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## Who Cares?! Baseline profiles and child development in different 24-h settings

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### Citation

Opmeer, H. (2018, September 26). *Who Cares?! Baseline profiles and child development in different 24-h settings*. Retrieved from <https://hdl.handle.net/1887/66107>

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**Title:** Who Cares?! Baseline profiles and child development in different 24-h settings

**Issue Date:** 2018-09-26

# **3 CHILDREN REFERRED TO FOSTER CARE, FAMILY-STYLE GROUP CARE, AND RESIDENTIAL CARE: (HOW) DO THEY DIFFER?**

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*Children and Youth Services Review* (2017), 77, 1-9

**ABSTRACT**

To date, no evidence-based criteria are available to place children with multiple psychosocial risks and needs in the most appropriate type of (non-secure) out-of-home care. Due to this, other factors than just the clinical needs of the child and its family are in use, which can heighten the risk of both breakdown (i.e., unplanned terminated placement) and/or poor prognostic placement outcomes. To reduce adverse placement outcomes, insight into the risks and needs of the children at the time of referral can be helpful. To this end, this study explores similarities and differences in child, family and care history context of 200 Dutch school-aged children at the time of admission to foster, family-style group, and residential care. A cross-sectional design was used and data were collected through standardized questionnaires that were completed by the caregivers, substitute caregivers, and behavioral scientists. Case file information was also used. The results showed differences between the three subgroups in all three contexts, which suggest several setting-specific guidelines to promote positive outcome. Biological parents of foster children specifically are in need of support for their individual problems. In family-style group care, specifically, help is required for attachment and trauma-related problems. Residentially placed children are in particular need of specialized care for mental illness, behavioral and school/learning problems. Further research is needed to link the outlined specific characteristics at admission to the developmental pathways of out-of-home placed children. Such research may contribute to the development or refinement of a risk-need-responsivity model to support the decision making regarding out-of-home placement of children with serious psychosocial needs.

## INTRODUCTION

A child's safety and healthy development may sometimes be threatened by adverse child or family circumstances (or both). When in-home (support) services cannot effectively resolve such risky circumstances, experts consider placing the child in (24-hour) out-of-home care a useful alternative strategy (Bhatti-Sinclair & Sutcliffe, 2012; Pinto & Maia, 2013; Vanschoonlandt, Vanderfaellie, Van Holen, De Maeyer, & Robberechts, 2013). This (24-hour) out-of-home care typically consist of a continuum of intensive and restrictive care services, which vary from least restrictive types of care (e.g., kinship or non-kinship foster care) to family-style group care to residential care (Huefner, James, Ringle, Thompson, & Daly, 2010).

In (family) foster care, a child is considered in need of a (temporary) out-of-home placement due to concerns for its safety. The child is preferably placed with relatives (kinship foster care) or non-relatives familiar with the child; otherwise the child is assigned to a licensed foster home. There are two main types of foster care in the Netherlands (i.e., short and long-term foster care). In case of short-term foster care, the child stays temporarily with a foster family, while the biological parents are supported to improve their family circumstances in preparation for reunification (De Baat & Bartelink, 2012; Strijker, Knorth, & Knot-Dickscheit, 2008). The purpose of long-term foster care is providing a stable alternate rearing situation in a family setting until the child reaches the age of 18 years of age (Strijker et al., 2008). In contrast to the foster care process in the United States, adopting a foster child (rather than placement in long-term foster care) is very unusual in the Netherlands and other European countries (Holtan, Handegård, Thørnblad, & Vis, 2013). Second, a less familiar type of (24-hour) out-of-home care is family-style group care. Many synonyms are in use for this type of care (e.g., teaching family homes, family type homes, SOS children's villages, socio-pedagogical homes) (Farmer, Wagner, Burns, & Richards, 2003; Frensch & Cameron, 2002; Harder, Zeller, Lopez, Köngeter, & Knorth, 2013; Whittaker et al., 2015). Family-style group care is defined as follows; children living in home-like settings with group home parents (often a married couple with socio-pedagogical experience and training) who live at the setting (Lee & Thompson, 2008; Whittaker et al., 2015). Finally, residential care is an umbrella term that refers to several types of residential care that vary from non-secure residential to secure residential to inpatient psychiatric care (Barth, 2002; Whittaker et al., 2015). Residential facilities vary in their size, target group (e.g., delinquents, disabled children, children with mental health disorders), and in the therapeutic components available (Barth, 2002; Cheung, Goodman, Leckie, & Jenkins, 2011; Chor, McClelland, Weiner, Jordan, & Lyons, 2012; Curtis, Alexander, & Lunghofer, 2001; Hussey & Guo, 2002; James, Zhang, & Landsverk, 2012; Whittaker et al., 2015; Wilson, Sinclair, Taylor, & Pithouse, 2004). In this study, we focus on non-secure residential care only, because this specific type of care is closest to foster and family-style group care across the continuum of out-of-home care.

In accordance with the United Nations Guidelines for the Alternative Care of Children (henceforth "UN guidelines"), family-based settings (i.e., foster and family-style group care) are preferable when out-of-home placement is deemed necessary (United Nations, 2009, December 18). However, this guideline to date lacks scientific support (Bartelink, 2013;

Grietens, 2012; Hussey & Guo, 2002). Additionally, there are no clear placement criteria for the various types of out-of-home care (Chor et al., 2012; Lee, 2010; Strijker, Zandberg, & Van der Meulen, 2002). Also, or maybe therefore, allocation is often affected by other than clinical factors such as local referral policy or placement preferences of the case manager (Barth, 2002; Bhatti-Sinclair & Sutcliffe, 2012; Curtis et al., 2001; Frensch & Cameron, 2002; Huefner et al., 2010; James, Landsverk, & Slymen, 2004) and resource availability (Broeders, Van der Helm, & Stams, 2015; Frensch & Cameron, 2002; Huefner et al., 2010). Finally, placement instability is a common phenomenon across all three settings. Data on out-of-home placed children who have experienced an unplanned terminated placement (also called a “breakdown”) vary roughly from 20% up to even 80%, depending on the types of care included and the way placement instability was defined (e.g., Barber & Delfabbro, 2002; Delfabbro, Barber, & Cooper, 2002; Farmer et al., 2003; Jakobsen, 2013; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Scholte, 1997; Van den Bergh & Weterings, 2010; Van Manen, 2011; Ward, 2009). A breakdown might reflect a mismatch between the risks (e.g., danger to self, delinquency) and needs (e.g., mental health, psychosocial, clinical) on one hand and the assigned type of care on the other. Specifically, literature suggest that an inaccurate matching of treatment intensity and restrictiveness with the attending level of risks and needs results in less effective or even adverse treatment outcomes (e.g., Chor et al., 2012; Kamis-Gould & Minsky, 1995; Vanderfaellie, Damen, Pijnenburg, van den Bergh, & Van Holen, 2016; Whittaker et al., 2015). Therefore, nowadays more and more emphasis is put on the development of risk-need-responsivity models to support the decision-making process for children with serious multiple risks and needs and, in the end, transform and improve the service system (Anderson, Lyons, Giles, Price, & Estle, 2003; Chor et al., 2012; Fallon et al., 2006; Lyons, Libman-Mintzer, Kisiel, & Shallcross, 1998). Previous attempts to construct a placement decision support algorithm, are the development of the Child and Adolescent Severity of Psychiatric Illness (CAPSI) (Lyons et al., 1998), the Child and Adolescents Needs and Strengths (CANS) Algorithm (Lyons, 2009), and the Children and Adolescent Service Intensity Instrument (CASII) (Fallon et al., 2006). For secure residential care specifically, the risk-need-responsivity model of Andrews, Bonta, and Wormith (2011) is commonly used for guiding offender assessment and treatment. Research on decision-making tools showed that important elements of such a tool are using child-level clinical information, emphasizing on the child’s level of development in the context of the family and parents, and involving various types of care which vary in level of restrictiveness. However, according to Chor et al. (2012) there is still much to learn about out-of-home placement decision making.

Needs assessment is considered to be a first step a more transparent and informed decision-making strategy (Anderson et al., 2003; Leloux-Opmeer, Kuiper, Swaab, & Scholte, 2016; Scholte, 1997; Strijker et al., 2002). More insight into the risks and treatment needs also results in more knowledge on additional treatment needs along with the placement (Armsden, Pecora, Payne, & Szatkiewicz, 2000). Furthermore, identified risks and needs at the time of admission can later be linked to a child's positive or negative developmental outcomes. These linkages might provide insight into factors that enhance successful cognitive and social-emotional growth in out-of-home care (Curtis et al., 2001; Whittaker et al., 2015). Besides individual needs assessment at admission, there is a need for comparative research on the distinguishing risks and needs of children in different settings of out-of-home care (Barth

et al., 2007; Farmer, Mustillo, Burns, & Holden, 2008). Notwithstanding the fact that such comparative research is available, it usually concerns a pairwise comparison between two types of care, mostly foster versus residential care. Examples of such comparisons are the studies of Allen and Vacca (2011), Barth (2002), Curtis et al. (2001), De Swart et al. (2012), DeSena (2005), James, Roesch, and Zhang (2012), Scholte (1997), and Smyke et al. (2012). Next to this, some studies compare children in family-style group care with foster or residentially placed children (Berrick, Courtney, & Barth, 1993; Lee & Thompson, 2008). However, little comparative studies are found concerning a triple comparison of characteristics of children in the three main types of care (i.e., foster care, family-style group care, and residential care). Only one scoping review (Leloux-Opmeer, Kuiper, Swaab et al., 2016) and one comparative study (Lausten, 2015) were found. Therefore, the aim of this study is to explore similarities and differences in risks and needs of Dutch school-aged children at the time of admission to foster, family-style group, and residential care.

The framework being used is an adaption of the developmental model of Kerig, Ludlow, and Wenar (2012) and distinguishes five contexts of development: (a) biological, (b) individual, (c) family, (d) care history, and (e) social-cultural (Leloux-Opmeer, Kuiper, Swaab et al., 2016). For the purpose of conciseness, results on the biological context will be added to the individual context in this study. The hypotheses considered in this study are all among the following three contexts: the (combined) individual, family and care history context. Regarding the individual context, we hypothesized first that the mean age of admission is lowest for foster children, on the basis of the current policy to refer a child to the least restrictive type of care (Chor, McClelland, Weiner, Jordan, & Lyons, 2013; Leloux-Opmeer, Kuiper, Swaab et al., 2016; Whittaker et al., 2015). Second, we hypothesized that the level of individual child issues (i.e., mental health, psychosocial, and school related-problems) is highest for residentially placed children. Especially the child's level of externalizing problems seems to be a contraindication for assigning a family-based setting such as foster care, because of an elevated risk for a breakdown (Aarons et al., 2010; Barber & Delfabbro, 2002; Barber, Delfabbro, & Cooper, 2001; Minty, 1999; Newton, Litrownik, & Landsverk, 2000; Strijker et al., 2008; Vanschoonlandt, Vanderfaeillie, Van Holen, & De Maeyer, 2012; Vanschoonlandt et al., 2013). The third hypothesis is linked to both the individual and family context, and specifically relates to family-style group care. In terms of intensity and restrictiveness, this setting falls between foster and non-secure residential care across the care continuum. Therefore, we expect that the level of child and family problems will also be in between those of foster and residentially placed children. Regarding the family context, foster care is particularly assigned when the biological parents (temporarily) cannot offer their child a healthy upbringing, which require a (least restrictive) alternative family setting. Consequently, the fourth hypothesis is that the level of family problems and individual parental problems (i.e., mental health disorders, addiction, material problems) will be highest for the biological families of foster children (Leloux-Opmeer, Kuiper, Swaab et al., 2016; Oswald, 2010). Fifth and finally, concerning the care history context, we expect the care history to be the longest and most serious for residentially placed children, because of the tendency to view residential care as a treatment of "last resort" (Barth, 2002; Frensch & Cameron, 2002; Huefner et al., 2010; Sunseri, 2005; Van IJzendoorn, 2008; Whittaker et al., 2015).

## METHOD

### *Design, study population, and procedures*

A cross-sectional study design was used among a population of Dutch school-aged children at the time of their admission to foster, family-style group, or non-secure residential care at Horizon. Horizon is a large organization that offers specialized care and educational services to young people with complex behavioral or conduct disorders (as well as to their families), excluding disabled children or those who need inpatient psychiatric care. The intensity and restrictiveness of Horizons services is comparable with those in other Dutch child youth care institutions. Data were collected from October 2012 to March 2014.

As regards to foster care, both types of foster families (kinship and non-kinship) were included in this study. Evidence regarding superior performance of either form of foster care is ambiguous or not conclusive (Holtan et al., 2013; Holtan, Rønning, Handegård, & Sourander, 2005; Oosterman et al., 2007; Strijker & Zandberg, 2004; Tarren-Sweeney & Hazell, 2005; Wilson et al., 2004). Additionally, when controlling for several key variables (e.g., age, gender, level of behavior problems, and level of family problems) no statistically significant differences were found between children in kinship and non-kinship care. Furthermore, this study emphasizes on the needs of the child and his family of origin, and less on foster placement factors such as type of foster family. Concerning family-style group care, the study also included 13 children who were enrolled in this type of care at five other Dutch youth care institutions to increase the number of participants in this subpopulation. Additionally, the number of respondents in family-style group care has been increased by use of 21 retrospective case file analyses of children who entered this type of care in Horizon in 2011 or the first nine months of 2012.

For the cross-sectional study, the following inclusion criteria for the children were used: (1) children were of primary school-age (4-12 years), (2) children were placed from either their birth home or another setting, and (3) their participation would not harm their treatment alliance with the childcare workers. The exclusion criteria were that: (1) a child was adopted or had severe intellectual disabilities, and (2) the placement was made on a crisis basis or in a secure residential youth care facility.

Data were collected using different questionnaires for the children's caregivers, by which we meant their biological parent(s) or, in some cases, their legal guardians. Additionally, several questionnaires were used for the children's foster parents, family-style group parents, or childcare workers (henceforth "substitute caregivers"), as well as for the behavioral scientist who guides the out-of-home care process. Case file information was also used. Children were not active participants in the study.

This study was not subject to the Medical Research Involving Human Subjects Act (WMO); as such, it did not need to be reviewed by the Medical Ethics Research Committee (which is charged with ensuring that protocols are in accordance with Dutch legislation). The research protocol complied with the Netherlands Code of Conduct for Academic Practice (Association of Universities in the Netherlands, 2014): (1) written permission was obtained from the caregivers, (2) all participants had the right to refuse or stop participation, and (3) to ensure anonymity, distorted case file numbers were used.



### ***Participants***

In total, nine cases were excluded in advance. Six of them because of a very premature placement breakdown, two cases due to rejection of the kinship foster family because of incapacity, and in one case participation was expected to harm the treatment alliance. Among the 244 eligible children identified, at least one questionnaire was completed for 200 of them (which corresponds to 82% of the intended sample). More specifically, the mean response rate was 40% for caregivers, 82% for substitute caregivers (inclusive of the 21 retrospective case file analyses), and 95% for behavioral scientists. These response figures are average to high in comparison to the overall response rate reported in health care research (Baruch & Holtom, 2008). Comparing demographic characteristics (i.e., gender, age), the participant and non-participant groups within the three main settings of out-of-home care revealed no differences for family-style group and residential care. In foster care, participants were more often male (46%) compared with non-participants (11%).

The total study sample consisted of 72 children in foster care, 38 children in family-style group care, and 90 residentially placed children. The participants' ages ranged from 4 to 13 years ( $M = 8.8$ ,  $SD = 2.4$ ) and 54% were boys. Significant differences were found in age,  $F(2,197) = 8.09$ ,  $p < .001$ . Foster children ( $M = 7.9$ ,  $SD = 2.6$ ) were younger than children in family-style group ( $M = 9.2$ ,  $SD = 2.5$ ) and residential care ( $M = 9.3$ ,  $SD = 2.1$ ). No significant differences were found in the distribution of gender,  $\chi^2(2, N = 200) = 4.63$ ,  $p = n.s.$  About half (56%) of all children had a Caucasian ethnic background; the rest (44%) had at least one parent who was born abroad (11% in a Western country and 33% in a non-Western country). No significant differences in ethnic background were found between the three subgroups,  $\chi^2(4, N = 151) = 3.85$ ,  $p = n.s.$  Regarding foster children specifically, 39% were in kinship care and 14% were involved in therapeutic foster care (where therapeutic services are provided such as individual therapy).

### ***Measures***

A number of different measurement tools were selected to aid in gathering information for this study. These tools are briefly introduced below.

#### **Case file characteristics questionnaire (CCQ)**

The CCQ is a questionnaire designed by the authors to chart case file information systematically on demographic characteristics (e.g., age, gender, ethnicity), clinical characteristics (e.g., social-emotional problems, school or cognitive problems, child mental illness), family characteristics (e.g., family composition, clinical family problems), and care history characteristics (e.g., previous placements, child protective services) at admission. This 30-item questionnaire was completed by or under the supervision of a behavioral scientist. Most items of the CCQ were related to factual information, and all were categorized, and if possible, dichotomized (*yes/no*). For potentially ambiguous items which require some interpretation, a scoring protocol was available. The inter-observer reliability of the questionnaire was used to measure the intraclass correlation (ICC) of the CCQ (Field, 2009). Five files were scored with the CCQ by two raters. Based on the guidelines by Landers (2015), a two-way mixed model was used, with absolute agreement as a criterion. The mean

ICC (95% CI) was 0.66 (0.58, 0.72), which reflects a moderate inter-observer reliability (Shrout, 1998).

#### Child behavior checklist (CBCL)/1.5-5 and CBCL/4-18

The Dutch versions of these two checklists were used to identify psychosocial problems that were observed by caregivers and substitute caregivers (Achenbach & Rescorla, 2001; Verhulst, Van der Ende, & Hoolhans, 1996). The CBCL/1.5-5 and CBCL/4-18 ask informants to use a three-point scale (where 0 = *not true*, 1 = *sometimes true*, and 2 = *very true*) to respectively assess 99 and 120 items relating to behavioral and emotional problems. The summary scale t-scores of internalizing problems, externalizing problems, and total problems from both instruments were used in this study. Scores within or above the 80th percentile reflect performance in the (borderline) clinical range. Satisfactory psychometric characteristics for these scales have been reported (Greatest Lower Bound (GLB) > .91, test-retest reliability ( $r$ ) > .83) in the literature with regard to the Dutch versions of the CBCL (Verhulst & Van der Ende, 2013).

#### Social emotional detachment questionnaire (SEDQ)

The Dutch version of the SEDQ (Scholte & Van der Ploeg, 2007), which was completed by the substitute caregivers, was used to obtain signs of social and emotional detachment in children aged 4 to 18. The questionnaire comprises 16 items that can be scored using a five-point scale (where 0 = *never true*, 1 = *sometimes true*, 2 = *regularly true*, 3 = *often true*, and 4 = *very often true*). This study utilized the total scale score of this questionnaire. Scores within or above the 95th percentile reflect evident social and emotional detachment. The SEDQ meets the psychometric standards required for research purposes (Scholte & Van der Ploeg, 2007). The internal consistency of the total scale measured with Cronbach's alpha is .92. The test-retest reliability ( $r$ ) for this scale is 0.85 (Scholte & Van der Ploeg, 2007).

#### Student-teacher relationship scale (STRS)

The STRS is based on the presumption that a child's mental representation of attachment patterns is reflected in his or her relationship with significant adults (Koomen, Verschuren, & Pianta, 2007; Pianta & Nimetz, 1991). The Dutch version of this questionnaire was used to assess each substitute caregiver's perception of his or her parenting relationship with the out-of-home placed child. The STRS, which is applicable for children aged 3 to 12, consists of 28 items that are measured on a five-point scale (where 1 = *definitely not true*, 2 = *not really true*, 3 = *neutral/not sure*, 4 = *somewhat true*, and 5 = *definitely true*). This instrument provides three subscales (namely proximity, conflict, dependency) and a total scale score that reflects the general quality of the parenting relationship. Scores at or above the 90th percentile (specifically for the subscales conflict, dependency) and scores at or below the 10th percentile (specifically for the subscale proximity and the total scale) all fall within the clinical range. The STRS meets the psychometric standards required for research purposes (Koomen et al., 2007). The internal consistency of the total scale measured with Cronbach's alpha is .89, and the test-retest reliability ( $r$ ) is .70 (Koomen et al., 2007).

### ***Data analyses***

The SPSS (Statistical Package for Social Sciences) 22 software was used to conduct the statistical analyses. To assess the clinical significance of the scores on all of the test instruments equally, raw scores were converted to T-scores (which are standardized scores with a mean of 50 and a standard deviation of 10) (Field, 2009). Prior to the analyses, data were inspected and test assumptions were verified. The data analyses consisted of two parts. The first component entailed using analysis of variance (ANOVA) to define similarities and differences between the three main settings of out-of-home care. A significant F-statistic indicates that samples have unequal means (Field, 2009). In these cases, inter-group differences were determined using the Bonferroni's post hoc multiple comparison test. Additionally the effect size using Cohen's *f* was computed. A value of .10 is considered to be small, .25 as medium and a value equal or above .40 as a large effect (Cohen, 1992).

In the second part of the data analyses, Chi-square tests were used to compare percentages between groups. Additionally, the effect size was determined using Cramer's V. A value of .10 stood for a small effect, .30 for a medium effect and a value of .50 for a large effect (Cohen, 1992).

## **RESULTS**

Table 1 summarizes the characteristics at admission based on case file information gathered through the CCQ, arranged by context (of development) and setting. Table 2 summarizes the results of the test measures (i.e., the CBCL, the SEDQ, and the STRS), arranged by setting. The main findings on similarities and differences in characteristics of children placed in one of the three main settings of out-of-home care are presented below, arranged by the three contexts of development.

### ***Results within the individual context***

When it comes to age of admission to the current out-of-home placement, foster children are on average younger than children in family-style group and residential care (see Table 1). Furthermore in terms of age, in all three subgroups the first signs of psychosocial problems were reported on average at 3.8 (SD = 2.9) years of age, and professional help started on average at 4.5 (SD = 2.9) years of age.

Regarding the level of individual problems of the out-of-home placed children, first, based on case file information, the percentage of children with individual problems is highest in residential care (Table 1). These problems specifically concern behavioral problems, (an indication of) child mental illness and school related problems. As for mental illness, the most typical difference between the three subgroups was the incidence of autism spectrum disorders (ASD). No ASD diagnosis was found in (the case files of) foster children, while ASD diagnosis did occur approximately 1 in every 10 children in family-style group and residential care,  $\chi^2(2, N = 170) = 8.56, p < .05$ . When it comes to school related problems, residentially placed children specifically show conflicts with both classmates,  $\chi^2(2, N = 135) = 11.86, p < .01$ , and teachers,  $\chi^2(2, N = 135) = 8.98, p < .05$ , twice as frequently as children in foster or family-style group care. Second, caregivers equally report the most severe individual problems at admission for residentially placed children, especially when it comes to externalizing behavior problems (see Table 2). However, these results differ from those of

the substitute caregivers of residentially placed children. This leads to the third main finding that, according to the substitute caregivers, children in family-style group care demonstrate the most severe behavior problems at admission in comparison with children in foster or residential care (see Table 2). Additionally, results of the SEDQ showed that substitute caregivers of children in family-style group care perceive most signs of social and emotional detachment at the time of admission, especially in comparison with residentially placed children. Likewise, the highest percentage of children with a Diagnostic Statistical Manual of Mental Disorder (DSM-IV) classification of reactive attachment disorder was found in family-style group care (see Table 1). Finally, based on case file information as well as test results, foster children show the least and least severe individual problems.

### ***Results within the family context***

First of all, in all three subgroups at least three-quarters (78%) of all biological parents were divorced. Second, with reference to individual parental problems, in all three settings a more or less similar number of children (64%) had at least one biological parent with mental illness. However, it is noteworthy that foster children more commonly had fathers with mental illness (40%) than children in family-style group (19%) or residential care (20%),  $\chi^2(2, N = 179) = 8.23, p < .05$ . Third, also related to individual parental problems, material problems such as financial problems, housing problems, and unemployment occurred most frequently in the biological families of foster children (see Table 1). Fourth, when it comes to family functioning, poor parenting skills was the most frequently reported risk factor in the families of origin, especially for children in foster and residential care (see Table 1). Fifth, as regards family functioning, the highest percentage of neglected children was found in foster care. However, the percentage of children experienced physical abuse, emotional abuse, or both at their birth home is similar in all three types of care (see Table 1). Notably, no single foster child case file contains a record of (suspicions of) sexual abuse, in contrast to the files of children in family-style group (16%) or in residential care (5%). Finally, in contrast to the aforementioned main findings, the last risk specifically concerns an aspect within the foster family. Additional analyses of test results on the subscales of the STRS revealed differences in some dimensions of the quality of the parenting relationship (STRS) short after admission, in disadvantage of foster children. The first difference had to do with the degree of conflict,  $F(2, 145) = 4.30, p < .05$ . Foster parents perceive their relationship with the child as being more conflictual ( $T = 65, SD = 17$ ) than childcare workers in residential care do short after admission ( $T = 58, SD = 12, p < .01$ ). Also differences were found in the degree of dependency  $F(2, 145) = 7.62, p < .001$ . Foster parents reported more signs of negative dependency in the out-of-home placed child ( $T = 62, SD = 10$ ) than childcare workers in residential care did ( $T = 55, SD = 11, p < .05$ ).

**Table 1**

Summary table of defining characteristics when placed out-of-home, arranged by context and setting (based on case file information at admission).

	FC % (n)	FGC % (n)	RC % (n)	Test	Effect size
<b>Individual context</b>					
Mean age at admission (yrs.)	$M = 7.9,$ $SD = 2.6$ (72) <sub>a,b</sub>	$M = 9.2,$ $SD = 2.5$ (38) <sub>a</sub>	$M = 9.3,$ $SD = 2.1$ (90) <sub>b</sub>	$F(2,197) = 8.09^{***}$	.29
Emotional problems	71 (63)	77 (34)	70 (83)	$\chi^2(2, N = 180) = .52^{ns}$	.05
Behavioral problems	56 (63) <sub>a</sub>	59 (34) <sub>b</sub>	90 (83) <sub>a,b</sub>	$\chi^2(2, N = 180) = 25.38^{++}$	.38
Reactive attachment disorder	15 (55) <sub>a,b</sub>	41 (32) <sub>b</sub>	35 (83) <sub>a</sub>	$\chi^2(2, N = 170) = 9.02^+$	.23
Mental illness (child)	27 (55) <sub>a</sub>	44 (32) <sub>b</sub>	69 (83) <sub>a,b</sub>	$\chi^2(2, N = 170) = 23.42^{++}$	.37
School/cognitive problems	52 (52) <sub>a</sub>	65 (20)	83 (64) <sub>a</sub>	$\chi^2(2, N = 135) = 12.79^{++}$	.29
<b>(Biological) family context</b>					
Divorced parents	79 (62)	74 (34)	79 (77)	$\chi^2(2, N = 173) = .23^{ns}$	.04
Mental illness (parent)	73 (63)	50 (32)	62 (84)	$\chi^2(2, N = 179) = 5.08^{ns}$	.17
Material problems/poverty	75 (63) <sub>a,b</sub>	50 (32) <sub>b</sub>	44 (84) <sub>a</sub>	$\chi^2(2, N = 179) = 14.18^{+++}$	.28
Poor parenting skills	89 (63)	69 (32)	88 (84)	$\chi^2(2, N = 179) = 7.97^+$	.21
Child neglect (physical/emotional)	60 (63) <sub>a</sub>	44 (32)	31 (84) <sub>a</sub>	$\chi^2(2, N = 179) = 21.63^{+++}$	.27
Child abuse (physical/emotional)	25 (63)	31 (32)	18 (84)	$\chi^2(2, N = 179) = 2.70^{ns}$	.12
(Suspicious of) child sexual abuse	0 (63) <sub>a</sub>	16 (32) <sub>a</sub>	5 (84)	$\chi^2(2, N = 179) = 10.87^{++}$	.25
<b>Care history context</b>					
Admission from birth home	65 (63) <sub>a,b</sub>	18 (34) <sub>b,c</sub>	43 (83) <sub>a,c</sub>	$\chi^2(6, N = 180) = 35.91^{+++}$	.34
Previous placements	53 (62) <sub>a,b</sub>	94 (34) <sub>a,c</sub>	70 (84) <sub>b,c</sub>	$\chi^2(2, N = 180) = 17.27^{+++}$	.31
Mean previous placements	$M = 0.8,$ $SD = 1.1$ (56) <sub>a,b</sub>	$M = 2.3,$ $SD = 1.5$ (32) <sub>a</sub>	$M = 1.6,$ $SD = 1.8$ (83) <sub>b</sub>	$F(2, 168) = 9.98^{***}$	.11
Child protective service custody (%)	78 (63) <sub>a</sub>	94 (34) <sub>a,b</sub>	70 (84) <sub>b</sub>	$\chi^2(2, N = 181) = 7.89^+$	.21

Note: FC Foster care, FGC family-style group care, RC residential care.

Note: Means with the same subscript differ significantly.

<sup>+</sup> $p < .05$ ; <sup>++</sup> $p < .01$ ; <sup>+++</sup> $p < .001$  (chi-square test with Cramer's V).

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (ANOVA with Cohen's  $f$ ).

**Table 2**

Summary table of T-scores (SD) for at-admission test data, arranged by questionnaire and setting (based on data from caregivers and substitute caregivers).

	FC T (SD)	FCG T (SD)	RC T (SD)	ANOVA	Effect Size (Cohen's <i>f</i> )
<b><i>ASEBA caregivers</i></b>	<b><i>n = 31</i></b>	<b><i>n = 8</i></b>	<b><i>n = 55</i></b>		
Total behavior problems	56 (11) <sub>a</sub>	55 (13) <sub>b</sub>	68 (9) <sub>a,b</sub>	$F(2, 91) = 14.72^{***}$	.56
Internalizing problems	56 (11)	55 (12)	63 (11)	$F(2, 91) = 3.71^*$	.29
Externalizing problems	56 (11) <sub>a</sub>	56 (13) <sub>b</sub>	68 (9) <sub>a,b</sub>	$F(2, 91) = 16.00^{***}$	.59
<b><i>ASEBA substitute caregivers</i></b>	<b><i>n = 48</i></b>	<b><i>n = 21</i></b>	<b><i>n = 86</i></b>		
Total behavior problems	58 (12) <sub>a</sub>	67 (12) <sub>a,b</sub>	60 (10) <sub>b</sub>	$F(2, 152) = 6.37^{**}$	.29
Internalizing problems	57 (12)	62 (11)	57 (10)	$F(2, 152) = 1.68^{ns}$	.14
Externalizing problems	55 (12) <sub>a</sub>	66 (13) <sub>a</sub>	59 (12)	$F(2, 152) = 6.65^{**}$	.29
<b><i>SEDQ substitute caregivers</i></b>	<b><i>n = 45</i></b>	<b><i>n = 16</i></b>	<b><i>n = 86</i></b>		
Social emotional detachment	65 (17)	72 (16) <sub>a</sub>	61 (13) <sub>a</sub>	$F(2, 139) = 4.38^*$	.27
<b><i>STRS substitute caregivers</i></b>	<b><i>n = 45</i></b>	<b><i>n = 15</i></b>	<b><i>n = 88</i></b>		
Total STRS score	64 (15)	64 (15)	58 (12)	$F(2, 145) = 2.96^{ns}$	.20

Note: FC Foster care, FGC family-style group care, RC residential care.

Note: Means with the same subscript differ significantly.

Note: T-scores from 60 to 64 are in the borderline clinical range. T-scores above 64 are in the clinical range.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

### ***Results within the care history context***

To start with, a main finding is the small number of children who enter family-style group care from birth home. According to case file information this percentage is more than three times lower than in foster care and more than two times lower than in residential care (see Table 1). Differences in prior use of residential care are related to this ( $F(2, 174) = 19.06, p < .001$ ). Children placed in family-style group care ( $M = 1.3, SD = 1.1$ ) have previously experienced residential care more often than foster ( $M = 0.2, SD = 0.6, p < .001$ ) or residentially placed children ( $M = 0.8, SD = 0.9, p < .01$ ). This suggests that children in family-style group care relatively more often enter this setting from residential care. Second, information on former placements is noteworthy. In general, 69% of the participants have experienced previous placements. A significant portion (20%) has even been placed at least three times, with a maximum of nine placements being reported. The highest percentage of children with a history of previous placements was found in family-style group care, namely 94%. Likewise, children in family-style group care do have the highest average number of previous placements, particularly in comparison with foster children ( $p < .001$ ). A third main finding relates to child protective service custody. Most common form is family supervision (64% of the entire participant population). The percentage of children in child protective service custody was highest in family-style group care (see Table 1).

## DISCUSSION

To date no evidence-based criteria are available for referral to the various types of (non-secure) out-of-home care for children (Chor et al., 2012; Lee, 2010; Strijker et al., 2002). Due to this, policies other than the clinical needs of the child and the family often determine the 24-h setting (foster, family-style group, residential care) the child is referred to for out-of-home care (Barth, 2002; Bhatti-Sinclair & Sutcliffe, 2012; Broeders et al., 2015; Curtis et al., 2001; Frensch & Cameron, 2002; Huefner et al., 2010; James et al., 2004). For many years, however, substantial numbers of breakdowns are observed in all three types of out-of-home care. These seem mostly related to a mismatch between the child and family risks and needs on one hand and the referral on the other. It has been suggested that these mismatches can be prevented by using an evidence-based risk-need-responsivity model for out-of-home placement of children (Anderson et al., 2003; Chor et al., 2012; Fallon et al., 2006; Lyons et al., 1998).

In secure residential care, a risk-need-responsivity model already exists for guiding offender assessment and treatment (Andrews et al., 2011). This study aims to contribute to the development of such a model specifically for school-aged children with serious psychosocial needs for referral to non-secure out-of-home care. To this end, similarities and differences in the (child's) individual, family, and care history context of Dutch school-aged children at admission to foster, family-style group, and residential care were investigated. Five hypotheses covering this subject were presented in the introduction. Regarding these the following conclusions can be drawn from our data.

Our first hypothesis states that the age of admission of foster children is lower than the age of admission of the children in family-style group and residential care. Our data support this hypothesis. However, from a developmental perspective the difference in mean age of admission can be interpreted as small, since all children were at elementary school-age (first to fourth grade). Nevertheless, since the age of admission is related to the length of care history, the differences in mean age found are important from this perspective. as will be argued beyond.

The second hypothesis is that the severity of the individual problems of the child at admission is highest for residentially placed children. This hypothesis was largely confirmed: findings from both case file information and the caregiver's ASEBA test results stated that the degree of behavioral problems at admission was highest among residentially placed children. Furthermore, the percentage of children disadvantaged by mental illness was the highest in residential care. Residentially placed children further showed the highest degree of school/learning problems. Both Courtney (1998) and James (2006) suggest that this high percentage of children with severe individual (behavior) problems in residential care would reflect the tendency of welfare workers to refer these children to more restricted (residential) care. Conversely, the ASEBA test results of substitute caregivers seem to argue against this hypothesis, since these results suggest that the children in family-style group care instead of residentially placed children have the severest behavioral problems. However, this finding does not completely refute our second hypothesis. In sum, residentially placed children appear to be most disadvantaged by multiple individual problems, as literature demonstrate that both behavioral problems, mental illness, and school/learning problems negatively affect

placement outcomes (Barber & Delfabbro, 2002; Bartelink, 2013; Becker, Jordan, & Larsen, 2007; Den Dunnen et al., 2012; Jones et al., 2011; Raviv, Taussig, Culhane, & Garrido, 2010; Taussig, 2002).

The third hypothesis suggest that the level of child and family problems for children in family-style group care is between those of foster and residentially placed children. This hypothesis was not confirmed in this study, since the most severe risk factors were witnessed in children placed in family-style group care. Specifically noteworthy is the prevalence of attachment-related problems in these children, demonstrated through the SEDQ test results of substitute caregivers and case file information. This is contrary to the suggesting of Lee (2010) that children with these problems are approximately 75% less likely to be placed in a family-based setting. Furthermore, findings from the ASEBA test results of the substitute caregivers showed that the degree of behavioral problems is highest for children in family-style group care. This might be related to the reported attachment problems, as literature show that attachment problems are partially positively related to behavior problems (Newton et al., 2000; Vanschoonlandt et al., 2012). Lastly, the case files of children in family-style group care reported most frequently suspicion of a history of child sexual abuse. According to Petrenko, Friend, Garrido, Taussig, and Culhane (2012) such a history also affects the level of externalizing problems (as being a trauma-related symptom). Altogether the results suggest that the quality of attachment as well as the prevalence of child sexual abuse are relevant risk factors in the individual context of children in family-style group care, since both attachment problems (Oosterman et al., 2007; Strijker et al., 2008) and a history of sexual abuse (Eggertsen, 2008; Petrenko et al., 2012) are related to negative long-term placement outcomes.

The fourth hypothesis states that the level of family and individual parental problems will be highest for the biological parents of foster children. The study results partially confirmed this hypothesis. Many biological parents of foster children were reported to have mental problems (especially fathers), which reflects the findings of Minnis, Minnis, Everett, Pelosi, and Dunn (2006) and Lee and Thompson (2008). Additionally, the high rate of material problems among these families of origin was remarkable, but similar to what was found by James, Roesch, et al. (2012). Furthermore, the percentage of foster children that experienced physical or emotional neglect, although corresponding to the literature (Bernedo, Salas, Fuentes, & García-Martín, 2014; James, Roesch, et al., 2012; Lee & Thompson, 2008; Strijker & Knorth, 2009; Tarren-Sweeney, 2008a; Yampolskaya, Sharrock, Armstrong, Strozier, & Swanke, 2014), was almost twice the percentage of children in family-style group or residential care. On the other hand, some family risk factors were not unique to children in foster care. Both the number of broken families, the number of children exposed to poor parenting skills and the prevalence of physical and emotional child abuse were the same for all three types of care. Further, it is noteworthy that no foster child's case file contains (signs of a) history of sexual abuse, which seems unlikely given that literature shows that 10% of foster children have on average experienced such abuse (Bernedo et al., 2014; James, Roesch, et al., 2012; Scholte, 1997; Strijker et al., 2008; Tarren-Sweeney, 2008a). The current study's finding therefore probably reflects an underreporting. In sum, especially the number of parents with mental problems, material problems and a history of child neglect in the family of origin are major risk factors for foster children, since these may affect placement outcomes



adversely (Amato, 2010; Bartelink, 2013; Boyer, Hallion, Hammell, & Button, 2009; Breivik & Olweus, 2006; Den Dunnen et al., 2012; Garrido, Culhane, Petrenko, & Taussig, 2011; López, del Valle, Montserrat, & Bravo, 2013; Marquis, Leschied, Chiodo, & O'Neill, 2008; Raviv et al., 2010; Xue, Hodges, & Wotring, 2004). Also, material problems as well as parental mental illness specifically enhance the likelihood of an out-of-home placement in the first place (Barber & Delfabbro, 2002; Esposito et al., 2013; Perlman & Fantuzzo, 2013).

Ultimately, the study did not confirm the final hypothesis that the care history would be the longest and most severe for residentially placed children. Opposite to literature findings (Barth, 2002; Frensch & Cameron, 2002; Huefner et al., 2010; Sunseri, 2005; Van IJzendoorn, 2008; Whittaker et al., 2015), this was the case for children in family-style group care. The differences in care history (e.g., in terms of child protective service custody, history of residential care) cannot merely be explained by the small differences in age of admission (1.3 years). Our findings suggest that it is more likely that the majority of children in family-style group care were firstly placed in residential care due to the child's level of (externalizing) behavior problems and treatment needs, after which the child was being placed in family-style group care to offer a (long-term) professional family setting (corresponding to the UN guidelines). This might indicate (at least in the Netherlands) that family-style group care instead of residential care is selected more and more as placement of last resort after a series of placements. In sum, children in family-style group care are in particular at a disadvantage by their long and severe care history, since the length of time in care negatively affects placement outcomes (Bartelink, 2013; Courtney, 1998; James, 2006; James, Zhang, et al., 2012; Jones et al., 2011; Oosterman et al., 2007; Strijker et al., 2008).

### ***Limitations***

The strengths of this study were the triple comparison of characteristics of children in the three main types of care, and the use of multiple sources and informants. However, some limitations should be considered in relation to the study's results. The number of children in family-style group care participating in this study was limited, which may have affected the power of the analyses. As such, the results should be interpreted with some caution. However, as the literature provides little data concerning children in this type of care, the current results still contribute to filling a knowledge gap. Our study further showed that specific data concerning relevant aspects of school performance (i.e., language and math skills) and family functioning (i.e., parental drug abuse, domestic violence) are not systematically reported in case files. The comparison between the three subgroups would have been more complete if full information could have been retrieved. Children with a history of previous placements were also included in this study. It has been suggested that this potentially contributes to a higher level of behavior and attachment problems (Strijker et al., 2008). However, Barber and Delfabbro (2002) state that this approach best approximates reality, since most children in care have experienced a previous placement. Ignoring this reality would therefore make the results less applicable. Besides, randomly allocating children to the three types of care would have caused serious ethical problems. As stated by Wilson et al. (2004), the allocation to different treatments is rarely made 'blind' in social work.

***Implications***

Notwithstanding its limitations, the triple comparison of the characteristics of school-aged children at admission to one of the three main types of out-of-home care (foster, family-style group, residential care) suggests some setting-specific guidelines to increase the effectiveness of out-of-home care. First, according to our findings, biological parents in foster care seem most in need of assistance in achieving a healthy family environment specifically by guidance towards mental health services and financial services. Additionally, foster parents need support in establishing a positive parenting relationship with their foster child during placement. Second, concerning family-style group care, the level of attachment and trauma-related problems measured, probably requires extra professional or therapeutic support to both the family-style group parents as for children placed in this type of care. Third, concerning residentially placed children, both their behavioral problems, mental illness, and school/learning problems require an intensive (group and individual) counseling program. If residential care is enhanced with therapeutic modules, it may lessen its questionable image and may become a serious option of choice again for youngsters at risk for complex behavioral, personal and social problems. Finally, the study demonstrates that the majority of children in family-style group care were placed in residential care firstly. This might indicate that family-style group care has switched positions with residential care on the continuum of care towards the position of placement of last resort (at least in the Netherlands). It is recommended to discuss this shift, and to redefine the role and goals of every setting of out-of-home care more specifically.

***Conclusion***

In general, this study showed several differences in the risks and needs of children and their families at the time of admission to foster, family-style group, or (non-secure) residential care. The results may contribute to the development of a risk-need-responsivity model to support the decision-making process for referral to non-secure out-of-home care, with the ultimate goal to maximize the chances of long-term placements in a family-based setting (i.e., foster and family-style group care) or residential setting, or even at home. In order to develop such a model (which will increase the likelihood of positive child development), the outlined risks and needs at the time of admission should further be matched with the developmental progress children will make during their out-of-home placements.