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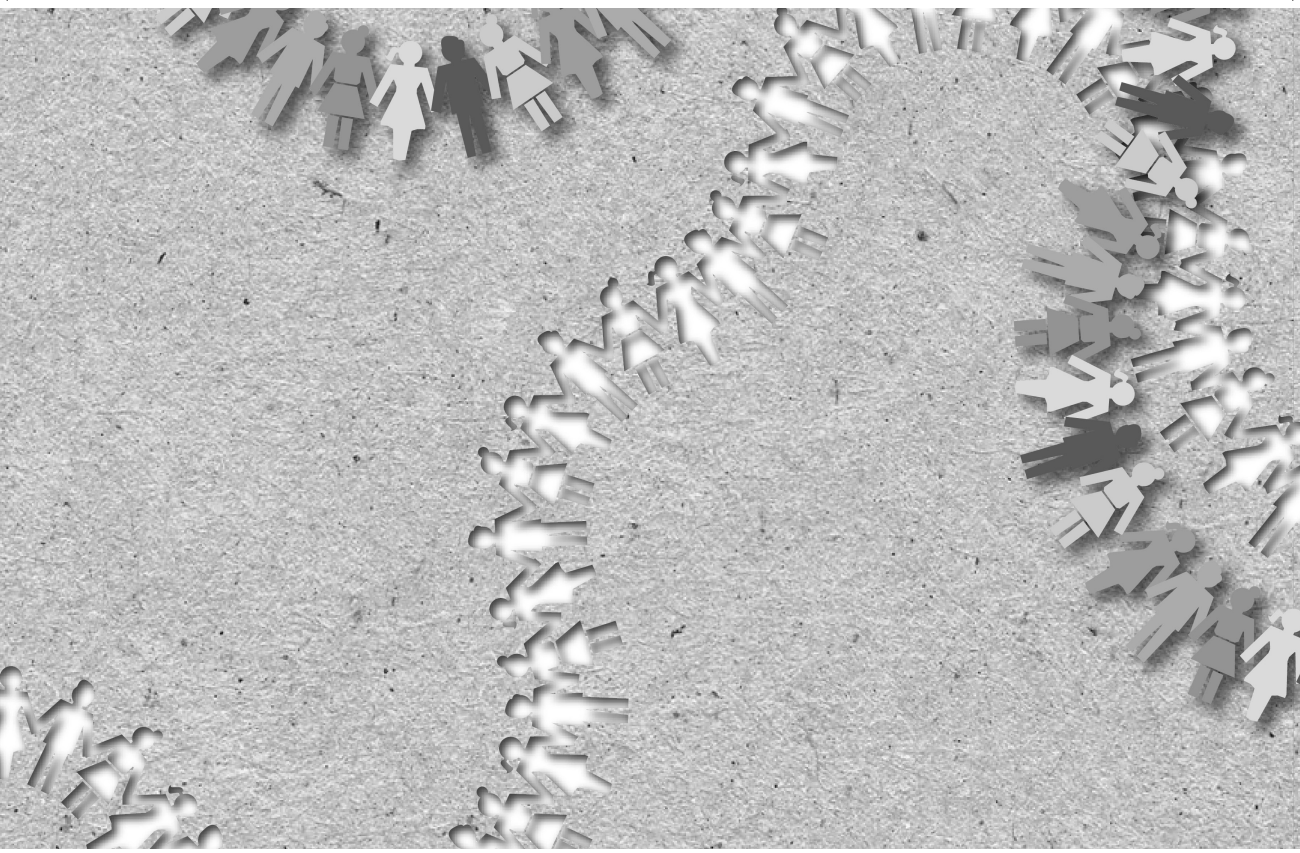


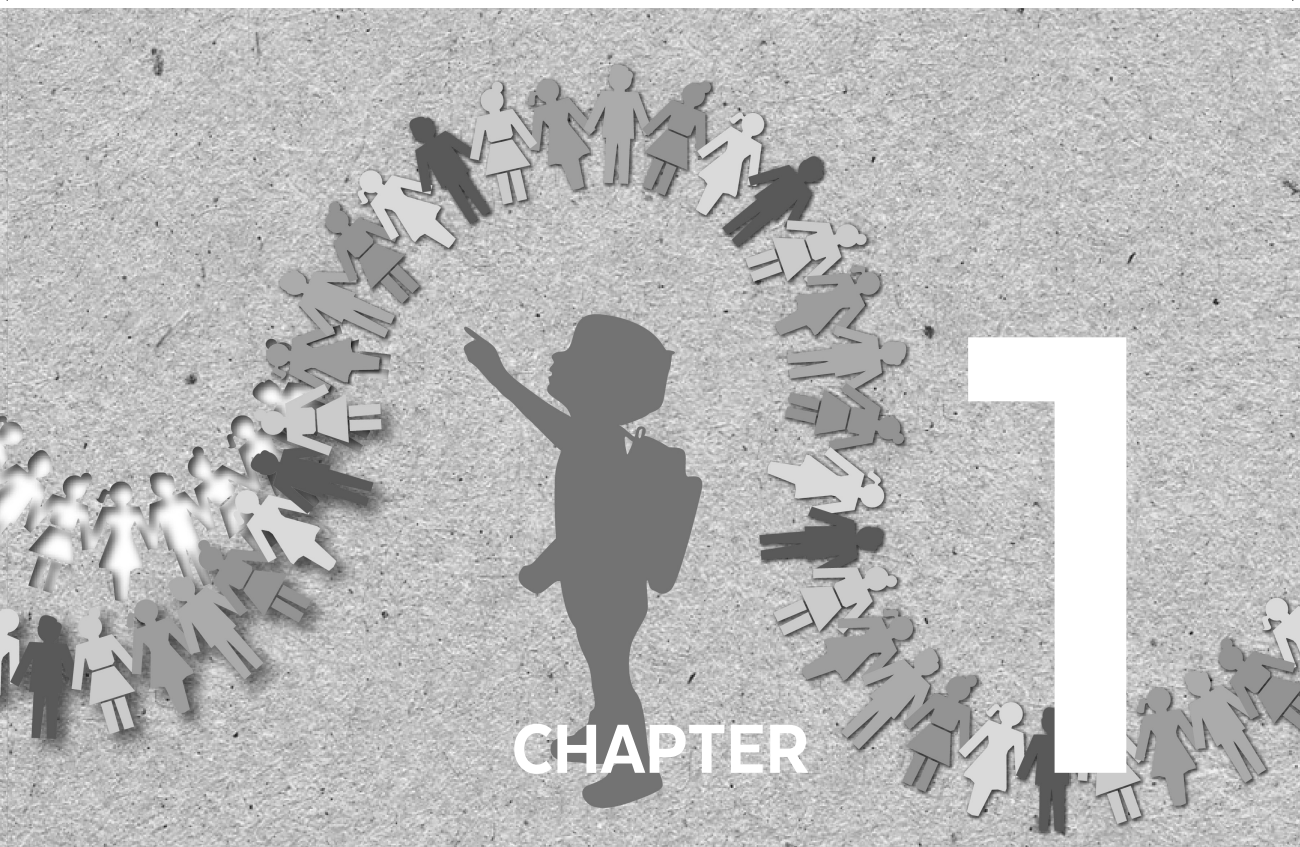
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**Assessment of the therapeutic alliance of  
youth and parents with team members in  
youth residential psychiatry**

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## ABSTRACT

Although therapeutic alliance is widely acknowledged as a key component for therapeutic change, its role is almost unknown in youth residential psychiatry. A likely reason for the lack of research is the absence of assessment tools and procedures for youth residential settings. This study assesses the psychometric properties of the Dutch version of the Family Engagement Questionnaire (FEQ), an alliance measure completed by team members. In addition, agreement among team members is explored. Eleven youth psychiatric day and inpatient units participated. Parent counsellors and case managers of 86 patients from 6 to 17 years old reported on the therapeutic alliance. Exploratory factor analysis of team members' reports resulted in meaningful structures, with child and parent alliance scales primarily corresponding to the conceptualization of the developers and earlier factor analysis. Internal reliability and validity were good for most of the subscales. The hypothesis that team members would show low levels of agreement in their reports of the therapeutic alliance was confirmed, demonstrating the need to include multiple team members in assessment procedures. Overall, this study underscores the psychometric properties of the Dutch version of the FEQ. Team members in residential youth psychiatric settings are encouraged to reflect regularly with their colleagues on the youth and parent therapeutic alliance.

## INTRODUCTION

The therapeutic alliance (TA) is regarded as one of the most important components of the therapeutic process in relation to treatment outcome (Lambert & Simon, 2008; Shirk et al., 2011). Despite the thousands of adult psychotherapeutic TA studies (Horvath, Del Re, Flückiger, & Symonds, 2011) and dozens of youth psychotherapy studies (McLeod, 2011), the TA remains relatively unexplored in youth day and inpatient (hereafter residential) psychiatry. Only a handful of studies provide support for the concept that TA is an important component of residential youth treatment (Green et al., 2007; Green et al., 2001; Guzder, Bond, Rabiau, Zelkowitz, & Rohar, 2011; Kabuth et al., 2005). This is unfortunate because building a TA is challenging for team members due to the complexity inherent to residential treatment. Interviews with team members of a psychiatric unit revealed that while some relationships are a good fit, others take a great deal of effort (Scharer, 1999). Surveys of residential youth suggest that their relationships with team members are among the most helpful and positive aspects of their residential experience (Anglin, 2004; Smith, McKay, & Chakrabarti, 2004). If team members invest in a positive TA with the youth and parents, the youth have a good chance of making progress during their residential psychiatric stay (Gross & Goldin, 2008). One of the most important reasons for the lack of TA research in youth residential psychiatry is the absence of a strong assessment tool that captures the unique aspects of the TA in this setting. Therefore, the refinement of youth TA assessment tools for this specific setting is of substantial clinical importance.

In youth residential psychiatry, there are multiple TAs; they exist among the multidisciplinary team, the youth and their parents. The TA is commonly defined as the affective and collaborative aspect of the individual client-therapist relationship (Elvins & Green, 2008). Both the therapist and client contribute to a 'personal alliance', based on interpersonal aspects, and a 'task alliance', based on agreement on diagnoses, goals and treatment planning (Hougaard, 1994). Kroll and Green (1997) emphasize the complexity of the TA construct in youth residential psychiatric treatment. Team members act in coordinating, therapeutic, pedagogic and systemic roles regarding the youth, peers and parents. Thus, multiple TAs between different participants are active, have mutual influencing effects and shift as treatment progresses. A number of factors might affect the TA among team members, youth and parents, such as peer relationships, the parent-youth relationship, family functionality, therapeutic milieu, team functionality and even the organizational structure of an institute. Assessment of the child and parent alliance in a youth residential setting should be performed with

instruments sensitive to this complex setting. Adult research literature showed that classical TA assessment tools fail to capture relevant aspects of the TA in inpatient and day-treatment settings (Blais, 2004; Munder et al., 2010). Measuring of the TA construct in youth residential psychiatry has to take into account the multiplicity of treatment interventions, the peer group and the therapeutic climate on the ward.

Because TA plays such an important role in treatment, a strong psychometric instrument adjusted to the specific setting of youth residential psychiatry must be intricate. Few attempts have been made to systematically investigate the psychometric properties of TA measures for youth (Elvins & Green, 2008; McLeod, 2011). TA in youth treatment has mainly been measured using constructs reflecting adult psychotherapy, despite the difference in the therapeutic environments of youth treatment or psychiatry (Green, 2006; McLeod, 2011; Priebe & McCabe, 2006). Moreover, the instruments focused only on the child or parent alliance (Accurso, Hawley, & Garland, 2013; Elvins & Green, 2008). Our search of the youth literature resulted in only one instrument that (a) is specifically developed for youth residential settings, (b) incorporates child and parental TA and (c) distinguishes between 'task' and 'personal' aspect of the alliance (Elvins & Green, 2008). The Family Engagement Questionnaire (FEQ) (Kroll & Green, 1997) measures team members perspective on (1) the child's personal and therapeutic engagement with the team (intended to relate to the 'personal' alliance); (2) the child's engagement with therapeutic activities (intended to relate to the 'task' alliance); (3) the child's alliance with peers; and (4) the parents' 'personal' and 'task' alliance with team members. Although the original conceptualized questionnaire consisted of 20 items, initial validation (inter-rater, criteria and discriminant validity) of these conceptualized factors was found for a 16-item version in a sample of 30 patients (Kroll & Green, 1997). A subsequent factor analysis of an 18-item FEQ with an enlarged cohort of 85 patients was reported in the 'Method' section of a study of inpatient outcome predictors (Green et al., 2001). In addition to general youth and parent alliance factors, child and parent hostility factors were also found. In both psychometric studies, some items on the FEQ were excluded due to ambiguous wording and abnormal distribution of scores. Green and colleagues (Green et al., 2007; Green et al., 2001) showed the independent predictive power of the child and parent alliance for inpatient treatment outcome, such as symptom reduction or improved adaptive functioning, in studies using the FEQ. However, except for Green's studies, the FEQ has not been used to explore the child and parent TA in residential youth psychiatry. This is regrettable because much about the TA-outcome relationship in youth residential treatment is left unexplored.

Although the FEQ seems promising for assessing the TA in a complex setting, its psychometric properties have not been studied across cultures or psychiatric settings. The FEQ was developed for residential/inpatient settings, although it could also be beneficial for (semi)residential/ day-treatment settings. Particularly in the day-treatment setting, where youth switch daily between home and the treatment setting, alliance building with youth and parents is a significant part of day-to-day life. Therefore, we translated and adjusted the FEQ to the Dutch language and culture and used it with a combined day and inpatient sample. Van Widenfelt, Treffers, de Beurs, Siebelink, and Koudijs (2005) recommend exploring the factorial structure of the questionnaire for a new culture and setting in such case. Catty (2004) recommend assessing the validity of the TA construct again when using a measure with another psychiatric sample. In this study, proof of the criteria validity was examined for the youth alliance scales by correlating the youth alliance to related mental health constructs. The literature (Green et al., 2001) implies that a stronger youth alliance is associated with less severe youth functioning and increased youth hostility with more disruptive behaviour. While assessment of concurrent validity was preferred, to the author's knowledge, a related short child TA measure to be completed by staff members is not available. In contrast, for the parent alliance, a comparable parent-team TA measure was available to examine the concurrent validity of this construct.

An additional challenge in a youth residential setting is which informants to include, given that different disciplines are involved in alliance building. In the studies of Green and colleagues (Green et al., 2007; Green et al., 2001; Kroll & Green, 1997), the TA was measured with the nursing team in the ward, and the key nurse and co-nurse were involved as informants. However, how to measure the attachment relationship of service users of a complete multidisciplinary team has been relatively unexplored (Catty et al., 2012). There is no consensus in the literature on how to assess the TA when multiple disciplines are involved in one treatment (Lerner, Mikami, & McLeod, 2011; Schmidt, Chomycz, Houlding, Kruse, & Franks, 2013). A single team member could rate the alliance with the youth and parents or it could be rated on a consensus basis or it is important to assess different perspectives. TA research rarely describes the methodological dilemmas of cross-informant differences in the assessment of the TA (Elvins & Green, 2008). Team members in a multidisciplinary team are likely to be differentially engaged with the youth and parents in youth residential psychiatry. When a member of the team is a psychiatrist, psychotherapist or parent counsellor, there may be an impact on the nature of the TA between youth and parents, mediated not only by theo-

retical perspective but also by their role in the treatment process (Catty, 2004; Catty et al., 2012). Therefore, the hypothesis examined in this study is that differential ratings of team members contribute different valid information about the youth and parent alliances with the team members in youth residential psychiatry. To reliably examine the child and parent TA in residential treatment, careful assessment procedures need to be developed.

In sum, the aim of this study is threefold, as follows: (1) to investigate the factor structure of the Dutch FEQ with a combined day-treatment and inpatient sample across two disciplines as informants; (2) to examine the internal consistency and initial validity for the found subscales and (3) to explore cross-informant agreement to determine the optimal assessment procedure for the multiple TAs in youth residential psychiatry.

## METHOD

### Setting

Participants were recruited from 11 units of a child and adolescent psychiatric institute in the western part of The Netherlands. From these 11 units, 4 units involved inpatient treatment and 7-day treatment. For each unit, a multidisciplinary team provides a package of treatment modules for approximately seven youth. The treatment content differs for each youth; however, the standard is a therapeutic milieu in the ward, parent counselling every other week, some sort of individual therapy and case management. Psychopharmacology was prescribed for some of the cases. The case manager, a youth psychiatrist or a clinical psychologist, is overall responsible for the treatment of the youths, coordinating treatment goals, planning and evaluation. Parent counsellors and, most of the time, system therapists conduct therapy sessions with parents every other week with elements of psycho-education, parent training and system therapy. Furthermore, the team consists of several social workers and individual therapists for the youth. The treatment includes a highly structured day schedule, which involves school, located near the unit. Examples of treatment goals were reduction of anxiety symptoms, increase in adaptability, improvement of peer relations and increase in self-confidence and diagnostics by means of intensive observation. The most important difference between inpatient and day treatment is the amount of hours spent at the unit during the week. In day treatment, youths are at the unit for 6 hours each day for 5 days. Youth stay overnight in inpatient treatment. However, the youth can switch from inpatient to day-patient treatment and the other way around if indicated.



## Subjects

The case managers (two child and youth psychiatrists and three clinical psychologists) and parent counsellors (four system therapists and two social workers) of the units participated as informants. Team members were asked to complete questionnaires on 93 youths between June 2011 and December 2012. These 93 youths were admitted to day or inpatient psychiatric units in the case of a (presumption of a) psychiatric disorder combined with impaired personal, family and/or school functioning. An IQ less than 70 was an exclusion criterion.

## Measures

*Family Engagement Questionnaire.* The FEQ is a questionnaire measuring the alliance with youth and their parents from the perspective of the team members in a psychiatric residential setting (Elvins & Green, 2008; Kroll & Green, 1997). The FEQ consists of 18 items that were rated on a 4-point Likert-type scale, with '1' indicating 'most of the time' and '4' indicating 'almost never'. Although the questionnaire was developed around four factors, subsequent factor analysis on a sample (N = 85) of inpatient youth generated five factors (Elvins & Green, 2008; Green et al., 2001). These entail the following three child-alliance scales: general child alliance (28.9% of the variance); child confiding (10.7% of the variance) and child hostility (9.5% of the variance), and the following two parent alliance scales: parental engagement (7.0% of the variance) and parental hostility (6.0% of the variance). The two 'hostility' factors are computed by one (parent hostility) and two items (child hostility). The originally conceptualized factor of peer alliance was not identified as a separate factor in this study.

*Translation and adaptation of the FEQ.* The original author was contacted, and permission was received, prior to commencing this study, to use and translate the original version of the FEQ. In accordance with the translation guidelines of Van Widenfelt et al. (2005), a team (consisting of three youth psychologists) made independent translations of the questionnaire into Dutch. Consensus was reached on the best translation of each item. Subsequently, two native English speakers individually translated the text back into English. Some differences between the original questionnaire and the re-translated version were cause for a reconsideration of semantic equivalence with the goal of achieving a 'similar effect' on respondents independent of their native language (English or Dutch). Pilot testing of the translated FEQ was performed with 29 youths by attaching feedback forms to the questionnaire, which included questions regarding sentence construction and the Dutch translation. No adaptations were necessary after piloting. The FEQ as used in this study is presented in Box 1.

*Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)*. To assess the construct validity of the child alliance, the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) (Gowers et al., 1999) was used. This instrument was developed in the United Kingdom to measure clinically significant problems and symptoms and consists of 15 items, each rated from 0 (no problem) to 4 (severe to very severe problem). The first 13 items are summarized in a total score indicating the severity of mental health problems. Research supports the psychometric value of the HoNOSCA in terms of good inter-rater reliability and validity (Bilenberg, 2003; Brann & Coleman, 2010; Brann, Coleman, & Luk, 2001; Burgess, Trauer, Coombs, McKay, & Pirkis, 2009; Cartwright, Cox, & Psych, 2010; Eggleston & Watkins, 2008; Gowers et al., 1999; Hanssen-Bauer et al., 2007; Lesinskiene, Senina, & Ranceva, 2007). Case managers completed the HoNOSCA for youth, and in this study, the total HoNOSCA score was used in addition to the score on the item for disruptive behaviour. Although the use of a single item is questionable for validation purposes, this item involves a scale score given by specialist case managers.

*WAV-12R (Treatment Team and Parent Version)*. To explore the construct validity of the parent alliance, the team-member version of the adjusted Dutch WAV-12 (Stinckens et al., 2009) was used. This is a variant of the translated short version of the Working Alliance Inventory (WAI original; Horvath & Greenberg, 1986; WAI-Short version; Tracey & Kokotovic, 1989). The WAI is a psychometrically sound and widely used instrument to measure the TA in adult psychotherapy (Stinckens et al., 2009). It has also been used to measure the TA in adult inpatient care (Munder et al., 2010). Although the WAI was originally developed to measure the client-therapist TA, the WAV-12 has been adjusted to measure the parent-team TA in a youth residential setting. This adjusted WAV-12R has 12 items, which are rated on a 5-point Likert-type scale, ranging from 1 'rarely or never' to 5 'always'. The Dutch version of the WAV-12 had high Cronbach's alpha values in client version (.92) and the therapist version (.94), with subscale alphas ranging from .81 to .93 (Vertommen & Vervaeke, 1996). The case managers and parent counsellors in the sample in this study completed the adjusted WAV-12R, and the total score was used. The Cronbach's alpha of the total scale score was .93 for case managers and .96 for parent counsellors for the sample in question.

## **Procedure**

The study was presented to the medical ethics board of the University Medical Center in Leiden and considered to be in accordance with medical ethical laws in The Netherlands. All clients were informed before intake that Routine Outcome Monitoring (ROM)

Box 1 FEQ, Kroll and Green (1997); Dutch translation, Lamers & Van Widenfelt, Curium-LUMC (2011)

Family Engagement Questionnaire				
Name _____ unit _____ date _____				
Please check off only one box, thinking about the admission of your child in the last 4 weeks. Give a general evaluation of this period. The completion of the questionnaire should take approximately 5 minutes of your time. Thank you very much.				
	Almost always	Half of the time	Sometimes	Almost never
1. The parents have a hostile attitude towards the staff/unit, overtly rather than covertly. They may feel threatened by attempts to understand their hostility or behaviour. <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The child seems to mistrust staff and appears to not trust their motives. <sup>1,2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The staff has difficulty allowing the child to participate in various activities in the unit (therapeutic or otherwise).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The parents make an effort to attend the treatment sessions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The child seems comfortable/at ease and is motivated to participate in therapeutic activities, for example, creative or psychomotor activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The child seems interested in the team members as individuals and shares a certain degree of warmth and good rapport with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The child trusts other children with his/her problems in an appropriate way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The child appears out of place at the unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The child confides in staff about family life and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The child spontaneously participates in leisure activities. <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. The child is overtly hostile towards other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The child is selective in the activities in which he/she wants to participate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. The parents confide in some of the team members about their personal or family problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The child makes serious attempts to run away. <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The child tries to make friends in the unit. <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. The child makes adequate use of individual therapy activities and appears motivated to work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. The parents often take the initiative to come to the Unit and take the initiative to make contact with questions or problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The child seeks comfort from staff that he/she trusts, if he/she is upset.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Superscripts indicate deleted items after the exploratory factor analysis: <sup>1</sup> = case managers' reports; <sup>2</sup> = parent counsellors' reports.

is part of the general policy of Curium-LUMC to monitor treatment outcome and to be used in an anonymous form for research purposes (similar to de Beurs et al., 2011). In ROM, all clients referred to residential treatment are routinely assessed with a battery of tests. An exclusion criterion for ROM is insufficient mastery of the Dutch language, which was the case for one referred client. All but five clients gave permission for the use of their ROM data for scientific purposes. Other missing data were due to an un-

foreseen fusion of two units, a planned discharge of youth and the unavailability of team members at the moment of data collection. For 46 of the 93 youth, team members completed the FEQ, HoNOSCA and WAV-12 in the fourth month of treatment. For the other 47 youth, the FEQ and WAV-12 were administered at a random time in the treatment. Parent counsellors and case managers completed the questionnaires around the same time.

### Statistical analyses

Statistical analyses (SPSS 20.0) were performed to assess (1) the factor structure of the FEQ for each informant individually (case managers and parent counsellors); (2) the reliability and validity of the identified subscales and (3) cross-agreement between the two disciplines. Exploratory factor analyses (EFA) was conducted using Principal Components Factor Analysis with a Varimax Rotation and Kaiser Normalization. Factor matrices were interpreted based on the following criteria: (1) only factors with an eigen value higher than 1 were retained (Costello & Osborne, 2011); (2) factors should have a rotated loading  $\geq .55$  on more than one item and (3) items were not permitted to load on another factor  $> .45$ . Next, the internal consistency reliability was estimated for the factors that resulted from the EFAs using Cronbach's alpha coefficients. Reliability coefficients  $< .60$  are considered insufficient,  $.60$  to  $.69$  marginal,  $.70$  to  $.79$  acceptable,  $.80$  to  $.89$  good and  $\geq .90$  excellent (Barker, Pistrang, & Elliot, 1994). Item-to-total correlations above  $.40$  indicate internal consistency of the subscales (Nunnally & Bernstein, 1991). Construct validity was assessed using Pearson correlations between the subscales of the FEQ and related criteria. Correlation coefficients  $< .30$  are considered small,  $\geq .30$  and  $< .50$  medium and  $\geq .50$  strong (Cohen, 1988). The second step was to explore cross-informant agreement in more detail, following the guidelines of Kottner et al. (2011) by computing agreement indices for the items common to the informants. Quadratic weighted Cohen's kappa was used to calculate agreement beyond the expected level of chance incorporating the concept of distance between rating categories (Fleiss, 1981). Kappa values  $< .40$  reflect 'poor agreement',  $.40$  to  $.74$  reflect 'fair to good agreement' and  $> .75$  and higher reflect 'excellent agreement' (Fleiss, 1981). Furthermore, raw agreement indices, reported in percentages, were calculated. The scores on the items were recorded in  $2 \times 2$  cross tables, with 'a + b' as positive values of the TA and 'c + d' as negative values of TA. Three agreement indices were calculated, the exact agreement ( $P_{\text{exact}} = \text{score parent counsellor} - \text{score case manager}$ ), the raters' positive decisions ( $2a/(ab + ac)$ ) and the raters' negative decisions ( $2d/(cd + bd)$ ) of the strength of the TA.

## RESULTS

### Participant characteristics

Data from one or more informants are available for 86 (92% response) youths. Table 1 shows the participant characteristics. The mean age was 10.2 years, ranging from 6 to 17 years at admission, and 79% were boys. A total of 17 youths were treated residentially, and 69 attended day treatment. The majority of these youths (72%) received a primary classification within the autistic spectrum, 6% an emotional disorder, 7% a disruptive behaviour disorder and 15% another primary diagnosis. Of these 86 youths, 53 grew up in biological families, 18 grew up in one-parent families and 15 grew up in other family constellations.

### Factor analysis

For the parent counsellors' (.74) and case managers' (.80) dataset, the Kaiser-Meyer-Olkin measure verified the sampling adequacy, and Bartlett's test of sphericity (all significant  $< .00$ ) showed that the data had inherent sufficient correlations, justifying the performance of EFA. Missing data (seven case managers' cases and two parent counsellors' cases had one item missing) were replaced by extrapolated values using the person mean substitution method (Hawthorne & Elliott, 2005). The results of the

**Table 1** Characteristics of the youths attending the (semi) residential treatment units ( $N = 86$ )

Baseline characteristics	Mean or no.	SD or %
Age at admission	10.2	3.2
Sex		
Male	68	79
Female	18	21
Treatment setting		
Inpatient	17	20
Day treatment	69	80
DSM-IV Axis I Classification		
Autistic spectrum disorder	62	72
Emotional disorder	5	6
Behaviour disorder	6	7
Other disorders	13	15
Family constellation		
Biological family	53	62
One-parent family	18	21
Other family constellation	15	17

EFA on the FEQ are presented in Table 2 for case managers and parent counselors reports separately. The EFA for the case manager sample with Varimax rotation and Kaiser Normalization revealed four factors, named 'youth personal alliance', 'youth task alliance', 'parent alliance' and 'youth hostility'. These factors accounted for 62% of the variance, 34%, 11%, 10% and 7%, respectively. Items 2 and 10 were excluded because they did not correspond to the chosen criteria. The EFA on the reports of parent counsellors yielded three factors that fit the criteria, named 'youth task alliance', 'youth personal alliance' and 'parent alliance'. These factors accounted for 48% of the variance, 27%, 12% and 9%, respectively. The chosen criteria for the judgment of the EFA with parent counsellor reports resulted in four deleted items. Remarkably, the first three factors in both factor structures of case managers' and parent counsellors' sample, namely, 'youth personal alliance', 'youth task alliance' and 'parent alliance', resembled the conceptualized factors of Kroll and Green (1997) as well as the factors found in the factor structure found by Green and colleagues (2001).

### **Reliability of the subscales**

In Table 3, the mean scores of case managers and parent counsellors on the different scales are presented. A low score of '1' indicates a strong alliance, and a high score of '4' represents a weak TA. As can also be seen in Table 3, the Cronbach's coefficients of the 'youth personal alliance' and 'youth task alliance' subscales showed acceptable to good internal consistency. The Cronbach's alpha coefficient for the factor 'parent alliance' was close to acceptable for the case managers' data (.69), but falls short for parents counsellors' data (.57). However, the alpha coefficients found in the initial validation study of Kroll and Green (1997) correspond with these findings with .68 to .80 for youth alliance scales and .61 to .66 for the 'parent alliance'. The factor 'youth hostility' from the case managers' data was insufficiently internally consistent. The Cronbach's alpha coefficient for the total scale for case managers' (.85) and parent counsellors' data (.81) was good. The internal consistency of each subscale was further examined with item-to-total correlations, which were all above .40 (case managers .52-.93, parent counsellors .51-.86), indicating the homogeneity of the subscales. The correlations between total scores and found subscales were .82, .86, .60 and .24 ( $p < .01$ ) for case managers and .84, .76 and .46 for parent counsellors. This indicates that the subscales each measure a unique aspect of the TA in youth residential psychiatry.

### **Validity of the subscales**

Pearson's correlations between the subscales of the FEQ and chosen related constructs are also presented in Table 3. A strong 'task' and 'personal' alliance of the

**Table 2** Results of the EFAs with Varimax rotation and Kaiser normalization of the FEQ with case managers' (N = 86) and parent counsellors' reports (N = 80)

FEQ case managers	EFA factor loadings				FEQ parent counsellors	EFA factor loadings			
	1	2	3	4		1	2	3	
<b>1 Youth personal alliance</b>					<b>1 Youth task alliance</b>				
C confides about family	<b>.86</b>	.11	.14	.02	T has difficulty engaging C	<b>.83</b>	-.12	-.05	
C confides in children	<b>.82</b>	.23	.05	.03	C is selective in activities	<b>.80</b>	-.12	-.01	
C is interested in T	<b>.76</b>	.35	.11	.01	C is motivated to work	<b>-.74</b>	.12	-.10	
C seeks T when upset	<b>.76</b>	.34	.03	-.06	C uses sessions	<b>-.64</b>	.37	.01	
C tries to make friends	<b>.63</b>	.45	.04	-.04	C is hostile to children	<b>.64</b>	.07	.10	
<b>2 Youth task alliance</b>					C appears out of place				
C is motivated to work	.33	<b>.73</b>	.19	-.22	<b>2 Youth personal alliance</b>				
C appears out of place	.05	<b>-.71</b>	.10	.04	C confides in children	-.09	<b>.83</b>	.03	
T has difficulty engaging C	-.29	<b>-.67</b>	-.12	.09	C confides about family	-.19	<b>.73</b>	-.11	
C uses sessions	.38	<b>.65</b>	.29	-.05	C is interested in T	-.18	<b>.66</b>	.09	
C is selective in activities	-.26	<b>-.61</b>	-.26	-.25	C seeks out S when upset	-.02	<b>.55</b>	.08	
<b>3 Parent alliance</b>					C participates spontaneously				
P confide about problems	-.11	.09	<b>.80</b>	-.06	<b>3 Parent alliance</b>				
P make efforts to attend	.06	.32	<b>.72</b>	.02	P take initiative in contact	-.01	-.01	<b>.82</b>	
P take initiative in contact	.17	.16	<b>.70</b>	-.28	P make efforts to attend	-.11	-.12	<b>.67</b>	
P have hostile attitude to T	-.20	.17	<b>-.60</b>	-.34	P confide about problems	.08	.33	<b>.63</b>	
<b>4 Youth hostility</b>					<b>Not matching the criteria</b>				
C attempts to abscond	.05	-.03	.02	<b>.84</b>	C tries to make friends	-.00	.36	.23	
C is hostile to children	-.10	-.03	-.07	<b>.77</b>	C attempts to abscond	.26	-.05	-.12	
<b>Not matching the criteria:</b>					C does not seem to trust T				
C does not seem to trust T	-.38	-.39	-.10	.32	P have hostile attitude to T	.05	-.16	-.10	
C participates spontaneously	.46	.52	.18	.01					

Note. C: child; P: parents; T: team members; loadings corresponding with the criteria are presented in bold.

youth (indicated by a low score) was positively correlated with fewer problems on the HoNOSCA in both the case managers' and parent counsellors' reports (indicated by a low score). Kroll and Green (1997) only found initial validation for the 'youth task alliance' by relating the scale to clinician's ratings. In addition, the hypothesis that



**Table 3** Reliability of the subscales of the FEQ with case managers' (N = 86) and parent counsellors' reports (N = 80). Criteria validity for the youth alliance subscales (N = 40) and for the parent alliance subscales (N = 76) with the WAV-12 and the HoNOSCA

	<i>M</i> ( <i>SD</i> )	Cronbach's alpha coefficient	Criteria validity	Pearson correlations
FEQ CM Parent Alliance	1.83 (0.65)	.69	WAV-12 CM	.56**
FEQ CM Youth Task Alliance	2.00 (0.74)	.84	HoNOSCA TS	.52**
FEQ CM Youth Personal Alliance	2.77 (0.76)	.88	HoNOSCA TS	.36*
FEQ CM Youth hostility	1.44 (0.48)	.51	HoNOSCA DB	.40*
FEQ PC Parent Alliance	2.00 (0.71)	.57	WAV-12 PC	.23
FEQ PC Youth Task Alliance	2.00 (0.72)	.84	HoNOSCA TS	.42**
FEQ PC Youth Personal Alliance	3.00 (0.60)	.75	HoNOSCA TS	.36*

Note. CM: Case Manager; PC: Parent Counsellor; *M*: Mean Score; *SD*: Standard Deviation; 1 reflects a strong alliance and 4 reflects a weak alliance; WAV-12: Working Alliance Inventory Short Form, therapist version; HoNOSCA: Health of Nation Outcome Scales; TS: Total Score; DB: Disruptive Behaviour. \*\*Significant at the 0.01 level; \*Significant at the 0.05 level.

high 'youth hostility' (indicated by a high score) would correlate positively with high disruptive behaviour problems (indicated by a high score) was confirmed. All of the subscales, except the one concerning the parent alliance factor of parent counsellors, showed a medium-to-strong construct validity. The validation of the factor 'parent alliance' for case managers' reports is consistent with the initial validation of Kroll and Green (1997).

### Cross-informant agreement

To investigate agreement between the perspective of case managers and parent counsellors on the TA in detail, further analyses were limited to the items common to case managers' and parent counsellors' factor structures. Agreement indices between case managers' and parent counsellors' reports were examined and are shown in Table 4. Remarkably, there was almost no agreement, beyond chance, between case managers and parent counsellors on items related to the personal alliance with youth. There was an especially notable lack of agreement on positive reports on the child confiding in the team members. Only some agreement regarding the 'personal alliance' existed in the negative judgments of team members towards the child's personal alliance with team members (85%). In contrast, there seems to be a fair amount of agreement ( $wk > .40$ ) on 'child task alliance'-related items, although the raw agreement indices per item specify less agreement. Case managers and parent counsellors do agree more on the



**Table 4** Cross agreement indices between FEQ reports of the alliance by case managers and parent counsellors (N = 80)

FEQ items and subscales	wk	Pexact	Ppos	Pneg
Factor 1: Youth Personal Alliance				
C confides about family life	.18	47	0	85
C confides in other children	.04	37	8	85
C is interested in T	.11	22	42	55
C seeks T when upset	.15	13	42	74
Factor 2: Youth Task Alliance				
C at ease/motivated to work	.44	49	88	47
T have difficulties engaging C	.46	44	84	69
C uses therapeutic sessions	.42	34	72	45
C appears out of place	.42	63	50	89
C is selective in activities	.29	32	69	54
Factor 3: Parent Alliance				
P confide about problems	.13	32	64	43
P make efforts to attend	.50	77	95	46
P take initiative in contact	.29	38	67	61

Note. C: child; P: parents; T: team members; wk : quadratic weighted kappa; Pexact: percentage exact; Ppos: percentage positive; Pneg: percentage negative.

amount of effort that parents make to attend (77% of the scores are similar), indicating that both view the engagement of the parents in the treatment quite similarly. However, on aspects that are more personal, the agreement between case managers and parent counsellors is again low.

## DISCUSSION

This study examines the assessment of the TA in youth (semi)residential psychiatry from the team members' perspective. TA assessment is an inherently complex task due to the nature of the therapeutic environment of this setting. Although in earlier research, the FEQ was used with a predominantly inpatient sample, this research also incorporated youth in day treatment. Moreover, while the FEQ was previously used to measure the TA with the nursing staff, in this study, the TA with the entire multidisciplinary team was measured. The findings suggest that the FEQ is a solid instrument for assessing both the youth and parent TA with the multidisciplinary team in a youth (semi) residential setting. This is promising for future use of this instrument because the youth and parent TA might each have different effects on outcome factors. Further-

more, to the author's knowledge, this is the first study that examined the perspective on the TA of different team members that are involved with the same youth and their parents. Especially in this setting with multiple TAs, exploring cross-informant agreement is a prerequisite to determining a reliable assessment procedure. The results of the cross-informant agreement investigation indicated that if different team members are involved in the treatment of youths, each has a unique view on the youth and parent alliance with the multidisciplinary team. Capturing multiple reports in measuring the TA is therefore desirable for future research.

Factor analyses on the FEQ with the case managers' and parent counsellors' reports separately revealed a meaningful structure. Three core factors named 'youth personal alliance', 'youth task alliance' and 'parent alliance' were present in both the case managers' and parent counsellors' factor structure. Moreover, these three factors correspond for the most part with the theoretically conceptualized factors by Kroll and Green (1997) and with three factors from the factor structure identified by Green et al. (2001). The two youth factors resembled 'child's personal and therapeutic engagement with the wards' team members' and 'child's engagement with therapeutic activities', as labelled by Kroll and Green (1997). In the 'Method' section of Green et al. (Green et al., 2001), these factors were named 'general child alliance, relating to child's integration into the unit and participation in activities' and 'child confiding, related to intimate confiding relationships with staff'. In this article, the youth alliance scales of the FEQ were renamed in order to correspond to the two concepts in Hougaard's theory (Hougaard, 1994), 'personal' and 'task' alliance. The cohesion of the 'youth task alliance' and 'youth personal alliance' scales was supported by strong internal consistency. Our hypothesis that a strong youth alliance would be related to more positive general functioning of the youth was confirmed, which contributes to the criteria validity of these subscales. In the earlier validation study of Kroll and Green (Kroll & Green, 1997), they also found criteria validity for the 'task' youth alliance scale with a significant correlation with the ratings on a clinician instrument. However, no such correlation was found for the 'youth personal alliance'. It remains a task for future research to prove validity by distinguishing the 'personal' and 'task' scales. Interestingly, the distinction between personal and task aspects of the youth alliance concept, based on Hougaard's conceptual model (1994), resembles adults' conceptualization of the TA as proven by factor analysis of common adult TA measures (Munder et al., 2010; Shirk & Saiz, 1992).

In contrast to the adult conceptualization of the TA, the parental alliance might also play an important role for youth. A stronger parent alliance with the therapist is associated with improved parenting skills, greater therapeutic change in children and more treatment attendance and retention (Kazdin, Whitley, & Marciano, 2006). McLeod (2011) showed that the parent alliance was more strongly related to the youth psychotherapy outcome than the youth alliance. Both factor analyses in this study revealed a third factor, which corresponded with the conceptualized factor by Kroll and Green (1997) and with the factor found in the prior factor analyses of Green et al. (2001). For case managers, this scale had an acceptable internal consistency and construct validity. However, for parent counsellors, the Cronbach's alpha coefficient was not as high, and the validity was low. Kroll and Green (1997) did find significant correlations of the parent alliance scale with the clinician-rated parental alliance. They also looked at discriminant validity across three units and found a trend of a difference in parental alliance across the three units. The primary focus in youth literature was on the youth alliance, with little attention to the parent alliance (Kazdin et al., 2006; McLeod, 2011). The available alliance instruments only focus on the child alliance, despite the important role of parents in the treatment (Elvins & Green, 2008). However, nearly half of the parents of youths in inpatient care mentioned wanting more support from team members in interviews (Puotiniemi, Kyngäs, & Nikkonen, 2002). Therefore, this questionnaire is unique among the other alliance measures in the youth mental health field because it incorporates both youth and parental alliances.

The fourth FEQ factor of the case managers' reports, labelled 'youth hostility', seemed to fit exactly the fifth factor, computed by the same two items, reported as a result of a factor analysis by Green et al. (2001). However, this factor was not identified in the factor structure with reports of parent counsellors and was also not originally conceptualized by Kroll and Green (1997). The internal consistency of this scale in this study was low. With regard to criteria validity, high child hostility was correlated to high externalizing behaviour. Although 'youth hostility' might be seen as a form of resistance in the therapeutic relationship, it might also be an expression of externalizing behaviour or a willingness of the youth to go home. The same may account for the factor 'parent hostility', identified in the factor analyses of Green et al. (2001), computed from only one item, which did not appear in this study as a separate factor. How these 'hostility' aspects relate to the core concept of the TA is an open question. To the author's knowledge, there are no alliance measures in the youth mental health field incorporating this aspect of the alliance (Elvins & Green, 2008; Zack, Castonguay, & Boswell, 2007).

The conceptualized factor ‘child’s alliance with peers’ was also not identified as a separate factor in this research, which coincides with the factor analysis of Green et al. (2001). This is not a surprise because the concept of the TA involves relationships with therapists, not relationships with other clients in the ward. The influence of peer relationships on the outcome of residential treatment is an important research topic that might stand by itself (Zakriski, Wright, & Cardoos, 2011). Zack et al. (2007) suggest operationalizing the youth TA as a clean core construct in order to create insight in the process by which it affects treatment (Zack et al., 2007). Hence, ‘youth personal alliance’, ‘youth task alliance’ and ‘parent alliance’ were considered in this current study as the core scales of the FEQ.

The FEQ differentiates between the ‘task’ and ‘personal’ aspects of the alliance as well as between ‘youth’ and ‘parental’ alliance. Much is left unexplored regarding the relationship between different aspects of the alliance and different outcome factors of youth residential psychiatric treatment. For example, Hawley and Weisz (2005) found in an outpatient setting that the parent–therapist alliance was associated with fewer cancellations, no-shows and dropouts, whereas the child–therapist alliance was associated with greater symptom improvement. The parent TA might even have a moderating effect on the youth TA–outcome relationship (Shelef, Diamond, Diamond, & Liddle, 2005). In the future, the FEQ could be used to generate insight into how different aspects of the multiple alliances relate to outcome variables. For this reason, the FEQ can have a substantial contribution to the effective delivery of youth residential treatment.

One of the strengths of our study is its comprehensive analysis on the item level of agreement between two different disciplines involved with the same youth and his parents. Assessment of cross-informant agreement is required for instruments that are used for evaluative purposes (de Vet, Terwee, Knol, & Bouter, 2006) and should not be confused with the assessment of inter-rater reliability or cross-validation of the questionnaire (Kottner et al., 2011). The hypothesis that different disciplines in a (semi)residential multidisciplinary team will have different perspectives on their TA with youth and parents as a team was confirmed in this study. The low level of agreement between the two disciplines in this study is in agreement with findings in an adult inpatient setting that observed an absence of congruence among the different disciplines’ perceptions on the TA (Gallop, Kennedy, & Stern, 1994). The results show especially low levels of agreement on the personal aspects of the TA with youth and par-

ents. Case managers and parent counsellors seem to have different views on the way parents and children confide and show interest in team members. This is explained by earlier findings that agreement between reporters is regularly higher for more objective (task) alliance items than for subjective (personal) alliance items (Bachelor, 2011; Clemence, Hilsenroth, Ackerman, Strassle, & Handler, 2005). For the assessment procedure of multiple alliances in the residential setting, the conclusion is that two disciplines can add new and therefore unique information.

The current study does not indicate how each discipline values the TA. Nevertheless, as these discrepancies are inherent to the assessment of the TA, it might be helpful to examine their clinical importance. Disagreement between disciplines on the strength of the TA may have important consequences in the mutual teambuilding of team members. For example, Gross and Goldin (2008) described that shared motivation, taking responsibility and true consent about treatment goals among the team, parents and youth are crucial to outcomes. The challenge for multidisciplinary teams in residential settings is to reflect regularly on their therapeutic attitude towards the youth and their parents.

This study addresses an area of research that has been relatively understudied. A limitation of the study is the somewhat small sample size for EFA. Replication is needed in additional inpatient and day-patient youth settings representing more diverse psychopathology. The sample of this study contained a high degree of youth with autism spectrum disorders (72%). According to case managers, their responses on a few items of the FEQ might have been influenced by whether the child has a disorder in the autistic spectrum. Symptoms such as social interaction problems and lacking motivation for tasks can lead to subjects scoring lower on some items although the youths are not deliberately less engaged with the team. Literature on the original version of the FEQ, however, mentions that alliance is not confounded with diagnosis or client type, except for disruptive behaviour (Green, 1996; Kroll & Green, 1997). In our sample, the majority of patients were treated in a day setting, while earlier psychometric work by Green and colleagues (Green et al., 2001; Kroll & Green, 1997) was performed with a predominantly inpatient treatment. A comparison of factor structures between these two settings remains a task for future research.

The reported findings contribute to the refinement of assessment procedures for the youth and parent alliance with team members in complex treatment settings. The

findings support the psychometric properties of the FEQ. When measuring the alliance in settings where multiple therapists are involved, assessment procedures should be a multi-informant affair. Our findings suggest that team members should not assume that colleagues share their views of the therapeutic relationship and therapeutic work with youths and their parents. This article seeks to encourage team members in residential youth psychiatric settings to evaluate their mutual perspectives on the TAs with their clients.

