

# Stability of post-treatment functioning after residential treatment: The perceptions of parents and adolescents



Karin S. Nijhof<sup>a,b,\*</sup>, Roy Otten<sup>b</sup>, Ignace P.R. Vermaes<sup>a,b</sup>

<sup>a</sup> *Pluryn, The Netherlands*

<sup>b</sup> *Radboud University Nijmegen, The Netherlands*

## ARTICLE INFO

### Article history:

Received 8 February 2013

Received in revised form 30 October 2013

Accepted 30 October 2013

Available online 19 November 2013

### Keywords:

Residential care

Post-treatment functioning

Adolescents' and parents' perceptions

## ABSTRACT

**Introduction:** The present study examined parents' and adolescents' perceptions of adolescent functioning after being discharged from residential treatment as well as the stability of functioning over time.

**Method:** Data for the study were collected as a part of a continuous process of evaluating post-treatment functioning. Adolescents and their parents were interviewed at home at 3 months (T1), 6 months (T2), and 18 months (T3) after discharge. Several outcomes were evaluated: living situation, contact with parents, social network, school/work, behavior problems, use of soft drugs, police contacts and well-being. The sample was divided into two subsamples: parents ( $n = 82$ ) and adolescents ( $n = 75$ ) participating in all three waves (sample 1) and parents ( $n = 288$ ) and adolescents ( $n = 317$ ) participating in at least one wave (sample 2).

**Results:** Cautioned by the inevitable high rates of attrition and the risk of selective bias in this type of study, there is preliminary evidence showing that adolescents generally show positive outcomes after residential care. Moreover, the outcomes were stable over time: adolescents who showed positive outcomes directly after discharge also showed positive outcomes at T2 and T3, and vice versa. Parents reported less positive outcomes than adolescents did.

**Discussion:** An important contribution of this study is that it provides longitudinal data supporting the notion that outcomes from residential treatment may be more sustainable over time than previously thought. Clinical and research implications are discussed.

© 2013 Elsevier Ltd. All rights reserved.

## 1. Introduction

Adolescents referred to residential care have serious and multiple problems in different areas. Placement in a residential institution, which includes care and cure, education, leisure activities, and specific individual as well as family interventions, is often said to be a 'last resort'. While studies show that adolescents make significant progress during treatment (e.g., Bettman & Jaspersen, 2009; Burns, Hoagwood, & Mrazek, 1999; Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008; Nofle et al., 2011), several studies conclude that improvement is difficult to maintain after the completion of the treatment (Curry, 2004; Epstein, 2004; Hirsch, 2009; Leichtman & Leichtman, 2001). Moreover, some scholars state that positive results are most convincing shortly after discharge but less convincing over time (Bates, English, & Kouidou-Giles, 1997; Frensch & Cameron, 2002; Lynam & Campbell, 1996).

Brown, Barrett, Ireys, Allen, and Blau (2011) examined the extent to which residential institutions measured their outcomes. They found that 96% of the institutions measured client satisfaction and that about

50% measured other outcomes after discharge, such as living situation, school performance, and clinical functioning. These studies were mostly cross-sectional and measured outcomes within six months after discharge. Brown et al. (2011) concluded that little is known about residential outcomes and that monitoring these outcomes should be encouraged.

### 1.1. Adolescents' functioning after residential care

Prior studies have shown that the scores for symptom severity within the clinical range dropped from 81% at the time of admission, to 55% 12–18 months after discharge and to 52% 36–40 months after discharge (Preyde et al., 2011). Many adolescents returned to their families after discharge (Hair, 2005; Harder, Knorth, & Kalverboer, 2011; Lee, Chmelka, & Thompson, 2010; Nijhof, 2011; Trout et al., 2010). Generally, studies have found an improvement in the parent–child relationship (Harder et al., 2011; Preyde, Cameron, Frensch, & Adams, 2013). Adolescents reported to be more open towards their mothers after discharge. Mothers appeared to be more inquiring. They monitored their child's activities more actively, and showed less parental control than they did before their child's admittance. For fathers, only less inquiring behavior has been found at follow-up (Harder et al., 2011). Whitmore, Mikulich, Ehlers, and Crowley (2000) found that 39% of adolescents

\* Corresponding author at: De Hoenderloo Groep, P.O. Box 73, 7350 AB Hoenderloo, The Netherlands. Tel.: +31 553788800; fax: +31 553788801.

E-mail address: [knijhof@pluryn.nl](mailto:knijhof@pluryn.nl) (K.S. Nijhof).

attended school and another 40% took up an employment at follow-up, which is in line with the studies of Larzelere et al. (2001), and Ringle, Huefner, James, Pick, and Thompson (2012). Regarding police contacts, 36% of adolescents reported to have had police contacts, 28–40% appeared to have had official police contacts, and 20–26% (still) used drugs one year after discharge (Nijhof, 2011; Ringle et al., 2012). Concerning peer relations, it is known from research that adolescents who are successful at discharge also are more likely to associate with prosocial peers and avoid antisocial peers (Hirsch, 2009). Nonetheless, one study also found that the intensity of contacts with friends did not change between admission and one year after discharge, but adolescents perceived their friends as less criminal (Harder et al., 2011). Less satisfied were adolescents about their leisure time and social participation compared to the period before admission (Harder et al., 2011). However, adolescents were more satisfied with their life and perceived a higher quality of life after discharge than at time of admittance (Harder et al., 2011; Larzelere et al., 2001).

The above studies did not include comparison groups; therefore, a few demographic studies are presented here to place the above findings into a broader perspective. The prevalence of behavior problems in general population samples is approximately 16% (Bot et al., 2013; Roberts, Attkinon, & Rosenblatt, 1998). Fewer than 1% of the adolescents do not have a place to live (Jeeninga, 2010), only 3% do not attend school or work ([www.nji.nl](http://www.nji.nl)), and 33–40% have had police contacts (Van der Laan & Blom, 2011; Van der Laan, Blom, Verwers, & Essers, 2006; see also Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Nagin & Tremblay, 1999) and 5% use soft drugs (Trimbos Instituut, 2011). Furthermore, almost all adolescents have a good social network (Central Bureau of Statistics, 2009) and 80% are satisfied about their life (Ter Bogt, van Dorsseleer, & Vollebergh, 2003). In the light of these findings, on average it seems that adolescents leaving residential care, function less well on clinical and social outcomes than their peers.

### 1.2. Stability of adolescents' functioning after residential care

While little research has been carried out to examine post-treatment functioning (e.g. Brown et al., 2011), even fewer studies have reported longitudinal follow-up data. As can be seen in Table 1, of all the above mentioned studies only two studies included more than one wave. Both studies reported descriptive data for the different time points, but they did not statistically analyze the stability of the outcomes over time. This means that conclusions about the stability of post-treatment functioning cannot be drawn based on these two studies.

### 1.3. Parent–child agreement

Almost all studies investigating adolescents' functioning after discharge included one informant, mostly the adolescents themselves (see Table 1). As far as we know, no prior studies have compared parents' and adolescents' reports about the adolescents' functioning after residential treatment. What is known about the extent of

agreement between parents and adolescents is mostly based on studies examining emotional and behavioral problems during treatment (e.g., Handwerk, Larzelere, Soper, & Friman, 1999; Saywer, Clark, & Baghurst, 1993; Verhulst & Van der Ende, 1992). Overall, these studies conclude that, in clinical samples, parents report more problems than the adolescents.

### 1.4. Present study

Considerable controversy exists about the benefits of residential care and the individual costs to society. Studies to date have not provided sufficient insight to advance this discussion. There is a lack of sufficient knowledge about the stability of outcomes over time and viewpoints of multiple respondents on adolescents' post-treatment functioning in society. Therefore, the present study examined adolescents' post-treatment functioning in society longitudinally. The focus was on clinical treatment outcomes: behavior problems and well-being, as well as on outcomes of social functioning associated with an increased risk for recidivism (Andrews & Bonta, 2010): living conditions, school/work, family relations, social network and drug use. For all outcomes both the adolescents' and their parents' perceptions were investigated. It is important to include both parents' and adolescents' perceptions, because their diverging views provide a richer picture of the adolescent's functioning (e.g., Van der Ende, Verhulst, & Tiemeier, 2012). The aim of the present study was to answer three questions: 1) How do adolescents function in society after residential treatment? 2) Is the adolescents' functioning stable over time? and 3) To what extent do parents and adolescents agree about the adolescents' functioning in society? As this study did not include a control group, the results were compared with studies that examined the same indicators in normative samples.

## 2. Method

### 2.1. Procedure and participants

Data of the current study were part of a continuous process of evaluating the functioning of adolescents over time after receiving residential treatment at the Hoenderloo Groep in The Netherlands. The Hoenderloo Groep offers both compulsory (i.e., secured) as well as open residential care to boys and girls aged 10 to 18 years. After discharge, adolescents and their parent(s)/guardian(s) were asked to participate in an interview at three time points: within three, six, and eighteen months after discharge. At the time of discharge, adolescents and their parents received information from their treatment coordinator about the importance of the follow-up study. Following, the adolescents and parents received a letter informing them about the reasons, procedure, and frequency of the follow-up interviews. About two weeks after this letter was sent, adolescents and their parents were contacted by telephone to ask them whether they wanted to participate. If they agreed to participate, an interviewer made an appointment with

**Table 1**  
Prior research including post-treatment measurements.

Study	Number of measurements	Period	Informant
Nijhof (2011)	1	6 months	Adolescents
Harder et al. (2011)	1	12 months	Adolescents
Lee et al. (2010)	1	6 months	Adolescents
Preyde et al. (2011)	2	12–18 months (T1), 36–40 months (T2)	Adolescents & caregivers
Whitmore et al. (2000)	1	12 months	Adolescents
Larzelere et al. (2001)	1	10 months	Caregivers
Ringle et al. (2012)	1	12 months	Adolescents or someone with direct knowledge of the youth
Hirsch (2009)	2	0–6 months (T1), 6–12 months (T2)	Adolescents

the parent(s) and/or adolescent for a home visit. All interviewers worked at the residential institution. They were not allowed to know the adolescent or his/her parents, except in the cases when the adolescents or parents preferred an interviewer they knew. The interview took approximately one hour for each participant. The adolescent as well as the parent(s) received 15 Euros for their participation. During the first interview, the adolescents and parents were asked whether they wanted to participate in the next two interviews. If they agreed to participate, they were contacted by telephone again. During each follow-up interview, the adolescents as well as their parents needed to sign an informed consent form to indicate their agreement to participate and the fact that information could be used for scientific purposes.

All adolescents discharged between 2003 and 2009 and their parents were eligible to participate. A total of 1151 adolescents (85% boys) left the institution during this period. It is difficult to obtain high response rates because this group is severely problematic and difficult to trace after discharge. This is a common problem in research examining youth care, but also a well-known problem in other scientific fields. In the present study, 262 adolescents (73% boys) and 233 parents participated at T1, 205 adolescents (70% boys) and 187 parents participated at T2, and 108 adolescents (72% boys) and 124 parents participated at T3. Overall, seventy-five adolescents and 82 parents participated at all three time points (sample 1) and 317 adolescents and 288 parents participated at least at one time point (sample 2). Sample 1 was quite small, sample 2 was larger but included a high number of missing values. Attrition analyses showed that 5 of the 72 tests (13 variables  $\times$  3 waves  $\times$  2 informants) were significant (7%); no differences were found between those who participated in three waves and those who participated in only one or two waves in terms of gender and duration of residential treatment. Regarding the outcome variables, adolescents from sample 1 were slightly younger,  $F(1, 312) = 13.31, p < .05$ ; went to school more often or had a job at T2,  $OR = 4.70, CI = 1.04\text{--}21.14, p < .05$ , and tended to have fewer police contacts after discharge on T2,  $OR = 3.08, CI = 1.51\text{--}6.30, p < .01$ , than adolescents from sample 2. Parents from sample 1 more often perceived that their child did not have a good social network at T1,  $OR = .49, CI = .25\text{--}.95, p < .05$ , and reported fewer behavior problems of their child at T3,  $OR = .94, CI = .89\text{--}.99, p < .05$ , than parents from sample 2. Overall, there was slight evidence for selective attrition, however, these differences may also have been due to statistical chance.

Parents from 73% ( $n = 55$ ) of the adolescents in sample 1 also participated at all three time points. The mean age of the adolescents at time of discharge was 16.16 ( $SD = 1.98$ ) and 69% of the adolescents were male. The average duration of treatment was 27.95 months ( $SD = 20.06$ ). The adolescents completed interviews at 2.28 ( $SD = 1.06$ ), 9.38 ( $SD = 1.72$ ), and 22.03 ( $SD = 2.80$ ) months after discharge (waves T1, T2, and T3, respectively). Concerning the parents, the interviews were completed at 2.27 ( $SD = 1.12$ ), 9.44 ( $SD = 1.58$ ), and 22.21 ( $SD = 4.27$ ) months after discharge.

## 2.2. Measures

Structured interviews were held at home three times after discharge. This interview was developed, under guidance of a scientific team, with a large group of group care workers and representatives of the youth council in 2002. They defined eight aspects being important to function well in society. These eight outcome variables were assessed to give an insight into how well the adolescents were doing on several aspects based on the perceptions of the adolescents and their parents.

## 2.3. Living situation

Adolescents and parents were asked whether the adolescent has a place to live, with 0 = 'no place to live' and 1 = 'a place to live'.

## 2.4. School/work

Adolescents and parents were asked whether the adolescent has a job or goes to school. A score of '0' indicates that the adolescent does not have a job and does not go to school and '1' indicates that the adolescent has a job, goes to school, or both.

## 2.5. Contact with parents

Both adolescents and their parents were asked to rate the quality of contact with each other ranging from 1 'not a good relationship at all' to 10 'a very good relationship'. Higher scores indicated a better relationship between the adolescent and his/her parents.

## 2.6. Social network

Adolescents and their parents were asked about the frequency of adolescent social network contacts, including 'family members other than parents and siblings', 'other important adults', 'friends', and 'clubs', ranging from 1 'not' to 5 'daily'. With other family members and adults, adolescents had to have contact at least once a month and with friends and clubs at least once a week. Fulfilling these criteria in at least three areas of social network contacts indicated that the adolescent had a strong social network ('1'), fulfilling the criteria in less than three areas means the adolescent has a limited social network ('0').

## 2.7. Behavior problems

Behavior problems were measured on the 25-item Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001; Goedhart, Treffers, & Van Widenfelt, 2003; Stone, Otten, Engels, Vermulst, & Janssens, 2010). The SDQ consists of five subscales, four of which form the total score for behavior problems: emotional problems, behavior problems, peer problems, and hyperactivity/attention deficit problems. Examples include, 'I am often unhappy, depressed or in tears', 'They often accuse me of lying and cheating', and 'I am easily distracted and find it difficult to concentrate'. All items were rated on a 3-point scale with 0 = 'not true', 1 = 'a little bit true', and 2 = 'absolutely true'. A total sum score was calculated, with higher scores indicating more behavior problems. Reviews have consistently shown that the psychometric quality of the SDQ is good for both parents (Stone et al., 2010) and adolescents (Richter, Sagatun, Heyerdahl, Oppedal, & Røysamb, 2011). Cronbach's Alphas in this study were .68 for the adolescent version and .73 for the parent version.

The variable 'behavior problems' was used as a continuous variable in the analyses, but in the presentation of the descriptive statistics, this variable was transformed into a dichotomous variable to describe the percentage of adolescents scoring within the normal range (positive outcome). For parents, scores between 0 and 13 fall into the normal area and scores between 14 and 40 fall into the borderline/clinical area. For adolescents, scores between 0 and 15 fall into the normal area and scores between 16 and 40 fall into the borderline/clinical area (Goodman, 2001).

## 2.8. The use of soft drugs

A score of '0' indicates drug use on a daily basis and a score of '1' indicates no or not frequent use of drugs.

## 2.9. Self-reported police contacts

The adolescents and their parents were asked whether the adolescent had had contact with the police after discharge. A score of '0' indicated some contact with the police while a score of '1' indicated no contact with the police.

## 2.10. Well-being

Both the adolescents and their parents were asked how happy the adolescent feels on a scale from '1' not feeling happy at all to '10' feeling very happy.

## 2.11. Statistical analyses

Two samples were extracted for the present study: (1) adolescents and parents who participated at all three time points, and (2) adolescents and parents who participated at least at one time point. The sample of adolescents and parents participating at all three time points was quite small ( $n_{\text{adolescents}} = 75$  and  $n_{\text{parents}} = 82$ ). The sample of adolescents and parents participating at least at one time point was larger but comprised a high number of missing values ( $n_{\text{adolescents}} = 317$  and  $n_{\text{parents}} = 288$ ). Therefore, we decided to analyze both samples.

First, descriptive statistics for all outcome variables were analyzed. The percentages of positive outcomes were calculated for the categorical variables (i.e., living situation, social network, school/work, the use of soft drugs, and police contacts). For the continuous variables (i.e., contact with parents, well-being), we calculated mean scores. Subsequently, we tested whether there were significant differences between the adolescents' and parents' perceptions of adolescent functioning after discharge at T1, T2, and T3. A  $\chi^2$ -test was used to test differences between dichotomous variables. A paired samples *t*-test was conducted to test differences between the continuous variables.

Second, to test the stability of adolescent functioning over time as perceived by adolescents and their parents, Structural Equation Modeling was conducted using Mplus 5.0 (Muthén & Muthén, 1998–2007). Because no variation was found for the variables 'living situation', 'school/work', and 'the use of soft drugs' over time, these three variables were excluded from the longitudinal analyses. Hence, four models were tested for adolescents and four models for the parents in sample 1 (see Fig. 1). In both models, stability (e.g., behavior problems T1–behavior problems T2) and cross-lagged pathways (e.g., behavior problems T1–post-treatment indicator T2) were tested. The same models were tested in sample 2. We used the full information estimator (FIML) to use the data optimally. Because comparing all outcomes would result in too many models to be tested, we decided to compare all outcomes with only the 'behavior problems' indicator because a decrease of behavior problems is the main goal of treatment in residential youth care. The goodness of fit of the models was assessed using the  $\chi^2$ , *p*-value, Comparative Fit Index (CFI: Bentler, 1989), and Root Mean Square Error of Approximation (RMSEA: Steiger, 1990).

## 3. Results

### 3.1. Descriptive statistics

Table 1 shows the post-treatment outcomes according to the adolescents' and parents' perceptions. In general, it can be concluded that after

residential care the outcomes are quite positive. Adolescents themselves are satisfied about the contact with parents, almost all adolescents have a place to live, go to school or have a job and do not use drugs, and they are satisfied about their well-being. On the other hand, only one-third has a good social network and the behavior problems show an increase over time. What stands out is that parents and adolescents did not agree on all outcomes, in which parents are less satisfied about the adolescents' functioning than the adolescents themselves. Parents perceived the quality of the relationship with their child as less satisfying than the adolescents did. Parents more often reported that their child's social network was not good. At T3, perceptions of parents and adolescents about the social network were more similar. Close after discharge parents and adolescents reported the same rates for daily activities. However, at T2 and T3, parents reported that adolescents engaged in fewer activities than adolescents did. Based on parents' reports, less than half of the adolescents did not have behavior problems. The perceptions of adolescents and parents about the behavior problems differed significantly at all three time points. Both adolescents and parents reported slightly different percentages concerning the use of soft drugs. Adolescents' reports revealed that approximately 5% of the adolescents used soft drugs daily, whereas parents reported 10%. Finally, both adolescents and parents reported that adolescents feel happy at all three time points; however, the adolescents' scores were significantly higher compared to the scores of parents, indicating that adolescents feel happier after discharge than their parents perceive.

### 3.2. Structural equation modeling

Indicators for model fit are depicted in Table 2 (i.e., adolescents) and Table 3 (i.e., parents). The fit was satisfactory for all models.

### 3.3. Models of the adolescents

Cross-sectionally, well-being and behavior problems were associated at all three time points in sample 2 (see Table 2), indicating that adolescents who reported more behavior problems were less happy than adolescents with fewer behavior problems. Moreover, adolescents with more self-reported behavior problems were more likely to have had police contacts and were less satisfied with the quality of the relationship with their parents compared to adolescents reporting lower scores on behavior problems. Comparing both samples, it appeared that the association between behavior problems and well-being at T2 was not found for sample 1, just as the association of behavior problems with police contacts and contact with the family at T1. This suggests that some associations become significant in a larger sample.

Longitudinally, stability of functioning over time was found for all post-treatment indicators in samples 1 and 2. With respect to cross-lagged paths in sample 2, adolescents who reported a lower quality of the relation with parents at T1 were more likely to show behavior problems at T2. Moreover, adolescents who felt less happy at T1 were more

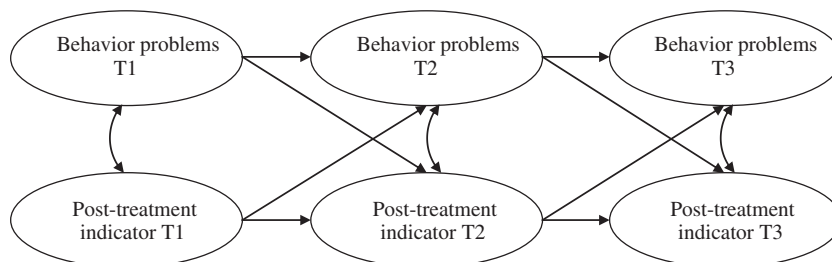


Fig. 1. Conceptual model of the associations among the post-functioning indicators.

**Table 2**  
Post-treatment outcomes at T1, T2, and T3 based on the adolescents' and parents' perceptions.

	T1			T2			T3		
	AD	PA	$\chi^2/t$	AD	PA	$\chi^2/t$	AD	PA	$\chi^2/t$
Living situation	100%	95%	**	97%	92%		99%	96%	
Contact with parents <sup>a</sup>	7.75	7.02	***	7.71	6.91	***	7.60	6.69	***
Social network	38%	20%	**	46%	30%	**	30%	29%	
School/work	95%	90%		97%	85%	***	97%	84%	***
No behavior problems <sup>b</sup>	67%	40%	***	79%	43%	***	81%	49%	***
No/not frequent use of soft drugs	96%	88%	*	96%	88%	*	92%	81%	*
No police contacts	68%	65%		84%	74%		68%	68%	
Well-being <sup>1</sup>	7.67	6.83	***	7.49	6.44	***	7.57	6.45	***

Note. AD = adolescent, PA = parent.

<sup>a</sup> While all other variables were dichotomous with the % of positive outcomes mentioned in the above table, contact with parents and well-being were interval variables with higher scores indicating more positive contact with parents and a higher well-being.

<sup>b</sup> Behavior problems were measured using the SDQ, which in this table was divided into 0 = normal range and 1 = borderline/clinical range.

\*\*\*  $p < .01$ .

\*\*  $p < .05$ .

\*  $p < .10$ .

likely to show behavior problems at T2. Finally, we found that adolescents who reported more (serious) behavior problems at T1 were more likely to have poorer social networks at T2 (see Table 2). Only the association between well-being at T1 and behavior problems at T2 was found in sample 1.

### 3.4. Models of the parents

Cross-sectionally, both contact with parents and well-being were associated with behavior problems at all three time points in samples 1 and 2. This indicates that, based on the parents' reports, adolescents who show more behavior problems are less satisfied with the relationship with their parents and feel unhappier. A relation between social network and behavior problems was found only at T1, implying that

adolescents showing more serious behavior problems have poorer social networks according to parents. We found a relationship between police contacts and behavior problems at T1 and T2, indicating that adolescents showing higher levels of behavior problems were more likely to have had police contacts. The associations of police contacts and social network with behavior problems at T1 were not found in sample 1, again suggesting that sample power may be the reason (see Table 4).

Longitudinally, contact with the family, well-being, social network, and police contacts all showed significant pathways from T1 to T3, implying that, according to parents, adolescents who showed negative outcomes at T1 were more likely to show negative outcomes at T2 and T3 as well. Some cross-lagged paths were found. Contact with parents at T2 was associated with behavior problems at T3, indicating that adolescents who were less satisfied with the quality of the relationship with parents at T2 were more likely to show behavior problems at T3.

**Table 3**  
Standardized estimates and fit indices for models of post-treatment indicators based on reports by adolescents.

	Adolescents who participated at all three time points (n = 75) – sample 1				Adolescents who participated in at least one time point (N = 317) – sample 2			
	Contact family	Well-being	Social network <sup>a</sup>	Police contacts <sup>a</sup>	Contact family	Well-being	Social network <sup>a</sup>	Police contacts <sup>a</sup>
<i>Cross-sectional</i>								
Behavior problems T1 – post-treatment indicator T1	.01	-.42***	-.09	-.12	-.10*	-.42***	-.09	-.18***
Behavior problems T2 – post-treatment indicator T2	.10	-.13	.10	-.05	-.05	-.25***	-.09	.03
Behavior problems T3 – post-treatment indicator T3	.03	-.35***	.10	.01	.03	-.39***	-.03	.04
<i>Stability paths</i>								
Behavior problems T1 – behavior problems T2	.60***	.52***	.60***	.60***	.63***	.57***	.65***	.65***
Behavior problems T2 – behavior problems T3	.43***	.42***	.42***	.43***	.53***	.52***	.55***	.59***
Post-treatment indicator T1 – post-treatment indicator T2	.33***	.58***	.42***	.34***	.43***	.61***	.37***	.36***
Post-treatment indicator T2 – post-treatment indicator T3	.66***	.41***	.48***	.47***	.65***	.47***	.51***	.42***
<i>Cross-lagged paths</i>								
Behavior problems T1 – post-treatment indicator T2	.03	.00	-.15	-.12	-.07	.07	-.18*	-.12
Behavior problems T2 – post-treatment indicator T3	-.06	-.14	-.02	-.14	-.06	-.10	.05	-.17
Post-treatment indicator T1 – behavior problems T2	-.06	-.18*	-.02	-.01	-.15**	-.16**	-.11	-.12
Post-treatment indicator T2 – behavior problems T3	-.15	.01	.03	.07	-.11	-.06	-.09	.11
<i>Fit measures</i>								
df	4	4	3	3	4	4	4	3
$\chi^2$	2.05	8.77	4.14	1.55	6.29	10.22	8.20	2.33
p	.73	.07	.22	.67	.18	.04	.08	.51
CFI	1.00	.96	.96	1.00	.99	.97	.95	1.00
RMSEA	.00	.13	.08	.00	.04	.07	.06	.00

Note. CFI: Comparative Fit Index, RMSEA: Root Mean Square Error of Approximation.

<sup>a</sup> Categorical variables.

\*\*\*  $p < .01$ .

\*\*  $p < .05$ .

\*  $p < .10$ .

**Table 4**  
Standardized estimates and fit indices for models of post-treatment indicators based on reports by parents.

	Parents who participated at all three time points (n = 82) – sample 1				Parent who participated in at least one time point (N = 288) – sample 2			
	Contact family	Well-being	Social network <sup>a</sup>	Police contacts <sup>a</sup>	Contact family	Well-being	Social network <sup>a</sup>	Police contacts <sup>a</sup>
<i>Cross-sectional</i>								
Behavior problems T1 – post-treatment indicator T1	-.48***	-.49***	-.16	.03	-.37***	-.49***	-.26***	-.16**
Behavior problems T2 – post-treatment indicator T2	-.46***	-.52***	.06	-.52***	-.41***	-.52***	-.27	-.37***
Behavior problems T3 – post-treatment indicator T3	-.26**	-.50***	-.23	-.13	-.26***	-.45***	-.17	-.12
<i>Stability paths</i>								
Behavior problems T1 – behavior problems T2	.57***	.59***	.70***	.71***	.59***	.57***	.68***	.64***
Behavior problems T2 – behavior problems T3	.63***	.52***	.68***	.70***	.60***	.55***	.73***	.76***
Post-treatment indicator T1 – post-treatment indicator T2	.65***	.49***	.42***	.22	.53***	.48***	.37***	.25**
Post-treatment indicator T2 – post-treatment indicator T3	.51***	.66***	.62***	.52***	.49***	.67***	.61***	.51***
<i>Cross-lagged paths</i>								
Behavior problems T1 – post-treatment indicator T2	.05	-.10	-.16	-.07	-.06	-.08	-.14	-.06
Behavior problems T2 – post-treatment indicator T3	-.21**	-.05	.02	-.04	-.07	-.06	.08	-.03
Post-treatment indicator T1 – behavior problems T2	-.03	-.06	-.02	-.08	.09	.04	.17*	.04
Post-treatment indicator T2 – behavior problems T3	.06	-.18*	-.10	-.01	.15*	.21**	-.05	.03
<i>Fit measures</i>								
df	4	4	3	3	4	4	3	3
$\chi^2$	10.20	15.44	4.00	2.55	11.20	16.74	6.89	4.62
p	.04	.00	.26	.47	.02	.00	.08	.20
CFI	.97	.95	.97	1.00	.97	.96	.96	.98
RMSEA	.14	.19	.06	.00	.08	.11	.07	.04

Note. CFI: Comparative Fit Index, RMSEA: Root Mean Square Error of Approximation.

<sup>a</sup> Categorical variables.

\*\*\*  $p < .01$ .

\*\*  $p < .05$ .

\*  $p < .10$ .

Moreover, adolescents, who according to the parents felt unhappier at T2, were more likely to show behavior problems at T3. The last cross-lagged path for sample 2 was found for social network in that adolescents who had poorer social networks according to parents at T1 were more likely to show behavior problems at T2. This last significant cross-lagged path, just like the cross-lagged path for contact with parents, was not found for sample 1. However, another significant path was found for contact with parents in sample 1 in that adolescents with higher levels of behavior problems at T2 were more likely to feel unsatisfied with the relation with parents at T3 (Table 4).

#### 4. Discussion

The present study investigated the functioning of adolescents in society after discharge from residential care. Three research questions were examined: how do adolescents function in society after residential treatment, how stable is their functioning over time and to what extent do adolescents and parents agree about the adolescents' functioning. The innovative contribution of this study is that we analyzed the stability of functioning over time and that we included reports from both adolescents and their parents.

Concerning the first question, it can be concluded that there is an indication that adolescents generally show positive outcomes after residential care, i.e., they have a place to live, they have a job or go to school, they have good relationships with their parents, they feel happy, they do not use drugs and their police contacts are limited. However, in comparison with studies on adolescents in the general population, our findings suggest that the adolescents in our sample function less well on several outcomes; they are still more likely to have no place to live; they are more likely to have limited social networks; they show higher levels of behavior problems; and they feel unhappier. On the other hand, our findings suggest that our sample does not differ from adolescents in the general population with regard to going to school or having a job, police contacts, and the use of drugs. Unfortunately, we could not find literature on how satisfied adolescents in a

general population are about the quality of the relationship with parents to make comparisons.

The second research question concerned the stability of functioning over time. It appeared that adolescents, who show negative outcomes directly after discharge are also more likely to show negative outcomes on the longer term, whereas positive outcomes were also more likely to persist over time. This is in line with Stein (2006), who distinguished three subgroups of adolescents leaving residential care based on the Social Isolation Framework; those moving on, the survivors, and the victims. Adolescents who are ready to move on, leave the treatment successfully. Survivors still experience some problems and struggle to manage them. Victims still have a host of problems, with residential care not being able to help them overcome these problems. Possibly, our findings build on the work of Stein, in that the ones showing problems at discharge (victims and survivors) have worse outcomes in the longer term, while the ones showing positive outcomes at discharge (those moving on) show positive outcomes in the longer term. It is interesting for further research to find out whether the three subgroups of Stein can be identified in our sample. Other studies found long-term associations between higher levels of behavior problems at the time of entrance and less favorable post-treatment functioning in society (e.g., Lee et al., 2010; Nijhof, 2011).

Next to the stability of the measured variables, the outcomes also affected one another. Less contact with parents and lower levels of well-being increased the likelihood of higher levels of behavior problems at a later time point. Interesting is the reverse relation between behavior problems and social network. The results showed that adolescents reporting higher levels of behavior problems at T1 were more likely to have a limited social network at T2. Additionally, parent reports showed that adolescents having a limited social network at T1 were more likely to show higher levels of behavior problems at T2. Several explanations can be given for this finding. Adolescents with behavior problems are often rejected by their peers. Rejected peers drift towards each other in such a way that adolescents with externalizing problems join peer networks in which behavior problems may even be rewarding (Van

Lier, Vitaro, Wanner, Vuijk, & Crijnen, 2005). Another explanation may be that adolescents, with higher levels of behavior problems at the start of treatment are more vulnerable to join deviant social networks both before and after treatment (e.g., Dishion, 2001; Kerestes & Milanovic, 2006). For these adolescents, the temptation to affiliate with these networks again after discharge may be higher than for adolescents leaving with lower levels of behavior problems. An opposite pattern was found for parent reports. Perhaps parents are more likely to attribute their child's behavior problems to external reasons. Moreover, at T1 (shortly after discharge), parents may have difficulty in evaluating their child's behavior as the child has been outside the home for approximately one year. At the same time, the child's social network may be more visible and easier to assess. It may be that only at a later time point, when the adolescent has lived at home longer, parents have gained a more realistic insight into their child's behavior. Hence, the reverse association may be an artifact of the child's out-of-home placement.

The third question concerned the agreement between parents' and adolescents' perceptions about the adolescents' functioning in society. Significant differences appeared between both types of informants on most of the indicators. In general, parents were less positive about the adolescents' functioning than the adolescents themselves. In non-clinical samples, it has often been found that adolescents report more problems compared to their parents (e.g., Barker, Bornstein, Putnick, Hendricks, & Suwalsky, 2007; Ferdinand, van der Ende, & Verhulst, 2004), whereas in clinical samples, parents are more likely to report problems than adolescents (e.g., Breuk, Clauser, Stams, Slot, & Doreleijers, 2007; Handwerk et al., 1999; Thurber & Osborn, 1993). Studies also show differences in age and type of behavior problems; adolescents and parents tend to disagree more when children age and when it concerns internalizing behavior, as this is more difficult to observe for parents (e.g., Ederer, 2004). Moreover, stress, conflicts, and poor communication can lead to disagreement in reporting behavior problems. While most studies have discussed parent–adolescent disagreement on behavior problems, the innovative aspect of the current study is that this parent–adolescent disagreement was also found for other outcome variables, i.e., contact with parents, well-being, and social network. Disagreement seems to continue after being discharged from residential care. This finding is important in that it shows that parents and adolescents have different perceptions not only of negative behavior (i.e., behavior problems), but also of positive behavior (i.e., social network, contact parents), regardless of the timing of the measurement.

Despite the fact that adolescents function relatively well after discharge, the social network of the adolescents is worrisome. It may be that adolescents indeed do have limited social networks and that the treatment does not pay enough attention to the importance of social networks. This is in accordance with Hodges and Tizard (1989), who found that adolescents who were placed in residential care had more difficulties with peer relations compared to other peers. They were more likely to bully peers, less likely to feel that they belonged to a group, less likely to have a best friend, less likely to turn to friends to get support, and they were less selective in their friends. However, the findings can also be explained by the way the quality of the social network was measured. Respondents were asked how often the adolescents have contact with family members (other than parents and siblings), important adults, friends, and clubs. For family members and other important adults, a good social network was identified as having contact at least once a month and for friends and clubs, contact had to be at least once a week. Perhaps these criteria are too ambitious, especially for adolescents after residential care.

#### 4.1. Limitations

Like any other study, the present study had some limitations. First, sample 2 had a high number of missing values, which is a common problem when including residential populations. To partly overcome

this limitation, we also included sample 1 comprising adolescents and parents participating at all three time points. Comparing both samples on the outcome variables, we found slight evidence for selective attrition. Second, no control group was included. Although we narratively compare our findings with studies including non-clinical samples, we found no information on parent perceptions. Moreover, we used different measures. Future research should include a comparison group to advance this research. Third, the present study did not include pre-treatment characteristics or treatment characteristics. From prior studies, it is known that pre-treatment characteristics, like client, family and educational characteristics, are related to the adolescents' functioning after discharge (e.g., Connor, Miller, Cunningham, & McIloni, 2002; Den Dunnen et al., 2012; Hair, 2005; Nijhof, 2011). Furthermore, treatment characteristics, such as the relationship between the child and group care worker, are important (Harder et al., 2011). A fourth limitation concerns the measure for social network, which assessed the quantity rather than the quality of the network. Prior research found that having deviant friends is an important predictor of future antisocial behavior (e.g., Garnier & Stein, 2002; Haynie, 2001; Haynie & Osgood, 2005). It is also known that a large part of the adolescents admitted to residential care have deviant friends before admission (e.g., Nijhof, 2011). Future studies should also examine whether the adolescent's friends are involved in antisocial behaviors. Fifth, regular (i.e., planned) or not regular (i.e., unplanned) discharge was not considered in this study. This is relevant however, since prior research has revealed that the type of discharge is related to functioning after discharge. Approximately 30 to 40% of discharges are unplanned or unsuccessful (Nijhof, 2011; Sunseri, 2001, 2012; Trout et al., 2010).

#### 4.2. Implications

The adolescents' functioning after residential care showed relatively positive outcomes, except for social network. According to both parents and adolescents, the adolescents' social networks are limited after the residential treatment. This implies that the treatment should focus more on sustaining existing or enhancing prosocial networks. Moreover, also examining the reasons for and mechanisms through which the social networks of such a large part of the adolescents become limited will be helpful in improving residential care.

Furthermore, parents and adolescents differ in their perceptions of the adolescents' functioning, with parents generally being less positive. This again emphasizes the importance of different informants instead of drawing conclusions based on a single informant (e.g., Van der Ende et al., 2012). The disagreement between parents and adolescents seems to be consistent over time and across outcomes, which indicates that parents and adolescents perceive the adolescents' functioning differently. An important practical implication of the disagreement between parents and adolescents is awareness and understanding of the perceptions of parents and adolescents and the adolescents' possibilities and needs. Mostly this means an adjustment of the parents' expectations and acceptance of problem behavior. It is often seen in the clinical field, especially in residential samples, that insight into their own problem behavior of adolescents is limited and stays limited. Most children show denial and avoidant behavior. These adolescents largely depend on their environment when it concerns their functioning in society, also after residential care. When the expectations of the environment are not corresponding with the possibilities of the child, this could lead to frustrations of parents and relapse.

In addition, it was found that adolescents showing outcomes that are more negative at time of discharge were more likely to show negative outcomes over time. To be able to improve residential outcomes, it is important to identify this subgroup of adolescents at the time of admittance and to study whether these adolescents do have special needs during treatment. Not only do the outcomes show consistency over time, the outcomes also influence each other. This means that a negative outcome on one variable increases the likelihood to show negative

outcomes on other variables, making the adolescent much more vulnerable to long-term problematic functioning. Regarding the controversies in youth care, this study adds to a better understanding of adolescents' functioning in society in that it is found that the functioning seems to be stable over time.

## References

- Andrews, D. A., & Bonta, J. (2010). Rehabilitation through the lens of the risk-needs responsivity model. In F. McNeil, P. Raynor, & C. Trotter (Eds.), *Offender supervision: New directions in theory, research and practice*. Cullompton: Willan Publishing.
- Barker, T. E., Bornstein, M. H., Putnick, D. L., Hendricks, C., & Suwalsky, J. T. D. (2007). Adolescent–mother agreement about adolescent behavior problems: Direction and predictors of disagreement. *Journal of Youth Adolescence*, 36, 950–962.
- Bates, B. C., English, D. J., & Kouidou-Giles, S. (1997). Residential treatment and its alternatives: A review of the literature. *Child and Youth Care Forum*, 26, 7–51.
- Bentler, P.M. (1989). *EQS: Structural equations program manual*. Los Angeles, CA: BMDP Statistical Software.
- Bettman, J. E., & Jaspersen, R. A. (2009). Adolescents in residential and inpatient treatment: A review of the outcome literature. *Child and Youth Care Forum*, 38, 161–183.
- Bot, S., De Roos, S., Sadiraj, K., Keuzenkamp, S., Van den Broek, A., & Kleijnen, E. (2013). *Terecht in de jeugdzorg: Voorspellers van kind –en opvoedproblematiek en jeugdzorggebruik [Turning to youth care: Predictors of child and parenting problems and use of youth care services]*. The Hague: SCP.
- Breuk, R. E., Clauser, C. A.C., Stams, G. J. J. M., Slot, N. W., & Doreleijers, T. A. H. (2007). The validity of questionnaire self-report of psychopathology and parent–child relationship quality in juvenile delinquents with psychiatric disorders. *Journal of Adolescence*, 30, 761–771.
- Brown, J.D., Barrett, K., Ireys, H. T., Allen, K., & Blau, G. (2011). Outcomes monitoring after discharge from residential treatment facilities for children and youth. *Residential Treatment for Children & Youth*, 28, 303–310.
- Burns, B. J., Hoagwood, K., & Mrazek, P. J. (1999). Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review*, 2, 199–254.
- Central Bureau of Statistics (2009). *Jaarrapport 2009 - Landelijke jeugdmonitor [yearly report 2009 - National youth monitor]*. The Hague: Central Bureau of Statistics.
- Connor, D. F., Miller, K. P., Cunningham, J. A., & McLoni, R. H., Jr. (2002). What does getting better mean? Child improvement and measure of outcome in residential treatment. *American Journal of Orthopsychiatry*, 72, 110–117.
- Curry, J. F. (2004). Future directions in residential treatment outcome research. *Child and Adolescent Psychiatric Clinics of North America*, 13, 429–440.
- Den Dunnen, W., Pierre, J. St., Stewart, S. L., Johnson, A., Cook, S., & Leschied, A. L. (2012). Predicting residential treatment outcomes for emotionally and behaviorally disordered youth: The role of pretreatment factors. *Residential Treatment for Children & Youth*, 29, 13–31.
- Dishion, T. J. (2001). Cross-setting consistency in early adolescent psychopathology: Deviant friendships and behavior problems sequelae. *Journal of Personality*, 68, 1109–1126.
- Ederer, E. M. (2004). Mental health problems in young children: Self-reports and significant others as informants. *Psychology Science*, 46, 123–140.
- Epstein, R. A. (2004). Inpatient and residential treatment effects for children and adolescents: A review and critique. *Child and Adolescent Psychiatric Clinics of North America*, 13, 411–428.
- Ferdinand, R. F., van der Ende, J., & Verhulst, F. C. (2004). Parent–adolescent disagreement regarding psychopathology in adolescents from the general population as a risk factor for adverse outcome. *Journal of Abnormal Psychology*, 113, 198–206.
- Frensch, K. M., & Cameron, G. (2002). Treatment of choice or a last resort? A review of residential mental health placements for children and youth. *Child and Youth Care Forum*, 31, 307–339.
- Garnier, H. E., & Stein, J. A. (2002). An 18-year model of family and peer effects on adolescent drug use and delinquency. *Journal of Youth and Adolescence*, 31, 45–65.
- Goedhart, A., Treffers, F., & Van Widenfelt, B. (2003). Vragen naar psychische problemen bij kinderen en adolescenten: De Strengths and Difficulties Questionnaire. *Maandblad Geestelijke Volksgezondheid*, 58, 1018–1035.
- Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ). *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1337–1345.
- Hair, H. J. (2005). Outcomes for children and adolescents after residential treatment: A review of research from 1993 to 2003. *Journal of Child and Family Studies*, 14, 551–575.
- Handwerk, M. L., Larzelere, R. E., Soper, S. H., & Friman, P. C. (1999). Parent and child discrepancies in reporting severity of behavior problems in three out-of-home settings. *Psychological Assessment*, 11(1), 14–23.
- Harder, A. T., Knorth, E. J., & Kalverboer, M. E. (2011). Transition secured? A follow-up study of adolescents who have left secure residential care. *Children and Youth Services Review*, 22, 2409–2540.
- Haynie, D. L. (2001). Delinquent peers revisited: Does network structure matter? *American Journal of Sociology*, 106, 1013–1057.
- Haynie, D. L., & Osgood, D. W. (2005). Reconsidering peers and delinquency: How do peers matter? *Social Forces*, 84, 1109–1130.
- Hirsch, M. B. (2009). A study of long-term outcomes of adolescents discharged from a local residential treatment center: Factors responsible for treatment gain maintenance. Pacific University (Doctoral dissertation).
- Hodges, J., & Tizard, B. (1989). Social and family relationships of ex-institutional adolescents. *Journal of Child Psychology and Psychiatry*, 30, 77–97.
- Trimbos Instituut (2011). *National drugs monitor*. Utrecht: Trimbos Instituut.
- Jeeninga, W. (2010). *Zwerfjongeren: Omvang, kenmerken en zorgbehoeften*. Tranzo: University of Tilburg.
- Kerestes, G., & Milanovic, A. (2006). Relations between different types of children's aggressive behavior and sociometric status among peers of the same and opposite sex. *Scandinavian Journal of Psychology*, 47, 477–483.
- Knorth, E. J., Harder, A. T., Zandberg, T., & Kendrick, A. J. (2008). Under one roof: A review and selective meta-analysis on the outcomes of residential child and youth care. *Child and Youth Services Review*, 30, 123–140.
- Larzelere, R. E., Dinges, K., Schmidt, M.D., Spellman, D. F., Criste, T. R., & Connell, P. (2001). Outcomes of residential treatment: A study of the adolescent clients of Girls and Boys Town. *Child and Youth Care Forum*, 30, 175–185.
- Lee, B. R., Chmelka, M. B., & Thompson, R. (2010). Does what happens in group care stay in group care? The relationship between behavior problems trajectories during care and post-placement functioning. *Child & Family Social Work*, 15, 286–296.
- Leichtman, M., & Leichtman, M. L. (2001). Facilitating the transition from residential treatment into the community: The problem. I. *Residential Treatment for Children and Youth*, 19, 21–27.
- Lynam, R. D., & Campbell, N. R. (1996). *Treating children and adolescents in residential and inpatient settings*. Thousand Oaks, CA: Sage.
- Moffitt, T. E., Caspi, A., Dickson, N., Silva, P., & Stanton, W. (1996). Childhood-onset versus adolescence-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. *Development and Psychopathology*, 8, 399–424.
- Muthén, L. K., & Muthén, B. O. (1998–2007). *MPLUS: The comprehensive modelling program for applied researchers*. Los Angeles, CA: Muthén & Muthén.
- Nagin, D., & Tremblay, R. E. (1999). Trajectories of boys' physical aggression, opposition, and hyperactivity on the path to physically violent and nonviolent juvenile delinquency. *Child Development*, 70, 1181–1196.
- Nijhof, K. S. (2011). *Crossing barriers: Evaluation of a new compulsory residential treatment program for youth*. Radboud University Nijmegen/Praktikon (Doctoral dissertation).
- Noftle, J. W., Cook, S., Leschied, A., Pierre, J. St., Stewart, S. L., & Johnson, A.M. (2011). The trajectory of change for children and youth in residential treatment. *Child Psychiatry and Human Development*, 42, 65–77.
- Preyde, M., Cameron, G., Frensch, K., & Adams, G. (2013). Parent-child relationships and family functioning of children and youth discharged from residential mental health treatment or a home-based alternative. *Residential Treatment for Children & Youth*, 28, 55–74.
- Preyde, M., Frensch, K., Cameron, G., White, S., Penny, R., & Lazure, K. (2011). Long-term outcomes of children and youth accessing residential or intensive home-based treatment: Three year follow up. *Journal of Child and Family Studies*, 20, 660–668.
- Richter, J., Sagatun, Å., Heyerdahl, S., Oppedal, B., & Røysamb, E. (2011). The Strengths and Difficulties Questionnaire (SDQ)–Self-Report. An analysis of its structure in a multi-ethnic urban adolescent sample. *Journal of Child Psychology and Psychiatry*, 52, 1002–1011.
- Ringle, J. L., Huefner, J. C., James, S., Pick, R., & Thompson, R. W. (2012). 12 months follow-up for youth departing an integrated residential continuum of care. *Children and Youth Services Review*, 34, 675–679.
- Roberts, R. E., Atkinson, C. C., & Rosenblatt, R. (1998). Prevalence of psychopathology among children and adolescents. *The American Journal of Psychiatry*, 155, 715–725.
- Saywer, M., Clark, J., & Baghurst, P. A. (1993). Childhood emotional and behavioral problems: A comparison of children's reports with reports from parents and teachers. *Journal of Pediatrics and Child Health*, 29, 119–125.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173–180.
- Stein, M. (2006). Research review: Young people leaving care. *Child and Family Social Work*, 11, 273–279.
- Stone, L. L., Otten, R., Engels, R. M. C. E., Vermulst, A. A., & Janssens, J. M.A.M. (2010). Psychometric properties of the Parent and Teacher Version of the Strengths and Difficulties Questionnaire for 4–12 year-olds: A review. *Clinical Child and Family Psychology Review*, 13, 254–274.
- Sunseri, P. A. (2001). The prediction of unplanned discharge from residential treatment. *Child & Youth Care Forum*, 30, 283–303.
- Sunseri, P. A. (2012). Family functioning and residential treatment outcomes. *Residential Treatment for Children & Youth*, 22, 33–53.
- Ter Bogt, T., van Dorsselaer, S., & Vollebergh, W. (2003). *Psychische gezondheid, risicogedrag en welbevinden van Nederlandse scholieren: HBSC-Nederland 2002: Health behavior in school-aged children*. Utrecht: Trimbos-instituut.
- Thurber, S., & Osborn, R. A. (1993). Comparison of parent and adolescents perspective on deviance. *Journal of Genetic Psychology*, 154, 25–32.
- Trout, A. L., Chmelka, M. B., Thompson, R. W., Epstein, M. H., Tyler, P., & Pick, R. (2010). The departure status of youth from residential group care: Implications for aftercare. *Journal of Child and Family Studies*, 19, 67–78.
- Van der Ende, J., Verhulst, F. C., & Tiemeier, H. (2012). Agreement of informants on emotional and behavioral problems from childhood to adulthood. *Psychological Assessment*, 24, 293–300.
- Van der Laan, A.M., & Blom, M. (2011). *Jeugdcriminaliteit in de periode 1996–2010: Ontwikkelingen in zelfgerapporteerde daders, door de politie aangehouden verdachten*



- en strafrechtelijke daders op basis van de Monitor Jeugdcriminaliteit 2010. Den Haag: Wetenschappelijk Onderzoek – en Documentatie Centrum (WODC).
- Van der Laan, A.M., Blom, M., Verwers, C., & Essers, A. A.M. (2006). *Jeugddelinquentie: Risico's en bescherming: Bevindingen uit de WODC Monitor Zelfgerapporteerde Jeugdcriminaliteit 2005 [Youth delinquency: Risk and protection: Results of the WODC Monitor self-reported criminal behavior 2005]*. The Hague: WODC.
- Van Lier, P. A.C., Vitaro, F., Wanner, B., Vuijk, P., & Crijnen, A. A.M. (2005). Gender differences in developmental links among antisocial behavior, friends' antisocial behavior, and peer rejection in childhood: Results from two cultures. *Child Development*, 76, 841–855.
- Verhulst, F., & Van der Ende, J. (1992). Agreement between parents' reports and adolescents' self-report of behavior problems. *Journal of Child Psychology & Psychiatry*, 33, 1011–1023.
- Whitmore, E. A., Mikulich, S. K., Ehlers, K. M., & Crowley, T. J. (2000). One-year outcome of adolescent females referred for conduct disorder and substance use/dependence. *Drugs and Alcohol Dependence*, 59, 131–141.