .011*** |
| Posttreatment (RC) | 37 | 105 | .132 (0.025)*** | 083, .181 | | | | | |
| Midtreatment | 2 | 10 | .164 (0.052)** | .063, .262 | 0.033 (-0.061, 0.126) | | | | |
| Follow-up | 3 | 12 | .065 (0.035) | -.005, .134 | -0.068 (-0.121, -0.016)* | | | | |
| **Treatment Characteristics** | | | | | | | | | |

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Treatment Setting | | | | | | $F(3, 120) = 0.232$ | .874 | .001* | .012*** |
| Outpatient (RC) | 24 | 99 | .124 (0.031)*** | .062, .184 | | | | | |
| Residential | 2 | 3 | .073 (0.102) | -.128, .268 | -0.052 (-0.263, 0.160) | | | | |
| Community/Home-based | 11 | 27 | .165 (0.053)** | .061, .265 | 0.042 (-0.080, 0.165) | | | | |
| Manualized treatment | | | | | | $F(1, 127) = 0.008$ | .930 | .001* | .012*** |
| Yes (RC) | 25 | 77 | .131 (0.031)*** | .071, .191 | | | | | |
| No | 13 | 52 | .127 (0.046)** | .035, .217 | -0.005 (-0.115, 0.106) | | | | |
| CBT | | | | | | $F(1, 127) = 0.397$ | .530 | .001* | .011*** |
| Yes (RC) | 8 | 31 | .156 (0.050)** | .059, .251 | | | | | |
| No | 30 | 98 | .120 (0.029)*** | .063, .177 | -0.036 (-0.150, 0.078) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$.

**Table I4.** *Results of Moderator Analyses for the Association Between Parent-Therapist Alliance and Parent Outcomes.*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| **Study Characteristics** | | | | | | | | | |
| Publication Status | | | | | | $F(1, 84) = 1.164$ | .284 | .026*** | .056*** |
| Published (RC) | 10 | 59 | .181 (0.091)* | .001, .349 | | | | | |
| Unpublished | 4 | 27 | .344 (0.135)** | .090, .557 | 0.176 (-0.149, 0.501) | | | | |
| Country | | | | | | $F(1, 84) = 0.071$ | .790 | .026*** | .059*** |
| United States (RC) | 11 | 40 | .244 (0.090)** | .070, .404 | | | | | |
| Europe | 3 | 46 | .199 (0.152) | -.100, .464 | -0.047 (-0.398, 0.303) | | | | |
| Impact Factor | 10 | 59 | .210 (0.084)** | .084, .328 | 0.023 (-0.051, 0.096) | $F(1, 57) = 0.387$ | .536 | .032*** | .016 |
| **Sample Characteristics** | | | | | | | | | |
| Age Category | | | | | | $F(1, 84) = 0.963$ | .329 | .026*** | .055*** |
| 13 years and older (RC) | 6 | 10 | .131 (0.131) | -.128, .374 | | | | | |
| 12 years and younger | 8 | 76 | .281 (0.092)** | .107, .440 | 0.157 (-0.161, 0.475) | | | | |
| % Male | 14 | 86 | .225 (0.080)** | .070, .370 | 0.232 (-1.089, 1.553) | $F(1, 84) = 0.122$ | .728 | .026*** | .058*** |
| Client-therapist ratio | 10 | 66 | .208 (0.116) | -.020, .416 | 0.013 (-0.028, 0.054) | $F(1, 64) = 0.430$ | .514 | .032*** | .085*** |
| Problem Type | | | | | | $F(2, 83) = 1.980$ | .145 | .026*** | .042*** |
| Externalizing (RC) | 4 | 38 | .220 (0.110)* | .006, .414 | | | | | |
| Mixed | 5 | 43 | .370 (0.111)*** | .166, .543 | 0.165 (-0.145, 0.475) | | | | |
| Substance Use | 5 | 5 | .031 (0.143) | -.247, .305 | -0.192 (-0.550, 0.165) | | | | |
| **Alliance Characteristics** | | | | | | | | | |
| Alliance Rater | | | | | | $F(2, 83) = 1.089$ | .341 | .072*** | .045*** |
| Parent (RC) | 9 | 47 | .232 (0.075)** | .086, .368 | | | | | |
| Therapist | 5 | 28 | .290 (0.080)*** | .139, .428 | 0.063 (-0.036, 0.163) | | | | |
| Observer | 6 | 11 | .199 (0.092)* | .018, .368 | -0.034 (-0.205, 0.137) | | | | |
| Alliance Timing | | | | | | $F(4, 81) = 4.034$ | .005 | .023*** | .029*** |
| Early (RC) | 9 | 30 | .099 (0.074) | -.048, .241 | | | | | |
| Mid-treatment | 3 | 16 | .257 (0.089)** | .080, .409 | 0.158 (0.007, 0.309)* | | | | |

**Table I4.** *Results of Moderator Analyses for the Association Between Parent-Therapist Alliance and Parent Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Late | 3 | 24 | .234 (0.080)** | .075, .375 | 0.136 (-0.027, 0.245)* | | | | |
| Average | 4 | 12 | .453 (0.107)*** | .270, .611 | 0.390 (0.138, 0.642)** | | | | |
| Posttreatment | 2 | 4 | .100 (0.125) | -.148, .335 | 0.001 (-0.241, 0.243) | | | | |
| **Outcome Characteristics** | | | | | | | | | |
| Outcome Domain | | | | | | $F(3, 82) = 4.317$ | .007 | .022*** | .052*** |
| Symptom Severity (RC) | 5 | 15 | .303 (0.119)* | .075, .501 | | | | | |
| Functioning | 5 | 46 | .264 (0.111)* | .049, .455 | -0.043 (-0.356, 0.270) | | | | |
| Treatment Satisfaction | 1 | 20 | .436 (0.122)*** | .220, .611 | 0.155 (-0.175, 0.485) | | | | |
| Dropout/Retention | 5 | 5 | .031 (0.146) | -.253, .311 | -0.281 (-0.657, 0.094) | | | | |
| Outcome Rater | | | | | | $F(2, 83) = 1.369$ | .260 | .027*** | .045*** |
| Self-report (RC) | 8 | 41 | .298 (0.083)*** | .141, .440 | | | | | |
| Other | 5 | 40 | .294 (0.087)*** | .129, .443 | -0.004 (-0.114, 0.106) | | | | |
| Objectified measure | 5 | 5 | .031 (0.145) | -.251, .310 | -0.276 (-0.608, 0.057) | | | | |
| Alliance - Outcome Rater | | | | | | $F(1, 84) = 44.037$ | <.001 | .014*** | .037*** |
| Same Rater (RC) | 8 | 43 | .364 (0.066)*** | .245, .472 | | | | | |
| Different Rater | 9 | 43 | .092 (0.066) | -.040, .220 | -0.290 (-0.376, -0.203)*** | | | | |
| Outcome Timing | | | | | | $F(2, 83) = 0.500$ | .608 | .026*** | .055*** |
| Posttreatment (RC) | 13 | 75 | .247 (0.078)** | .096, .386 | | | | | |
| Midtreatment | 1 | 9 | .292 (0.144)* | .074, .484 | 0.049 (-0.127, 0.226) | | | | |
| Follow-up | 1 | 2 | .000 (.297) | -.530, .530 | -0.252 (-0.862, 0.359) | | | | |
| **Treatment Characteristics** | | | | | | | | | |
| Treatment Setting | | | | | | $F(2, 83) = 0.391$ | .391 | .026*** | .060*** |
| Outpatient (RC) | 6 | 41 | .186 (0.111) | -.033, .388 | | | | | |

**Table I4.** *Results of Moderator Analyses for the Association Between Parent-Therapist Alliance and Parent Outcomes. (continued)*

| Moderator | # Studies | # ES | $\beta_0$ Mean *r* (S.E.) | 95% CI | $\beta_1$ (95% CI) | $F(df_1, df_2)$ | *p* | $\sigma^2_{level2}$ | $\sigma^2_{level3}$ |
|---|---|---|---|---|---|---|---|---|---|
| Community/Home-based | 7 | 40 | .248 (0.118)* | .018, .453 | 0.065 (-0.257, 0.388) | | | | |
| School-based | 1 | 5 | .417 (0.274) | -.102, .757 | 0.256 (-0.333, 0.844) | | | | |
| Manualized treatment | | | | | | $F(1, 84) = 0.315$ | .576 | .026*** | .056*** |
| Yes (RC) | 11 | 35 | .257 (0.088)** | .088, .411 | | | | | |
| No | 3 | 51 | .164 (0.150) | -.132, .433 | -0.098 (-0.443, 0.248) | | | | |
| CBT | | | | | | $F(1, 84) = 0.239$ | .626 | .026*** | .058*** |
| Yes (RC) | 1 | 4 | .344 (0.261) | -.160, .706 | | | | | |
| No | 13 | 82 | .221 (0.081)** | .065, .368 | -0.134 (-0.678, -0.410) | | | | |

*Note.* CI = confidence interval; ES = effect size; RC = reference category; $\sigma^2_{level2}$ = variance between effect sizes (within studies); $\sigma^2_{level3}$ = variance between effect sizes (between studies); % Var. = percentage of variance explained.
* $p < .05$ ** $p < .01$ *** $p < .001$

# APPENDIX J. Funnel plots of the meta-analyses on the alliance-outcome association

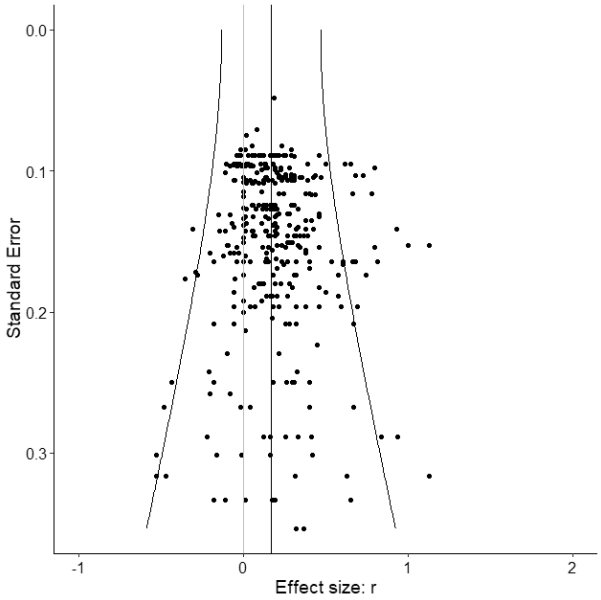


*Figure J1a.* Funnel plot of all effect sizes for the association between child-therapist alliance and child outcomes

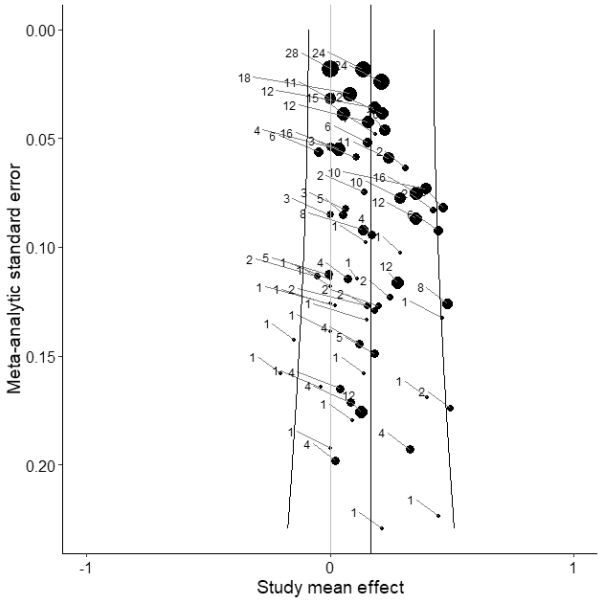


*Figure J1b.* Funnel plot of study effects for the association between child-therapist alliance and child outcomes

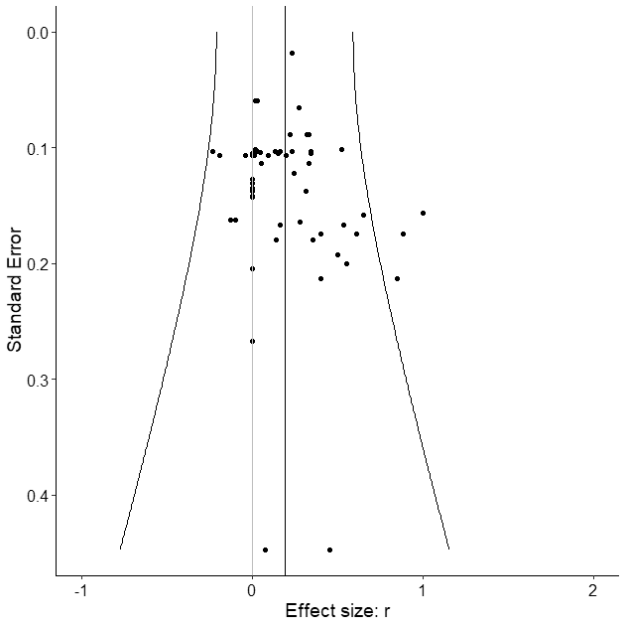


*Figure J2a*. Funnel plot of all effect sizes for the association between child-therapist alliance change and child outcomes

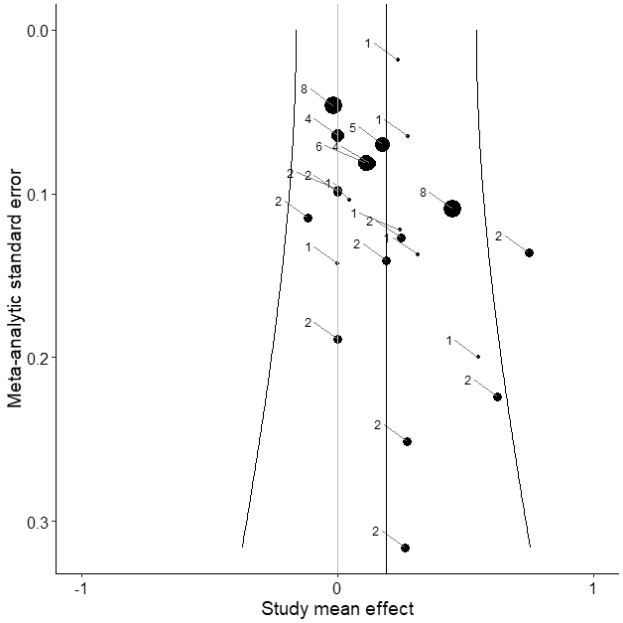


*Figure J2b*. Funnel plot of study effects for the association between child-therapist alliance change and child outcomes

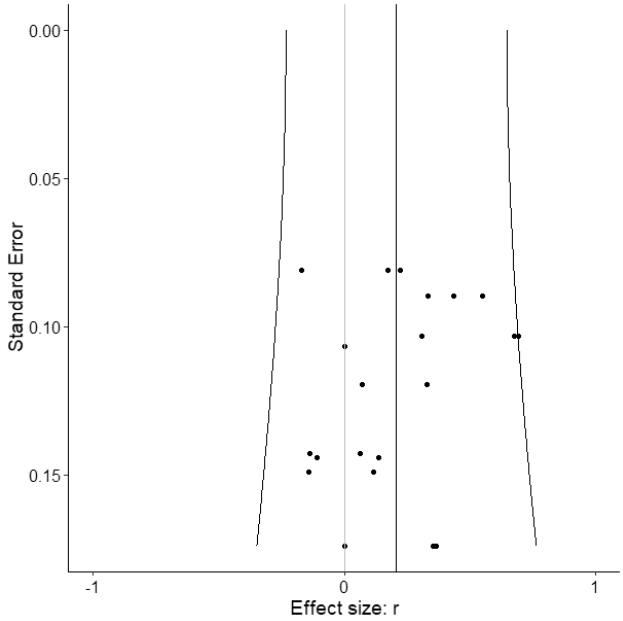


*Figure J3a.* Funnel plot of all effect sizes for the association between child-therapist alliance agreement and child outcomes

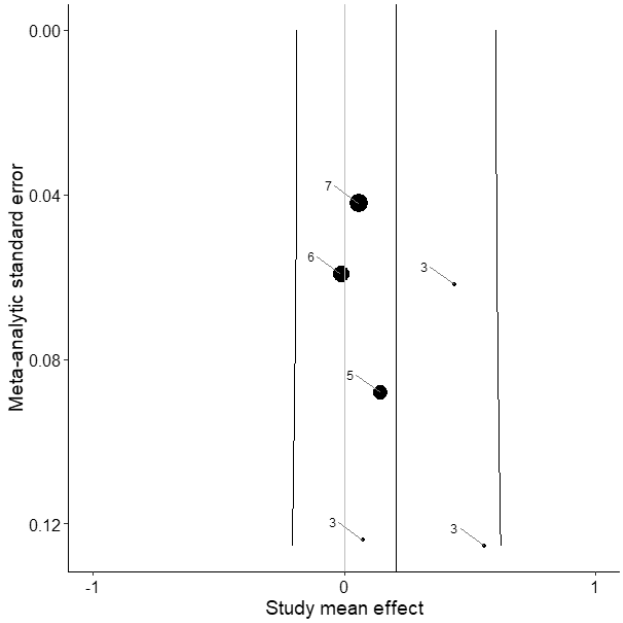


*Figure J3b*. Funnel plot of study effects for the association between child-therapist alliance agreement and child outcomes

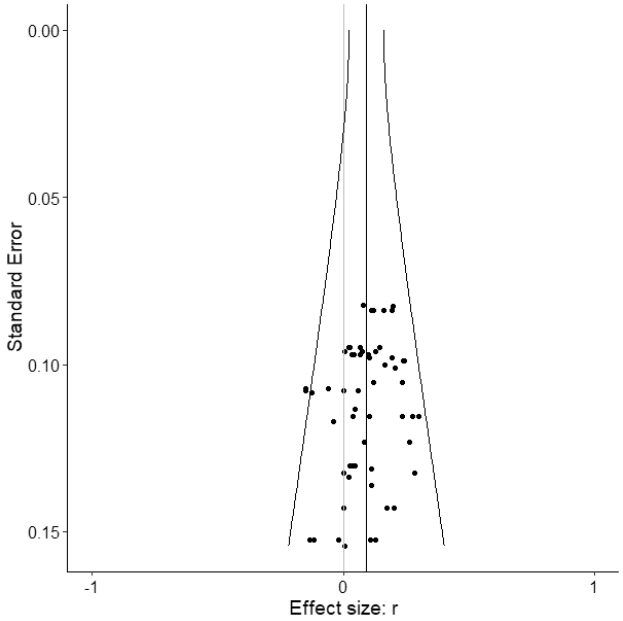


*Figure J4a.* Funnel plot of all effect sizes regarding the child-therapist alliance as a moderator of child outcomes

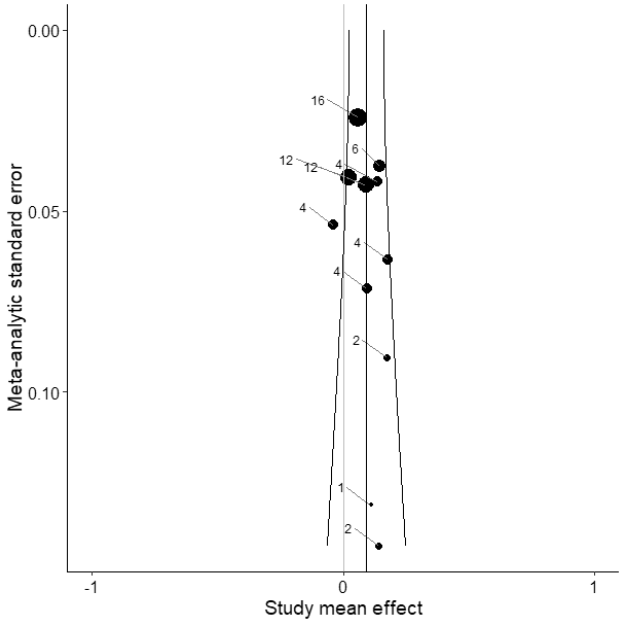


*Figure J4b.* Funnel plot of study effects regarding the child-therapist alliance as a moderator of child outcomes

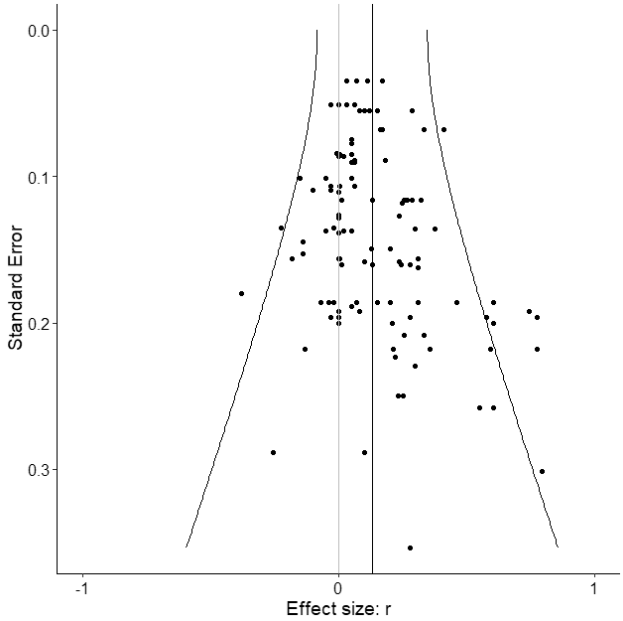


*Figure J5a.* Funnel plot of all effect sizes for the association between parent-therapist alliance and child outcomes

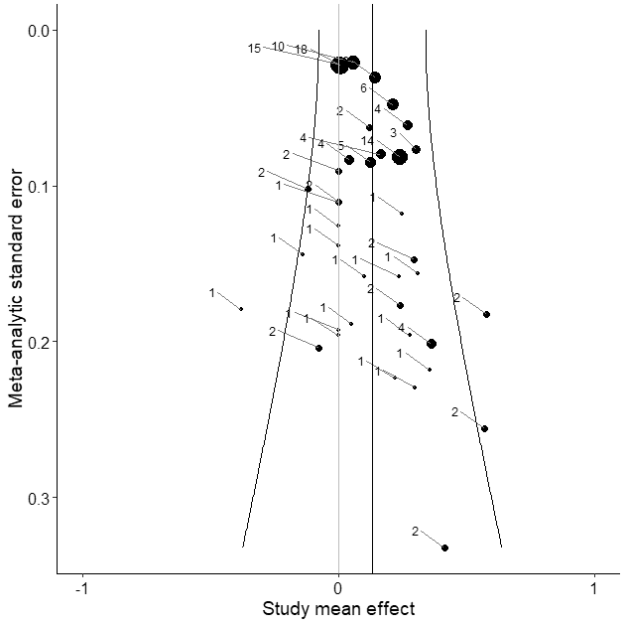


*Figure J5b.* Funnel plot of study effects for the association between parent-therapist alliance and child outcomes

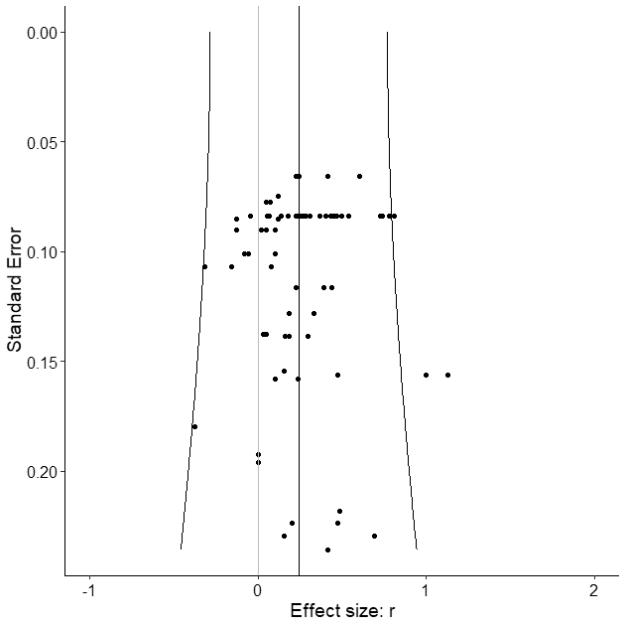


*Figure J6a.* Funnel plot of all effect sizes for the association between parent-therapist alliance and parent outcomes

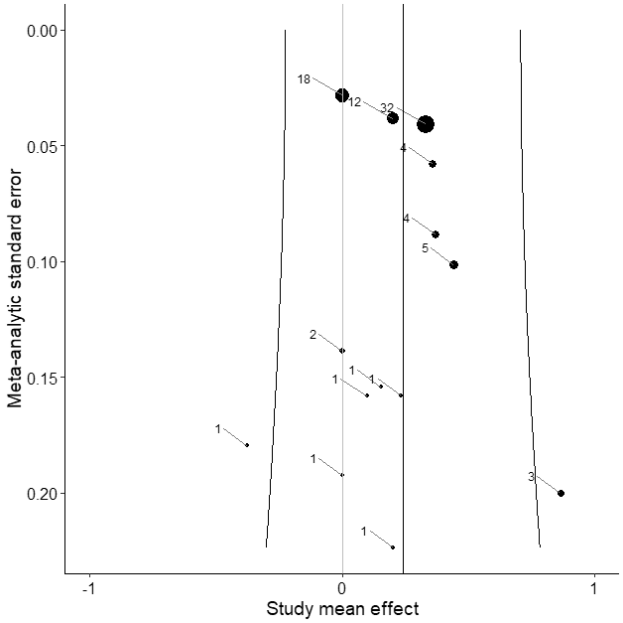


*Figure J6b.* Funnel plot of study effects for the association between parent-therapist alliance and parent outcomes

*Chapter 4*

# Measuring Therapeutic Alliance with Children in Residential Treatment and Therapeutic Day Care: A Validation Study of the Children's Alliance Questionnaire

Roest, J. J., Van der Helm, G. H. P., Strijbosch, E. L. L., Van Brandenburg, M. E. T., & Stams, G. J. J. M. (2016). Measuring therapeutic alliance with children in residential treatment and therapeutic day care: A validation study of the Children's Alliance Questionnaire. *Research on Social Work Practice, 26(2)*, 212-218. https://doi.org/10.1177/1049731514540

## ABSTRACT

**Purpose:** This study examined the construct validity and reliability of a therapeutic alliance measure (Children's Alliance Questionnaire, CAQ) for children with psychosocial and/or behavioral problems, receiving therapeutic residential care or day care in the Netherlands.

**Methods:** Confirmatory factor analysis of a one-factor model 'therapeutic alliance' was conducted on two samples of 115 and 116 children, aged 4 - 14 years. Reliability analysis and concurrent validity were examined.

**Results:** Results showed a good fit to the data, indicating construct validity of the measures. Cronbach's alpha reliability coefficients were good for both alliance measures. Concurrent validity was supported by significant relations between the alliance scale and positive group climate (CGIC) and treatment motivation (ATMQ). No correlations with negative group climate (CGIC) were found.

**Discussion:** The Children's Alliance Questionnaire can be used as an assessment tool for therapeutic alliance within both residential treatment and therapeutic day care settings for children.

## INTRODUCTION

During the twentieth century both researchers and clinicians have defined the concept of therapeutic alliance in a variety of ways (Bordin, 1979; Elvins & Green, 2008; Horvath, 2005; Safran & Muran, 2006). Bordin (1979) distinguished three main components of the alliance: the client-therapist bond or relationship, agreement on goals, and collaboration on tasks. Therapeutic alliance has been extensively researched in the context of adult psychotherapy. Several studies indicate that the quality of therapeutic alliance has a significant impact on treatment outcomes (Ardito & Rabellino, 2011; Flückiger et al., 2012; Horvath & Bedi, 2002).

Various meta-analyses have shown that the effect of therapeutic alliance on treatment outcomes in youth is comparable to its effect on treatment outcomes in adults (Bickman et al., 2012; Karver et al., 2006; Shirk & Karver, 2003; Shirk et al., 2011). However, a recent meta-analytic review, using the largest study sample, found a smaller effect size in youth (McLeod, 2011). Authors suggest that these findings are due to differences in conceptualization and methodology used in research on therapeutic alliance. On a conceptual level, there is no consensus about a general definition of the therapeutic alliance in research on child and youth care (Elvins & Green, 2008; Zack et al., 2007). It has been argued that the alliance concept in youth may be viewed as a one-dimensional construct due to children's incapacity to discriminate between different components of the alliance, such as 'collaboration on tasks' and 'agreement on goals' (DiGiuseppe et al., 1996; Faw et al., 2005; Hogue et al., 2006; Shelef & Diamond, 2008).



Children and adolescents often do not seek professional help for their problems voluntarily and are sent to therapy because of perceived behavioral problems (Elvins & Green, 2008; Orsi et al., 2010; Shirk & Saiz, 1992). Additionally, due to adolescents' stage of development they tend to distance themselves from adult influences (Bickman et al., 2004; Fitzpatrick & Irranejad, 2008; Shirk & Karver, 2003). Establishing a therapeutic alliance with children seems even more difficult than forming an alliance with adolescents, because children may not be aware of their problems and often demonstrate resistance to treatment (Elvins & Green, 2008; Shirk & Saiz, 1992).

Studies on therapeutic alliance in children and adolescents have mainly focused on out-patient therapy (Karver et al., 2006; Shirk & Karver, 2003; Shirk et al., 2011). However, many children and youth receive treatment in residential treatment facilities. There are only a few studies that have addressed the role of the therapeutic alliance within a residential treatment setting (Duppong Hurley et al., 2013; Handwerk et al., 2008; Orsi et al., 2010). Treatment within such settings brings forth challenges to the assessment of therapeutic alliance because there is not one therapist, but several treatment staff members with whom a client can form an alliance.

## Therapeutic living group climate and treatment motivation

In treatment of children and adolescents, particularly within residential treatment, an open living group climate is important for treatment success (Van der Helm, 2011; Van der Helm et al., 2009, 2011). An open group climate consists of a supportive environment in which group workers attend to the psychological needs of adolescents and refrain from repressive methods (closed group climate). Such an open living group climate is thought to positively influence the establishment of a therapeutic alliance with children receiving residential treatment. Furthermore, quality of therapeutic alliance has been found to be associated with establishing and/or maintaining treatment motivation in therapy (Constantino et al., 2010; Karver et al., 2006; Shirk et al., 2011). Studies suggest that failing to engage the child or adolescent in therapeutic activities can negatively affect the bond between the therapist and the child or adolescent (Constantino et al., 2010; Fitzpatrick & Irranejad, 2008).

## Development of the Children's Alliance Questionnaire

In the Dutch speaking area, only one alliance measure, using Bordin's conceptualization of the therapeutic alliance, has been validated (WAV-12, Stinckens et al., 2009). However, this measure is only suitable for adults. Currently, no validated alliance measure based on Bordin's conceptualization is available to assess the quality of therapeutic alliance in children and youth. In one Dutch study a translation of the TASC (Shirk & Saiz, 1992) has been used. The TASC measures therapeutic alliance in children aged 12 years and older. Consequently, no validated instruments are available measuring therapeutic alliance in young children (12 years and younger) in The Netherlands. Also, there are no instruments available measuring therapeutic alliance in children with mild intellectual disability, in which case a questionnaire should use simple language.

In the present study, various items from the WAI-S (Tracey & Kokotovic, 1989) were translated in Dutch and inspected thoroughly by practising professionals in the field of youth care. The WAI-S is a short questionnaire for adults, derived from the Working alliance Inventory (WAI; Horvath & Greenberg, 1986) and was adapted for specific use in a child population and children with mild intellectual disability. In order to create a brief and simplified measure for children (14 years or younger), items that consisted of long or multiple sentences, and items containing difficult language were rephrased or dismissed. For the age group 4-8, the original 7-point scale from the WAI was transformed to a 3-point scale, consisting of "thumbs-up or down" pictures to reduce problems in comprehension of the items for young children and children with mild intellectual disabilities. For the age group 8-14, a 5-point Likert type scale was used, without depicting thumbs-up or down.

The aim of the present study was to create a measure to assess quality of therapeutic alliance in two distinct age groups of children receiving residential treatment and therapeutic day care. After constructing the scales, construct and concurrent validity of the measures were assessed by means of confirmatory factor analysis. The relations between therapeutic alliance and living group climate, and therapeutic alliance and treatment motivation,

were examined in order to determine concurrent validity. To ensure concurrent validity, the alliance measure should correlate (strongly) with a different instrument that has previously been validated, which is administered at the same time, and assesses a related construct that may be considered a criterion. In the present study, concurrent validity is demonstrated when the alliance measure correlates positively with open group climate and treatment motivation. Also, concurrent validity is demonstrated when the alliance measure correlates inversely with closed (i.e., repressive) group climate.

## METHODS

### Participants

The sample in the age group 4-8 consisted of *N* = 115 children, *n* = 90 boys (78.3%) and *n* = 25 girls (21.7%); mean age of respondents was 5.34 years (*SD* = 1.29). Within this group, 30 children received residential treatment and 86 children received therapeutic day care. The sample in the age group 8-14 consisted of *N* = 116 children, *n* = 78 boys (67.2%) and *n* = 38 girls (37.8%); mean age of respondents was 10.8 years (*SD* = 1.89). Within this group, 48 children received residential treatment and 69 children received therapeutic day care.



### Procedures

The present study was conducted in 7 institutions for residential treatment and therapeutic day care for children aged 4 to 8 years, and in 4 institutions for residential treatment and therapeutic day care for children aged 8 to 14 years. The study was performed between March and July 2012. The parents of the participating children received a letter in which the purpose of the study was disclosed. Parents were asked to give legal permission for their child to participate in the study and signed an informed consent form. Questionnaires were given a number in order to guarantee anonymity of the participants. All measurements were carried out by two researchers who signed a written statement of confidentiality.

Children in the age group 4-8 were assisted to complete a therapeutic alliance questionnaire and a questionnaire to measure group climate by an (assistant-) researcher who read the questions and answering categories out loud. Children in the age group 8-14 filled out the therapeutic alliance questionnaire, a group climate questionnaire and a motivation questionnaire. For the age group 4-8, questions were written on laminated cards. Three boxes were put out to form answering categories to assist the child in identifying the three answering categories, each depicting a symbol: 'thumb up', 'thumb down' or 'thumb half-way up'. The 'thumb up' symbol represented the answering category 'true', the 'thumbs down' symbol represented the answering category 'not true' and the 'thumb half-way up' symbol represented the answering category 'somewhat true'. The (assistant-) researcher read each question to the child and the child was asked to put the question in one of the three boxes. Besides reading the question to the child, the answering categories were also read out loud and explained to the child. Furthermore, in case of apparent misunderstanding or hastily answering by the child, additional questions were asked to ensure the child

had understood the question. The (assistant-) researcher was not in any way involved in the treatment of the children. Before administering the questionnaire with the children, the (assistant-) researcher explained to the child that the questions would be applicable to the child's mentor, whom had been identified by name. The child was guaranteed that the mentor would not be informed about the answers of the child.

## Questionnaires

*Children's Alliance Questionnaire*. The present study used a therapeutic alliance questionnaire, which was partially derived from the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) and WAI-S (Tracey & Kokotovic, 1989) measuring therapeutic alliance in an adult population. The WAI-S is a short questionnaire for adults, derived from the WAI and was translated and back translated into Dutch, and adapted for specific use in a child population and children with mild intellectual disability. Items in the questionnaire were reformulated into short sentences using simplified language to improve comprehension of the items for very young children. The WAI and WAI-S both measure the 'bond', 'task' and 'goal' dimension of the alliance. The measures in the present study capture the bond, task and goal dimension of the alliance construct in a one-dimensional factor 'overall alliance'.

Two versions of the questionnaire have been used for two different age groups. Items were shortened and rephrased in a more simple way, especially for the youngest age group 4-8 years for whom questions have been formulated instead of statements. Also, some questions were asked from the point of view of the child instead of the use of statements from the point of view from the therapist. For example: 'I believe the therapist likes me.' Was changed into: 'Do you like your mentor?'.

For the age group 8-14 either statements from the point of view from the child or the therapist were used. Additionally, the word therapist was replaced with the term 'mentor', because children in psychotherapy are more familiar with this term. For example: 'The therapist and I are working towards mutually agreed upon goals.' Was changed into: 'My mentor helps me to achieve my goals.' The questionnaire for the 4-8 age group contains 10 items, which were rated on a three-point Likert type scale, ranging from 1 (not true) to 2 (somewhat true) and 3 (true). The questionnaire for the 8-14 age group contains 9 items, which were rated on a five-point Likert type scale, ranging from 1 (not at all true) to 3 (in between) and 5 = (totally true).

*GCIC (Group Climate Instrument for Children).* The CGCI (Strijbosch et al., in press) was used to assess living group climate. The GCIC questionnaire is derived from the Prison Group Climate Instrument (PGCI, Van der Helm et al., 2011) which has been extensively researched in groups of adolescents and adults. This instrument consists of four scales: "support", "growth", "atmosphere", and "repression". The GCIC questionnaire consists of two scales: "open" (positive) group climate and "closed" (negative) group climate. Several items from the "support", "growth", and "atmosphere" scales belong to the open climate

scale and several items from the "repression" scale belong to the closed group climate scale. An example item of the open group climate scale is 'In this group, there are always enough people to help me'. An example item of the closed group climate scale is 'The chaos in this group drives me crazy'.

The questionnaire for the age group 4-8 consists of 20 items rated on a three-point Likert scale ranging from 1 (not true) to 2 (somewhat true) and 3 (true). The instrument measures group climate and differentiates between open (positive) group climate (11 items) and closed (negative) group climate (9 items). Cronbach's alpha reliability coefficients were good for both open climate (α = .747) and closed climate (α = .699). The questionnaire for the age group 8-14 consists of 14 items rated on a three-point Likert scale ranging from 1 (not true) to 2 (somewhat true) and 3 (true). The instrument measures group climate and differentiates between open group climate (9 items) and closed group climate (5 items). In the present sample, Cronbach´s alpha reliability coefficients were good for open climate (α = .914) and closed climate (α = .718).



*ATMQ (Adolescent Treatment Motivation Questionnaire).* To assess treatment motivation the Adolescent Treatment Motivation Questionnaire (ATMQ, Van der Helm et al., 2012) was used. This instrument was derived from the MTQ (Van Binsbergen, 2003) and is based on the transtheoretical model of Prochaska and DiClemente (1986). The instrument consists of 11 questions measuring the action phase of treatment motivation as a single construct using a 3-point Likert scale ranging from 1 (not true) to 3 (true). An example item is 'My treatment helps me'. A higher overall score is to be interpreted as a higher level of motivation for treatment. This questionnaire was only used in the age group 8-14 because the instrument has not yet been validated for a younger age group. The internal consistency of the measure was good (α = .753).

## Statistical analyses

Construct validity of the alliance scale was examined by means of confirmatory factor analysis in Amos 18 (Arbuckle, 2007). A one-factor model was specified in which each item loaded on only one factor. Both the model's Chi-Square and fit-indices, which are non-sensitive to sample size (CFI, TLI, and RMSEA[1]), were used to evaluate model fit (Kline, 2005). The following fit index cut-off values are indicative of good model fit: NFI > .90; CFI > .90, TLI > .90, and RMSEA < .05 (Kline, 2005). A non-significant Chi-Square indicates exact model fit, a ratio between the $x^2$ statistic and the degrees of freedom (*df*) that is lower than 2.5 indicates a close fit to the data (Hu & Bentler, 1999). To account for non-independence and non-normality, the robust MLR maximum likelihood estimation procedure was chosen

1 CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), NFI (Normed Fit Index) and RMSEA (Root Mean Square Error of Approximation) are indices of goodness of fit that are independent of sample size. Models that fit well score favourably on these fit-indices. For further references see Arbuckle (2007).

(Muthén & Muthén, 1998). A modification index, giving the expected drop in chi-square if the parameter in question is freely estimated, was used to improve model fit. Thus, parameters that could improve model fit by freeing those parameters were identified. Further improvement of model fit was achieved by removing items that did not load significantly on the factor.

To examine concurrent validity of the alliance measure we used the two scales of the CGIC questionnaire: open group climate and closed group climate (Strijbosch et al., 2015). For the age group 8-14 an additional motivation questionnaire was used (ATMQ; Van der Helm et al., 2012). Concurrent validity is demonstrated when alliance correlates positively with open group climate and treatment motivation. Also, concurrent validity is demonstrated when alliance correlates inversely with negative group climate.

# RESULTS

## Construct validity and reliability

Results for the age group 4-8 questionnaire (Table 1) indicated a good fit to the data: *Chi-square* = 22.618, *df* = 22, *p* = .424; *NFI* = .940; *CFI* = .998, *TLI* = .995, and *RMSEA* = .017. Results showed factor loadings ranging from .420 to .944 (Table 2). For this age group, the Children's Alliance Questionnaire was found to be internally consistent (α = .877). Results for the age group 8-14 questionnaire (Table 1) indicated a good fit to the data: *Chi-square* = 17.804, *df* = 22, *p* = .718; *NFI* = .971; *CFI* = 1.000, *TLI* = 1.015, and *RMSEA* = .000. Results showed factor loadings ranging from .546 to .907 (Table 3). The Children's Alliance Questionnaire for this age group was also found to be internally consistent (α = .895).

**Table 1.** *Results of Confirmatory Factor Analyses of the Children's Alliance Questionnaire (age group 4-8).*

| Model | $x^2$ | df | p< | $x^2$df | NFI | CFI | TLI | RMSEA |
|---|---|---|---|---|---|---|---|---|
| 1 factor (age group 4-8) | 22.618 | 22 | .424 | 1.03 | .940 | .998 | .995 | .017 |
| 1 factor (age group 8-14) | 17.804 | 22 | .718 | .809 | .971 | 1.000 | 1.015 | .000 |

**Table 2.** *Standardized Regression Weights of the Children's Alliance Questionnaire (age group 4-8).*

| Item No. | Scale/Item | Standardized Estimates |
|---|---|---|
| | Therapeutic Alliance (α = .877) | |
| 1 | Do you like it when your mentor is around? | .704 |
| 2 | Do you like it when your mentor is coming to work? | .590 |
| 3 | Do you like your mentor? | .944 |
| 4 | Do you ask your mentor anything? | .783 |
| 5 | Does your mentor help you? | .675 |
| 6 | Does your mentor understand you? | .864 |
| 7 | Does your mentor listen to you? | .420 |
| 8 | Do you talk to your mentor? | .682 |
| 9 | Does your mentor allow you to talk to other group workers? | .569 |
| 10 | Does your mentor have time for you? | .512 |



**Table 3.** *Standardized Regression Weights of the Children's Alliance measure (age group 8-14).*

| Item No. | Scale/Item | Standardized Estimates |
|---|---|---|
| | Therapeutic Alliance (α = .895) | |
| 1 | I like it when my mentor is around | .712 |
| 2 | I like it when my mentor is coming to work | .610 |
| 3 | My mentor helps me to achieve my goals | .669 |
| 4 | My mentor and I can work well together | .721 |
| 5 | My mentor understands me | .854 |
| 6 | My mentor listens to me | .907 |
| 7 | I can discuss anything with my mentor | .818 |
| 8 | My mentor allows me to talk to other group workers | .546 |
| 9 | My mentor has enough time for me | .616 |

## Concurrent validity

To examine concurrent validity of the alliance measure, Pearson's *r* was used to calculate correlations between the alliance scale and the open and closed climate scale of the CGIC questionnaire for both age groups and the ATMQ for the age group 8-14. For the 4-8 age group, we found the alliance scale to have a positive correlation with open group climate ($r = .597$; $p < 0.01$). No significant correlation was found for the alliance scale with closed

group climate (Table 4). For the 8-14 age group, positive correlations were found between the alliance scale and open group climate ($r = .525$; $p < 0.01$) and between alliance and motivation ($r = .544$; $p < 0.01$). No significant correlation was found for the alliance scale with closed group climate (Table 5).

**Table 4.** *Means, Standard Deviations, Range of the Scores, and Correlations of the Children's Alliance Questionnaire and CGIC scales (age group 4-8).*

| *Scale* | *M* | *SD* | Range | Alliance | Open Climate |
|---|---|---|---|---|---|
| Alliance | 2.79 | 0.35 | 1.20 - 3.00 | | |
| Open Climate | 2.61 | 0.35 | 1.00 - 3.00 | .597** | |
| Closed Climate | 1.68 | 0.44 | 1.00 - 3.00 | -.028 | -.108 |

**. Correlation is significant at the 0.01 level (2-tailed)

**Table 5.** *Means, Standard Deviations, Range of the scores, and Correlations of the Children's Alliance Questionnaire, ATMQ and CGIC scales (age group 8-14).*

| *Scale* | *M* | *SD* | Range | Alliance | Motivation | Open Climate |
|---|---|---|---|---|---|---|
| Alliance | 4.12 | 0.85 | 1.67 - 5.00 | | | |
| Motivation | 2.18 | 0.42 | 1.09 - 3.00 | .544** | | |
| Open Climate | 3.57 | 1.00 | 1.00 - 5.00 | .525** | .629** | |
| Closed Climate | 3.16 | 0.90 | 1.00 - 5.00 | -.082 | -.150 | -.375** |

**. Correlation is significant at the 0.01 level (2-tailed)

## Discussion and applications to social work

Few studies have investigated the psychometric properties of therapeutic alliance measures used for psychotherapy in a child population, especially in treatment of young children. The aim of the present study was to address this lacuna by examining the factor structure, validity and reliability of the Children's Alliance Questionnaire, measuring therapeutic alliance in children receiving residential treatment and therapeutic day care in The Netherlands. In doing so, two versions of a therapeutic alliance measure for two age groups of children - 4 to 8 years and 8 to 14 years old - were constructed.

Evidence for construct validity of the alliance scales was found in confirmatory factor analyses. Evidence for good internal consistency reliabilities were found in reliability analyses. Results of confirmatory factor analyses indicated that the alliance scales for both age groups best fit a one-factor solution, "overall alliance". For both the age group 4-8 years and 8-14 years, evidence for concurrent validity was found in a strong positive correlation between the alliance scale and open group climate. Also, a strong positive correlation was found between the alliance scale and treatment motivation in the age group 8-14. In both age groups, no correlations were found between the alliance scale and closed group climate,

indicating no support for concurrent validity. This can possibly be explained by the small number of items of which the negative group climate scale consists.

These results are in line with the findings of international studies examining the factor structure of self- and observer-reported therapeutic alliance measures designed for youth psychotherapy (i.e., AWAI, ATAS, VTAS-R), which also found support for one-factor solutions. Consequently, there is accumulating evidence indicating that children do not seem to discriminate between distinct alliance dimensions of the therapeutic alliance. These findings suggest that the alliance construct in children receiving psychotherapy is best understood as a one-dimensional construct (DiGiuseppe et al., 1996; Faw et al., 2005; Hogue et al., 2006).

Limitations of the present study were related to methodological issues as well as the absence of other validated instruments measuring therapeutic alliance in child psychotherapy in The Netherlands facilitating the examination of convergent validity. Currently there are no validated instruments measuring therapeutic alliance in children and youth in The Netherlands to compare with the Children's Alliance Questionnaire. Items of both alliance scales were derived from a therapeutic alliance measure used in an adult population (WAI-S). A thorough specification of the items had been carried out to fit the developmental level of children, especially young children. The use of items from the original adult measure to assess convergent validity may yield biased results, because the items in the scale may not capture all relevant aspects of the therapeutic alliance in child therapy (Elvins & Green, 2008).



Secondly, the samples used in the present study consist mostly of boys. This could possibly impede generalization of the results of this study to girls.

Thirdly, in the present study no data from the point of view of the therapist and no data from ratings by an observer were obtained. Use of therapist- and observer-ratings in addition to self-report ratings may lead to a better assessment of concurrent (and convergent) validity of the therapeutic alliance in children. Although self-report measures of therapeutic alliance aim to directly assess the perspective of those involved in therapy, thus representing the ideal perspective, developmental factors may limit young children's ability to comprehend and report on certain aspects of the therapeutic alliance (Shirk & Karver, 2003; Shirk & Saiz, 1992).

An important implication for the field of social work is that the Children's Alliance Questionnaire can be used to assess the quality of therapeutic alliance in children, aged 4 to 14 years, receiving residential treatment or therapeutic day care. Most importantly, this opens up opportunities for researchers and care providers to routinely monitor the quality of the therapeutic alliance between children and staff members throughout the course of treatment. In doing so, clinical practice could benefit greatly from empirical evidence to

gain a better understanding of the quality of therapeutic alliance in child psychotherapy. The ability to assess therapeutic alliance in children may lead to improvements in matching the optimal therapeutic alliance fit between children and staff members during treatment.

Future research on the factor structure of therapeutic alliance measures in child psychotherapy may focus on specificity of items of scales measuring relevant aspects of therapeutic alliance in children and youth. More research is needed to thoroughly investigate whether the theoretical framework of therapeutic alliance in adults is applicable to a child population. Also, use of multi-informant ratings of therapeutic alliance might lead to a more complete understanding of the therapeutic alliance in a child population, identifying specific child and therapist behaviors or attitudes toward forming a therapeutic alliance during treatment. In sum, more research is needed to help identify the main factors influencing the therapeutic alliance in child psychotherapy and rating therapeutic alliance from multiple perspectives to identify specific child and therapist behaviors associated with alliance formation in child psychotherapy.

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*Chapter 5*

# The Relation Between Therapeutic Alliance and Treatment Motivation in Residential Youth Care: A Cross-lagged Panel Analysis

Roest, J. J., Van der Helm, G. H. P., & Stams, G. J. J. M. (2016). The relation between therapeutic alliance and treatment motivation in residential youth care: A cross-lagged panel analysis. *Child and Adolescent Social Work Journal, 33*, 455-468. https://doi.org/10.1007/s10560-016-0438-4

## ABSTRACT

This study investigated the longitudinal relation between therapeutic alliance and treatment motivation in a sample of 174 adolescents receiving residential treatment in the Netherlands. Structural equation modeling (SEM) with a cross-lagged panel design was used to examine the relation between therapeutic alliance and treatment motivation up to nine months of treatment. Results revealed that autoregressive associations between initial therapeutic alliance and alliance at subsequent time points were significant, whereas for treatment motivation a significant association was found after six months, but not after nine months. Results also showed that a higher level of therapeutic alliance after three months was predictive of a higher level of treatment motivation after six months. Furthermore, a higher level of therapeutic alliance after six months was predictive of a higher level of treatment motivation after nine months. Implications for research and clinical practice are discussed.

## INTRODUCTION

Residential youth care in the Netherlands is differentiated into voluntary treatment settings (open facilities) and mandatory treatment settings (secure care facilities and youth prisons). Both types of settings can be characterized as facilities consisting of several group homes in which youth aged 12-20 are treated. In both settings professional health care for complex and persisting psychosocial and behavioral problems is an important aim of adolescents' treatment during their stay (Harder, 2011; Nijhof et al., 2011; Scholte & Van der Ploeg, 2006; Van der Helm, 2011). An important difference between open facilities and secure care facilities is the degree of coercion and restriction (Vermaes & Nijhof, 2014). Treatment in secure care facilities and youth prisons is mandated by a judge. A primary reason for mandated treatment is to prevent youth (or parents) from withdrawing from care or hurting themselves or others. In secure care facilities, rules and regulations are more restrictive than in open facilities. For instance, youth in secure care are restricted in their communication with the outside world, and staff has authority to frisk and examine mail and confiscate forbidden items, but also is allowed to restrain children who pose a danger to others or themselves.



Research on residential treatment outcomes in youth has shown mixed results (Bates et al., 1997; Frensch & Cameron, 2002; Hair, 2005). Although some youth do benefit from residential services, others do not, and positive treatment outcomes tend to decline after discharge from treatment (Frensch & Cameron, 2002; Hair, 2005; Souverein et al., 2013). A recent meta-analysis found that residential youth care can be equally effective compared to non-residential youth care, and that residential treatment is more effective when using evidence-based treatment (De Swart et al., 2012).

Research on 'what works' for juveniles and adults in psychotherapy distinguishes between specific and non-specific (or common) factors affecting both engagement in treatment and treatment outcome (Duncan et al., 2010; Lambert & Barley, 2002; Oetzel & Scherer, 2003). Specific factors include different types of treatment methods or a specific target group. Common factors are conditions and processes that affect treatment outcome regardless of target group or type of treatment, including client factors, such as problem severity and client motivation (Cunningham et al., 2009; Smith et al., 2008) and relational factors, such as therapeutic alliance (Karver et al., 2005). The interaction between these factors in residential treatment of youth has not yet received much attention in empirical research (Elvins & Green, 2008; Oetzel & Scherer, 2003).

Engagement in treatment is seen as an umbrella term that includes a behavioral and attitudinal dimension (Cunningham et al., 2009; Kim et al., 2012; Lindsey et al., 2014; Oetzel & Scherer, 2003; Smith et al., 2008; Staudt, 2007). Essentially, engagement in treatment is seen as a necessary condition for successful treatment of adolescents in therapy and may prevent premature termination of treatment (Lindsey et al., 2014; Oetzel & Scherer,

2003). The concept of treatment engagement pertains to a reciprocal interaction during which both therapist and client have a responsibility: Therapists express concern about the well-being of the client, actively motivating the client for therapy, whereas clients are expected to be attentive and actively involved in therapy and not to merely comply to the therapist's wishes (Oetzel & Scherer, 2003; Staudt, 2007). This interaction between client and therapist may also be seen as a transactional process during which client and therapist behavior influence each other (Sameroff, 2009).

The present study aims to empirically investigate the relation between two important factors affecting engagement of youth in residential care: Treatment motivation and therapeutic alliance. Further research on the interaction between these factors in treatment of youth in residential care can help understand why treatment either works or fails to work. Insight into how these factors interact throughout treatment and more specifically, the direction of effect they have on each other is of importance to clinical practice in order to influence these processes to optimize treatment circumstances and therapeutic outcome. This may in turn contribute to the prevention of premature termination of treatment, which has broad implications for both individual treatment outcome and public healthcare costs (Kim et al., McKay, 2012; Oetzel & Scherer, 2003).

## Treatment motivation

Stimulating treatment motivation of adolescents in secure residential youth care settings is a difficult task for staff. Engagement of youth in a mandatory treatment setting, especially juvenile justice institutions, is often more difficult than motivating adolescents receiving voluntary treatment (Van der Helm et al., 2013; Vermaes & Nijhof, 2014). Adolescents - juveniles in particular - often resist treatment, lack problem recognition, and fail to comply with therapeutic goals (Smith et al., 2008; Van Binsbergen, 2003; Verdonck et al., 2009).

According to self-determination theory (Ryan & Deci, 2000; Ryan & Deci, 2008), a person can experience autonomous (intrinsic) motivation as opposed to controlled (extrinsic) motivation. Autonomous motivation means that an individual is intrinsically motivated (doing an activity which leads to personal satisfaction) and leads to an internalization of attitudes towards the meaning, worth and sense of self-determination of proposed (therapeutic) goals (Ryan & Deci, 2000; Vallerand & Bissonnette, 1992). Controlled motivation on the other hand is influenced by external regulation, such as rewards or punishment (extrinsic motivation), and individuals could feel pressured to think or behave in a certain way and constrained in their sense of self-determination (Deci & Ryan, 2008; Vallerand & Bissonnette, 1992). Theory also states that relatedness, the sense of being cared for and being connected with others, is important for therapeutic alliance and autonomous motivation, and enhances the client's valuing of therapeutic goals and commitment to the therapeutic process (Markland et al., 2005; Ryan & Deci, 2008).

Another influential theoretical model regarding the process of motivation for change is the stages of change model, which has been used extensively in psychotherapeutic treatment to change health behavior (Miller & Rollnick, 2002; Norcross et al., 2011; Prochaska & DiClemente, 1984). The theory proposes that a person's readiness for change develops through various stages. The first stage is the 'precontemplation stage', which is characterized by an absence of intention to change behavior, because clients may be unaware of their problems. At the next stage ('contemplation stage') clients have become aware of their problem, are thinking about changing their behavior, but have not yet actively committed to the change process. During the 'preparation stage' clients show the intention to change certain aspects. In the 'action stage' clients invest more time and energy into changing his or her behavior and already have made progress regarding behavioral change. Finally, during the 'maintenance stage', clients try to consolidate positive outcomes of their change process in order to prevent relapse (Norcross et al., 2011).

Following from the theoretical models outlined above, motivation for treatment seems to be an ongoing dynamic process and should therefore be viewed as an attitude, which can be influenced by treatment (Kim et al., 2012; Miller & Rollnick, 2002; Staudt, 2007; Verdonck et al., 2009). Treatment motivation is viewed as an important factor contributing to engagement in treatment, which in turn affects treatment efficacy. Another factor that reflects a large part of both client and therapist engagement in treatment of children and youth is the therapeutic alliance (Bickman et al. 2004; Constantino et al., 2010; Karver et al., 2005; Oetzel & Scherer, 2003; Shirk and Karver, 2003). Studies suggest that failing to engage a child or adolescent in therapeutic activities may negatively affect the bond and collaboration between the therapist and the child or adolescent, which may lead to less treatment effectiveness and even premature termination of treatment (Constantino et al., 2010; Fitzpatrick & Irannejad, 2008; Karver et al., 2005).



## Therapeutic alliance in residential youth care

Therapeutic alliance - also referred to as working alliance - is a well-established process factor in psychotherapy. Bordin (1979) has defined a model which distinguishes three main components of the alliance: the client-therapist bond or relationship, agreement on goals, and collaboration on tasks (Bordin, 1979, 1994; Horvath, 2005). On a conceptual level of therapeutic alliance research in youth psychotherapy, there is no consensus on a general definition of the alliance and whether Bordin's model applies both to a child and adolescent population (Elvins & Green, 2008; Zack et al., 2007). It has been suggested that the alliance concept in children and youth psychotherapy may be viewed as a one-dimensional construct due to children's and adolescents' incapacity to discriminate between 'task' and 'goal' aspects of the alliance (Bickman et al., 2010; Faw et al., 2005; Hogue et al., 2006; Roest et al., 2016; Shelef & Diamond, 2008).

The majority of empirical studies on therapeutic alliance in youth care have focused on single measurements of alliance in relation to outcome, and few studies have examined

possible changes in therapeutic alliance and its trajectory over the course of treatment (Bickman et al., 2012; Shirk et al., 2011). Moreover, studies on therapeutic alliance with children and adolescents have mainly focused on out-patient and family therapy (Karver et al., 2006; Shirk & Karver, 2003).

However, many children and youth receive treatment in a residential setting. Few studies have addressed the role of the therapeutic alliance with youth receiving residential treatment, although increasing attention has been given to therapeutic alliance research with this specific target group since the beginning of the 21st century (Bickman et al., 2004; Duppong Hurley et al., 2013). Several studies focusing on developmental trajectories found that alliance ratings by youth remained relatively stable over time (Bickman et al., 2004, 2012; Duppong Hurley et al., 2013; Handwerk et al., 2008). Studies focusing on the relation between alliance and outcomes in residential youth care have yielded contradictory findings (Duppong Hurley et al., 2014; Florsheim et al., 2000; Handwerk et al., 2008; Holmqvist et al., 2007). For instance, Florsheim et al. (2000) found no relation between early alliance scores and subsequent alliance scores, nor with treatment outcome in a sample of delinquent youth. Consistent with this finding, a qualitative study by Hill (2005) found that juveniles and staff often develop a pseudo or 'sham' alliance: A working alliance without therapeutic impact, possibly as a result of forced compliance. As illustrated by the findings of aforementioned studies, treatment of youth in (semi-)secure residential care brings forth challenges to the development of a therapeutic alliance between youth and staff. Firstly, there is not a single therapist, but several staff members with whom youth can form or refuse to form an alliance. Secondly, adolescents do not seek help for their problems voluntarily and are referred to therapy because of perceived behavioral problems, and therefore treatment goals are often set by treatment staff (Bickman et al., 2004; Green, 2006; Shirk & Saiz, 1992). Establishing a therapeutic alliance with juveniles and engaging them in treatment seems even more difficult, because juveniles often have resistance to treatment (Florsheim et al., 2000; Orsi et al., 2010). Additionally, coercion and restriction are often necessary during treatment of youth, particularly in secure care facilities and youth prisons (Orsi et al., 2010; Schubert et al., 2012).

Recent research shows that a positive living group climate, with a minimum of coercion, can be seen as a necessary condition for treatment of youth in (secure) residential care (Parhar et al., 2008; Schubert et al., 2012; Van der Helm et al., 2011). A positive, or 'open' group climate consists of a supportive environment in which staff attend to the psychological needs of adolescents and refrain from repressive professional behavior, such as unfair treatment, punitive behavior, and enforcement of incremental rules (Souverein et al., 2013; Van der Helm, Boekee, et al., 2011). Also, an open living group climate is characterized by opportunities for youth to develop towards independence and autonomy as well as a positive group atmosphere in which youth can feel safe and trust each other (Van der Helm et al., 2011).

### Purpose of this study

The present study examines the longitudinal relation between therapeutic alliance and treatment motivation among adolescents receiving residential treatment. The purpose of this study is to (1) examine differences in therapeutic alliance and treatment motivation between youth receiving residential care in voluntary and mandatory treatment settings and (2) to examine the relation between therapeutic alliance and treatment motivation over the course of treatment, measured early in treatment, after six months of treatment, and after nine months of treatment. To our knowledge, this study is among the first to investigate the relation between therapeutic alliance and treatment motivation in residential youth care.

It is hypothesized that adolescents in a voluntary treatment setting show higher scores on therapeutic alliance and treatment motivation than adolescents in mandatory treatment settings. Consequently, it is expected that adolescents in voluntary treatment settings show a higher level of alliance and motivation scores later in treatment than adolescents in mandatory treatment settings. Additionally, it is hypothesized that therapeutic alliance and treatment motivation scores may either increase or decrease over time, showing moderate to strong correlations among each other throughout treatment.



## METHODS

### Participants

The sample was drawn from a larger dataset from a longitudinal study focusing on living group climate in youth care (Van der Helm et al., 2011). Only youth who had completed measures for both alliance and treatment motivation at two or three time points were included in the sample. The sample consisted of $N$ = 174 adolescents, $n$ = 127 (73%) boys, $n$ = 47 (27%) girls; mean age of respondents was 16.08 years ($SD$ = 1.75). The sample included youth from open facilities (voluntary treatment), secure facilities, and juvenile justice institutions (mandatory treatment). The sample from the open facilities consisted of 48 adolescents; 32 boys (66.7%) and 16 girls (33.3%); mean age was 15.88 years ($SD$ = 1.30). The sample from secure care facilities consisted of 87 adolescents; 60 boys (69%) and 27 girls (31%); mean age was 15.48 years ($SD$ = 1.18). The sample from juvenile justice institutions consisted of 39 adolescents; 35 boys (89.7%) and four girls (10.3%); mean age was 17.64 years ($SD$ = 2.29).

Youth receiving treatment in open facilities represented 20 living groups from five facilities, youth receiving treatment in secure care facilities represented 44 living groups from nine facilities, and youth receiving treatment in youth prisons represented 23 groups from seven facilities.

## Design

This study used a longitudinal design. Measurements were taken within three weeks after admission (T1), about three months after admission (T2) and about nine months after admission (T3). T1 data were used to examine the psychometric properties of a scale to measure therapeutic alliance. Data from the longitudinal sample were used to examine the relation between therapeutic alliance and treatment motivation on various points in time (T1, T2, and T3) during treatment. Data were obtained between 2009 until 2011.

## Procedure

All adolescents participated voluntarily and signed an informed consent form. Participants filled out a questionnaire to measure group climate at the residential youth care facility and a treatment motivation questionnaire. Participants from the longitudinal sample received a shower gel or phone call credit as a token of gratitude after each moment of measurement. Questionnaires were assigned a number in order to guarantee anonymity of the participants. Participants were told their answers would only be accessed by the researchers, and were ensured that group workers and other staff members would not have access to their answers. Measurements and data entry were carried out by graduate students from various graduate schools of social sciences in the Netherlands. The students were instructed by members of the research team how to carry out the procedures and about proper ethical conduct during the contact moments with youth. The purpose of the research project was discussed, stating that the questionnaires were not part of their treatment, and that their answers would be processed anonymously. All students signed a written statement to ensure confidentiality in the presence of the youth.

## Measures

*Therapeutic Alliance scale*. The original study from which the data were drawn investigated perceived living group climate by youth, and did not focus on therapeutic alliance as a distinct construct (Van der Helm, 2011). In order to construct a scale to measure therapeutic alliance, items from the Prison Group Climate Instrument (PGCI, Van der Helm et al., 2011) were used. This instrument measures the way in which adolescents perceive the group climate at the living group level and consists of four aspects: support, growth, atmosphere, and repression. A total of 14 items of the support scale (10 items) and growth scale (4 items) were used to construct the therapeutic alliance measure. The support scale measures the extent to which adolescents experience a supportive environment, encompassing a positive, respectful attitude of staff, and assisting youth in solving problems at the living group. The growth scale measures the possibilities for youth to develop towards independence and autonomy as well as a sense of increased well-being, belonging, and involvement in treatment.

Items referring to group workers (e.g., attitudes or behavior of youth towards group workers, or collaboration between youth and group workers) were included. Based on Bordin's (1979, 1994) conceptualisation of therapeutic alliance, two alliance scales "personal bond"

and "agreement on tasks" were constructed from the PGCI items and examined by means of confirmatory factor analysis. An example of an item from the bond scale is: 'Group workers treat me with respect'. An example of an item from the task scale is: 'I know what I have to work on'. All items were rated on a five-point Likert-type scale, ranging from 1 (not at all true) to 3 (in between) and 5 (totally true). One item of the support scale was reverse-scored, meaning that a higher score represents a negative outcome. This item had to be recoded during analyses. For the constructed alliance scale, a higher score represents a higher level of alliance. Notably, the items in this constructed alliance scale measures the degree to which youth perceive the alliance with the group workers as a team. The items do not address the relationship between youth and individual group workers or a key staff member, such as the youth's mentor or therapist.

A confirmatory factor analysis was carried out in SPSS Amos 20 (Arbuckle, 2011) to examine construct validity of the alliance scale. Both the model's Chi-Square and fit-indices, the latter of which are non-sensitive to sample size (CFI [Comparative Fit Index], TLI [Tucker-Lewis Index], NFI [Normed Fit Index] and RMSEA [Root Mean Square Error of Approximation]), were used to evaluate model fit. Models that fit well score favorably on these fit-indices. For further references see Arbuckle (2011). The following fit index cut-off values are indicative of good model fit: NFI > .90; CFI > .95, TLI > .95, and RMSEA < .05 (Kline, 2005). A non-significant Chi-Square indicates exact model fit, a ratio between the $x^2$ statistic and the degrees of freedom (df) that is lower than 2.5 indicates a close fit to the data (Hu & Bentler, 1999). To account for non-normality, the robust MLR maximum likelihood estimation procedure was chosen (Muthén & Muthén, 1998). A modification index, giving the expected drop in Chi-Square if a parameter in question is freely estimated, was used to improve model fit. Further improvement of model fit was achieved by removing items that did not load significantly on their respective factors.



A confirmatory factor analysis of a two factor model ('task' and 'bond' scale) was carried out. Results confirmed a two factor solution: *Chi-square* = 37.51, *df* = 26, *p* = .067; *NFI* = .96; *CFI* = .99, *TLI* = .98, and *RMSEA* = .05. However, a one factor solution, using the same items showed a better fit to the data: *Chi-square* = 28.49, *df* = 27, *p* = .39; *NFI* = .97; *CFI* = 1.00, *TLI* = 1.00, and *RMSEA* = .02 (Table 1). Standardized factor loadings ranged from .55 to .76. Internal consistency reliability of the items on the scale was investigated by calculating Cronbach's alpha in SPSS 21. To investigate the reliability of the items on the therapeutic alliance scale, item-total correlations were calculated as well. The alliance scale was found to be internally consistent (α = .89) with item-total correlations ranging from .52 to .72 (Table 2).

*ATMQ (Adolescent Treatment Motivation Questionnaire).* To assess treatment motivation, the Adolescent Treatment Motivation Questionnaire (ATMQ; Van der Helm et al., 2012) was used. This instrument was derived from the Motivation for Treatment Questionnaire (MTQ; Van Binsbergen, 2003) and is based on the stages of change model of Prochaska and

DiClemente (1984). The instrument consists of 11 questions measuring the action phase of motivation for treatment as a single construct using a three-point Likert-type scale ranging from 1 (not true) to 3 (true). An example item is 'My treatment helps me'. A higher score on treatment motivation is also to be interpreted as a higher level of motivation for treatment. The Cronbach´s alpha reliability coefficient for this scale was good (α = .74).

## Statistical analyses

In addition to the confirmatory factor analyses described earlier, Pearson's *r* correlations were computed for the scales across all time points. *T* tests were used to assess differences in therapeutic alliance and motivation scores between adolescents in open care facilities, secure care facilities and youth prisons at T1. Also, the difference in alliance and motivation scores between boys and girls was assessed. Additionally, in order to examine patterns of alliance and motivation across the three time points, a repeated-measures analysis of variance (Type of facility × Time) was carried out.

Furthermore, structural equation modeling (SEM) was conducted in AMOS 20 (Arbuckle, 2011), using the following indices of good model fit: NFI > .90; CFI > .95, TLI > .95, and RMSEA < .05 (Kline, 2005). An autoregressive cross-lagged panel design (Martens & Haase, 2006) was used to test the relation between therapeutic alliance and treatment motivation across three time points (T1, T2 and T3). Analyses included type of treatment facility, detention length, and the presence of mild intellectual disability (MID) as control variables. Residual variances of the control variables as well as the alliance and motivation variables were allowed to correlate with each other. We did have missing cases at T2 (6.3%) and T3 (48.9%). The robust MLR maximum likelihood estimation procedure was used to account for non-normality of the data. Also, to improve model fit, correlations between residual variances of autoregressive paths were allowed in the model. Paths in the model are reported as standardized regression coefficients (betas).

**Table 1.** *Results of Confirmatory Factor Analyses of the Therapeutic Alliance Scale*

| Model | $x^2$ | df | *p* | $x^2$df | NFI | CFI | TLI | RMSEA |
|---|---|---|---|---|---|---|---|---|
| 2 factor: bond and task | 37.51 | 26 | .07 | 1.44 | .96 | .99 | .98 | .05 |
| 1 factor: bond/task items | 28.49 | 27 | .39 | 1.06 | .97 | 1.00 | 1.00 | .02 |

**Table 2.** *Standardized Regression Weights of the Therapeutic Alliance Scale*

| Item No. | Scale/Item | Standardized Estimates | Item-total correlations |
|---|---|---|---|
| | Overall therapeutic alliance (α = .89) | | |
| 1 | When I have a personal problem, there is always somebody I can turn to | .66 | .60 |
| 2 | Group workers treat me with respect | .69 | .68 |
| 3 | I trust the group workers | .75 | .72 |
| 4 | Group workers listen to my arguments and feelings | .76 | .68 |
| 5 | There are always enough people to help me | .70 | .67 |
| 6 | Group workers allow me some space | .75 | .66 |
| 7 | Group workers stimulate me to try new things | .70 | .64 |
| 8 | We regularly discuss things with the group workers | .56 | .52 |
| 9 | I know what I am working at | .57 | .60 |
| 10 | What I learn here will help me when I'm outside | .63 | .61 |



# RESULTS

## Differences in therapeutic alliance and motivation between voluntary and mandatory treatment settings

*T*-test results revealed a significant difference in therapeutic alliance scores between adolescents in open facilities ($M$ = 3.93, $SD$ = 0.78) and adolescents in secure care facilities ($M$ = 3.42, $SD$ = 0.90); $t(133) = 3.31$, $p = .001$, $d = 0.61$, showing higher alliance scores for adolescents in open facilities compared to adolescents in secure care facilities. Also, a significant difference was found in motivation scores between adolescents in open facilities ($M$ = 2.28, $SD$ = 0.41) and adolescents in secure care facilities ($M$ = 1.97, $SD$ = 0.47); $t(133) = 3.78$, $p < .001$, $d = 0.70$, indicating that adolescents in open facilities had higher motivation scores compared to adolescents in secure care facilities. Furthermore, a significant difference in therapeutic alliance scores was found between adolescents in open facilities ($M$ = 3.93, $SD$ = 0.78) and adolescents in youth prisons ($M$ = 3.26, $SD$ = 0.93); $t(84) = 3.67$, $p < .001$, $d = 0.79$, showing higher scores for adolescents in open facilities compared to adolescents in youth prisons. A significant difference was also found between motivation scores for adolescents in open facilities ($M$ = 2.28, $SD$ = 0.41) and adolescents in youth prisons ($M$ = 1.83, $SD$ = 0.46); $t(84) = 4.75$, $p < .001$, $d = 1.02$, demonstrating higher motivation scores for adolescents in open facilities compared to adolescents in youth prisons. No significant differences in therapeutic alliance as well as motivation scores were found for adolescents in secure care facilities and youth prisons. *T*-tests also did not show significant differences in both therapeutic alliance and motivation scores between boys and girls from open, secure care and juvenile justice facilities altogether. Also, no significant differences were found for alliance and motivation scores between youth younger and

older than 16 years. Means and standard deviations are shown in Table 3. Results from *T*-tests are shown in Table 4.

**Table 3.** *Means and Standard Deviations of the Therapeutic Alliance and ATMQ Scores at T1, Differentiated into Adolescents from Open Facilities, Secure Facilities, and Youth Prisons.*

| | Open facilities | | | Secure facilities | | | Youth prisons | | |
|---|---|---|---|---|---|---|---|---|---|
| *Measure* | *N* | *M* | *SD* | *N* | *M* | *SD* | *N* | *M* | *SD* |
| Alliance | 47 | 3.93 | 0.78 | 88 | 3.42 | 0.90 | 39 | 3.26 | 0.93 |
| Motivation | 47 | 2.28 | 0.46 | 88 | 1.97 | 0.47 | 39 | 1.83 | 0.47 |

**Table 4**. *Differences Between Therapeutic Alliance and ATMQ Scores at T1 Between Adolescents from Open, Secure Care and Youth Prisons.*

| | Alliance | | Motivation | |
|---|---|---|---|---|
| *Differences between groups* | *t* | *d* | *t* | *d* |
| Open facilities - Secure care facilities | 3.31*** | 0.61 | 3.78*** | 0.70 |
| Open facilities - Youth prisons | 3.67*** | 0.79 | 4.75*** | 1.02 |
| Secure care facilities - Youth prisons | 0.93 | 0.18 | 1.58 | 0.30 |
| Boys - Girls | -0.43 | -0.08 | -0.34 | -0.06 |
| Age ≤ 16 years - Age ≥ 16 years | 0.86 | 0.10 | 0.62 | 0.14 |

***. $p < 0.001$

## Relation between therapeutic alliance and motivation over time

Pearson *r* correlation analyses showed modest to strong significant correlations between therapeutic alliance scores on T1, T2 and T3, and between motivation scores on T1, T2 and T3. Means, standard deviations, and results from correlation analyses are shown in Table 5. Two separate repeated-measures analyses of variance (ANOVA) were carried out, using therapeutic alliance and motivation variables as within-subjects factors and type of facility as a between-subjects factor. No significant main effects or interaction effects were found.

**Table 5.** *Pearson's r Correlations Between Therapeutic Alliance and Treatment Motivation Across T1 (n = 174), T2 (n = 163), and T3 (n = 89)*

| *Scale* | *M* | *SD* | Alliance T1 | Alliance T2 | Alliance T3 | Motivation T1 | Motivation T2 |
|---|---|---|---|---|---|---|---|
| Alliance T1 | 3.52 | 0.91 | | | | | |
| Alliance T2 | 3.36 | 0.92 | .59** | | | | |
| Alliance T3 | 3.56 | 0.94 | .52** | .62** | | | |
| Motivation T1 | 2.03 | 0.48 | .66** | .47** | .47** | | |
| Motivation T2 | 2.05 | 0.51 | .48** | .64** | .43** | .60** | |
| Motivation T3 | 2.13 | 0.58 | .31** | .30** | .67** | .42** | .28* |

*. $p < 0.01$. **. $p < 0.05$

## Structural Equation Modeling

The cross-lagged panel design using the total sample (youth from open, secure care facilities and youth prisons) is shown in Figure 1. Model fit indices showed an exact fit to the data: *Chi-square* = 14.21, *df* = 14, *p* = .43; *NFI* = .97; *CFI* = 1.00, *TLI* = 1.00, and *RMSEA* = .01. Type of facility, detention length, and presence of a mild intellectual disability were included as control variables in the analyses. Type of facility showed a significant association with both initial therapeutic alliance (ß = -.34, $p < .001$) and treatment motivation (ß = -.38, $p < .001$). Also, detention length had a significant association with initial therapeutic alliance (ß = -.17, *p* = .04), but not with treatment motivation.

Autoregressive associations between time 1 and time 2 were statistically significant for both therapeutic alliance (ß = .49, $p < .001$) and treatment motivation (ß = .49, $p < .001$), as well as the autoregressive association for therapeutic alliance (ß = .59, $p < .001$) between time 2 and time 3. No significant autoregressive association was found for treatment motivation between time 2 and time 3. Significant cross-lagged associations were found between therapeutic alliance at time 1 and treatment motivation at time 2 (ß = .17, *p* = .04) and between therapeutic alliance at time 2 to treatment motivation at time 3 (ß = .27, *p* = .045). No significant cross-lagged associations were found between treatment motivation at time 1 and therapeutic alliance at time 2 (ß = .15, *p* = .07) or for treatment motivation at time 2 and therapeutic alliance at time 3 (ß = .03, *p* = .81). Results are depicted in Figure 1.

Because the results showed moderate associations between type of facility and initial alliance and treatment motivation, separate cross-lagged panel models were carried out on the separate samples of youth receiving voluntary treatment (open facilities) and mandatory treatment (secure care facilities and youth prisons), respectively. However, results of the models for the sample receiving voluntary treatment did not show a good fit to the data, supposedly due to the relatively small sample sizes at the various time points. Results for the youth receiving mandatory treatment showed a very good fit to the data: *Chi-square* = 14.02, *df* = 14, *p* = .45; *NFI* = .96; *CFI* = 1.000, *TLI* = 1.000, and *RMSEA* = .00. Sig-

nificant autoregressive associations were found for therapeutic alliance between time 1 and time 2 (ß = .49, $p < .001$), between time 2 and time 3 (ß = .49, $p < .001$), as well as for treatment motivation between time 1 and time 2 (ß = .47, $p < .001$). As opposed to significant associations found in the total sample, no significant cross-lagged associations were found between therapeutic alliance and treatment motivation. Also, no significant associations were found between type of facility or detention length and either initial therapeutic alliance or treatment motivation.

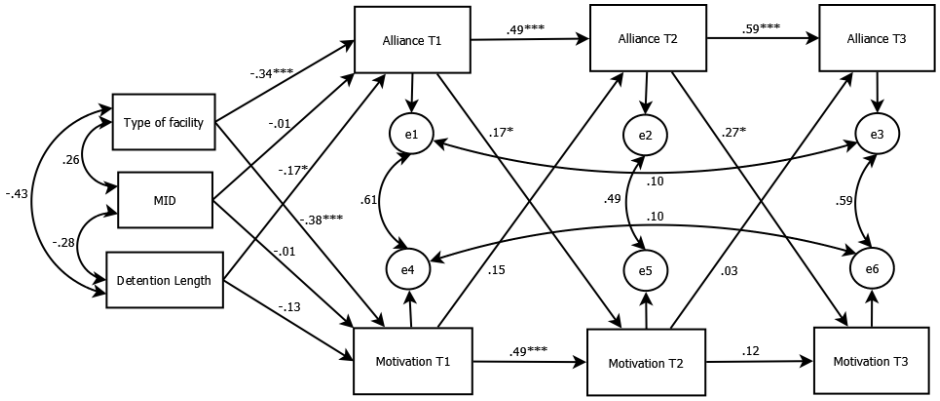


*Figure 1*. Cross-lagged panel model of three measurements of the therapeutic alliance scale and treatment motivation (ATMQ) in the sample youth receiving voluntary and mandatory treatment
**p* < 0.05 ***p* < 0.001
*Note.* MID = Mild Intellectual Disability

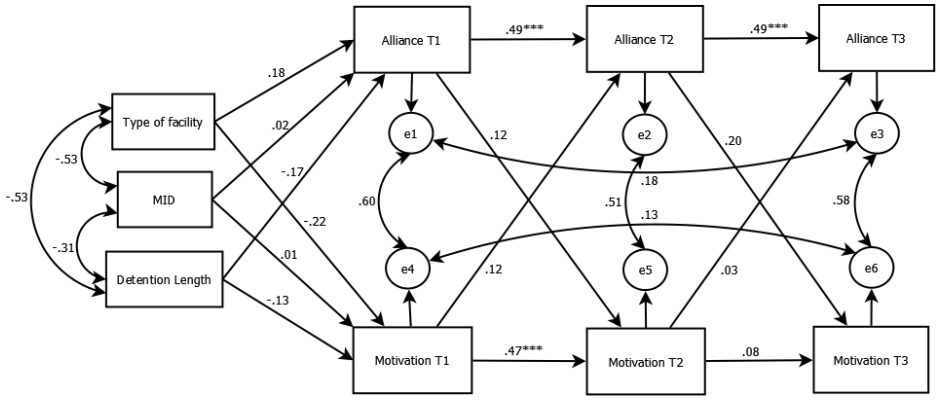


*Figure 2*. Cross-lagged panel model of three measurements of the therapeutic alliance scale and treatment motivation (ATMQ) in the sample youth receiving mandatory treatment
***p* < 0.001
*Note.* MID = Mild Intellectual Disability

## DISCUSSION

This study investigated the relation between therapeutic alliance and treatment motivation during treatment of adolescents receiving residential care in the Netherlands. First, we examined differences in therapeutic alliance and treatment motivation scores between youth receiving residential care in open facilities (voluntary treatment) and secure care and youth prisons (mandatory treatment). Adolescents receiving residential treatment in open facilities reported significantly higher scores for both therapeutic alliance and treatment motivation than adolescents in secure care facilities and youth prisons. This finding is supported by recent research, which demonstrated that families in more intensive (outpatient) services reported lower levels of initial engagement in treatment (in terms of alliance, satisfaction, and participation) than those receiving care from less intensive services (Becker et al., 2015).

Furthermore, adolescents in secure care facilities reported higher scores for both therapeutic alliance and treatment motivation than adolescents in youth prisons, but these differences were not significant. These findings might be explained by underlying client factors, such as type of problem behavior and its severity, agreement on goals and tasks of treatment, as well as prior placements in residential care facilities, which may have a moderating effect on therapeutic alliance and treatment motivation (Breda & Riemer, 2012; Darchuk, 2007, Harder et al., 2015; Nijhof et al., 2012). For example, adolescents in mandatory treatment settings do not seek help themselves, might not agree to treatment goals, and demonstrate a higher level of problem severity and delinquent or antisocial behavior, which in turn increases resistance to treatment, negatively affecting treatment motivation and the establishment of a therapeutic alliance (Constantino et al., 2010; Orsi et al., 2010; Van der Helm et al., 2012).

A second aim of the study was to examine the relation between therapeutic alliance and treatment motivation over the course of treatment. Results from a cross-lagged panel model showed significant associations of therapeutic alliance on subsequent levels of alliance at six months of treatment and nine months of treatment. The association between treatment motivation and subsequent levels of treatment motivation was only significant at six months of treatment, but not at a later stage of treatment. These results suggest that the association between treatment motivation and levels of motivation during later stages of treatment declines over time. This may be explained by the duration of treatment, and perhaps the amount of youth care received by youth in secure care facilities prior to their treatment at the time of this study. The longer youth receive treatment, the less they become motivated to engage in therapeutic activities. However, a significant negative association was found between detention length and initial therapeutic alliance, but not between detention length and treatment motivation.

Cross-lagged associations indicated that a higher level of therapeutic alliance after time point 1 (after three months) was predictive of a higher level of treatment motivation at time 2 (after six months), and a higher level of therapeutic alliance at time point 2 (after six months) was predictive of a higher level of treatment motivation at time point 3 (after nine months). These results suggest that treatment motivation can be influenced by establishing a therapeutic alliance with youth. Thus, the role of the group worker in treatment of adolescents in residential care might be crucial during the process of therapeutic change. This may be particularly the case for early stages of treatment, as the autoregressive association between treatment motivation at time point two and time point three was not significant.

However, when the same cross-lagged model was applied to data of the sample of youth receiving mandatory treatment, no cross-lagged associations were found between alliance and treatment motivation. Again, this finding might be explained by the lack of motivation for change in youth receiving mandatory treatment due to a lower degree of problem recognition, and a higher degree of problem severity of youth in secure care and youth prisons in comparison with youth receiving voluntary treatment. This finding suggests that it is more difficult to form a therapeutic alliance with these youth, which can influence subsequent levels of treatment motivation.

Furthermore, in the present study, no significant cross-lagged associations were found between treatment motivation and subsequent levels of therapeutic alliance. Although there is currently a scarcity of studies that have investigated the association between treatment motivation and therapeutic alliance in residential youth care over time, it might be expected that in order to establish a therapeutic alliance with staff, youth would have to be motivated for change. Darchuk (2007) found that a high level of motivation for treatment (in terms of readiness for change) was associated with client-rated alliance halfway through treatment of adolescent substance abusers in a residential setting. Other recent studies that have focused on youth in residential care have also emphasized the reciprocal interaction between motivation for treatment and therapeutic alliance as an important yet complicated process (Duppong Hurley et al., 2013, 2014; Lambert et al., 2013; Smith et al., 2008). Nonetheless, early engagement in therapy is seen as important for positive treatment outcomes. Therefore, further research on the interaction between therapeutic alliance and treatment motivation is recommended, as both constructs represent aspects of treatment engagement (or involvement), which is necessary for treatment to succeed.

During the examination of the factor analytic structure of the alliance scale used in the present study, evidence was found for a two factor solution (a 'goal/task' and 'bond' scale). However, results indicated that the data in this study best fits a one-factor solution of the alliance scale ('overall alliance') capturing the bond and collaboration aspects of the alliance. These results are in line with findings from studies examining the factor structure of self- and observer-reported therapeutic alliance measures designed for child and youth

psychotherapy (i.e., TAQS, Bickman et al., 2010; ATAS, Faw et al., 2005; TPOCS-A, Fjermestad et al., 2012; CAQ; Roest et al., 2016; VTAS-R, Shelef & Diamond, 2008).

### Limitations

The most important limitation of the present study was related to methodological issues. The present study examined the relation between therapeutic alliance and treatment motivation with relatively low levels of control. Factors such as specific client characteristics (e.g., type of problem behavior or problem severity) and therapist characteristics (e.g., years of experience) may affect the strength of the association between initial and subsequent levels of therapeutic alliance as well as motivation for treatment and cross-lagged effects between alliance and motivation (in either direction).

Another limitation was that the original study from which the sample in the current study was drawn did not use a measure for therapeutic alliance. For the purpose of the present study, a secondary data analysis was carried out. Therefore, the alliance scale used in this study was derived from an existing instrument to measure group climate in residential care (Van der Helm, 2011) in an attempt to capture the personal bond and collaboration (task and goal) aspects of the alliance construct. An important difference between the scale used in the present study and other therapeutic alliance measures is that the items refer to group workers as a team instead of individual staff members, such as a mentor. This conceptualization of the alliance construct differs from other studies on therapeutic alliance, and to our knowledge this study is among the first to investigate the alliance between youth and a team of group workers. It is noteworthy that recent research has developed an alliance measure to assess the strength of the parent-team alliance (Lamers et al., 2015).



Moreover, no alliance ratings by treatment staff or observer ratings of the alliance were taken into account. No data from the point of view of the therapist and no data from ratings of therapeutic alliance by an observer were available. Also, no measures for treatment outcome were taken into account. Although self-report measures of therapeutic alliance aim to directly assess the perspective of the adolescent involved in therapy, developmental factors may limit adolescents' ability to comprehend and report on certain aspects of the therapeutic alliance (Shirk & Karver, 2003; Shirk & Saiz, 1992). Use of observer-rated alliance measures are less susceptible to bias and may therefore be better suited for youth and may lead to a better assessment of predictive validity of the therapeutic alliance in youth (McLeod, 2011; McLeod & Weisz, 2005).

Another important limitation of the present study is that analysis of panel data using structural equation modeling is usually carried out with a larger sample size compared to the sample in the present study. Replication of this study with a larger sample size might yield different results. Moreover, there was a large percentage of missing data, in particular at time point 3.

## Implications

The results of the present study imply that therapeutic alliance and treatment motivation tend to correlate strongly at the start of treatment and still do after six months and after nine months of treatment. As stated earlier, treatment motivation is not a personal trait, but rather an attitude which can be influenced by behavioral interventions (Lindsey et al., 2013). The association between early therapeutic alliance and subsequent treatment motivation found in the present study provides evidence that the support provided by the group workers at the living group level can affect the level of treatment motivation at subsequent time points. Given the context of the present study, this stresses the need for explicit early alliance formation strategies between staff and adolescents to improve motivation for treatment. In addressing reactance behavior, staff should stimulate clients' self-esteem without rejecting behavior of non-compliance, keeping in mind that this kind of behaviour is often a result of situational circumstances instead of fixed client characteristics (Miller & Rollnick, 2002; Norcross et al., 2011; Prochaska & DiClemente, 1984).

From a self-determination theory perspective, residential treatment might focus on need satisfaction of youth by discussing treatment expectations and therapeutic tasks and goals of treatment in order to stimulate intrinsic motivation. Also, relatedness seems important to increase intrinsic motivation. A controlling environment and relationships with staff that are based on compliance can lead to a decrease of intrinsic motivation and defensive behavior and resistance to treatment, further complicating alliance formation and diminishing treatment effects (Lipsey, 2009; Parhar et al., 2008).

Qualitative research on alliance in residential treatment and other contexts has yielded insights in what staff characteristics are considered as important by youth. Manso et al. (2008) found that being able to relate to the youth, commitment, trustworthiness, and genuineness are important staff characteristics in the eyes of youth. Other studies have found that demonstrating care, building rapport, sharing treatment information, allowing input from youth and family and spending time with youth at the living group are important for building positive alliances (Eyrich-Garg, 2008; Henriksen et al., 2008; Iachini et al., 2015; Thompson et al., 2007). In another study of previously detained youth, alliance-building strategies by mental health professionals (e.g., treating youth with dignity, empathic understanding, seeing the problem from the youth's perspective, allowing input from youth in treatment planning), were described as important by youth (Brown et al., 2014).

Group workers can positively influence their alliances with youth, which may affect youths' treatment motivation. Besides group treatment and positive involvement in daily activities with youth at the living group, staff in residential care can play an important role in encouraging supportive relationships between youth and adults, such as other staff members parents, and teachers (Degner et al., 2010). Furthermore, positive interactions among staff, staff unanimity regarding treatment goals and treatment format, and reducing staff turnover are seen as important (Ahonen & Degner, 2013; Degner et al., 2010).

Finally, a good overall living group climate with ample opportunities for growth, and a good atmosphere (structure, safety and peer contacts) can also contribute to treatment motivation (Van der Helm, 2011).

With regard to the measurement of the alliance construct, there is accumulating evidence indicating that adolescents do not seem to discriminate between the different alliance dimensions of the therapeutic alliance. These findings suggest that both children and adolescents understand the alliance construct as a one-dimensional construct (Bickman et al., 2010, 2012; DiGiuseppe et al., 1996; Faw et al., 2005; Hogue et al., 2006). Interestingly, findings from the present study showed that a two-factor solution fitted the data well, although a one-factor solution showed an even better fit to the data. Measurement of the personal bond, task, and goal aspects of the alliance as separate factors can be interesting for future research. An important reason to differentiate between these aspects of the alliance is to gain a better understanding of how these constructs interact with other factors, such as client motivation, goal consensus, treatment expectancy, type of problem behavior, problem severity, and their separate and combined contributions to treatment efficacy and treatment outcome. Understanding these factors in the context of youth psychotherapy is of great importance in order to provide an optimal therapeutic environment



In sum, more research on the therapeutic alliance in an adolescent population is needed to investigate to what extent the theoretical framework of therapeutic alliance in adults is applicable to adolescents. Knowledge about the perception of the alliance by adolescents receiving residential care is necessary in order to increase responsiveness by group workers and to increase the therapeutic impact of the interaction between youth and staff. The ability to assess important process factors, such as therapeutic alliance and treatment motivation, may lead to a better understanding of common therapeutic factors in residential youth care. By examining processes that explain changes in therapeutic alliance and treatment motivation, strategies can be developed to create therapeutic change and to prevent ruptures in the therapeutic alliance during treatment of youth in residential care.

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*Chapter 6*

# Alliance Ruptures in Residential Youth Care: An Ecological Systems Perspective

Roest, J. J., Van der Helm, G. H. P., & Stams, G. J. J. M. (2022). Alliance ruptures in residential youth care: An ecological systems perspective. *Submitted*.

## ABSTRACT

Establishing and maintaining an alliance with youth and parents in residential care is a difficult task for professionals. Failing to (re-)establish an alliance with youth can lead to a rupture in the alliance. When ruptures are not resolved, they can hinder treatment efficacy and possibly lead to breakdown of treatment. Research on alliance ruptures and resolution in youth is scarce. In this paper we discuss the alliance and alliance ruptures resolution process from ecological systems perspective with youth in residential care based on scientific literature on psychotherapy, social pedagogy and social work, examining the impact of client, professional, and context factors. Working together on a positive alliance can be achieved by systematic feedback from youth and parents about the alliance, discussing mutual expectations, and promoting youth's autonomy and agency through shared decision-making. It is suggested that professionals utilize skills such as self-reflection, trauma-informed strategies, and refrain from coercive measures and countertransference in addressing (potential) alliance ruptures. In residential treatment, investing in a positive social climate for youth and professionals and providing relational continuity throughout the youth's care trajectory seem especially important.

## INTRODUCTION

Establishing and maintaining a therapeutic alliance with youth and parents in residential care is a difficult task for professionals due to the nature and complexity of the problems that youth display as well as contextual factors relating to the treatment setting. Secure residential care imposes additional challenges to the formation of an alliance, because treatment is mandatory. Difficulties in establishing and maintaining an alliance with youth and parents may result in a rupture of the alliance and possibly breakdown of treatment (Baillargeon et al., 2012). Notwithstanding the growing attention for the role of the alliance as an important factor in youth psychotherapy (Karver et al., 2018; McLeod, 2011), alliance ruptures and alliance rupture resolution strategies in therapy with youth are still underresearched topics, which have been mainly examined in adult psychotherapy within the field of clinical psychology and counseling in voluntary individual treatment settings (Bailleargeon et al., 2012; Nof et al., 2019). To understand the alliance and alliance rupture-repair (or rupture resolution) processes in residential youth care, it is important to take into account the context of treatment, which poses several challenges when working on a positive therapeutic alliance with youth and parents.

In this paper, we discuss the alliance and alliance rupture-repair process in residential youth care based on Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979) to provide a contextual perspective by using psychotherapy research literature as well as social pedagogy and social work literature. This paper consists of two parts: In the first part we discuss the concept of alliance, alliance ruptures, and the rupture-repair process in working with youth. Second, the role of the alliance in residential youth care as well as challenges regarding establishing and fostering a positive alliance are discussed by means of a narrative review, distinguishing between processes at the micro-, meso-, and exosystem level. Also, strategies are discussed to establish, maintain, and restore the alliance with youth and parents when a rupture in the alliance occurs. Throughout this paper, the term therapist is used to refer to the context of individual therapy, the term professional is used to refer to mental health care professionals in other treatment contexts, and the term staff is used to refer to a team of professionals in residential youth care.



### The concept 'therapeutic alliance'

The concept of therapeutic alliance is often defined as "the quality and strength of the collaborative relationship between client and therapist" (Horvath & Bedi, 2002, pp. 44). Bordin (1979) proposed a pan-theoretical definition of the therapeutic alliance, in which the alliance is understood as consisting of three dynamically interacting aspects; the personal bond between client and therapist, collaboration on tasks of therapy and mutual agreement on goals of therapy. The personal bond refers to the extent to which a client feels understood, respected and valued by the therapist, while the consensus on goals and collaboration on tasks refer to the collaborative nature of the alliance. The most distinguishing feature of Bordin's concept of the alliance is its emphasis on collaboration and

consensus. This aspect of the alliance allows clients to feel more in control and motivated to engage in treatment, and stimulates their decision-making about treatment goals and specific tasks of treatment (Green, 2006).

An important critique on the alliance concept is its emphasis on agreement and collaboration, leaving less room for conflicts, confrontation, and negative interactional processes (Doran, 2016; Ross et al., 2008). Perhaps because of that, several authors have proposed somewhat different frameworks to operationalize the alliance for use in different treatment settings - particularly mandated settings such as probation services and offender rehabilitation - taking the context of treatment into account (e.g., authoritative nature of the alliance, care versus control; Orsi et al., 2010; Ross et al., 2008). Others have revised the alliance concept by operationalizing negative processes such as relational resistance and transparent communication, or by defining various roles of the professional to better capture the alliance concept in such settings (Menger, 2018; Skeem et al., 2007; Sturm et al., 2022).

It is not clear whether Bordin's theoretical model of the alliance applies to child and youth psychotherapy (Elvins & Green, 2008; Green, 2009; Karver et al., 2018; Zack et al., 2007). Literature on the conceptual understanding of the alliance construct in therapy with children and their parents is still scarce compared to research in adult populations. Recent studies by Gibson et al. (2016) and Ryan et al. (2021) investigated how children, parents, and therapists perceived their alliance in therapy. The results indicated that participants had different views on several aspects of the alliance, such as the nature of the personal bond, which therapeutic techniques were important, and the role of the parent in therapy. These findings underscore the complexity of the alliance construct in therapy with children and youth compared to individual adult psychotherapy.

## Therapeutic alliance with children and youth

Since the 1990's, both theoretical and empirical research on therapeutic alliance processes in child and youth psychotherapy have increased significantly (Green, 2009; Karver et al., 2005, 2018; McLeod, 2011). Validation studies of self-report measures of therapeutic alliance for children and youth have repeatedly found that the alliance construct is best measured as a one-dimensional factor 'overall alliance' (Bickman et al., 2012; Cirasola et al., 2020; DiGiuseppe et al., 1996; Ormhaug et al., 2015; Roest et al., 2016). The one-dimensional nature of the therapeutic alliance in children and youth may be explained by developmental factors. Children's cognitive abilities such as hypothetical-deductive reasoning, abstract thinking, development of verbal skills, self-reflection, delaying benefit and gains, and regulation of emotions and impulse control are still underdeveloped compared to that of adults (Cauffman & Steinberg, 2000; Steinberg & Cauffman, 1996; Zack et al., 2007). These findings imply that children and youth are not yet able to distinguish between the various aspects of the alliance, such as the quality of the personal bond and the consensus on tasks and goals of therapy. In their perception, therapists are doing either a 'good' or a 'bad' job in

establishing an alliance (Kazlauskaite et al., 2020). Moreover, it has been proposed that youth perceive the alliance mainly as an affective bond instead of collaboration on tasks and consensus on goals (Ormhaug et al., 2015).

Another important difference between youth and adult clients is that children and youth are often not self-referred to therapy. Also, adolescents have increasing developmental needs of autonomy and self-reliance and tend to distance themselves from adult influences, and younger children may have difficulties to recognize the need for treatment at all or are in disagreement with their parents or caregivers about their need for treatment (DiGiuseppe et al., 1996; Hawley & Weisz, 2003; Shirk et al., 2010). This lack of problem recognition may affect motivation for treatment and youth's need for negotiation on treatment goals and tasks. Resistance to treatment and reactance behavior of youth is a widely mentioned problem by professionals, and is amplified when working with youth who have externalizing disorders, especially when treatment is mandatory (Abram et al., 2008; Berko, 2021; Byers & Lutz, 2015; Chu et al., 2010; Orsi et al., 2010; Souverein et al., 2013). These findings stress the importance of investing in training of professionals in order to establish a positive alliance and manage alliance ruptures.

## Alliance ruptures

Ruptures in the alliance have been mainly studied in individual psychotherapy in adult populations, and have not yet received much attention in youth psychotherapy (Baillargeon et al., 2012; Nof et al., 2019). In psychotherapy literature, alliance ruptures are conceptualized as a tension or breakdown in the collaborative relationship between client and therapist, varying in intensity from minor to major problems in collaboration, understanding, communication or quality of relatedness (Safran & Muran, 2006; Safran et al., 2011). Severe ruptures in the alliance can impede engagement in treatment, hinder therapeutic change, and can lead to premature termination of treatment (Baillargeon et al., 2012). Studies have found that successful repair of alliance ruptures can have a therapeutic impact; managing alliance ruptures helps therapists to gain insight in the client's strategies to cope with frustration to deal with difficulties in the collaboration, negotiation of treatment goals and tasks, and accepting help from a professional (Baillargeon et al., 2012; Constantino et al., 2010; Safran et al., 2011). Based on the available empirical evidence, Norcross and Lambert (2018) included the repair of alliance ruptures in a list of probably effective treatment principles, and recent studies have found empirical evidence for the positive effects of successful alliance rupture-repair on treatment outcomes (Eubanks, Muran, & Safran, 2018).

Alliance ruptures are differentiated into two types (Safran & Muran, 2006); confrontation and withdrawal (avoidance of confrontation). In the case of a withdrawal rupture, the client disengages from the therapeutic process, and does not utter his or her disagreement directly to the therapist, for instance by not speaking or ignoring the therapist, but also through changing the subject of the conversation. Confrontational ruptures are characterized by the client expressing feelings of anger towards the therapist, dissatisfaction or

disagreement about the purpose of therapy. Both types of ruptures can be preceded by direct and indirect signs of ruptures - also referred to as rupture markers - as well as by precipitants of ruptures (Ackerman & Hilsenroth, 2001; Colli & Lingiardi, 2009). Examples of direct rupture markers are client's utterances of doubt or complaints. Examples of indirect rupture markers are short answers to therapist's questions and indirect communication, but also self-criticism or self-blame in order to avoid confrontation. Precipitants of ruptures are characterized by inadequate or unresponsive therapist interventions and inappropriate countertransference, such as unsupportively confronting the client or failing to recognize and address the client's needs (Ackerman & Hilsenroth, 2001; Colli & Lingiardi, 2009). From this perspective, it is essential that professionals timely intervene in the event of a rupture in the alliance with youth. However, it may be difficult to recognize alliance ruptures, especially for inexperienced professionals.

## Recognizing alliance ruptures and the rupture-repair process

Over the past decade, increasing attention has been paid to the alliance rupture-repair process and methods to rupture resolution (Eubanks, Burckell, & Goldfried, 2018; Gardner et al., 2020; Macdonald & Muran, 2020; Nof et al., 2019; Okamoto & Kazantzis, 2021; Schenk et al., 2021). Important findings of these studies are that both therapist and client have to work through different stages of therapy (including stages of confrontation), and that addressing signs that could indicate a rupture requires use of mindfulness techniques, meta-communication skills and reflexivity, including discussion of negative feelings toward the therapist. It is also assumed that therapists vary in their rupture detection ability, and that this ability is related to certain therapist characteristics and skills, such as emotion regulation, attachment style, perspective-taking, and countertransference management skills (Chen et al., 2018; Talbot et al., 2019). Proper training in alliance building techniques, promoting awareness of rupture markers and precipitants, and clinical supervision in resolving alliance ruptures are seen as important skills that may increase treatment efficacy (Talbot et al., 2019).

Recently, Nof et al. (2019) have proposed a four stage rupture resolution model for use in child and adolescent therapy (Child Alliance Focused Approach, CAFA), based on work by Safran et al. (2002). The first stage comprises of identifying the rupture and understanding youth's underlying communication message. In doing so, it is essential to take time to actively reflect on the type of rupture and why the youth acts a certain way. Use of mentalization and mindfulness techniques have been found particularly effective during this stage (Berko, 2021; Gardner et al., 2020). During this reflection phase, four questions are proposed to guide the professional, relating to the reason of the rupture, the needs of the child, the reaction of the child, and possible non-adaptive patterns (RNRN, Nof et al., 2019): 'What preceded the rupture?' (Reason), 'What did the child need?' (Needs), 'How did the child react to the rupture?' (Reaction), and 'Is the rupture part of a general vicious cycle?' (Non-adaptive pattern). An important part of this self-reflection process is monitoring of

the professionals' own experiences and possible negative feelings toward the child, being mindful of a possible ongoing rupture dynamic (Nof et al., 2019).

In the second phase, the rupture is verbally acknowledged by discussing the rupture in a non-judgmental manner. Nof et al. (2019) emphasize that objective actions and behavior should be discussed and stated in a positive form, rather than discussing presumed negative attitudes. In the third phase, the professional accepts responsibility for his or her part in the rupture and emphasizes the youth's active role as a 'messenger of distress'. The professional takes a genuine compassionate stance and avoids accusational language regarding the youth's part in the rupture. Instead, the professional affirms that the youth's behavior is a sign of underlying stress, from which both professional and youth can learn and reflect upon. The final stage consists of resolving the rupture using change strategies and meta-communication. In this stage the professional works towards resolving the rupture, either at the surface level or depth level (Safran et al., 2011). The surface level refers to clarification of treatment tasks and goals, and the depth level refers to exploring relational themes or purposely creating a new positive relational experience for the youth. The model proposed by Nof et al. (2019) is rooted in psychoanalytic theory, and has not yet been empirically studied in children and youth, yet it could be a viable framework for addressing alliance rupture repair processes in child psychotherapy and youth care.



To date, only a small number of studies has been conducted on alliance ruptures in individual psychotherapy with children and youth with internalizing problems (i.e., anxiety, depression, Kluft, 2018; O'Keeffe et al., 2020) or borderline personality disorder (Daly et al., 2010; Gersh et al., 2019; Schenk et al., 2019, 2020, 2021). Schenk et al. (2019) described the rupture resolution process in youth with borderline personality disorder, in which alliance ruptures were characterized by lack of response, denial, avoidant storytelling, verbally defending themselves against the therapist, complaining to the therapist, and rejecting the intervention. Therapists used strategies such as inviting the youth to discuss thoughts and feelings about the therapist or aspects of the treatment, validating the youth's defensive attitude, and clarifying the purpose of treatment.

Several qualitative studies have been conducted on therapist perspectives of the rupture resolution process in therapy with adolescents. Morán et al. (2019) found that therapists' positioning as an expert or parent figure may negatively impact the alliance with adolescents. Further, therapists reported that sensitivity and mind-mindedness are particularly important in recognizing the emotional state of adolescents and adequately addressing a rupture in the alliance. Binder et al. (2008) found that therapists often explored the reason of a (potential) alliance rupture from the adolescents' point of view, which demands from therapists to openly discuss their relationship with the client, and emphasizing their own part in the alliance. Also, developing a way to discuss ambivalent behavior and fluctuations in motivation may prove useful in managing potential alliance ruptures. Further, Binder et al. (2008) conclude that adolescents' need for autonomy is an important factor that could

potentially lead to an alliance rupture, and that adolescents' resistance to treatment could be partially explained by deficits in self-reflection skills, making it difficult to talk about emotional and complex topics.

To summarize, conceptualizations of alliance ruptures and the rupture-repair process have largely relied on the notion of a client's willingness to engage in treatment, the client's capacity to reflect on his or her own behavior to explore emotions, and the ability to express feelings and thoughts (Safran & Muran, 2002). Very few studies have been conducted on alliance ruptures and the alliance rupture-repair process in youth, which have been limited to the context of individual psychotherapy. It almost goes without saying that adolescents experience difficulties in accepting authority and collaborating with helping adults, and may lack self-reflection skills, related to age-limited cognitive and emotional functioning. Moreover, children and adolescents are often not self-referred to treatment, and a parent or caregiver may be involved, with whom a therapist or professional needs to form an alliance. These factors may complicate the establishment of an alliance and the alliance rupture repair process in working with youth and parents. Treatment of youth in a (secure) residential setting imposes additional challenges related to the context of treatment.

## The alliance with youth in residential youth care

Treatment of youth with persisting and complex psychosocial and behavior problems sometimes takes place in residential care settings where they receive professional mental health care during their stay, provided by a team of staff (Knorth et al., 2010). Youth in residential care are required to form multiple alliances with different staff members. In turn, staff members have an important task to engage youth in treatment both individually as a professional and as a team, and they have to collaborate with youth's parents or caregivers (Lamers, Delsing et al., 2015). Moreover, treatment may be mandatory, which further complicates the establishment of an alliance due to the power imbalance between youth and staff (Berko, 2021; Orsi et al., 2010; Souverein et al., 2013). Problems in the alliance with youth in residential care are amplified by factors related to the client, professional, their interaction as well as contextual factors related to the treatment setting.

An important critique of residential care is that mechanisms through which therapeutic or behavioral change is achieved are unclear, particularly with respect to long term outcomes (Harder, 2018; Harder et al. 2017), and that it is difficult to develop and implement evidence-based residential treatments (James, 2017; Harder, 2018). An increasing number of studies have been conducted on what factors can contribute to treatment efficacy in residential youth care (De Valk, 2018; Eltink, 2020; Harder, 2011; Van der Helm, 2011). The alliance has also increasingly gained attention as an important factor in establishing positive outcomes. Therefore, contributions to alliance research in residential youth care are urgently needed to better understand the dynamics related to the establishment and fostering of the alliance in this context to achieve therapeutic change in working with youth in residential care. The next part of this paper focuses on factors that may affect the estab-

lishment and fostering of an alliance, which possibly can contribute to alliance ruptures with youth and parents in residential care from an ecological perspective.

## Search for studies

A database search was conducted (MEDLINE, PsychINFO, and ERIC) to identify relevant publications related to the main topic, alliance ruptures and rupture-repair processes in residential youth care. We used different combinations of search terms: therapeutic alliance, working alliance, alliance, relationship, rupture, barriers, difficulties, child*, adolesc*, youth, teen*, young adults, residential care. Initially, a combination of the terms (alliance OR relationship) AND rupture AND (child* OR adolesc* OR youth OR teen* OR young adults) AND residential care returned 79 publications. Of these 79 studies, 19 studies focused on alliance with youth, and 14 studies focused on alliance ruptures with youth and/or parents. However, none of these studies focused on alliance ruptures in the context of residential youth care. We therefore chose to broaden our scope to include studies on alliance ruptures in youth, alliance in residential youth care, and relevant studies on residential youth care in general. In doing so we aimed to provide an overview of client, professional, and context factors that may be related to the establishment and fostering of the alliance in the context of residential youth care.

## Conceptual framework: Ecological systems theory of development



Several factors that may affect the alliance in residential youth care are discussed, based on Bronfenbrenner's ecological model of development (Bronfenbrenner, 1979). The ecological model views human development as a process of '[...] progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment.' (Bronfenbrenner & Morris, 2006, pp. 797). The theory emphasizes the context in which the developmental process takes place, distinguishing between different systems that affect this process (micro-, meso-, exo-, and macrosystem).

In the microsystem, therapeutic alliance and alliance ruptures can be understood through factors relating to the interactions between individuals, their actions, and characteristics. In residential youth care, youth participate in interactions with staff, but also take part in social processes with other youth and a team of professionals at the living group. These can be viewed as interacting microsystems, which is referred to as a meso-system. Factors at the exosystem level refer to interactional and transactional processes in which the youth does not participate directly, but may influence their developmental outcomes. In the context of residential youth care, these are factors such as the social and organizational climate in the institution as well as interagency collaboration. The macrosystem refers to a context in which characteristics and conditions apply to an entire (social) group, such as cultural and political values, youth policy, and the body of available societal, clinical or scientific knowledge. For the purpose of this paper, these are beyond the scope and will therefore not be addressed.

### *Factors affecting therapeutic alliance in residential care at the microsystem*

At the microsystem level, factors that influence the alliance are primarily related to client and professional characteristics, and the client-professional interaction. Prior studies on conceptualization of the alliance in mandated treatment settings also have focused on these factors (Orsi et al., 2010; Ross et al., 2008). In this section, we briefly discuss factors related to client and professional characteristics. We briefly review the available literature on youth and professional perspectives on the alliance, and discuss recent findings from research on the alliance with parents in residential care.

Youth in residential care are often characterized by serious social-emotional problems, hostile and aggressive behavior, attachment problems, poor social skills, psychopathology (Harder et al., 2012; Leloux-Opmeer et al., 2016), and a lower intelligence level (often at the level of a mild intellectual disability; Kaal et al., 2012) or problems in social information processing, which may hamper accepting authority and accepting and giving help (Van der Helm et al., 2013). In addition, youth may have a history of adverse childhood experiences and trauma as a result of, for example, domestic violence, neglect, maltreatment or sexual abuse (Asscher et al., 2015; Dozier et al., 2014; Eltz et al., 1995; Euser et al., 2014). As a result, many youth in residential care have experienced distorted relations with their parents, caregivers and other family members or members of their social network, and it is well-established that severe psychosocial and behavioral problems in youth complicate the alliance formation with professionals (Ayotte et al., 2015; Eltz et al., 1995; Harder et al., 2013; Lawson et al., 2020; Steinke & Derrick, 2018; Zelechoski et al., 2013).

Moreover, some of these youth may have had various outpatient treatments, or prior placements in one or more residential youth care facilities or foster families (Leloux-Opmeer et al., 2016; Nijhof et al., 2012), during which they may have had negative experiences with professionals. These transitions in care could lead to feelings of incompetence and a negative or hostile attitude of youth towards adults, which complicates building a relationship of trust with professionals (Lindahl & Bruhn, 2017). Consequently, adolescents who need residential treatment often lack a basic sense of trust in adults and support from their parents, which stresses the need for supportive and reliable staff (Brown et al., 2014; Harder, 2018; Harder et al., 2013, 2017; Van Hecke et al., 2019; Zegers et al., 2006).

Several studies have focused on the relationship between youth and professional in residential care from an attachment theory perspective, indicating that attachment style of both youth and professional are important in establishing a trusting relationship (Costa et al., 2020; Moses, 2000; Mota, & Matos, 2016; Pascuzzo et al., 2021; Zegers et al., 2006). Zegers et al. (2006) found that psychological availability of the professional as perceived by youth was related to attachment representation of the professional, such that youth were more inclined to seek support and showed less avoidant behavior when the professional had a secure (autonomous) attachment representation. Pascuzzo et al. (2021) found that professionals' anxious attachment and reflective functioning (e.g., interest in

the youth's mental state) were associated with youth internalizing problems. Also, reflective functioning moderated the relation between professional's anxious attachment and both internalizing and externalizing problems in youth. Colonnesi et al. (2021) found that mind-mindedness of caregivers was associated with fewer conduct problems, more prosocial behavior, and the quality of the caregiver-child relationship in a sample of out-of-home placed youth.

These findings suggest that when professionals working with traumatized youth understand the child's behavior problems and trauma symptoms, this may be beneficial for the development of an alliance with youth. This in in line with recent insights from developmental psychology, suggesting that mentalization skills of caregivers (e.g., mind-mindedness) are important in establishing secure attachment relationships, and that inaccurate mentalization in particular is detrimental to attachment relationships (Zeegers et al., 2017). Notably, several meta-analyses on the association between attachment and therapeutic alliance show that (client) attachment should be attended to by therapists in order to foster a positive therapeutic alliance (Berneker et al., 2014; Daniel, 2006; Diener & Monroe, 2011; Mallinckrodt & Jeong, 2015). This seems particularly important in residential youth care, where children tend to be at increased risk for insecure and disorganized attachment, as the meta-analysis by Lionetti et al. (2015) shows.



Recent advances in neurobiology show that children who suffered from severe trauma are less receptive to social cues regarding safety, and that their problem behavior could be seen as a coping strategy (Porges, 2009, 2018; Van der Kolk, 2003). These factors present professionals with a difficult challenge in understanding the behavior and psychological needs of youth, and failure to recognize these needs negatively affects the alliance. It is, however, imperative that these youth 'learn' to feel safe and develop self-compassion through developing trusting relationships (Van der Kolk, 2014).

### Youth and staff's perspectives on the alliance in residential care

Over the past decade, there is increasing attention for qualitative research focusing on experiences of youth in residential care and their perceptions of the alliance. These studies show that youth perceive the alliance with staff as an important factor in treatment, and that youth hold staff as primarily responsible for establishing and fostering an alliance as well as for deteriorations of the alliance (Geenen, 2014; Henriksen et al., 2008; Manso et al., 2008). Several staff characteristics and behaviors have been found that may positively or negatively impact the alliance. Examples of characteristics that positively impact the alliance are sincerity (genuineness), honesty, empathy, respectfulness, giving confidence, and the ability to develop a reliable and trusting relationship with youth, whereas behaviors include showing interest, self-disclosure, transparency (e.g., sharing information, open communication), being flexible yet firm, giving accurate feedback, acting consistently, being available and visible at the living group, spending time with youth, and being a 'role model' (Engström et al., 2020; Eyrich-Garg, 2008; Geenen, 2014; Harder et al., 2017; Henriksen et

al., 2008; Hill, 2005; Jenkins, 2010; Manso et al., 2008; Sekol, 2013; Soenen et al., 2013; Swan et al., 2018; Ungar et al., 2018; Ungar & Ikeda, 2017; Van der Laan & Eichelsheim, 2013).

Conversely, staff characteristics that negatively affect the alliance are being uncertain, critical, distant, tense, unresponsive, closed off, rigid (such as focusing on rules and protocols), and conveying a sense of non-acceptance. Examples of staff behaviors negatively impacting the alliance are spending too much time on administrative tasks instead of spending time with youth, group punishment, losing control, losing temper, lack of interest in developing a relationship with youth and sharing personal (sensitive) information with other staff members (De Valk, 2019; Geenen, 2014; Henriksen et al., 2008; Neimeijer, 2021; Orsi et al., 2010; Van der Laan & Eichelsheim, 2013). According to youth, professionals who let themselves be walked over are weak and easy to manipulate (Hill, 2005). These results show that in the perception of youth, the dilemma of contact versus control influences the quality of the alliance. Other studies also highlight the dilemma of control versus making contact from the perspective of staff (Hanrath, 2013; Hill, 2005; Van der Helm et al., 2010). Essentially, these studies emphasize that it takes much effort from staff to properly engage youth in treatment in a residential care setting, with an emphasis on perceived difficulties in coping with manipulative behavior, conflict and aggression (Smith, 2020).

Despite the increasing knowledge on which staff characteristics and behaviors impact the alliance according to youth themselves, it is also assumed that individual youth may have different needs in establishing an alliance with a professional, which may call for different strategies to engage youth in a therapeutic alliance (Geenen, 2017; Ungar & Ikeda, 2017; Ungar et al., 2018). However, few studies have focused on individual preferences and needs of youth in establishing an alliance. Geenen (2017) found that youth have different expectations of professionals and that they value different professional characteristics and behaviors. Some youth may want professionals to be authoritative, firm, acting consistently and providing a safe environment, without the need for personal interactions and emotional reciprocity, whereas other youth may value an empathetic professional providing support and encouragement (Geenen, 2017). Also, youth's level of risk exposure (internalized and externalized problem severity) and resilience (access to individual and contextual protective resources) have been shown to be differentially associated with youth's preferences regarding their relationship with professionals in terms of seeking support (Ungar et al., 2018).

Individual needs and expectations of youth regarding the establishment of an alliance with a professional imply that professionals need to employ different strategies to effectively build an alliance with youth. Ungar and Ikeda (2017) distinguish between different roles that professionals may take on, namely an informal supportive role in which the professional takes an empathetic stance instead of providing structure and following rules, an administrator role in which rules are enforced with less emphasis on emotional engagement, and a caregiver role in which professionals are more engaged with youth and rules

are more attuned to individual youth and subject to reasonable negotiation. Additionally, Engström et al. (2020) found that different professional interaction styles (e.g., care-based, rule-based and passive-avoidant interaction styles) evoke different reactions of youth in terms of the level of respect, trust, and withdrawal behavior they experienced in relation to professionals. These findings underscore that there is no single alliance-building strategy that can be used in engaging youth in an alliance, and that establishment and fostering of an alliance depends on several factors such as youths' characteristics, individual needs as well as the interpersonal style and skills of the professional.

Some studies have found that there is a grey area between establishing a genuine emotional bond and active collaboration between youth and staff on the one hand, and an instrumental collaboration without therapeutic impact on the other, referred to as pseudo alliance (Bender, 2005; Henriksen et al., 2008; Hill, 2005). This type of alliance is a temporary 'equilibrium' in order to avoid conflict at the living group, or to maintain control (from either perspective). To illustrate, Hill (2005) stated that staff either forces youth to comply to the rules in order to maintain control, or that the staff member complies with the demands of the youth to avoid escalation or conflict. The pseudo alliance implies that either youth or staff complies to the other's wishes or rules in order to prevent losing control or getting punished. Therefore, the youth-staff alliance should not be mistaken by a superficial relationship in which staff and youth tolerate each other, and a collaboration characterized by permissiveness and compliance without therapeutic impact.



### The alliance with parents of youth in residential care

Youth's parents are often invited to be actively involved in the treatment and decision-making regarding residential care. Establishing an alliance with parents can be difficult for professionals, partly because of the vulnerable position of parents; they have to transfer the care of their child, may have already received previous care without success, and there is a dependency relationship with the care provider. In addition, psychopathology of the parent, intergenerational trauma, feelings of shame, self-stigma, or negative attitude toward attending therapy can play a role in possible negative tensions between parent and professional (Baldwin, 2014; Eaton et al., 2016). A constructive collaboration with parents are important for treatment to succeed, especially when the youth returns to live at home after treatment (Burke et al., 2014; Geurts, 2010; McLeigh, 2013).

The process of establishing an alliance with parents, and particularly addressing alliance strains or ruptures may differ from that of adult psychotherapy. However, clear frameworks are not well-established (Baldwin, 2014; Nof et al., 2019; Perle, 2015). It is important to note that building rapport and establishing an alliance start during the preparation phase, before the start of treatment. Firstly, parents should be provided with sufficient and complete information about treatment and invited to be involved in decision making and setting realistic treatment goals. Discussing expectations about treatment, sharing information as well as defining roles of all involved are important to set a clear frame-

work for collaboration. Professionals should encourage and invite parents to share their concerns, questions or utter disagreement through actively asking feedback, which may also increase the sense of ownership of treatment in parents (Lamers, 2016; Perle, 2015).

In recent years, several studies have been conducted on the alliance with parents of youth in residential care, including development of programs on family-centered care, alliance-focused interventions targeting parents, and measurement and monitoring of the parent-team alliance (Lamers, 2016; Simons et al., 2017). Research shows that the alliance between parent and professional is just as important as the alliance between the youth and professional, that there is a relation between the parent-professional alliance and treatment outcomes of the child, and that feedback from parents on the collaboration with professionals is conducive to the alliance during treatment (De Greef, 2019; Lamers, 2016; Mihalo & Valenti, 2018).

Research by Lamers, Van Nieuwenhuizen et al. (2016) showed that focusing on strengthening the alliance with parents of children in residential youth care leads to a stronger alliance between the staff as a team and parents. Their study showed that parents and staff were both more positive about the alliance when staff took part in an intervention to strengthen the alliance compared to a control group. A good parent-team alliance is related to less parental stress and less behavioral problems of the child (Lamers, 2016). A recent study by De Greef et al. (2019) showed that positive expectations of parents and professionals at the start of treatment are associated a more positive alliance. These findings underscore the importance of investing in the alliance with parents in treatment of youth.

### *Factors affecting therapeutic alliance in residential care in the mesosystem*

There are several contextual factors at the mesosystem level that could potentially have a negative effect on establishing a therapeutic alliance with youth in residential care. In this section, several factors are briefly discussed: Living group climate, youth's social network, group dynamic processes among youth, and therapeutic interventions and treatment principles.

Placement of youth in residential care may be seen as a relational act in itself, because the placement disrupts youth's contact with his or her familiar social environment, leading to uncertainty of what is going to happen, and what the new environment expects of them. Although many youth in residential care have experienced distorted relationships with their parents, caregivers, and other family members or members of their social network, they have a psychological and fundamental need to connect with others, particularly peers. Nowadays, connecting with peers through social media takes an important place in youths' social lives, although very limited research is available on social media use in residential youth care; on the one hand, social media use may provide social support and a sense of belonging, on the other hand it may be a risk factor for sensation seeking and re-victimiza-

tion (Bitton & Medina, 2015; Good & Mishna, 2021). This means that professionals have an important task in establishing a positive social environment at the living group.

The living group in which youth reside during their stay in residential care is their primary social environment. The quality of this environment can be described in terms of living group climate. A positive living group climate is recognized as a necessary condition for treatment of youth in (secure) residential care (Stams & Van der Helm, 2017; Van der Helm et al., 2018). Living group climate can be defined as 'the quality of the social and physical environment in terms of the provision of sufficient and necessary conditions for physical and mental health, well-being, contact, and personal growth of the residents, with respect for their human dignity and human rights, as well as (if not restricted by judicial measures) their personal autonomy, aimed at recovery and successful participation in society' (Stams & Van der Helm, 2017, pp. 4). A positive, or 'open' group climate consists of a supportive environment in which staff attend to the psychological needs of adolescents and refrain from repressive behavior, such as unfair and punitive behavior, and enforcement of incremental and haphazard rules (De Valk., 2019; Souverein et al., 2013; Van der Helm, Boekee, et al., 2011). Also, an open living group climate is characterized by opportunities for youth to develop towards independence and autonomy as well as a positive group atmosphere in which youth can feel safe and trust each other (Van der Helm et al., 2018).



Evidently, the alliance in residential care is also influenced by group-dynamic processes among youth at the living group, both positively and negatively affecting the alliance between youth and staff (Engström et al., 2020; Orsi et al., 2010; Sonderman et al., 2020). As youth reside at the facility for a longer period of time, they spend time with other youth at the group and may also take part in joint activities and group treatment. This may result in extended relationships with other youth over a longer period of time. According to Sameroff's (2009) model of transactional processes, interactions between individuals influence the way they interact with each other as well as with other people in future encounters. This may be illustrated by conflicts among youth to which staff react with coercive and possibly repressive measures, affecting the attitude and behavior of both youth and other staff members toward each other. Also, interactions between youth and staff at the group are visible to other youth, which may affect how youth perceive their own relationship with a staff member compared to other youth (Byers & Lutz, 2015). This may become complicated when some youth have a positive relationship with a staff member and others do not - or vice versa - especially in situations in which exceptions to rules are made or when the group needs to reach a consensus.

Studies on harmful effects of intervention programs for youth have found that deviancy training, aggressive behavior and bullying among peers are common, and require staff interventions (Ireland & Monaghan, 2006; Khoury-Kassabri & Attar-Schwartz, 2014; Sekol, 2013; Sekol & Farrington, 2009; Soenen et al., 2013; Van der Helm et al., 2011; Welsh & Rocque, 2014). Another important aspect of providing a safe environment at the living

group is by preventing exposure to trauma and re-victimization of youth through the interactions with other traumatized youth at the living group. Conversely, youth can interact positively with each other by providing support and engage in joint activities, reducing feelings of stress. Therefore, establishing a positive peer culture in which professionals demonstrate their ability and commitment to provide a safe environment is important (Sonderman et al., 2020; Zelechoski et al., 2013).

Recent studies have emphasized the need for implementing principles of trauma-informed care, relationship-based approaches, gender responsive treatment, and a culturally sensitive approach to treatment of youth in residential care. These principles are assumed to address specific needs of subgroups of youth based on research on, for example, differences in psychological development of boys and girls, differences in exposure to risk factors, pathways to crime, and (criminogenic) needs (Anderson et al., 2019; Assink et al., 2019; Granski et al., 2020; Kor et al., 2021; Lanctôt, 2018; Piller et al., 2019). Several multi-level interventions have been introduced for use in residential care such as trauma-informed care and Non-Violent Resistance. Trauma-informed care is aimed at preventing re-victimization and traumatization through responsive staff-client interactions (providing a safe environment and positive coping strategies) and non-coercive interactions by refraining from coercive measures, such as seclusion and restraint (Bryson et al., 2017; Ford & Blaustein, 2013; Hodgdon et al., 2013; Roy et al., 2021). In doing so, problem behavior of youth is understood through underlying adverse childhood experiences and trauma ('pain-based behavior', Anglin, 2002). Also, Non-Violent Resistance is increasingly recognized and adapted as a method to cope with aggressive behavior in residential settings with an explicit aim to prevent the use of coercive measures (Van Gink et al., 2018, 2020; Visser, Jansen et al., 2021; Visser, Popma et al., 2021).

Culturally sensitive approaches aim at acknowledging ethnic and cultural diversity. Studies have shown that non-western ethnic minority youth in particular may have experienced social exclusion and institutional discrimination, and that their cultural frame of reference with regard to social norms, values, and interpersonal relationships may differ from that of professionals, which could have consequences for the establishment and fostering of a therapeutic alliance (Sevilir et al., 2020; Sue et al., 2009). Also, recent studies have specifically focused on relational approaches targeting girls in residential care, because studies suggest that a trauma-informed and relational approach, focusing on the family and peer group may be particularly beneficial for girls in residential care (Anderson et al., 2019; Bryson et al., 2017; Granski et al., 2020; Lanctôt, 2018; Sonderman et al., 2021). Therefore, professionals working with youth in residential care need to acknowledge and be responsive to individual youth's needs and their social identity to effectively establish a therapeutic alliance and manage strains and difficulties in the alliance. Effective implementation of multi-level interventions such as Non-Violent Resistance and trauma-informed care is still limited and difficult to achieve, because implementation takes time and effort

to establish a team-wide and even organization-wide approach (Anderson et al., 2019; James, 2017; Van Gink et al., 2018).

***Factors affecting therapeutic alliance in residential care in the exosystem***

There are several factors at the exosystem level that may affect alliance formation in residential care. In this section, factors relating to the profession, organizational climate, and interagency collaboration are discussed. Working with youth at the living group is an emotionally demanding job in which professionals have to cope with anger and aggression of youth, resolution of conflicts and crises, but also personal trauma and possibly self-harm. These factors may lead to a high work load, risk of secondary traumatization, compassion fatigue, and burnout. Staff turnover is a widely cited problem (Connor et al., 2003; Hartje et al., 2008; Purdy & Antle, 2022), for example, as a consequence of burn-out, choosing a different profession, or transfer to another unit or organization. Stress and high work load may result in less time spent with youth, and professional burnout leads to discontinuity in the alliance between youth and professional (Connor et al., 2003; Hartje et al., 2008; Lakin et al., 2008; Lindahl & Bruhn, 2017; Seti, 2008; Zerach, 2013), which could negatively impact the alliance.

Also, professionals' attitude towards their job (e.g., job satisfaction, commitment to work) may influence their engagement in work, and lower levels of satisfaction and commitment could negatively affect their ability to form an alliance with youth (Jordan et al., 2009; Silva et al., 2021). A recent study by Silva et al. (2021) found that higher levels of professionals' engagement were positively related to professional-youth relationship quality, and that relationship quality mediated the relation with youth psychopathology. Interestingly, the study also found that higher levels of stress of professionals were positively related to relationship quality, for which the authors proposed the explanation that high levels of stress may reflect concern and commitment to providing good care.



There is also increasing attention in research on staff social (work) climate and organizational culture in relation to quality of care and youth outcomes (Ahonen & Degner, 2012; De Valk, 2019; Green et al., 2014; Leipoldt et al., 2019; Neimeijer, 2021; Roy et al., 2020; Silva et al., 2021; Wolf et al., 2014). These studies show that factors such as team functioning and communication, perceived safety, and team reflexivity contribute to a positive social climate, which in turn may increase the ability of staff to establish positive alliances with youth. However, few studies have reported on the relation between organizational social context factors and therapeutic alliance or relationship quality (Green et al., 2014; Silva et al., 2021). Green et al. (2014) found that alliance as reported by the professional was related to organizational climate as measured by perceived fairness, role clarity, and possibilities for growth of the professional. Other studies have found that feelings of unsafety of professionals and exposure to aggression at the living group may lead to fear and decreased ability to resolve conflicts, which can lead to use of coercive measures, which in turn is detrimental to the alliance with youth (Andersson, 2019; Smith, 2020; Smith et al., 2021).

Youth in residential care often are treated or have been receiving treatment from several care providers (Cooper et al., 2016; Kaasbøll et al., 2020; Timonen-Kallio, 2018; Timonen-Kallio et al., 2017; Ungar et al., 2012). Interagency collaboration, particularly communication and information sharing between organizations regarding a youth's care trajectory, is essential in establishing optimal service delivery (Cooper et al., 2016; Timonen-Kallio, 2018). Several studies on facilitating factors and barriers to interagency collaboration indicate that transparency in communication, clear tasks and responsibilities, mutual understanding and familiarity, and frequent communication among professionals are highly valued (Cooper er al., 2016; Nooteboom et al., 2020; Timonen-Kallio et al., 2017;). In a residential setting, a clear framework regarding access to information and sharing information seems especially important with regard to confidentiality, since other care providers, case workers and even child protection services and juvenile justice officers may be involved with families (Byers & Lutz, 2015). Youth and parents may be hesitant or reluctant to share information out of concern whether information will be confidential.

Studies by Naert et al. (2017, 2019) on continuity of care in youth mental health services show that relational continuity is essential for providing effective treatment. Relational continuity refers to the "relationship between care provider and service user. It is - or should be - characterized by a long-standing and personal caring relation over a longer period of time." (Naert et al., 2017, pp. 117). Naert et al. (2017) state that relational continuity is understudied and not well understood and recognized compared to management continuity (complementarity of services and timely transitions between services) and informational continuity (the documentation of client information). Disruptions in the alliance between professional and youth is a rather straight-forward example of relational discontinuity of care, but also placement instability and placement movement (e.g., youth being transferred to a different facility) may occur, which are detrimental to the youth's treatment (Aarons et al., 2010; Huefner et al., 2010; James et al., 2004, 2012; Konijn et al., 2019; Refaeli et al., 2017; Vanderfaeillie et al., 2017). In such cases, communication and information sharing between care providers are also essential in re-establishing a collaborative framework with youth and parents.

Figure 1 provides a visual representation of the various factors at the micro, meso, exo, and macrosystem levels. This model draws on previous work by Ross et al. (2008) and Orsi et al. (2010) in that it takes into account the context of treatment in understanding the alliance construct. An important difference between the current model and previous models is that the contextual factors (at the meso and exosystem level) are emphasized and described more explicitly, based on empirical research in residential youth care that has been conducted over the past decade, whereas previous models highlighted the client and professional contributions to the alliance based on their characteristics as well as the cognitive processes and emotional responses during their interactions.

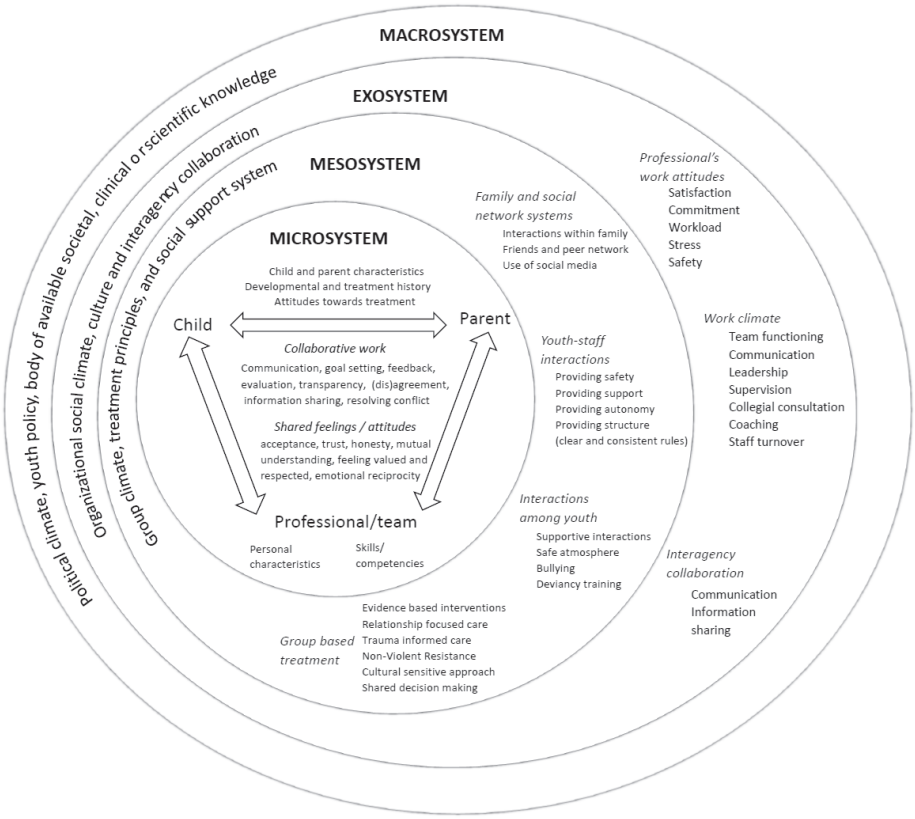


*Figure 1.* Model of factors at the micro-, meso-, exo-, and macrosystem level affecting the therapeutic alliance in residential youth care

## Conceptualizing the alliance concept in residential youth care

The alliance concept as defined by Bordin (1979), consisting of a personal bond, collaboration on tasks, and agreement on goals, was originally operationalized in the context of individual psychotherapy. Bordin's operationalization of the alliance has remained dominant in psychotherapy literature, and has also been used in research on social work and (residential) youth care. Several authors have amended or revised the alliance construct for use in treatment contexts in which treatment is mandatory (Menger, 2018; Orsi et al., 2010; Ross et al., 2008), emphasizing setting-specific client and professional characteristics and contextual factors. In the present paper, we focused on several factors that may affect the establishment and fostering of an alliance, which possibly can contribute to alliance ruptures with youth and parents in residential care from an ecological perspective, that is, factors at different levels of ecological development (i.e., micro-, meso-, and exosystem level). In doing so, we elaborated on several client, professional, and context factors, based on the available literature on alliance with youth in residential care and alliance rupture literature.

Notably, although literature on effective (residential) youth care and youth social work also utilizes the term alliance, in these disciplines the term relationship is often used, referring to the relational or affective aspect of care within a helping relationship. This may be explained by differences in theoretical orientation; research on residential youth care is mostly rooted in social work and (social) pedagogy literature, which traditionally is focused on a more holistic notion of providing care, whereas the psychotherapy literature is rooted in psychology and psychoanalytic theory. Contemporary social work and social pedagogy literature focus on stimulating individual's self-agency, resilience, social functioning and participation in society, and positive social identity and well-being, which have greatly influenced strengths-based and competence-based approaches in social work practice and residential youth care (Grietens, 2015; Hämäläinen, 2003; Timonen-Kallio & Hämäläinen, 2019). In psychotherapy literature, the alliance is viewed as a therapeutic 'common factor' within the contextual model of psychotherapy (Wampold & Imel, 2015). An important proposition of this model is that therapy works through various mechanisms that entail aspects of the interaction between therapist and client as well as specific treatment ingredients (e.g., treatment protocols). Within this context, a well-established therapeutic alliance in the beginning of treatment is seen as essential for therapeutic success (Wampold, 2015).

The alliance or relationship in residential care is increasingly viewed as an essential element of treatment delivery, and has a central role in relationship-based approaches and trauma-informed care, which both have influenced evidence-based practice in residential youth care in recent years (Bryson et al., 2017; Harder, 2018; Kor et al., 2021; Ruch et al., 2017). Additionally, self-determination theory (SDT; Deci & Ryan, 2000, 2002) is increasingly viewed as an important framework to inform (residential) youth care practice (Harder, 2018; Van der Helm et al., 2018). SDT states that autonomy, competence, and relatedness are basic psychological needs that need to be fulfilled in order to establish both intrinsic (autonomous) motivation for treatment and well-being outcomes (Deci & Ryan, 2008). This framework fits both the competence-based approach and relationship-based approach, and also has important implications for establishing an alliance with youth in terms of establishing a personal bond (relatedness) and collaboration on tasks and goals (competence and autonomy). Further, principles of shared decision making, such as equality and partnership, shared responsibility, and joint and informed decision-making are seen as essential to effectively engage youth and parents in treatment (Ten Brummelaar et al., 2017). These principles are also relevant in establishing the collaborative aspect of alliance through discussing tasks and goals of treatment.

All in all, Bronfenbrenner's meta-theoretical ecological systems theory was used to synthesize literature on alliance and alliance ruptures in residential care, incorporating several theories that seem important for the conceptualization of the alliance in residential youth care from an educational perspective. Through integrating elements of self-determination theory (SDT), attachment theory, (social) pedagogy, and the therapeutic (common factors) model in psychotherapy, an ecological system theory framework was developed to advance

alliance research and provide implications for clinical practice in residential youth care. To summarize, from ecological systems theory and the educational aims of residential care and treatment the alliance concept may on the one hand be best conceived as an affective relationship of mutual trust, understanding, empathy, and genuineness, with a focus on providing a safe environment, and on the other hand as a collaboration to achieve therapeutic or behavioral change, focusing on promoting strengths, resilience, and self-efficacy through working together with youth and parents on therapeutic or developmental tasks and goals that are meaningful for youth.

Moreover, the alliance concept in residential youth care cannot be viewed independently of the complex dynamics between child, professional (or team of professionals), and parent; group-dynamic processes between youth and staff, as well as interactions among youth, and the social support system of youth outside of the facility; the social climate at the facility, both at the living group and the organizational and work climate of the professional.

Considering the lack of both theoretical and empirical literature on the rupture-repair

process in working with youth, especially within a complex treatment context, such as a residential setting, it would be premature to propose a concise working model for the rupture-repair process in residential youth care. Operationalizing setting-specific rupture markers, reflection techniques, and working models to address potential ruptures with youth and parents are important to further develop knowledge on alliance rupture-repair processes in residential youth care. There are, however, several approaches and strategies to adopt when actively working with youth and parents on a positive alliance, such as monitoring the alliance and actively asking feedback from youth and parents, investing in professional attitudes and skills such as a child-centered approach, knowledge of child's problem behavior and trauma, communication skills, as well as mentalization and self-reflection skills. In a residential setting, a professional should be responsive to the youth's need of a safe social environment, and strive toward a team-wide approach to building positive relationships and alliances with youth (Eltink, 2020).



## Working on improving the alliance in residential youth care

Various strategies can be used to establish and maintain an alliance with youth and their parents, either at specific moments during treatment (e.g., at admission and evaluation sessions) or during day-to-day interactions. Generally, treatment plans should be jointly formulated at the start of treatment and jointly evaluated. Explicitly discussing everyone's expectations of treatment, responsibilities, and collaboration is important to increase mutual understanding, and could also provide a framework for evaluation at a later stage of treatment. In working with youth and parents, principles of shared decision making should be acknowledged and implemented (Ten Brummelaar, 2018).

Actively monitoring the alliance helps professionals, parents, and youth to work together to continuously improve the alliance. By asking feedback from youth and parents about the alliance and expressing mutual expectations, the alliance can be actively monitored and improved. This can be achieved through inquiry during regular and informal interactions as well as scheduled appointments and treatment plan evaluations. Recently, use of real time client feedback systems through use of mobile apps has been shown to positively impact the alliance (Celedonia et al., 2021). Also, several questionnaires are available to measure the quality of the alliance in youth care, which can be used as a tool to jointly reflect on the alliance (Duncan et al., 2003; Lamers, Delsing et al., 2016; Lamers & Vermeiren, 2015; Roest et al., 2016). Regularly asking straightforward questions such as 'are we collaborating together on a shared and meaningful goal?' or 'does it feel we have conflicting ideas of how to work together?' could be used to determine the overall health of the alliance and whether or not alliance ruptures, misattunement, or misunderstandings have occurred. Discussing these questions could open an interpersonal space of reflection and negotiation from which both the youth and professional can learn. In addition, professionals must be sensitive to the imminent occurrence of a rupture in the alliance, and adequately anticipate rupture markers.

With regard to training of professionals, efforts can be made to develop professional alliance-building skills. Training of professionals in residential care is currently mostly based on social pedagogy and social work practice, using a client-centered strengths-based approach, focusing on promoting skills and competences of youth, with an increased emphasis on principles of trauma-informed care and relationship-based approaches specifically aimed at providing a safe environment, stimulating positive and prosocial interactions, and engaging youth and parents in treatment (Eenshuistra et al., 2019, 2021; Harder 2018; Izzo et al., 2020; James, 2017; Mathys, 2017; Whittaker et al., 2015). In psychotherapy literature, alliance-focused training of therapists as well as effectively dealing with rupture-repair processes have received increasing attention in recent years (Eubanks-Carter et al., 2015; Levendosky & Hopwood, 2017; Nof et al., 2019). In these strategies, mindfulness-based techniques, self-reflection skills, and meta-communicative skills are promoted (Berko, 2021; Gardner et al., 2020; Morken et al., 2014). For professionals working with youth and parents in residential care, developing a child-centered attitude, an empathetic and compassionate stance, being attentive (mindful) and responding promptly and adequately to youths' needs, are seen as important (Ruch et al., 2017), as well as communicative skills (with an emphasis on transparency; clear and open communication), providing structure (consistency in communicating boundaries and rule-setting), and mentalization and self-reflection skills seem essential in establishing and maintaining a positive alliance with youth and parents.

In addition, professional self-disclosure is seen as inevitable in working with youth, although clear frameworks of boundaries for self-disclosure with regard to youth care are not well established. Although studies indicate that self-disclosure can help in establishing

rapport and a personal bond, that youth prefer professionals who self-disclose as opposed to professionals who do not, and fully refraining from self-disclosure is generally seen as counterproductive, it is suggested that self-disclosure should be purposeful with the intention to be helpful, while being mindful of boundaries (Dutton et al., 2021; Miller & McNaught, 2018; Murphy & Ord, 2013; Phillips et al., 2018; Ungar et al., 2018; Van Meekeren, 2017). From a social learning theory perspective, professionals may act as a role model for youth by sharing positive coping mechanisms, and professionals may demonstrate willingness to share personal experience just as they may ask of youth to share their experiences (Gaines, 2003). In doing so, using practice-based knowledge through experience, continuous reflection on professional actions, and collegial consultation are important to gain insight into what works, and to arrive at effective strategies to use professional self-disclosure to strengthen the alliance.

At the living group, a positive social group climate is of importance, in which professionals provide a safe environment and promote positive relationships. The living group climate should be seen as a microsystem in itself that interacts with the youth-professional alliance microsystem. In order for professionals to establish an alliance with youth and facilitate a positive living group climate, they need a positive social work climate. Organizations could benefit from investing in decreasing stress and preventing burnout and staff turnover through, for instance, promoting awareness of potential trauma and positive coping skills of professionals (Purdy & Antle, 2022). Also, supervision in case management and promoting systemic reflexivity in professionals and teams in residential care have been found to positively affect professional well-being (Formenti & Rigamonti, 2020).



Finally, investing in relational continuity could be achieved through actively involving youth's family and (informal) social network. It is well-established that youth leaving from residential care who have a supportive social network adjust better to community norms and values than youth without a supportive social network (Cashmore & Paxman, 2006; Frensch et al., 2020; Refaeli, 2017). From a self-determination theory and developmental perspective, the need for relatedness and good relationships with non-family members increases throughout adolescence. Research on youth mentoring, often defined as a relationship based on a strong connection between mentor and mentee offering guidance and support (Rhodes, 2002), indicates that youth mentoring can be effective and lead to positive youth outcomes (Raposa et al., 2019; Van Dam et al., 2019, 2021).

## Conclusion

In sum, regarding the establishment and fostering of an alliance with youth and parents in residential care, there are various developmental, transactional, and contextual aspects that may negatively affect the alliance. Disagreements on goals and tasks of treatment between youth and staff are common, and alliance strains and ruptures are generally seen as inevitable. Failure to (re-)establish an alliance with youth can lead to a rupture in the alliance, and when ruptures are not addressed and are not resolved, they can hinder

treatment efficacy. Emphasizing agreement and collaboration as well as overly focusing on externally regulating behavior of youth (e.g., by overly emphasizing a competence-based approach; demanding youth to comply and conform to the rules) in residential care could result in mistaking an alliance for what might be a pseudo alliance; a superficial relationship without therapeutic impact. Therefore, professionals should develop skills to address difficulties in (re-)establishing an alliance with youth and parents, be mindful of negative interactional processes, and responsive to trauma-related coping behavior, and stimulate youth's autonomy and sense of competence. Moreover, working on a positive social (living group) climate and establishing relational continuity through actively involving parents and the social network, are important.

The alliance concept and alliance rupture resolution strategies as theorized in psychotherapy literature can serve as a framework for reflection on the collaborative relationship between staff, youth, and parents. However, the alliance concept in residential youth care should be also understood from the perspective of self-determination theory, attachment theory, and social pedagogy, with a focus on establishing a safe and trusting relationship, developing necessary (social) skills to successfully participate in society.

To adequately anticipate and address potential alliance ruptures with youth or parents in residential care, the rupture-repair model proposed by Nof et al. (2019) could prove a viable framework, although this model has not yet been empirically studied in youth in residential care. Operationalizing setting-specific rupture markers, reflection techniques, and working models to address potential ruptures with youth and parents are important to further develop knowledge on alliance rupture resolution strategies in residential youth care.

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*Chapter 7*

# General discussion

The therapeutic alliance is undoubtably the most researched subject in the psychological literature on therapy and (medical) health care. Several meta-analyses have repeatedly demonstrated that the alliance is an important factor in adult psychotherapy and predictive of treatment outcomes (Flückiger et al., 2018). Several meta-analyses on the alliance-outcome association in youth psychotherapy have been conducted, but findings are somewhat inconsistent regarding the strength of this association and its moderators (Karver et al., 2018; McLeod et al., 2011). Evidently, therapy with children and adolescents is different from adult therapy, because of the involvement of parents or other caregivers. Also, treatment of children and youth is often delivered within a community or home-based setting, or in some cases, inpatient residential treatment settings. In these settings, the therapist has to form alliances with the child and other family members, which makes the alliance tri-directional instead of a dyadic relationship (Karver et al., 2019; Welmers-Van de Poll, 2021). Moreover, in a residential treatment setting, youth have to form an alliance with multiple professional caregivers. Therefore, it can be argued that the alliance concept in therapy with children and adolescents may have different defining elements compared to the alliance as conceptualized within individual adult psychotherapy.

Treatment of youth in residential care poses additional challenges to establishing an alliance with youth and their parents. Youth in residential care are often characterized by severe psychosocial and behavioral problems. They often have had previous treatment experiences, and are expected to form an alliance with multiple staff members. Over the past few decades, there has been increased discussion about whether residential care for children and youth can be a therapeutic, effective and safe option for treatment (Souverein et al., 2013). Some have argued that small family home-based care and therapeutic foster care should be preferred over residential care, and that treatment in residential care should be seen as a 'last resort' (for a review, see Gutterswijk et al., 2020; Dozier et al., 2014; Whittaker et al., 2015, 2016). An important critique of residential care is that mechanisms through which therapeutic or behavioral change is achieved are unclear, particularly with respect to long term outcomes (Harder, 2018; Harder et al., 2017), and that it is difficult to develop and implement evidence-based residential treatments (Harder, 2018; James, 2017; Stams & Van der Helm, 2017). Since the turning of the century – specifically during the past decade – an increasing number of studies have been conducted on what factors can contribute to treatment efficacy in residential youth care (De Valk, 2019; Eltink, 2020; Harder, 2011; Van der Helm, 2011). The alliance has also increasingly gained attention as an important factor in establishing positive outcomes in residential youth care. Contributions to alliance research in residential youth care are urgently needed to better understand the dynamics related to the establishment and fostering of the alliance in this context to achieve therapeutic change in working with youth in residential care.

The purpose of the present dissertation was to contribute to the alliance literature in child and adolescent psychotherapy by providing a comprehensive overview of the literature through quantitative reviews, addressing several lacunes in literature. The meta-anal-

yses conducted in the present dissertation contribute to the literature by a) examining the differences and associations between alliance ratings of different informants (children, parents, therapists, and observer ratings) and b) gaining a better understanding of the alliance-outcome association through studying various types of alliance-outcome associations. The meta-analyses on differences and associations are relevant to establish the degree of convergence and divergence between alliance ratings. This is important to advance the conceptual understanding of the alliance concept in child and youth psychotherapy, but also to understand methodological challenges in alliance research. Moreover, the degree of convergence and divergence of alliance ratings in child and adolescent psychotherapy has not been addressed in previous meta-analyses.

In the meta-analytic studies on the alliance-outcome association that are part of this dissertation, several shortcomings of prior alliance-outcome meta-analyses in child and adolescent psychotherapy were addressed. The growing number of alliance-outcome studies have made it possible to also take into account different conceptualizations, operationalizations, and types of alliances, such as alliance changes throughout treatment (alliance shifts – outcome) and alliance agreement (child therapist alliance congruence – outcome), which have not yet been sufficiently addressed in previous meta-analyses, but are important to review in order to advance alliance research, and better understand the alliance-outcome association in child and adolescent therapy.

Further, this dissertation comprises two empirical studies to contribute to alliance research in residential youth care. An alliance measure was developed for use in children (years 4-8) and young adolescents (8-15) in residential care, and its psychometric properties were examined. This measure may be used as a tool to discuss and reflect on the alliance between children and group workers in residential care. As a secondary purpose, the measure could be used for alliance monitoring throughout treatment or alliance research in child and (young) adolescent populations. A second empirical study focused on the longitudinal relation between alliance and treatment motivation in youth (aged 12-20) in residential care up to nine months in treatment. Therapeutic alliance and treatment motivation are considered to be process factors in therapy as well as common therapeutic factors, and very little research has been conducted on the relation between these variables throughout treatment.



The final study of this dissertation is an essay on factors that are assumed to affect the establishment and fostering of an alliance with youth and parents in residential care, and which may also contribute to knowledge on alliance ruptures and the alliance rupture resolution process. In residential youth care, there are several factors at play that pose challenges to the establishment of an alliance, and which may also be potential risks of a rupture in the alliance. Currently, no studies on alliance ruptures in residential youth care have been conducted. Therefore, the psychotherapy literature on alliance ruptures and the

social work and youth care literature were used to develop an ecological systems perspective on the alliance, and the alliance rupture resolution process in residential youth care.

## Summary of key findings

**Chapter 1** describes the findings of a series of meta-analyses on differences and associations between alliance ratings by different raters in child and adolescent psychotherapy. The findings indicated that children and parents in general rated the alliance more positively than their therapists, and that associations between child, therapist, and parent alliance ratings were small to moderate. These findings suggest that children, parents, and therapists have a shared perspective on their alliance to some extent. However, given the small to moderate associations, their perspectives should primarily be acknowledged as different perspectives, meaning that although children and parents work on an alliance with each other, the perceptions of their alliance is different.

In alliance research, child ratings often show a restricted range in scores in the upper end of the scale, also referred to as a 'ceiling effect' (Shirk et al., 2010). The restricted range of alliance scores could be an explanation for the small to moderate associations between child, parent, and therapist ratings, which is thus a methodological issue relating to measurement of the alliance construct. Another explanation for the moderate degree of convergence between child, parent, and therapist alliance ratings could be that there are fundamental differences in how children, parents, and therapists perceive their alliance with each other, and that the alliance measures currently used do not capture all aspects of the alliance that have meaning and are valued by children, parents, and therapists.

Associations between child and observer ratings as well as the therapist and observer ratings of the child-therapist alliance were moderate to large. This finding underlines that the use of observer alliance measures in addition to self-report measures in alliance research is important to overcome measurement artifacts, such as a restricted range of self-report measures, or relying on single-source ratings of alliance. Further, the association between child alliance ratings and observer ratings was stronger for adolescents than for children. It has been proposed that measuring alliance in young children is particularly difficult due to their age-limited cognitive abilities and limited understanding of the alliance process in therapy, which could be an explanation for self-report alliance ratings of children failing to converge with alliance measures of other informants (McLeod et al., 2017).

The **second chapter** describes the findings of a series of meta-analyses on several types of alliance-outcome associations in child and adolescent psychotherapy. The results indicate that associations between child-therapist alliance and child outcomes ($r$ = .17), changes in child-therapist alliance and child outcomes ($r$ = .19), and child-therapist alliance as a moderator of child outcomes ($r$ = .09) were small. A novelty of this study is that alliance change and congruence of child-therapist alliance scores (as opposed to measurement of a single perspective) were examined in relation to outcomes. Based on the assumption

that positive alliance shifts throughout treatment would be associated with better outcomes, it was expected that this association would be stronger than alliance measured at a single time point. However, effect sizes of these associations were comparable. Alliance congruence is also viewed as an important and perhaps better indicator of child-therapist alliance, because alliance congruence consists of both client and therapist scores instead of the alliance rating of a single informant. The overall effect size found in this study was small to moderate ($r$ = .21), although studies on alliance congruence in relation to treatment outcomes are currently few in number. Therefore, the strength of this association compared to the overall association between child-therapist alliance and child outcomes should be interpreted with caution.

The association between parent-therapist alliance and child outcomes ($r$ = .13) was somewhat smaller than in previous meta-analyses (Karver et al., 2019; McLeod, 2011). Of note, the association between parent-therapist alliance and parent outcomes ($r$ = .24) was larger and comparable to effect sizes found in adult populations (Horvath et al., 2018).

Some moderator variables of the association between child-therapist alliance and child outcomes were consistent with findings of previous meta-analyses (Karver et al., 2018; McLeod, 2011; Shirk et al., 2011). Alliance rater (larger effects for child self-report ratings compared to observer ratings), problem type (larger effects for externalizing behavior than for internalizing problems), and outcome domain (larger effects for treatment satisfaction compared to other types of outcome) were significant moderators of the association between the child-therapist alliance and child outcomes.



**Chapter 3** presents findings of a validation study of two alliance measures for young children (age 4-8) and older children and young adolescents (age 8-15). Few studies have investigated the psychometric properties of therapeutic alliance measures used for psychotherapy in a child population, especially in treatment of young children. Results indicated a one-factor solution (overall alliance) for both age groups, and reliability of both measures was good. Also, evidence for concurrent validity was found for the alliance scales in relation to open and closed group climate and treatment motivation. The measures have been developed for use as a tool to facilitate reflection on the alliance between the child and the group worker.

**Chapter 4** describes the findings of a study examining the longitudinal relation between alliance and treatment motivation in youth in residential care. Results of a cross-lagged panel analysis (CLPA) showed cross-lagged associations, indicating that a higher level of alliance after three months was predictive of a higher level of treatment motivation at six months, and a higher level of alliance at six months was predictive of a higher level of treatment motivation at nine months. These results suggest that treatment motivation can be influenced by establishing an alliance with youth, indicating that the group worker in residential youth care has an important role in establishing a positive alliance, which in

turn is important to increase treatment motivation. However, when the same cross-lagged model was applied to data of the sample of youth receiving secure care (mandatory treatment), no cross-lagged associations were found between alliance and treatment motivation. Moreover, alliance and treatment motivation scores of youth receiving secure care were significantly lower compared to youth receiving care in open facilities. These findings suggest that it is more difficult to form an alliance with these youth, and that a positive alliance may not impact subsequent levels of treatment motivation in youth receiving secure care.

**Chapter 5** presents an essay on alliance ruptures and the rupture-resolution process in residential youth care. The purpose of the study was to gain insight in factors and processes that affect the establishment and fostering of the alliance with youth in residential care, and which potentially could contribute to the occurrence of alliance ruptures and strategies to resolve alliance ruptures. Bronfenbrenner's meta-theoretical ecological model was used to synthesize literature on alliance and alliance ruptures in residential care, incorporating elements of self-determination theory (SDT), attachment theory, (social) pedagogy, and the therapeutic (common factors) model in psychotherapy that seem important for the conceptualization of the alliance in residential youth care. By integrating several theoretic perspectives within an ecological system theory framework, the alliance was studied from an educational, developmental, and therapeutic perspective, to advance alliance research and provide implications for clinical practice in residential youth care. In conclusion, the alliance concept may on the one hand be best conceived as a collaborative affective relationship of mutual trust, understanding, empathy, and genuineness, with a focus on providing a safe environment, and on the other hand as a collaboration to achieve therapeutic or behavioral change, focusing on strengths, resilience, and self-efficacy by working together with youth and parents on therapeutic or developmental tasks and goals that are meaningful for youth.

Based on the studies in my review, and guided by Bronfenbrenner' multi-systemic framework, several factors were identified that could contribute to difficulties in establishing an alliance or the occurrence of alliance ruptures with youth in residential care. Factors at the microsystem level include youth and parent characteristics and professional skills, factors at the mesosystem level are peer interactions, group climate, and treatment strategies, and factors at the exosystem level relate to the work climate experienced by the professional, such as team functioning and communication, job commitment and satisfaction, and perceptions of safety. These factors may all affect the extent to which youth, parents, and professionals are able to work on establishing positive alliances.

Considering the lack of both theoretical and empirical literature on the rupture-resolution process in working with youth, especially within a complex treatment context, such as residential care, it would be premature to propose a concise working model for the rupture-resolution process in residential youth care. There are, however, several approaches and strategies to adopt when actively working with youth and parents on a positive alli-

ance, such as monitoring the alliance and actively asking feedback from youth and parents, investing in professional attitudes (e.g., child-centered approach), knowledge (e.g., trauma symptoms), and skills (e.g., self-reflection skills). In a residential setting, establishing a positive group climate, fostering a positive and supporting peer culture, working on relational continuity throughout the treatment trajectory, and using well-implemented evidence based treatment principles (e.g., trauma-informed care, Non-Violent Resistance) can contribute to a positive therapeutic alliance between youth, parents, and professionals, and as a result better treatment outcomes.

## Strengths and limitations

Several limitations of the studies in the present dissertation should be addressed. With regard to the meta-analyses, we investigated the robustness of our findings using several advanced methods to address publication bias in three-level meta-analyses. However, it must be noted that every method has its limitations, and specific methods to take into account dependency of effect sizes in the assessment of publication bias are still under development (Fernández-Castilla et al., 2021; Rodgers & Pustejovsky, 2021). To effectively address publication bias as well as selective reporting bias, the 'open science movement' (also referred to as the credibility revolution; Vazire, 2018) is an important development in the scientific field, which invites authors to pre-register their trials and research protocols and share their data (Friesike et al., 2015). These practices improve rigor, accessibility to data and research findings, and thus may reduce the problem of publication bias in meta-analyses (Crüwell et al., 2019).



Secondly, the findings of the studies in the present dissertation are correlational, which limits the ability to conclude whether the alliance is a result of preceding events, or whether better treatment outcomes are a result of a positive alliance. More experimental studies on the alliance in child and adolescent therapy should be conducted to examine whether the quality of the alliance is related to type treatment, treatment outcomes, but also process variables such as treatment adherence, treatment involvement, and therapist characteristics. Moreover, experimental studies may also shed more light on whether a positive alliance should be seen as a necessary condition for successful treatment of children and youth.

Lastly, regarding the conceptualization of the alliance in child and adolescent therapy, it should be noted that in the current literature, including the empirical studies in the present dissertation, the alliance is mostly understood and defined from a psychotherapy perspective, based on the tripartite model by Bordin (1979). Essentially, the alliance is seen as a collaborative relationship in which a therapist invites the client to work on (and comply with) therapeutic goals and tasks. Considering the diversity in treatments and helping relationships in child and adolescent mental health care, this view may not be sufficient in all treatments for children and youth. A more holistic approach to the alliance construct as a goal directed partnership that departs from the necessary needs for self-determination of each developing person (i.e., contact, competence, and autonomy), which incorporates

an educational and developmental perspective, focusing on upbringing and promoting social, emotional, cognitive, and personality development, may be imperative for working with children and adolescents.

## Implications for future research and practice

There are several implications for future research that need to be discussed based on the findings of this dissertation. Firstly, studies on the conceptual understanding of the alliance with children and parents are needed to better understand the different types of alliances and aspects (or defining elements) of the alliance construct in children, adolescents, and parents in therapy. To date, the field has not reached consensus on whether the alliance concept as defined in adult psychotherapy (i.e., consisting of three factors; personal bond, collaboration on tasks, and agreement on goals, Bordin, 1979) is similar in child and adolescent psychotherapy (Elvins & Green, 2008; Karver et al., 2019). Considering that the context in which treatment takes place is different in child populations compared to adult populations as well as the involvement of a parent or caregiver, this context is an important factor in conceptualizing the alliance in child and adolescent therapy and (residential) youth care. The definition of the alliance that is used in practice has consequences for the way in which the alliance is discussed in practice with children, adolescents, and parents. For this reason, it is important to gain a better understanding of how children, adolescents, parents, and professionals perceive the alliance, focusing on what elements of the alliance they find most important.

Over the past ten years, increasing attention has been paid to the perception of young people and parents on the alliance and quality of health care in general through qualitative research. More research in this area as well as qualitative syntheses of the studies (review studies of qualitative research) could further advance research on the alliance with youth and parents. Moreover, alliance discrepancies and tensions or ruptures in the alliance seem relatively unexplored territories in alliance research in child and adolescent populations. Further examination of these territories in both quantitative and qualitative research may prove helpful in defining negative alliance processes, and finding ways to prevent negative alliances and foster positive alliances between youth and their professional caregivers and therapists.

Alliance questionnaires in adult populations are characterized by an emphasis on positive aspects of the alliance based on the tripartite model (Hatcher & Gillaspy, 2006), although several instruments have been developed in recent years focusing on negative aspects of the alliance too, such as dealing with negative feelings, problems in cooperation, focusing on (in)flexibility of the therapist (Doran et al., 2012; Owen et al., 2013) as well as operationalizations of the alliance in settings where there is coercion and formal supervision, such as probation services (Menger, 2018; Skeem et al., 2007; Sturm et al., 2022). Innovation in the field of instrument development is important to validly and reliably measure the alliance

with youth and their parents, and for this purpose new insights from recently developed questionnaires can be used.

Secondly, studies on the alliance in child and adolescent psychotherapy should include various perspectives and consider focusing on the alliance at a dyadic level, taking into account the interdependency of alliance ratings between client and therapist, as well as within and between person variance (Friedlander et al., 2012; Kivlighan, 2007; Zilcha-Mano, 2016; Zilcha-Mano et al., 2017). In doing so, analytic approaches should be employed to assess the child-therapist and parent-therapist alliance as an interpersonal process. Increasing knowledge on what aspects of the child-therapist and parent-therapist alliance are important to whom and how to measure these types of alliances is essential to advance research on the alliance concept in child and youth psychotherapy, with the prospect of improving residential care and treatment for youth.

Alliance-outcome research in youth psychotherapy could benefit from taking into account multiple perspectives of the alliance and focusing on the congruence of alliance scores (alliance at the dyadic level) in relation to therapeutic outcomes instead of measuring distinct perspectives in relation to outcome at a single time point. Also, recognizing the alliance as a dynamic interpersonal construct, taking into account multiple measurements throughout treatment, is important as well as investigation of how the alliance may be affected by prior symptom improvement in order to be able to examine possible confounds with symptom improvement. Further, insight in how alliance changes (alliance shifts) early in treatment can be established and research on how alliance shifts are related to outcomes could contribute to knowledge on the alliance in child and adolescent populations, which may provide new ways to improve clinical practice.



Further, to develop knowledge on the alliance rupture-resolution process in the context of residential youth care, it is necessary to operationalize and study setting-specific rupture markers and develop team-wide strategies to prevent and resolve potential ruptures with youth and parents. In recent years, several interventions and training programs have been developed aimed at professional caregivers working with at-risk youth, focusing on alliance-building techniques, mentalization and self-reflection techniques, and relational and motivational processes (Kelly & Salmon, 2014; Konijn et al., 2020; Lamers, 2016). These interventions should be further developed and adapted for use in residential treatment for children and youth in order to build strong alliances between youth, professional caregivers, and parents. These interventions have the potential to increase professional caregivers' ability to build and maintain a positive alliance with youth and parents, and to manage potential strains and ruptures in the alliance. Finally, future research endeavors to develop alliance-building interventions and interventions aimed at increasing professionals' skills relating to effective collaboration and relationship building with youth and parents should not only incorporate the perspective of youth and parents, but also invite

youth and parents as co-researchers to actively work together on building strong alliances in child and adolescent therapy.

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*Chapter 8*

# Summary

## Background

The therapeutic alliance – traditionally defined as the collaborative relationship between client and therapist – is among the most researched subjects in the psychological literature on therapy and (medical) health care in both adults and children. Evidently, therapy with children and adolescents is different from adult therapy, because of the involvement of parents or other caregivers. Also, treatment of children and youth is often delivered within a community or home-based setting, or in some cases, inpatient residential treatment settings. In these settings, the therapist has to form alliances with the child and other family members, which makes the alliance tri-directional instead of a dyadic relationship (Karver et al., 2019). Moreover, in a residential treatment setting, youth have to form an alliance with multiple professional caregivers. Therefore, it can be argued that the alliance concept in therapy with children and adolescents may have different defining elements compared to the alliance as conceptualized within individual adult psychotherapy.

Over the past few decades, there has been increased discussion about whether residential care for children and youth can be a therapeutic, effective and safe option for treatment (Souverein et al., 2013). Some have argued that small family home-based care and therapeutic foster care should be preferred over residential care, and that treatment in residential care should be seen as a 'last resort' (for a review, see Gutterswijk et al., 2020; Dozier et al., 2014; Whittaker et al., 2015, 2016). The alliance has been recognized as an important factor in establishing positive outcomes in residential youth care (Harder, 2011; Lamers, 2016). Contributions to alliance research in residential youth care are urgently needed to better understand the dynamics of the alliance in order to achieve therapeutic change in working with youth in residential care.

The purpose of the present dissertation was to contribute to the alliance literature in child and adolescent psychotherapy by a) examining the differences and associations between alliance ratings of different informants (children, parents, therapists, and observer ratings) and b) gaining a better understanding of the alliance-outcome association through studying various types of alliance-outcome associations. Further, this dissertation comprises two empirical studies to contribute to alliance research in residential youth care. An alliance measure was developed for use in children and young adolescents receiving residential care. A second empirical study focused on the longitudinal relation between alliance and treatment motivation in youth (aged 12-20) in residential care up to nine months in treatment. The final study of this dissertation is an essay on factors that are assumed to affect the establishment and fostering of an alliance with youth and parents in residential care, and which may also contribute to knowledge on alliance ruptures and the alliance rupture resolution process.

## Results

**Chapter 1** describes the findings of a series of meta-analyses on differences and associations between alliance ratings by different raters in child and adolescent psychotherapy. The findings indicated that children and parents in general rated the alliance more positively than their therapists, and that associations between child, therapist, and parent alliance ratings were small to moderate. These findings suggest that children, parents, and therapists have a shared perspective on their alliance to some extent. However, given the small to moderate associations, their perspectives should primarily be acknowledged as different perspectives, meaning that although children and parents work on an alliance with each other, the perceptions of their alliance is different. Associations between child and observer ratings as well as the therapist and observer ratings of the child-therapist alliance were moderate to large.

The **second chapter** describes the findings of a series of meta-analyses on several types of alliance-outcome associations in child and adolescent psychotherapy. The results indicate that associations between child-therapist alliance and child outcomes ($r$ = .17), changes in child-therapist alliance and child outcomes ($r$ = .19), alliance congruence and child outcomes ($r$ = .21), and child-therapist alliance as a moderator of child outcomes ($r$ = .09) were small. A novelty of this study is that alliance change and congruence of child-therapist alliance scores (as opposed to measurement of a single perspective) were examined in relation to outcomes, both of which are assumed to be better indicators of the alliance construct. However, the effect sizes of these alliance-outcome associations were comparable to the child-therapist alliance outcome as measured by a single rater.



**Chapter 3** presents findings of a validation study of two alliance measures for young children (age 4-8) and older children and young adolescents (age 8-15). Results indicated a one-factor solution (overall alliance) for both age groups, and reliability of both measures was good. Also, evidence for concurrent validity was found for the alliance scales in relation to open and closed group climate and treatment motivation. The measures have been developed for use as a tool to facilitate reflection on the alliance between the child and the group worker.

**Chapter 4** describes the findings of a study examining the longitudinal relation between alliance and treatment motivation in youth in residential care. Results of a cross-lagged panel analysis (CLPA) showed cross-lagged associations, indicating that a higher level of alliance after three months was predictive of a higher level of treatment motivation at six months, and a higher level of alliance at six months was predictive of a higher level of treatment motivation at nine months. These results suggest that treatment motivation can be influenced by establishing an alliance with youth, indicating that the group worker in residential youth care has an important role in establishing a positive alliance, which in turn is important to increase treatment motivation. However, when the same cross-lagged

model was applied to data of the sample of youth receiving secure care (mandatory treatment), no cross-lagged associations were found between alliance and treatment motivation. Moreover, alliance and treatment motivation scores of youth receiving secure care were significantly lower compared to youth receiving care in open facilities. These findings suggest that it is more difficult to form an alliance with these youth, and that a positive alliance may not impact subsequent levels of treatment motivation in youth receiving secure care.

**Chapter 5** presents an essay on alliance ruptures and the rupture-resolution process in residential youth care. Through integrating several theoretic perspectives such as self-determination theory (SDT), attachment theory, (social) pedagogy, and the therapeutic (common factors) model in psychotherapy, within an ecological system theory framework (Bronfenbrenner, 1979), the alliance was studied from an educational, developmental, and therapeutic perspective, to advance alliance research and provide implications for clinical practice in residential youth care. Based on this framework, the alliance concept may on the one hand be best conceived as a collaborative affective relationship of mutual trust, understanding, empathy, and genuineness, with a focus on providing a safe environment, and on the other hand as a collaboration to achieve therapeutic or behavioral change, focusing on strengths, resilience, and self-efficacy by working together with youth and parents on therapeutic or developmental tasks and goals that are meaningful for youth. This definition is a more holistic approach to the alliance concept in (residential) treatment for children and adolescents.

Further, several factors were identified that could contribute to difficulties in establishing an alliance or the occurrence of alliance ruptures with youth in residential care. Factors at the microsystem level include youth and parent characteristics and professional skills, factors at the mesosystem level are peer interactions, group climate, and treatment strategies, and factors at the exosystem level relate to the work climate experienced by the professional, such as team functioning and communication, job commitment and satisfaction, and perceptions of safety. These factors may all affect the extent to which youth, parents, and professionals are able to work on establishing positive alliances.

## Conclusions and implications

The alliance is widely recognized as an important factor in treatment of children and adolescents. Moreover, based on the meta-analyses in the present dissertation there seems to be an increasing interest in the alliance in the scientific literature over the past two decades. Furthermore, the alliance concept has been adopted in various types of treatment settings for children and youth, ranging from individually delivered treatment, family- or home-based treatment, to residential treatment. However, alliance research in children and adolescents is lagging behind the scientific literature on the alliance in adult populations. Measurement instruments of the alliance currently used in child and adolescent populations are derived from alliance measures used in adult populations. Notably, the operationalization of the alliance construct in child and adolescent therapy is often de-

fined the same as the alliance construct in adult therapy (i.e., consisting of three factors; personal bond, collaboration on tasks, and agreement on goals, Bordin, 1979). Also, recent innovations regarding the operationalization and measurement of the alliance as a dyadic concept in alliance studies in adults have not yet been investigated in child populations. Moreover, the concept of alliance ruptures and rupture-resolution strategies in therapy with children and adolescents has not yet received much attention in research.

Given that the perspectives of child, therapist, and parents of their alliance are different and often not congruent, it is imperative that future studies focus on the conceptual understanding of the alliance to better understand the different types of alliances and defining elements of the child-therapist and parent-therapist alliance. Consequently, innovation in the field of instrument development is important to validly and reliably measure the alliance with youth and their parents, and for this purpose new insights from recently developed questionnaires for use in adult therapy may be used (e.g., Doran et al., 2012; Owen et al., 2013), while also including setting-specific (contextual) factors that may affect the alliance (Menger, 2018; Skeem et al., 2007; Sturm et al., 2022).

Alliance-outcome research in youth psychotherapy could benefit from taking into account multiple perspectives of the alliance and focusing on the congruence of alliance scores (alliance at the dyadic level) in relation to therapeutic outcomes instead of measuring distinct perspectives in relation to outcome at a single time point. Further, insight in how alliance changes (alliance shifts) early in treatment can be established and research on how alliance shifts are related to outcomes could contribute to knowledge on the alliance in child and adolescent populations, which may provide new ways to improve clinical practice.



Further, to develop knowledge on the alliance rupture-resolution process in the context of residential youth care, it is necessary to operationalize and study setting-specific rupture markers and team-wide strategies to prevent and resolve potential ruptures with youth and parents. In recent years, several interventions and training programs have been developed aimed at professional caregivers working with at-risk youth, focusing on alliance-building techniques, mentalization and self-reflection techniques, and relational and motivational processes (Kelly & Salmon, 2014; Konijn et al., 2020; Lamers, 2016; Eenshuistra et al., 2021). These interventions have the potential to increase professional caregivers' ability to build and maintain a positive alliance with youth and parents, and to manage potential strains and ruptures in the alliance. Finally, future research endeavors to develop alliance-building interventions and interventions aimed at increasing professionals' skills relating to effective collaboration and relationship building with youth and parents, should not only incorporate the perspective of youth and parents, but also invite youth and parents as co-researchers to actively work together on building strong alliances in child and adolescent therapy.

# Appendices

## Contributions of Authors

**Chapter 2 is submitted for publication as:** Roest, J. J., Welmers-Van de Poll, M. J., Van der Helm, G. H. P., Stams, G. J. J. M., & Hoeve. M. (under review). A meta-analysis on differences and associations between child, parent, and therapist alliance ratings in child adolescent psychotherapy. *Journal of Clinical Child and Adolescent Psychology.*

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*Contributors:* PvdH and ES designed the study. ES and MvB collected the data. JR conducted the analyses under supervision of PvdH. JR drafted the manuscript, ES, MvB, PvdH and GS were responsible for revising the work for intellectual content. All authors contributed to and have approved the final manuscript.

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## Nederlandse samenvatting (Summary in Dutch)

De therapeutische alliantie – ook wel samenwerkingsrelatie – tussen cliënt en therapeut behoort tot de meest onderzochte onderwerpen in de literatuur over psychotherapie en (medische) gezondheidszorg voor zowel volwassenen als jeugdigen. Een belangrijk verschil met therapie voor volwassenen is dat bij behandeling van kinderen en adolescenten doorgaans ouders of andere verzorgers betrokken zijn. De professional dient dan een samenwerking aan te gaan met zowel de jeugdige als de ouder, waardoor de alliantie tri-directioneel is in plaats van een dyadische relatie. Kinderen en jongeren met ernstige sociaal-emotionele en gedragsproblemen worden in sommige gevallen behandeld in een instelling voor residentiële hulpverlening. In deze setting moeten jongeren een alliantie vormen met meerdere professionele hulpverleners en verblijven zij op een leefgroep met andere jongeren. In dat geval kan de alliantie als een multi-directionele relatie worden gezien, waarbij de omgeving waarin de behandeling plaatsvindt een belangrijke invloed kan hebben op de alliantie. Daarom kan worden beargumenteerd dat de alliantie in de behandeling van kinderen en adolescenten andere definiërende elementen heeft in vergelijking met de alliantie zoals oorspronkelijk gedefinieerd en geconceptualiseerd in de context van individuele psychotherapie voor volwassenen.

De alliantie wordt gezien als een belangrijke factor voor positieve uitkomsten in de residentiële jeugdzorg. Bijdragen aan alliantieonderzoek in de residentiële jeugdzorg zijn dringend nodig om de dynamiek van de alliantie beter te begrijpen om zodoende bij te kunnen dragen aan de kwaliteit van hulpverlening in de residentiële jeugdzorg.

Het doel van dit proefschrift was een bijdrage te leveren aan de alliantieliteratuur in kinder- en jeugdpsychotherapie door a) de verschillen en samenhangen te onderzoeken tussen alliantiescores van verschillende informanten (kinderen, ouders, therapeuten, en observaties) en b) een beter inzicht te krijgen in het verband tussen alliantie en behandeluitkomst. Daarnaast zijn twee empirische studies uitgevoerd naar de alliantie in de residentiële jeugdzorg. Eén studie beschrijft de ontwikkeling van een alliantievragenlijst voor gebruik bij kinderen en jonge adolescenten in de residentiële hulpverlening. Een tweede empirische studie richtte zich op de longitudinale relatie tussen alliantie en behandelmotivatie bij jongeren (12-20 jaar) in residentiële zorg tot negen maanden behandeling. De laatste studie van dit proefschrift is een essay over factoren waarvan verondersteld wordt dat ze van invloed zijn op het tot stand komen en onderhouden van een alliantie met jeugdigen en ouders in de residentiële zorg, en die ook kunnen bijdragen aan de kennis over alliantiebreuken en het proces van het herstellen of voorkomen van alliantiebreuken.

Hoofdstuk 1 beschrijft de bevindingen van een serie meta-analyses naar verschillen en samenhangen tussen alliantiescores van verschillende bronnen van informatie (jeugdigen, ouders, therapeuten, en observaties) binnen de kinder- en jeugdpsychotherapie. De bevindingen geven aan dat kinderen en ouders over het algemeen de alliantie positiever

beoordelen dan hun therapeuten, en dat de samenhangen tussen alliantiescores van kind, therapeut en ouder zwak tot matig zijn. De samenhangen tussen de scores van enerzijds de jeugdige en therapeut en anderzijds observaties van de kind-therapeut alliantie waren matig tot groot. Deze bevindingen laten zien dat hoewel kinderen, ouders en therapeuten met elkaar aan een alliantie werken, de percepties van hun alliantie verschillend zijn. Deze conclusie heeft met name implicaties voor de wijze waarop in onderzoek en praktijk naar de alliantie als dyadische samenwerking dient te worden gekeken. Daarnaast dient bij het meten van de alliantie en instrumentontwikkeling met de verschillende perspectieven op de alliantie rekening te worden gehouden.

Het tweede hoofdstuk beschrijft de bevindingen van een serie meta-analyses over verschillende soorten samenhangen tussen alliantie en behandeluitkomsten bij behandeling van kinderen en adolescenten. De resultaten laten zien dat samenhangen tussen alliantie en uitkomsten (r = .17), veranderingen in alliantie en uitkomsten (r = .19), congruentie in alliantiescores en uitkomsten (r = .21), en alliantie als een moderator van uitkomsten (r = .09) zwak waren. Ook de samenhang tussen ouder-therapeut alliantiescores en uitkomsten van het kind was zwak (*r* = .13). Echter, de samenhang tussen ouder-therapeut alliantiescores en uitkomsten van de ouder was matig (*r* = .24) en vergelijkbaar met eerdere bevindingen uit de literatuur over alliantie bij volwassenen. In deze meta-analyse is voor het eerst gekeken naar de samenhang tussen congruentie in alliantiescores (in tegenstelling tot het meten van alliantie vanuit een enkel perspectief) en veranderingen van alliantiescores in relatie tot behandeluitkomsten. Van beide operationalisaties van alliantie wordt verondersteld dat het betere indicatoren zijn van het construct alliantie, immers, de alliantie kan worden gezien als een dyadisch construct dat zich over de tijd ontwikkelt. De effectgroottes van deze alliantie-uitkomst samenhangen waren echter vergelijkbaar met alliantie zoals gemeten vanuit één perspectief op een enkel moment.

Hoofdstuk 3 presenteert de bevindingen van een valideringsstudie van twee alliantievragenlijsten voor jonge kinderen tussen de 4 en 8 jaar, alsmede oudere kinderen en jonge adolescenten tussen de 8 en 15 jaar. De resultaten toonden een één-factor oplossing (algehele alliantie) voor beide leeftijdsgroepen, terwijl de betrouwbaarheid van de schalen voor beide leeftijdsgroepen goed was. Ook werd bewijs gevonden voor concurrente validiteit voor de alliantieschalen in relatie tot een open en gesloten leefklimaat en behandelmotivatie. De vragenlijsten zijn te gebruiken als een instrument voor routinematige evaluatie, monitoring en reflectie op de alliantie tussen het kind en de professional (mentor) in de residentiële jeugdhulpverlening.

Hoofdstuk 4 beschrijft de bevindingen van een onderzoek naar de longitudinale relatie tussen alliantie en behandelmotivatie bij jongeren in de residentiële hulpverlening. Uit de resultaten van een cross-lagged panel analyse (CLPA) bleek dat een positievere beoordeling van de alliantie door de jongere na drie maanden voorspellend was voor een hogere mate van behandelmotivatie na zes maanden, en een positievere beoordeling van de alliantie

na zes maanden voorspellend was voor een hogere mate van behandelmotivatie na negen maanden. Deze resultaten laten zien dat behandelmotivatie beïnvloed kan worden door het aangaan van een goede alliantie met jongeren. Echter, wanneer werd gekeken naar jongeren die in een gesloten setting verbleven (Jeugdzorg plus of jeugdgevangenissen), bleek alliantie niet voorspellend voor de behandelmotivatie later in behandeling. Bovendien waren de alliantie- en motivatiescores van jongeren die in een gesloten setting verbleven significant lager in vergelijking met jongeren in open instellingen. Deze bevindingen suggereren dat het moeilijker is om een alliantie te vormen met jongeren in een gesloten setting.

Hoofdstuk 5 betreft een essay over factoren die van invloed kunnen zijn op het bewerkstelligen van een alliantie, maar ook zouden kunnen leiden tot breuken in de alliantie in de residentiële jeugdzorg. Door verschillende theoretische inzichten te integreren vanuit verschillende disciplines en literatuur, zoals het contextuele model voor psychotherapie, de zelfdeterminatietheorie (SDT), gehechtheidstheorie, (sociale) pedagogiek en sociaal werk, werd de alliantie bestudeerd vanuit een pedagogisch, ontwikkelings- en therapeutisch perspectief binnen een ecologisch systeemtheoretisch kader. Waar de alliantie in verschillende typen literatuur op verschillende wijze wordt beschreven, geïnterpreteerd en uitgelegd, waarbij voornamelijk is gefocust op volwassenen in individuele psychotherapie, is geprobeerd tot een definitie van alliantie te komen die een meer holistische benadering is van de alliantie, toegespitst op (residentiële) behandeling van jongeren.

Binnen de residentiële hulpverlening kan de alliantie met jongeren en ouders het beste worden geoperationaliseerd als enerzijds een affectieve samenwerkingsrelatie van wederzijds vertrouwen, begrip, empathie en authenticiteit, met een focus op het bieden van een veilige omgeving. Anderzijds kan de alliantie worden gezien als een samenwerking gericht op ontwikkeling van de jongere, waaronder het versterken van zelfredzaamheid en veerkracht, waarbij samen met de jongere en ouders op basis van gelijkwaardigheid wordt gewerkt aan therapeutische of ontwikkelingstaken en -doelen die betekenisvol zijn voor de jongere.

Verschillende factoren zijn beschreven die van invloed kunnen zijn op (belemmeringen bij) het bewerkstelligen van een alliantie of het ontstaan van breuken in de alliantie met jongeren en ouders binnen de residentiële hulpverlening, waarbij onderscheid wordt gemaakt tussen verschillende typen systemen waarbinnen de ontwikkeling van de jongere plaatsvindt. Factoren binnen het microsysteem zijn kenmerken van jeugdigen en ouders en kenmerken en vaardigheden van de professional. Factoren binnen het mesosysteem zijn de interacties met leeftijdgenoten, het leefklimaat op de groep en ingezette behandelmethoden. Factoren binnen het exosysteem hebben betrekking op het door de professional ervaren werkklimaat, waaronder teamfunctioneren, naast communicatie en perceptie van veiligheid. Deze factoren kunnen allemaal van invloed zijn op de mate waarin jeugdigen, ouders en professionals in staat zijn om te werken aan een goede alliantie en om te gaan met eventuele breuken in de alliantie. Op basis van deze inzichten is getracht handvatten

te bieden voor zowel de klinische praktijk als onderzoek gericht op de alliantie in de residentiële jeugdhulpverlening.

## Conclusies en implicaties

De alliantie wordt gezien als een belangrijke factor in de behandeling van kinderen en adolescenten. Hoewel het concept alliantie oorspronkelijk werd gedefinieerd in onderzoek naar psychotherapie voor volwassenen, wordt het construct inmiddels al langere tijd gebruikt in onderzoek naar verschillende soorten behandelingen voor kinderen en jongeren in verschillende settingen, variërend van individuele behandelingen, gezinsgerichte behandeling, tot residentiële behandelingen. Echter, onderzoek naar alliantie bij kinderen en adolescenten loopt achter op de wetenschappelijke literatuur over de alliantie bij volwassenen. De alliantie in behandeling van kinderen en adolescenten wordt vaak hetzelfde gedefinieerd als in behandeling van volwassenen (bestaande uit drie factoren; persoonlijke band, samenwerking op taken, en overeenstemming over doelen). Bovendien zijn vragenlijsten die momenteel worden gebruikt om alliantie te meten in de kinder- en jeugdpopulaties doorgaans afgeleid van vragenlijsten die zijn ontwikkeld voor volwassenen. Daarnaast worden recente innovaties met betrekking tot het operationaliseren en meten van de alliantie als dyadisch construct nog niet gebruikt bij onderzoek naar alliantie met jongeren. Bovendien hebben alliantiebreuken en het herstel van alliantiebreuken in behandeling met kinderen en adolescenten nog nauwelijks aandacht gekregen in onderzoek en praktijk.

Gezien het feit dat de perspectieven van kind, therapeut en ouders op hun alliantie verschillend zijn en vaak niet congruent is het noodzakelijk dat toekomstig onderzoek zich richt op het beter begrijpen van de verschillende soorten allianties en aspecten van de kind-therapeut en ouder-therapeut alliantie. Daarnaast is innovatie op het gebied van instrumentontwikkeling belangrijk om de alliantie met jeugdigen en hun ouders valide en betrouwbaar te meten. Hierbij is het van belang dat in onderzoek naar alliantie rekening wordt gehouden met de perspectieven van verschillende betrokkenen, maar ook dat de alliantie als dyadisch (of systemisch) construct wordt geoperationaliseerd en gemeten. Verder zou onderscheid kunnen worden gemaakt tussen instrumenten die geschikt zijn als feedback-en reflectie-instrument voor de klinische praktijk zoals zelfrapportagevragenlijsten, en instrumenten voor training- en onderzoeksdoeleinden, waarvoor observatie-instrumenten geschikt lijken te zijn.

Om kennis te ontwikkelen over het proces van het signaleren en herstellen van alliantiebreuken in de context van de residentiële jeugdzorg is het nodig om setting-specifieke signalen te identificeren die kunnen wijzen op het ontstaan van een breuk. Daarnaast lijken teambrede strategieën op meerdere lagen binnen de organisatie nodig om alliantiebreuken met jeugdigen en ouders te herstellen of eventueel te voorkomen. Hiermee wordt bedoeld dat professionals niet alleen in direct contact met de jongere en ouders moeten werken aan een alliantie, maar dat er ook binnen het team wordt gecommuniceerd over het belang

van de alliantie, dat hierop een gedeelde visie wordt geformuleerd en de werkwijze hierop wordt afgestemd en geëvalueerd.

In de afgelopen jaren zijn verschillende interventies en trainingsprogramma's ontwikkeld voor professionals die werken met jongeren, gericht op het versterken van de alliantie, naast specifieke vaardigheden waarvan verondersteld wordt dat deze een belangrijke rol hebben bij het aangaan van en goede alliantie, zoals mentalisatie- en zelfreflectietechnieken. Deze interventies hebben de potentie om professionals in staat te stellen om een goede alliantie met jeugdigen en ouders op te bouwen en te onderhouden, en om te gaan met eventuele spanningen en breuken in de alliantie.

Tot slot, toekomstig onderzoek naar de alliantie tussen professionals, jongeren en ouders en de ontwikkeling van werkwijzen gericht op het versterken van de alliantie zou meer kunnen inzetten op het direct betrekken van jongeren, ouders en professionals als mede-onderzoekers, zodat zij een actieve rol kunnen innemen binnen het onderzoek om gezamenlijk kennis te ontwikkelen over het opbouwen en behouden van sterke allianties in de behandeling van kinderen en adolescenten.

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## About the author

Jesse Roest was born on December 21 1985 in Zaandam. He grew up in Sesheke, Zambia and Butha-Buthe, Lesotho, before attending primary education in The Netherlands. After completing high school at Luzac College in Alkmaar in 2005, he attended the University of Amsterdam and studied Cultural Anthropology and Development Sociology. After one year he switched to Educational Sciences, in which he obtained a bachelor's degree in Pedagogical Sciences and a master's degree in Forensic Orthopedagogy. His master's thesis was on the relation between therapeutic alliance and treatment motivation in residential youth care. During the process of writing his thesis, he became interested in research on improving treatment efficacy in (residential) youth care. In 2011-2012 and 2013-2014, he worked at a school for special education, De Spinaker in Den Helder. In 2012, he started working as a researcher at University of Applied Sciences Leiden, in a newly formed research group focusing on living group climate in residential youth care. Since 2013 until present, he has worked as a researcher and teacher at the faculty of Social Work and Applied Psychology.

Jesse Roest werd geboren op 21 december 1985 in Zaandam. Hij groeide op in Sesheke, Zambia en Butha-Buthe, Lesotho. In 1993 startte zijn schoolcarrière op een basisschool in Brandwijk. Hij begon zijn middelbare schooltijd op het gymnasium in Gorinchem en behaalde in 2005 zijn vwo-diploma aan het Luzac College in Alkmaar. Vervolgens studeerde hij een jaar Culturele antropologie en niet-westerse sociologie aan de Universiteit van Amsterdam. In 2006 begon hij aan de studie Pedagogische wetenschappen en onderwijskunde, waarin hij een bachelor Pedagogische wetenschappen en master Forensische Orthopedagogiek behaalde. Na zijn studie heeft Jesse in 2011-2012 en 2013-2014 gewerkt bij De Spinaker in Den Helder, een school voor voortgezet speciaal onderwijs. In 2012 is hij als onderzoeker gaan werken voor het lectoraat Residentiële Jeugdzorg bij Hogeschool Leiden. Sinds 2013 is hij werkzaam voor de opleiding Toegepaste Psychologie en sinds 2014 voor de opleiding Master Jeugdzorg binnen de faculteit Sociaal Werk en Toegepaste Psychologie bij Hogeschool Leiden.

# List of publications

## Publications in this dissertation

Roest, J. J., Van der Helm, G. H. P., & Stams, G. J. J. M. (2016). The relation between therapeutic alliance and treatment motivation in residential youth care: A cross-lagged panel analysis. *Child and Adolescent Social Work Journal, 33,* 455-468 https://doi.org/10.1007/s10560-016-0438-4

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Roest, J. J., Welmers-Van de Poll, M. J., Van der Helm, G. H. P., Stams, G. J. J. M., & Hoeve. M. (under review). A meta-analysis on differences and associations between child, parent, and therapist alliance ratings in child adolescent psychotherapy.

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