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ORIGINAL PAPER

Supervisory Alliance: Key to Positive Alliances and Outcomes in Home-based Parenting Support?

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Abstract

Objectives This study investigated whether the supervisory alliance between professionals and supervisors contributes to strong client-professional alliances and positive outcomes of home-based parenting support provided by youth care organizations.

Methods Multi-informant self-report supervisory alliance, alliance, and outcome data from 124 parents (M age = 39.83 years, $SD = 6.98$), professionals ($n = 84$, M age = 43.66 years, $SD = 10.46$), and supervisors ($n = 26$, M age = 47.18 years, $SD = 8.28$) collected early and late in care were analyzed using structural equation modeling.

Results A stronger professional-reported supervisory alliance was related to a stronger professional-reported alliance early in care ($\beta = 0.27$, $p < 0.01$), and predicted higher levels of parent-reported satisfaction with care ($\beta = 0.19$, $p < .05$; $\beta = 0.25$, $p < 0.01$), and professional-reported satisfaction with care ($\beta = 0.21$, $p < 0.01$). A stronger supervisory alliance reported by supervisors predicted parent-reported improvement in parent functioning ($\beta = 0.26$, $p < 0.05$), and higher levels of professional-reported satisfaction with care ($\beta = 0.19$, $p < 0.05$; $\beta = .14$, $p < 0.05$). Finally, effects of professional-reported supervisory alliance on professional-reported satisfaction with care were mediated through higher levels of professional-reported alliance ($\beta = 0.06$, $p < 0.05$; $\beta = .07$, $p < 0.05$).

Conclusions A strong supervisory alliance may relate to strong alliances and positive outcomes of home-based parenting support. Future research needs to identify factors that contribute to strong supervisory alliances and explain linkages between the supervisory alliance, the alliance, and outcomes.

Keywords Alliance · Parent · Professional · Supervisor · Parenting support · Youth care

In mental health care, the alliance between professionals and their supervisor (hereafter: *supervisory alliance*) is viewed as a key element of supervision that helps to optimize the client-professional alliance (hereafter: *alliance*) and client outcomes (e.g., Lewis et al. 2014; Watkins 2014). Defined as a collaborative relationship involving a positive emotional bond and agreement on supervision goals and tasks (Bordin 1983; Pearce et al. 2013; Watkins 2014), a small number of theoretical (Watkins 2014) and empirical (DePue et al. 2016; Palomo et al. 2010) studies suggest that the supervisory alliance may impact the alliance and outcomes in adult treatment. While it is possible that the supervisory alliance may play an important role in other service sectors, empirical studies have not yet investigated these hypotheses.

The supervisory alliance may play an important role in youth care. Youth care organizations provide care to families (e.g., parenting support, foster care, residential

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treatment) for problems related to parenting and child psychosocial development. A common goal of youth care services is family preservation or reunification (Anglin 1999; Barth et al. 2005; White 2007). Supervisors in youth care play an important role in supporting professionals' ability to deliver effective care to children and families (e.g., Mor Barak et al. 2009; Wilkins et al. 2018). Supervision serves a wide range of functions, including professional education and development, provision of personal and clinical support, performance evaluation, administrative and managerial responsibilities, and mediation between professionals and the organization (Carpenter et al. 2013; Mor Barak et al. 2009). In youth care, supervision is typically provided by the professional's manager in one-to-one or group meetings and includes several activities (e.g., advice, instruction, modeling, coaching and training; Carpenter et al. 2013; Mor Barak et al. 2009). The ultimate goal of supervision is to optimize care processes and outcomes for clients, and a strong supervisory alliance is argued to be essential for supervision to be effective (Carpenter et al. 2013; Kadushin and Harkness 2002).

Youth care professionals may benefit from supervision given their demanding day-to-day work (Mor Barak et al. 2009). Professionals typically encounter a heterogeneous client population in terms of motivation to participate in services (McWey et al. 2015; Staudt 2007) and clinical characteristics (McWey et al. 2015; Whittaker and Cowley 2012). Often, the families treated by the professionals face multiple, complex, and interrelated problems (Bodden and Dekovic 2016). Additionally, youth care professionals encounter productivity and paperwork demands (Horwath 2016; Mor Barak et al. 2009). A strong supervisory alliance may thus be crucial for professionals to deal with these challenges and to realize strong alliances and positive care outcomes (Mor Barak et al. 2009; Williams and Glisson 2014). Surprisingly though, impact of the supervisory alliance on care processes and outcomes has not been studied in youth care (Carpenter et al. 2013).

A few studies from other fields suggest that the supervisory alliance may impact professionals' ability to develop and maintain strong alliances. Existing studies, all focusing on clinical supervision of counseling trainees, indicated that a stronger professional-reported supervisory alliance was related to stronger professional-reported alliances (DePue et al. 2016; Ganske et al. 2015). Findings regarding the association between professional-reported supervisory alliances and client-reported alliances were mixed: one study indicated that stronger supervisory alliances were related to stronger alliances (Patton and Kivlighan 1997), whereas another study did not find significant associations (DePue et al. 2016).

While these findings suggest that the supervisory alliance may impact the alliance, current evidence is only of limited relevance to professionals and supervisors in youth care. First, supervision of professionals in community settings likely differs from supervision of trainees in university counseling settings, given the high caseloads, comorbidity in the client population, and a large percentage of clients being referred or mandated to receive services in community settings (Patton and Kivlighan 1997; Southam-Gerow and Kendall 2016). Second, cited studies exclusively focused on clinical supervision, whereas supervision in community settings such as youth care serves a variety of other functions in addition to a focus on clinical work (Carpenter et al. 2013; Mor Barak et al. 2009). Moreover, studies have mainly relied on single informants to assess the supervisory alliance (DePue et al. 2016; Patton and Kivlighan 1997) and the alliance (Ganske et al. 2015; Patton and Kivlighan 1997), which may provide limited insight into associations between the supervisory alliance and the alliance. Finally, most studies assessed the alliance only once (DePue et al. 2016; Ganske et al. 2015). Studies thus did not provide insight in how the supervisory alliance relates to a professional's ability to develop and maintain a strong alliance, while both have been found to predict youth care outcomes (De Greef et al. 2018).

The quality of the supervisory alliance may also impact care outcomes (e.g., Lewis et al. 2014; Watkins 2014). To our knowledge, only two studies have evaluated this relation. A study on supervision of clinical psychology trainees showed that a stronger trainee-reported supervisory relationship correlated with more trainee-reported client progress (Palomo et al. 2010). Moreover, a study on adult treatment for depression indicated that supervision with a focus on the alliance positively influenced client-reported outcomes (i.e., depression symptoms, client satisfaction; Bambling et al. 2006). Although the underlying mechanism connecting the supervisory alliance with care outcomes is unclear (Carpenter et al. 2013; Watkins 2014), theoretical models of supervision suggest that the alliance may play a role in connecting both factors (Lewis et al. 2014). It is plausible that the alliance is a mediator, as previous studies suggest that the supervisory alliance relates to the alliance (DePue et al. 2016; Patton and Kivlighan 1997), which in turn influences care outcomes. The quality of the alliance is a consistent predictor of care outcomes in adult treatment (e.g., Horvath et al. 2011; Norcross 2010), youth treatment (McLeod 2011), and home-based parenting support (De Greef et al. 2018).

Existing studies provide initial support for the hypothesis that the supervisory alliance may be related to care outcomes. However, studies have not tested whether the supervisory alliance predicts care outcomes controlling for the alliance, or if the alliance accounts for the relation between the supervisory alliance and outcomes. Investigating these questions is important as it provides empirical

evidence to a small and mostly theoretical body of knowledge on whether and how the supervisory alliance may support care outcomes (e.g., Carpenter et al. 2013; Lewis et al. 2014; Palomo et al. 2010). Moreover, knowing whether a strong supervisory alliance supports a professional's ability to develop and maintain strong alliances, and (thereby) contributes to effective care for families involved in youth care, may help identify factors that need to be addressed in clinical practice to optimize supervision and care outcomes (Wilkins et al. 2017). Given the lack of empirical studies it is yet unclear whether the supervisory alliance would be a relevant focus for quality improvement efforts in youth care (e.g., Accurso et al. 2011).

The goal of the present study was to investigate the relation between the supervisory alliance, the alliance, and outcomes in home-based parenting support, the most common service provided to families in youth care (Barth et al. 2005; Child Welfare Information Gateway 2014; Statistics Netherlands 2015). We examined the relation between the supervisory alliance, parent-professional alliances, and outcomes of home-based parenting support, using two-wave multi-informant questionnaire data from a sample of 124 parent-professional-supervisor triads. Specifically, we investigated whether (a) the supervisory alliance related to the strength of the alliance early in care and predicted change in the alliance over the course of care, (b) the supervisory alliance predicted outcomes of home-based parenting support above and beyond the predictive value of the alliance, and (c) the alliance mediated the association between the supervisory alliance and outcomes of home-based parenting support. We hypothesized that a stronger supervisory alliance would relate to stronger and increasing alliances. Moreover, we expected that a stronger supervisory alliance would positively impact care outcomes, in addition to effects of the alliance on outcomes. Finally, we hypothesized that the relation between the supervisory alliance and care outcomes would be mediated by the alliance.

Method

Participants

Participants were 124 parents (M age = 39.83 years, SD = 6.98; range 19–57 years) drawn from nine Dutch youth care organizations providing home-based parenting support. On average, parents (87.1% female) received support for 6.67 months (SD = 2.39; range 2.60–20.01 months) to target problems related to parenting or child psychosocial functioning and development. Some parents (13.1%) were mandated to receive services by court order. The majority of parents were born in the Netherlands (90.3%), other parents were born in other Western (2.4%) or Non-Western (7.3%) countries. Children were mostly boys (61.0% male) and were between 1 and 19 years old (M = 10.55 years, SD = 4.36). Services were part of routine care provided in participating youth care organizations, meaning that services were likely eclectic, non-protocolized, and grounded in various approaches (e.g., Intensive Family Treatment; Veerman and De Meyer 2015). Eighty-four professionals (91.7% female, M age = 43.66 years, SD = 10.46; range 23–62 years) provided services to families included in this study (M = 1.48 families per professional, SD = 0.74). The majority of professionals were born in the Netherlands (98.8%) and held a professional bachelor degree (87.1%). Their average number of years as a provider of home-based services was 8.62 years (SD = 6.14, range = 4.00 months–36.00 years).

Twenty-six supervisors (80.8% female, M age = 47.18 years, SD = 8.28; range 35.00–61.00 years) provided supervision. Supervision was provided in one-to-one and group meetings and included professional education and development, provision of personal and clinical support, performance evaluation, administrative and managerial responsibilities, and mediation between professionals and the organization. Professionals reported meeting with their supervisor once a week or more (26.2%), every two weeks (33.3%), every three weeks (10.7%), once a month (21.4%), or less than once a month (8.3%). The majority of supervisors were born in the Netherlands (91.7%), and held a professional bachelor (71.4%) or master degree (28.6%). Supervisors worked with 1 to 15 professionals included in this study (M = 4.77, SD = 4.07). On average, supervisors had 8.30 years (SD = 5.38; range 3 months–20 years) of experience in supervising youth care professionals.

Procedure

Recruitment started January 2013 and ended January 2016. Professionals providing home-based parenting support asked parents to participate in the study when parents were admitted to or had recently started care. Parents received a written information sheet about the study including a statement that refusal to participate in the study would not exclude them from access to services. Parents were excluded from study participation if children (age 0–21) were not living at the parents' home (e.g., residential facility or foster family) or when the current parent-professional collaboration was the result of assigning a new professional to the case. A number of 241 parents who met inclusion criteria, agreed to participate and completed permission forms. Next, parents, professionals, and supervisors completed T_1 questionnaires without having access to each other's answers. Cases were excluded from analyses if T_1 questionnaires were not completed in early phases of care (i.e., first half; n

$= 95$), when professionals switched supervisors during the study period ($n = 4$), or when professionals and supervisors completed questionnaires more than 1.5 month apart (i.e., >1 *SD*; $n = 18$). Thus, a total number of 124 cases were included in subsequent analyses. Independent samples *t*-tests showed that the selected sample ($n = 124$) did not differ from the total sample ($n = 241$) in terms of demographic variables (age, sex, ethnicity), parents' voluntary or mandated involvement in home-based parenting support, or levels of early alliance and supervisory alliance.

For selected cases, T_1 questionnaires were completed between two and three months after admission (*M* parents: 2.35, $SD = 1.19$; range 0.23–6.31 months, *M* professionals: 2.36, $SD = 1.14$; range 0.26–6.77 months, *M* supervisors: 2.79, $SD = 1.42$; range 0.00–7.52 months). Of these 124 parent-professional-supervisor triads, 89 parents and 122 professionals completed T_2 questionnaires (parents: *M* months after $T_1 = 3.68$, $SD = 1.83$; range 1.38–13.70, professionals: *M* months after $T_1 = 3.96$, $SD = 1.41$; range 1.68–8.77) at the end of services or at the end of the study period. Since professionals were instructed to select cases for study participation for whom the expected end of care did not exceed the study period, we consider the timing of T_2 assessments to be late in care. All study procedures were reviewed and approved by the Ethics Committee of the local university.

Measures

Supervisory alliance

At T_1, the supervisory alliance between professionals and supervisors was assessed with the Supervisory Working Alliance Inventory, Short Form (SWAI-S). We based the SWAI-S on the Working Alliance Inventory, Short Form (WAI-S; Tracey and Kokotovic 1989) to ensure that the alliance and supervisory alliance instruments were in line. WAI-S wording was adjusted to reflect the focus of supervision in community-based youth care services. The SWAI-S consists of 12 items. Four items assess task-related elements of the supervisory alliance (e.g., "My supervisor and I agree about things I need to do to become a better professional"), four items assess goal-related elements (e.g., 'My supervisor supports me to work towards mutually agreed upon goals'), and four items assess bond-related elements of the supervisory alliance (e.g., "I believe my supervisor likes me"). Answers are given on a 5-point scale ranging from 1 (never) to 5 (always). Total scales showed strong internal consistency in the current sample (professional version: α $T_1 = 0.95$; supervisor version: α $T_1 = 0.93$). Professionals and supervisors completed separate, parallel versions of the SWAI-S.

Alliance

At T_1 and T_2, the alliance between parents and professionals was assessed with the WAI-S (Tracey and Kokotovic 1989). The WAI-S consists of 12 items. Four items assess task-related elements of the alliance (e.g., "My professional and I agree about things I will need to do in care to help improve my situation"), four items assess goal-related elements (e.g., "My professional and I are working towards mutually agreed upon goals"), and four items assess bond-related elements of the alliance (e.g., "I believe my professional likes me"). Answers are given on a 5-point scale ranging from 1 (never) to 5 (always). WAI-S scores have shown strong internal consistency in parent samples (Granic et al. 2012; Hukkelberg and Ogden 2016; Killian et al. 2017), and predictive validity for care outcomes (Keeley et al. 2011). Total scales showed strong internal consistency in the current sample (parent version: α $T_1 = 0.94$, α $T_2 = 0.94$; professional version: α $T_1 = 0.92$, α $T_2 = 0.96$). Parents and professionals completed separate but parallel versions of the WAI-S.

Satisfaction with care

At T_2, we used the EXIT questionnaire (Jurrius et al. 2008) to derive information on parents' and professionals' satisfaction with the care received or offered. The EXIT questionnaire is a standard instrument in the Dutch youth care system and consists of 10 items and two subscales. Four items assess satisfaction with the care process (e.g., "The care offered by this professional went well"), six items assess satisfaction with care results (e.g., "As a result of the provided care I have more confidence in the future"). Answers are given on a four-point scale, ranging from 1 (totally disagree) to 4 (totally agree). To ensure that all outcome measures could be reported by parents and professionals, we developed a professional version of the EXIT questionnaire for the purpose of this study. The parent version of this scale has demonstrated strong internal consistency in previous studies (Stichting Alexander 2008) and the current sample (α care process $= 0.89$, α care results $= 0.86$). Analyses in the current sample indicated that the psychometric qualities of the professional version (α care process $= 0.78$, α care results $= 0.84$) are also adequate.

Global change in parent functioning

At T_2, we used the global measure of change (Alexander and Luborsky 1986; Stinckens et al. 2009) to assess global change in parent functioning during care trajectories. Both parents and professionals evaluated the extent to which they perceived parents' situation to be changed as a result of provided care (i.e., "Since I started to collaborate with this

professional, my situation got…"). Answers are given on a 9-point Likert-scale, ranging from −4 (very much worse) to 4 (very much better). Previous studies investigating the association between alliance and treatment outcome used this item to assess treatment outcome (e.g., Stinckens et al. 2009). Moreover, previous studies indicated that both the client and the therapist version of this single question demonstrated high correlations with more extensive measures to assess clients' development during care (Hatcher and Gillaspy 2006), and produced similar patterns of correlations with alliance as more extensive change measures did (Hatcher 1999).

Statistical Analyses

We used structural equation modeling in Mplus 7.3 (Muthén and Muthén 1998–) to investigate whether supervisory alliance was related to early alliance, predicted change in alliance, and predicted outcomes of home-based parenting support. As missing data were missing completely at random (Little's missing-completely-at-random test $\chi^2 = 77.95$, $df = 70$, $p = 0.24$), these were taken into account using a full-information maximum likelihood (FIML) estimator with robust standard errors, implemented as MLR in Mplus. As a result, we could make use of all available data and addressed any deviates from normality.

Prior to data analyses, we investigated whether Multilevel Modeling was needed to account for non-independence of observations due to the fact that clients were nested within professionals, and professionals were nested within supervisors. We therefore computed design effects, serving as indicators of how much standard errors are underestimated in a complex sample compared to a simple random sample (Maas and Hox 2005). Design effects for the nesting of clients within professionals ($Deff < 1.25$) and the nesting of professionals within supervisors ($Deff < 1.83$) were all small (i.e., not exceeding 2.0; Maas and Hox 2005; Muthén and Satorra 1995). Thus, there was no need to analyze the data in a multilevel framework (Bonnet et al. 2011; Maas and Hox 2005).

We subsequently specified eight separate mediation models to test for direct effects of the supervisory alliance on the alliance and outcomes, and for indirect effects of the supervisory alliance on outcomes via the alliance. Four models included early alliance measures, four models included measures of change in alliance. All change scores were in the form of residualized change scores to control for individual differences in initial ratings (Fjermestad et al. 2016; Keeley et al. 2011). To identify indirect effects, we used the joint significance test (MacKinnon et al. 2002). This test evaluates whether the combination of the supervisory alliance-to-alliance and alliance-to-outcome paths is significant and thus indicates a mediation effect.

Table 1 Descriptive statistics for supervisory alliance, alliance, and outcome variables

	M	*SD*	Range
Supervisory alliance: Professional	3.46	0.76	1.42–5.00
Supervisory alliance: Supervisor	3.77	0.58	2.42–4.92
Early alliance: Parent	4.35	0.58	2.67–5.00
Early alliance: Professional	3.87	0.52	2.67–5.00
Change in alliance: Parent	0.00	0.39	−1.18–0.71
Change in alliance: Professional	0.00	0.55	−1.98–1.09
Satisfaction process: Parent	3.69	0.42	2.50–4.00
Satisfaction process: Professional	3.29	0.40	2.25–4.00
Satisfaction results: Parent	3.27	0.50	2.17–4.00
Satisfaction results: Professional	2.99	0.46	1.83–4.00
Change in functioning: Parent	2.43	1.07	−1.00–4.00
Change in functioning: Professional	1.85	1.18	−3.00–4.00

Results

Preliminary Analyses

Table 1 presents means and standard deviations of study variables, and Table 2 lists correlations between study variables. Both professionals and supervisors reported moderate to high levels of supervisory alliance, with supervisors reporting significantly higher levels of supervisory alliance, $t(77) = -3.51$, $p < 0.01$. Parents and professionals reported high levels of alliance and outcomes, with parents reporting significantly higher levels of early alliance, $t(123) = 8.70$, $p < 0.001$, satisfaction with care (process: $t[73] = 6.75$, $p < 0.001$; results: $t[73] = 4.36$, $p < 0.001$), and change in parent functioning, $t(86) = 3.38$, $p < 0.01$. Paired-samples *t*-tests showed that parent- and professional-reported alliance did not significantly change from early to late in care (parent-reported alliance: $t[88] = -1.73$, $p = 0.09$; professional-reported alliance: $t[121] = -0.25$, $p = 0.80$). Correlational analyses showed moderate correlations between professional- and supervisor-reported supervisory alliance ($r = 0.42$, $p < 0.001$). Correlations between parent- and professional-reported alliance and outcomes indicated a moderate relation for early alliance ($r = 0.33$, $p < 0.001$), a small and nonsignificant relation for change in alliance ($r = 0.16$, $p = 0.17$), and moderate relations for outcome variables (satisfaction with care process: $r = 0.35$, $p < 0.001$; satisfaction with care results: $r = 0.49$, $p < 0.001$; change in parent functioning: $r = 0.36$, $p < 0.01$).

Associations Between Supervisory Alliance and (Change in) Alliance

We examined associations between professional- and supervisor-reported supervisory alliance and (change in)

Table 2 Correlations between study variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Supervisory alliance: Professional											
2. Supervisory alliance: Supervisor	0.42***										
3. Early alliance: Parent	0.12	0.08									
4. Early alliance: Professional	0.27**	−0.01	0.38***								
5. Change in alliance: Parent	0.08	0.03	0.00	0.12							
6. Change in alliance: Professional	−0.04	0.04	−0.12	0.00	0.16						
7. Satisfaction process: Parent	0.24**	0.03	0.45***	0.29*	0.54***	0.15					
8. Satisfaction process: Professional	0.13	0.04	0.20*	0.38***	0.22†	0.52***	0.35**				
9. Satisfaction results: Parent	0.13	0.11	0.25**	0.26**	0.44***	0.23†	0.58***	0.36**			
10. Satisfaction results: Professional	0.21*	0.17*	0.04	0.40***	0.25*	0.54***	0.34**	0.79***	0.49***		
11. Change in functioning: Parent	0.21†	0.23*	0.23*	0.34**	0.29**	0.24	0.44***	0.25†	0.60***	0.43***	
12. Change in functioning: Professional	0.05	0.03	−0.04	0.18*	0.11	0.40***	0.07	0.53***	0.28**	0.59***	0.36**

$^{\dagger}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

parent- and professional-reported alliance, using a series of regression analyses. With respect to the effects of supervisory alliance on early alliance, results indicated a significant positive relation between professional-reported supervisory alliance and professional-reported early alliance ($\beta = 0.27$, $p < 0.01$). Professional-reported supervisory alliance did not evidence a significant relation with parent-reported early alliance ($\beta = 0.12$, $p = 0.17$). Moreover, supervisor-reported supervisory alliance was not found to be associated with parent-reported early alliance ($\beta = .06$, $p = .52$) or professional-reported early alliance ($\beta = -0.03$, $p = 0.70$). Thus, a strong supervisory alliance was related to stronger alliances early in care, only when both were professional-reported.

Regarding the effects of supervisory alliance on change in alliance, results indicated no significant effects. Professional- and supervisor-reported supervisory alliance were not found to predict change in parent-reported alliance (professional-reported supervisory alliance: $\beta = 0.08$, $p = 0.49$; supervisor-reported supervisory alliance: $\beta = 0.03$, $p = 0.75$) or change in professional-reported alliance (professional-reported supervisory alliance: $\beta = -0.04$, $p = 0.74$; supervisor-reported supervisory alliance: $\beta = 0.07$, $p = 0.46$).

Supervisory Alliance Predicting Outcome

We examined whether professional- and supervisor-reported supervisory alliance predicted parent- and professional-reported outcomes of care in addition to the predictive value of the alliance. For models including early alliance (see Table 3), we found that parent- and professional-reported alliance predicted parent- and professional-reported outcomes. Regarding the effects of the supervisory alliance, we found that professional-reported supervisory alliance did not significantly predict parent- or professional-reported outcomes above and beyond the effects of parent- and professional-reported alliance on outcomes. However, we found a significant positive association between supervisor-reported supervisory alliance and parent-reported change in parent functioning (models 3 and 7: $\beta = 0.26$, $p < 0.05$), and professional-reported satisfaction with care results (model 8: $\beta = 0.19$, $p < 0.05$). No other significant associations were found between the supervisory alliance and outcomes. Thus, stronger supervisor-reported supervisory alliance predicted more parent-reported improvement and higher levels of professional-reported satisfaction with care results, above and beyond the predictive value of early parent- and professional-reported alliance.

For models including change in alliance (see Table 4), we found that change in parent- and professional-reported alliance predicted parent- and professional-reported outcomes. In addition to the effects of change in alliance, we found significant positive associations between professional-reported supervisory alliance and parent-reported satisfaction with care process (model 1: $\beta = 0.19$, $p < 0.05$; model 5: $\beta = 0.25$, $p < 0.01$), and professional-reported satisfaction with care results (model 6: $\beta = 0.21$, $p < 0.01$). Moreover, we found significant positive associations between supervisor-reported supervisory alliance and parent-reported change in parent functioning (model 3: $\beta = 0.26$, $p < 0.05$), and professional-reported satisfaction with care results (model 8: $\beta = 0.14$, $p < 0.05$). No other significant associations were found between the supervisory alliance and outcomes. Thus, above and beyond effects of change in alliance on outcomes, stronger professional-reported supervisory alliance predicted higher levels of

Table 3 Standardized regression coefficients for the effects of early alliance and supervisory alliance on outcomes

	Parent-reported outcomes			Professional-reported outcomes		
	Satisfaction: Process β	Satisfaction: Results β	Change in functioning β	Satisfaction: Process β	Satisfaction: Results β	Change in functioning β
Models 1 & 2						
Early alliance: Parent	0.45***	0.26**	0.22*	0.24**	0.06	−0.05
Supervisory alliance: Professional	0.18†	0.08	0.18	−0.01	0.10	0.06
Models 3 & 4						
Early alliance: Parent	0.44***	0.20*	0.13	0.24**	0.02	−0.06
Supervisory alliance: Supervisor	−0.02	0.12	0.26*	0.03	0.18†	0.05
Models 5 & 6						
Early alliance: Professional	0.25*	0.27**	0.34**	0.40***	0.40***	0.19†
Supervisory alliance: Professional	0.16	0.03	0.10	−0.05	0.02	0.00
Models 7 & 8						
Early alliance: Professional	0.25†	0.25*	0.29*	0.37***	0.41***	0.20*
Supervisory alliance: Supervisor	0.03	0.13	0.26*	0.06	0.19*	0.05

$^{\dagger}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 4 Standardized regression coefficients for the effects of change in alliance and supervisory alliance on outcomes

	Parent-reported outcomes			Professional-reported outcomes		
	Satisfaction: Process β	Satisfaction: Results β	Change in functioning β	Satisfaction: Process β	Satisfaction: Results β	Change in functioning β
Models 1 & 2						
Change in alliance: Parent	0.51***	0.42***	0.27*	0.24*	0.23*	0.10
Supervisory alliance: Professional	0.19*	0.08	0.18	0.02	0.09	0.04
Models 3 & 4						
Change in alliance: Parent	0.49***	0.41***	0.31**	0.21†	0.22*	0.07
Supervisory alliance: Supervisor	0.03	0.13	0.26*	0.03	0.17†	0.04
Models 5 & 6						
Change in alliance: Professional	0.16	0.25*	0.27†	0.54***	0.56***	0.40***
Supervisory alliance: Professional	0.25**	0.13	0.23†	0.14†	0.21**	0.07
Models 7 & 8						
Change in alliance: Professional	0.15	0.22	0.28†	0.53***	0.52***	0.39***
Supervisory alliance: Supervisor	0.04	0.14	0.26†	0.01	0.14*	0.02

$^{\dagger}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

parent-reported satisfaction with care process, and higher levels of professional-reported satisfaction with care results. Stronger supervisor-reported supervisory alliance predicted more parent-reported improvement and higher levels of professional-reported satisfaction with care results.

Mediation Analyses

Since only the association between professional-reported supervisory alliance and professional-reported early alliance was significant, we examined indirect effects of professional-reported supervisory alliance on parent- and professional-reported outcomes. Indirect effects of professional-reported supervisory alliance were significant for professional-reported satisfaction with care (process: $\beta = 0.06$, $p < 0.05$; outcomes: $\beta = 0.07$, $p < 0.05$) but not for professional-reported change in parent-functioning ($\beta = 0.08$, $p = 0.11$). Thus, higher levels of professional-reported supervisory alliance predicted higher levels of professional-reported satisfaction with care through higher levels of professional-reported early alliance. No significant indirect effects were found for professional-reported supervisory alliance on parent-reported outcomes.

Discussion

This study examined the relation between the supervisory alliance, the alliance, and care outcomes in home-based parenting support. Results showed that a stronger professional-reported supervisory alliance was related to a stronger professional-reported alliance early in care. The supervisory alliance did not predict change in alliance. In addition to the predictive value of early alliance and change in alliance, a stronger supervisory alliance reported by professionals predicted higher levels of parent- and professional-reported satisfaction with care. A stronger supervisory alliance reported by supervisors predicted parent-reported improvement in parent functioning, and higher levels of professional-reported satisfaction with care. We found that a stronger professional-reported supervisory alliance predicted higher levels of professional-reported satisfaction with care through higher levels of professional-reported alliance. Together, these findings suggest that the supervisory alliance may relate to strong alliances and contribute to positive outcomes of home-based parenting support above and beyond the predictive value of the alliance, although findings varied across informants and alliance assessments.

Our findings are consistent with a small number of theoretical (e.g., Lewis et al. 2014) and empirical studies (DePue et al. 2016; Ganske et al. 2015; Patton and Kivlighan 1997) in adult treatment indicating that the supervisory alliance relates to the alliance. In line with research involving counseling trainees (DePue et al. 2016; Ganske et al. 2015), we found significant relations between the supervisory alliance and the alliance when the professional is the reporter.

Current findings suggest that there is a relation between a strong supervisory alliance and a strong alliance with parents. Our findings support previous research that indicates a strong supervisory alliance represents an important ingredient of effective supervision in youth care (e.g., Carpenter et al. 2013). However, it is important to note that our findings do not establish the direction of effects of the relation between the supervisory alliance and the alliance. It is possible that a strong supervisory alliance may help youth care professionals develop a strong alliance with parents. Conversely, the findings may also reflect that professionals who are good at realizing strong alliances with supervisors are also good at developing a strong alliance with parents. An important direction for research is to try and disentangle the direction of effects between these variables in youth care.

A few findings ran contrary to previous studies relating to the association between the supervisory alliance and the alliance. First, while Patton and Kivlighan (1997) found significant relations between professional-reported supervisory alliances and client-reported alliances, our results only showed significant associations between the supervisory alliance and the alliance early in care when professionals reported on both. These contrasting findings potentially result from differences in study designs. We did not assess the supervisory alliance and alliance at the exact same session like Patton and Kivlighan (1997). Moreover, our study focused on supervision serving a wide range of functions, whereas Patton and Kivlighan (1997) looked at clinical supervision with a focus on client-professional interactions (i.e., real-time observations of treatment sessions, direct and in-session feedback and modeling).

Second, we did not find that the supervisory alliance predicted change in alliance. Although this might indicate that the supervisory alliance is not important for how alliance changes over care, it is possible that assessing the supervisory alliance at a single time point might not reflect the complex dynamics and mutual interactions between the supervisory alliance and the alliance. As suggested by previous studies, changes in the supervisory alliance throughout care (Patton and Kivlighan 1997) or interactions between professionals and supervisors in times of alliance ruptures (Friedlander 2015) may be particularly important for how the alliance evolves during care.

Our finding that a strong supervisory alliance is related to positive care outcomes is consistent with research in other service settings (e.g., adult treatment; Bambling et al. 2006; Palomo et al. 2010). Professional- and supervisor-reported supervisory alliances predicted parent- and professional-reported outcomes of home-based parenting support, above

and beyond the predictive value of early alliance and change in alliance. This suggests that a strong supervisory alliance may help professionals realize positive care outcomes. It also indicates that professional and supervisor perspectives on the supervisory alliance are both relevant sources of information when investigating the supervisory alliance and its role in predicting outcomes (e.g., Locke et al. 2018; Watkins 2014). Our finding regarding the mediating role of alliance supports the idea that, for youth care professionals, the supervisory alliance may impact care outcomes through stronger alliances. This finding is consistent with theoretical studies (Lewis et al. 2014) suggesting that the alliance plays a role in connecting the supervisory alliance with care outcomes. It also provides support to research in adult treatment (e.g., Bambling et al. 2006; Bambling & King 2014; DePue et al. 2016; Friedlander 2015), highlighting the need for supervision that includes a focus on the supervisory alliance and its relation with the alliance, when aiming to improve care outcomes.

However, associations between the supervisory alliance and outcomes were not significant for all supervisory alliance and outcome assessments across models including early alliance and alliance change. Moreover, apart from the professional-reported alliance linking professional-reported supervisory alliances and outcomes, the alliance was not found to play a role in connecting all other supervisory alliance and outcome variables. These inconsistent findings may result from the large number of interacting factors involved in determining care outcomes (e.g., Lewis et al. 2014; Palomo et al. 2010; Pijnenburg 2010), with many of these factors not captured in this study. For example, the impact of the supervisory alliance on outcomes may depend on professional or client characteristics (Lewis et al. 2014), or might be explained by other factors than the alliance (e.g., professional outcomes such as job satisfaction work-related stress; Carpenter et al. 2013; Locke et al. 2018). Moreover, our finding that the supervisor-reported supervisory alliance predicts client improvement and not satisfaction with care processes, might indicate that the supervisor-reported supervisory alliance is particularly important for client outcomes. However, as suggested by theoretical studies (Lewis et al. 2014) strong supervisory alliances may also result from a professional's ability to realize positive care outcomes in other cases. For future work it is thus important to identify circumstances and mechanisms that explain when, why, and how the supervisory alliance predicts care outcomes.

Strengths and Limitations

An important strength of our study was the combined focus on the supervisory alliance, the alliance, and outcomes, enabling us to evaluate associations between these variables. Other strengths included the use of multiple informants for key constructs and a longitudinal design, allowing us to investigate how relations among these variables played out over care, and to address the issue of shared-method variance when investigating associations between the supervisory alliance, the alliance, and outcomes. Finally, the focus on usual clinical care in a widely used service enhances relevance and generalizability of our findings.

Several limitations of this study must be noted as well. First, although the current sample likely reflects the population and content of supervision and parenting support as typically provided in Dutch youth care organizations, we were not able to fully characterize the sample nor the supervision and care provided. It thus remains unclear whether factors not included in this study (e.g., supervision, intervention, professional or client characteristics) might affect or help explain the associations between the supervisory alliance, the alliance, and outcomes. Second, our study design does not provide insight in the temporal sequence and mutual influence of supervisory alliance, alliance, and outcome variables. Although we assessed the supervisory alliance prior to outcome and thereby found evidence for the supervisory alliance predicting care outcomes, we assessed the supervisory alliance only once and concurrently with early alliance and used retrospective measures to assess care outcomes. It thus remains unclear whether the supervisory alliance predicts early alliance or vice versa, and whether developmental trajectories of both variables influence each other over time (e.g., see Patton and Kivlighan 1997). Also, although we assessed the alliance early in care to limit potential confounding with client outcomes, it is not clear whether early experiences of satisfaction and client functioning impacted alliance or alliance change (McLeod and Weisz 2005), or whether outcomes might have been confounded by alliance. Finally, while we used outcome instruments with score reliability and validity that are used in clinical practice, the retrospective and global assessments of change in parent functioning and satisfaction with care may not fully capture all relevant outcome domains in home-based parenting support (see Forrester 2017).

Implications for future research are indicated by the findings and limitations of this study. It is of primary importance to replicate our findings and to build a stronger evidence base regarding the association of the supervisory alliance with care processes and outcomes in youth care. Future studies should capture developmental trajectories and interplay of the supervisory alliance, the alliance and client functioning over the course of provided care (e.g., see Lange et al. 2017; Patton and Kivlighan 1997). Ideally, these studies also investigate whether professional- or supervisor-level factors (e.g., competencies, job

satisfaction; Carpenter et al. 2013; Ganske et al. 2015; Watkins 2014), organizational factors (e.g., organizational culture and climate; availability of support for supervisors; Glisson and Green 2011; Wilkins et al. 2017; Williams and Glisson 2014) or the use of supervisory alliance feedback influence the supervisory alliance or explain its association with alliance and care outcomes. Finally, supervisory alliance research would benefit from the development of observational instruments that are clinically relevant, practically feasible, demonstrate score validity (Schweitzer and Witham 2017; Watkins 2014), and match the specific dynamics of supervision in youth care. To date, knowledge regarding the supervisory alliance is mainly based on self-report data (Watkins 2014). Observations would add another perspective to professionals' and supervisors' reports on the supervisory alliance. Observations also enable reflection on the strength of the supervisory alliance, and help to identify actual behaviors and interactions that constitute a strong supervisory alliance.

To conclude, our findings highlight the importance of a strong supervisory alliance in home-based parenting support. Future research is needed to identify factors that contribute to strong supervisory alliances and explain linkages between the supervisory alliance, the alliance, and outcomes. This represents an important area for future research and quality improvement, as efforts to strengthen the supervisory alliance may likely improve the parent-professional alliance and outcomes for parents and children in home-based parenting support.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval The research was conducted in accordance with the ethical standards of the institutional research committee (Ethics Committee of the Faculty of Social Sciences, Radboud University) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all parents included in the study. Directors of participating organizations provided active consent for their organization to participate in the study, and organized active participation of professionals and supervisors providing home-based parenting support.

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