The developing relationship between recently placed foster infants and toddlers and their foster carers
Do demographic factors, placement characteristics and biological stress markers matter?

Based on:
ABSTRACT

Objectives: To investigate the quality of newly formed relationships between recently placed infants and toddlers and their foster carers, and to explore the role of child-related and carer-related characteristics as relevant factors.

Methods: Hundred and twenty-three interactions between foster children, aged 4 weeks to 42 months, and foster carers were videotaped and coded according to a semi-structured procedure. Foster carers were asked to fill in a parenting stress scale. Children's case files were studied for demographic and placement characteristics. At two points in time (morning, evening) samples of children's salivary cortisol were taken.

Results: A large number of children (70-80%) scored low on responsiveness and involvement. The majority of foster carers did not perceive stress in the relation with their foster child. Foster carers who did experience stress regarding the behaviour of the child, tended to act more hostile towards the child. The children for whom relational stress was reported tended to show higher levels of salivary cortisol. We did not find a relation between scores on responsiveness or involvement and salivary cortisol outcomes.

Conclusions: This study showed that if foster carers do recognise relational stress, this may indicate stress in the child, also when the child reacts in a shut off way. It is important that foster carers learn to read their foster children's shut off behaviour as a risk, because it may lead to maladaptation and chronic stress. Implications for research and practice are discussed.

Key words
Family Foster Care, Infants, Toddlers, Parental Stress, Children's Responsiveness, Children's Involvement, Salivary Cortisol
5.1 INTRODUCTION

In 2013, 21,606 children in the Netherlands had been placed in family foster care (Pleegzorg Nederland, 2014). The loss of birth family is in nearly all cases a traumatic experience for a child, as are replacement and re-abuse in care (Bruskas, 2008; Samuels & Pryce, 2008). Strijker and Knorth (2009) found that more than 55% of the foster children (0 to 18 years) had experienced one or more replacements in foster care. Their study revealed significant associations between the number of placements and the presence of attachment disorders, the severity of behavioural problems, and the breakdown of new foster care placements.

Many children have histories of recurrent interpersonal trauma perpetrated by caregivers early in life, which are often referred to as complex trauma (Stein et al., 2001). These children experience a diverse range of reactions across multiple areas of functioning that are associated with such exposure. Compared to children with other types of trauma, those with complex trauma histories had significantly higher rates of internalizing problems, posttraumatic stress, and clinical diagnoses (Greeson, Briggs, Gerrity, & Kisiel, 2011). They may present behavioural problems such as aggressive, defiant, impulsive, overactive, or hyper-sexualized behavior (Crittenden, 1992). They may exhibit intense fears and anxiety related to situations associated with past trauma (for example, bathing, being left alone in a room, diaper changes) (Albus & Dozier, 1999; Heller, Smyke, & Boris, 2002). Their behaviour may become challenging to the caregivers, leading to stress in the household and to an increased chance of early placement breakdown (Chamberlain, Price, Reid, Landsverk, Fisher, & Stoolmiller, 2006; Gunnar & Barr, 1998; Silver & Dicker, 2007).

Behavioural problems increase the risk of an early placement breakdown in case of caregivers who are not able to cope with the stressful situation (Barth et al., 2007). For more than one out of three foster carers, the severity of the child's problem behaviour in the foster family is a reason for terminating the placement (James, 2004; Dorsey, Farmer, & Barth, 2008).

In the Dutch foster care system, a short-term placement (less than six months) is normally intended to protect a child from harm, to bring it in a safe environment, and to prepare for reunification with the biological parents (Strijker, 2009). For a number of children, however, a transition to a long-term placement will be needed. These children often experience at least two placements, because very frequently it is not possible to stay a long period of time in the first foster family. In 2013, 69% of the children in the Netherlands were living in long-term family foster care. Eighty-four percent of the children were placed with non-relatives, sixteen percent with relatives. About one third of the group of foster children was younger than five years of age (Pleegzorg Nederland, 2014).
Before being allowed to act as a (non-kinship) foster family Dutch carers need to follow an introductory course, developed according to the MAPP approach (i.e., Model Approach to Partnerships in Parenting (Dorsey et al., 2008; Strijker, 2009). Furthermore an assessment of the prospective foster carers is carried out by the foster care services, focusing on the rearing capabilities of the carers. During placement foster families are supported and evaluated by professional foster care workers. If kinship carers are registered within the foster care services, they can appeal to get the same support when needed.

Replacements in foster care increase the risk of behavioural and emotional problems in the child (Chamberlain et al., 2006; Frame, 2002; Rhodes, Orme, & Buehler, 2001; Strijker & Knorth, 2009). Many former foster children in later life report about the devastating effects of having been moved (Newton, Litrownik, & Landsverk, 2000). They mention a profound feeling of loss (of the foster family and friends, of belongingness and self-esteem, and of being connected with the familiar neighborhood and school) as a result of being moved. They feel having been betrayed and lack trust in other people. These feelings frequently persist into adulthood (Rubin, O'Reilly, & Luan, 2007).

Research on the risks mentioned above and on the emotional and behavioral problems of children in family foster care generally covers broad age ranges (Unrau, Seita, & Putney, 2008). However, less is known about the emotional and behavioural problems of foster children in specific age groups. Vulnerability may vary with age and developmental stages. Infants, for example, are very sensitive to the emotional tone of their environments (Dozier, Stovall, Albus, & Bates, 2001; Leve, Harold, Chamberlain, Landsverk, Fisher, & Vostanis, 2012). Lack and loss of a caregiver as well as parental neglect have negative effects on children's stress regulation system (Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008). The infant experiences grief and loss; for many, these negative experiences will be stored in memory forever (Fellitti, 2009). Other negative experiences (trauma, exposure to violence) may influence the child as well (Fellitti, 2009; Stein et al., 2001). Exposure rates for traumatic experiences in foster children approach 90% (Stein et al., 2001).

Holland and Gorey (2004) state that absence of problem behaviour is the clearest manifestation of successful adjustment on the part of the child. They claim that most young children are able to adapt in a couple of days or weeks to the new foster family (Holland & Gorey, 2004). Others indicate that the way foster parents act is an important factor in helping the child to adapt to his/her new situation (Zeana, Shaffer, & Dozier, 2011). Indeed, the claim of Holland and Gorey (2004) could be misleading. Infants and toddlers often adapt with avoidant behaviour. At first glance, the child’s behaviour might seem to be adequate. It may only become notable as inadequate when the child does not actively appeal to the foster carer, especially when in need or in pain. In the meantime, children actually may be highly stressed which is not identified
as (externalizing) problem behaviour (Dozier et al., 2008). So absence of problem behaviour in the young foster child does not prove a successful adjustment to the new foster family.

Infants and toddlers have limited abilities to express themselves, because they lack verbal abilities. Their reactions to family placement can only be explored in an indirect way.

In this study, we will explore the quality of the newly formed relationships between foster carers and infants/toddlers (6 weeks to 3.5 years of age), six to eight weeks after placement. The research questions are: 1) How can the interaction between foster children and their carers be characterized in terms of emotional availability and perceived parenting stress? 2) Which demographic and placement characteristics influence the quality of this interaction? 3) Are children's biological stress levels influenced by the foster children's - carers' interaction?

5.2 METHOD

5.2.1 Sample

The study was part of a randomized controlled trial of the Foster parent - Foster child Intervention (FFI), with a first measurement (baseline) 6-8 weeks after placement and a second measurement six months later (Van Andel et al., 2012). A convenience sample of 12 (out of 28) foster care services in the Netherlands participated (Babbie, 2001). Children were included in the study if the data collection could be carried out within 6-8 weeks after placement and if informed consent from both foster and biological parents was present at that moment. Excluded were children with birth deficits, severe cognitive dysfunctions and problems leading to an indication for treatment as indicated by the foster care services (implicating that a high risk of placement breakdown was assessed if the child would be assigned to a ‘foster care as usual’ condition and/or that evident attachment or psychiatric disorders were present in the child). Based on these criteria 123 infants and toddlers were included. Data were collected between July 2009 and August 2013.

5.2.2 Instruments

Demographic and placement characteristics

From the foster children’s case files we collected information on demographic characteristics (i.e., age and gender), placement characteristics (i.e., number of replacements, kinship or non-kinship placement, contact with birth parents, foster carers’ experience, presence of other children in the foster family, short-term or long-term placement), and reasons for placement.


Parenting Stress Index (PSI) [Nijmeegse Ouderlijke Stress Index (NOSI)]

Foster carers were asked to complete the Dutch version of the PSI (Parenting Stress Index; Abidin et al., 1992) (the NOSI-R (in Dutch: Nijmeegse Ouderlijke Stress Index Revised; De Brock, Vermulst, Gerris, Veerman, & Abidin, 2010), a self-report questionnaire to measure stress in the family. The NOSI-R contains 75 items, describing the degree of stress, experienced by parents in two domains: (1) the Parent domain, rating the extent of stress the parent experiences in his/her role as a parent; and (2) the Child domain, rating parents’ estimation of child factors that contribute to stress in the parent-child relationship. The items are rated on a 4-point scale (from ‘totally not true’ to ‘totally true’). The total score in the two domains is compared with a norm score in which the age of the child is taken into account. Scores above the norm indicate stress in the relation between the child and the carer. The reliability tested in parents with and without psychiatric symptoms is high (mean score parent domain .94; mean score child domain .95), and the validity of the NOSI has been assessed as ‘good’ (Evers, Van Vliet-Mulder, & De Groot, 2000).

Emotional Availability Scales (EAS)

The Emotional Availability Scales refer to a semi-structured procedure, which can be used to assess dyadic interactions between an adult and a child (Biringen, Derscheid, Vliegen, Closson, & Easterbrooks, 2014). The instrument covers six dimensions. Four dimensions relate to the adult’s contribution in the interaction: sensitivity, structuring, non-intrusiveness, and non-hostility. Two dimensions focus on the child’s contribution: responsiveness and involvement. All six scales can be scored from 7 to 29 points. Scores above 18 are considered to be acceptable to good (Biringen, 2008; Biringen, & Easterbrooks, 2008), which implies a positive interaction between parent and child and a sufficient engagement to each other. For this reason, a score of 18 is taken as the cut-off score, with scores <18 being suboptimal or problematic. The EAS’ emotional availability scale has acceptable psychometric properties (Biringen et al., 2014), including indices of validity and reliability (intrarater reliability was in the range of .76-.96). In addition, many studies have supported the theoretically expected relations between emotional availability and child-mother attachment, as well as attachment to professional caregivers (Baker, & Biringen, 2015; Chaudhuri, Easterbrooks, & Davis, 2009). Other studies have addressed the links between emotional availability in carer-child interactions and characteristics of caregivers (e.g., mental health; Goldman-Fraser, Harris-Britt, Thakkallapalli, Kurtz-Costes, & Martin, 2010 ) and children (e.g., children with disabilities; Beeghly, 2012; Dolev, Oppenheim, Koren-Karie, & Yirmiya 2009).
Salivary cortisol

Salivary cortisol is considered to be a reliable stress indicator, with increased levels of cortisol correlating positively with increased levels of stress (Westenberg, Bokhorst, Miers, Sumter, Kallen, Van Pelt, & Blöte, 2009). After the HPA-axis (Hypothalamic–pituitary–adrenal axis) has matured, salivary cortisol concentrations show a diurnal variation: the concentration normally is very low at midnight, is the highest in the morning, and shows 50% of the morning concentration in the afternoon (Kiess, Meidert, Dressendorf, Schriever, Kessler, Schwarz, & Strasburger, 1995). Cortisol diurnal activity reacts to variations in care quality among infants and toddlers (Gunnar & Donzella, 2002). Only a small amount of saliva (0.5 ml) is needed to measure cortisol concentration (Srivastava, Sharma, Uttam, & Neha, 2010).

5.3 PROCEDURE

After informed consent was obtained from the birth parents (or legal representatives) and the foster carers, the children were signed up in the research. Master students from the Centre for Special Needs Education and Youth Care of the University of Groningen visited the foster families at home to record the interaction between a foster carer and the child during a 20 minutes video observation according to the EAS protocol. Foster carers were instructed to behave “as they were used to do” when interacting with the child. The foster carers were asked to fill in the NOSI and were instructed on how and when to obtain the specimen of salivary cortisol. The students presented them a written instruction together with the items necessary to send the specimen to the lab.

The videotaped foster carer-foster child interactions were rated using the EAS. The tapes were assessed twice by two independent groups of trained professionals (2 persons, licensed by dr. Z. Biringen to use the EAS, 4th ed. 2008) and trained students (4-6 persons, receiving an in company training to use the EAS 4th ed. 2008). If scores per dimension between the two groups differed more than five points, the video was analysed a third time with both groups together and a consensus score was established after discussion. This was the case in 15 of 246 video observations (6%). If scores per dimension differed less than five points, the mean score was taken.

From each child involved in the study two samples of salivary cortisol were collected with help of one of the foster carers. We asked the foster carer to obtain the samples during an ordinary day. The first sample was obtained in the morning within half an hour after awakening; the second sample was obtained before going to sleep in the evening on the same day. Foster carers followed a standardized written instruction. In the written instruction it was emphasized that samples should be taken on an ordinary day with no acute stressors present or to be expected (like illness, visits of biological parents). Furthermore, it was emphasized not to brush teeth within half an hour before
the measurement (possible contamination with blood), and the foster carers were instructed that the second measurement should be carried out at least half an hour after dinner on the same day as the first measurement. Saliva was routinely collected twice in an ordinary day using salivettes with polyester wad (Sarstedt Ltd.), and subsequently analysed using Ultra Performance LC (UPLC) followed by tandem quadrupole mass spectrometer (Waters, Milford, MA, USA). The lower detection limit was 0.68 nmol/Lt, the mean intra- and inter-assay coefficients of variation were respectively 2.6% and 5.9%.

5.4 ANALYSIS

To answer the question about characterizing the interaction between foster children and foster carers, we analysed the EAS dimensions ‘responsiveness’ and ‘involvement’, followed by the ‘experienced parenting stress’ scores in both domains of the NOSI, using descriptive statistics. The linear relationships within and between EAS and NOSI domains were explored using Pearson correlation coefficients.

To answer the second question we explored the relationships between demographic and placement characteristics, reasons for placement and foster children’s reactions; we calculated percentages, and carried out chi-square analyses with the dichotomized scores on ‘responsiveness’ and ‘involvement’ (cut off score for suboptimal reactions: 18 points), demographic characteristics (age and gender), placement characteristics (number of placements, experience of the foster carer, presence of other children in the foster family, short-term or long-term placement, (non) kinship care, frequency of visits to biological parents), and reasons for placement (known problems in the child, known problems in the parents). Furthermore, ANOVAs were carried out to explore relations between (continuous) scores on both EAS dimensions and these characteristics.

To answer the third question, we analysed the relation between ‘experienced parenting stress’ (both NOSI domains) and cortisol outcomes. Multilevel linear regression models for cortisol outcomes were conducted with the children as highest level, and the two measures (morning and evening cortisol) per child as lowest level to account for dependencies between measures within children. Time (with categories morning and evening) and ‘experienced parenting stress’ scores were included as predictors, as well as the interaction between both. Fixed and random effects were included. P-values smaller than 5% were considered as significant. Similar analyses were performed with EAS domain scores and salivary cortisol.

Multilevel analysis was performed in MLwin, version 2.23. All other analyses were performed in SPSS, version 22.0.
5.5 RESULTS

From all 123 children EAS videotaped observations were collected. In addition, 110 NOSI questionnaires (13 questionnaires were not correctly answered or not sent back) and 104 cortisol morning and evening samples (19 cases were missing) were collected. We did not find significant differences in demographic and placement characteristics between the missing and non-missing group.

5.5.1 Demographic and placement characteristics

The mean age of the children was 18.8 months (age measured at the time the child was included in the research group; \(SD=14.5\) months), with 35% being younger than 9 months. Some skewness in the age distribution (\(g=.359\)) was present in the direction of very young children (0-2 months of age 12.2%). More than half of the children (51.2%) were boys. The majority (84.3%) were non-kinship placements. For 38% of the children it was the first placement, for 44% it was the second placement, and 18% of the children had experienced more than two placements. Visiting arrangements with biological parents varied considerably: 16.3% of the children did not have any arrangements, 31.5% did have a visiting frequency of once in 14 days, whereas 22% did have a visiting frequency of once a month. Sixty-five percent of the foster carers had experience with prior placements or were having biological children.

Many case files (91.2%) mentioned (risks of) child neglect previous to placement. In 44% of the cases a history of psychiatric problems in a biological parent and/or instability in child rearing were reported. Furthermore, in 9.6% of the cases addiction to alcohol/drugs in (one of) the birth parents was mentioned.

5.5.2 Emotional availability and perceived parenting stress

The coding of the videotapes using the EAS procedure showed the following outcomes (Table 1).

Table 1: Outcomes on EAS domains: Mean, SD, range, and percentage of foster carers scoring ‘insufficiently’ (N=123)

<table>
<thead>
<tr>
<th>EAS domain</th>
<th>Parental sensitivity</th>
<th>Parental structuring</th>
<th>Parental non-intrusiveness</th>
<th>Parental non-hostility</th>
<th>Child Responsiveness</th>
<th>Child involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>20,3</td>
<td>20,3</td>
<td>20,9</td>
<td>26,9</td>
<td>17,9</td>
<td>16,7</td>
</tr>
<tr>
<td>SD</td>
<td>3,8</td>
<td>3,4</td>
<td>3,5</td>
<td>2,1</td>
<td>3,3</td>
<td>3,6</td>
</tr>
<tr>
<td>Range</td>
<td>10-28</td>
<td>11-27</td>
<td>10-27</td>
<td>20-29</td>
<td>8-27</td>
<td>7-27</td>
</tr>
<tr>
<td>Insufficient*</td>
<td>39,8%</td>
<td>35,9%</td>
<td>31,6%</td>
<td>0,0%</td>
<td>67,5%</td>
<td>81,2%</td>
</tr>
</tbody>
</table>

* Insufficient: score < 18 points
Many children (67.5-81.2%) react in a suboptimal or problematic way to their foster carer. Furthermore, almost 40% of the foster carers score ‘insufficient’ on the domain ‘sensitivity’, and about one third score ‘insufficient’ on the domains ‘structuring’ and ‘non-intrusiveness’. Pearson correlation coefficients show that all subscales of the EAS are positively correlated (Pearsons’ r between .359 and .832, N=123, p< 0.01).

Table 2 shows the perceived parenting stress (NOSI Parent and Child domains) in foster carers as compared to the general population norm, using two categories (‘on average’/’above average’).

**Table 2:** Number and percentage of foster carers who experience parenting stress on NOSI Parent and Child domains (on average and above average levels, N=110)

<table>
<thead>
<tr>
<th>Mean perceived stress level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>in Parent domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on average</td>
<td>103</td>
<td>93.6</td>
</tr>
<tr>
<td>above average</td>
<td>7</td>
<td>6.4</td>
</tr>
<tr>
<td>in Child domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on average</td>
<td>97</td>
<td>88.2</td>
</tr>
<tr>
<td>above average</td>
<td>13</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Foster carers recognize 11.8% of the children as having problematic behaviour leading to stress in the relation; 6.4% experience a high level of stress related to their own performance as carer. Scores on both domains of perceived parenting stress are positively correlated (Pearsons’ r =.616, N=110, p< 0.01). No significant correlations have been found between EAS dimensions and NOSI domains.

### 5.5.3 Impact of demographic and placement characteristics

We did not find a significant association between the dichotomized EAS scores ‘responsiveness’ and ‘involvement’ of the child on the one hand and gender, age, foster carers’ experience with children, presence of other children in the foster family, number of replacements of the child, type of placement (kinship/non-kinship), frequency of visits to birth parents, known problems in the child (emotional problems, behavioural problems, somatic complaints, eating disorders) and known problems in the parents (psychiatric problems, addiction, illness) as reported in the original case files, on the other hand. We did find a significant difference between short- and long-term placement and scores on responsiveness/involvement. When the placement is expected to be short-term, the children show lower responsiveness and involvement scores (responsiveness: Pearsons’ r: 20.85, df 8, p=.008; involvement: Pearsons’ r: 16.65, df 8, p=.034).
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An ANOVA with ‘involvement’ and being younger than 9 months of age versus 9 months of age and older is the only characteristic of all characteristics mentioned, that shows significant difference between the groups (F=5.6; p<.05), with significantly higher scores (less ‘problematic’) in the group of older children. An ANOVA with ‘responsiveness’ and these characteristics shows no differences.

5.5.4 Impact children’s biological stress levels

First, morning salivary cortisol (mean 8.53 nmol/l; SD=9.55 nmol/l; range 70.5 nmol/l) and evening salivary cortisol (mean 1.82 nmol/l; SD=2.81 nmol/l; range 16.9 nmol/l) were inventoried. There is a profound difference in mean scores but also in dispersion of individual scores. A logarithmic transformation has been realized to solve the problem of homoscedasticity.

In Table 3 the results of the multilevel analysis are presented for the transformed measurements of salivary cortisol. Two models are distinguished: a model with ‘experienced parenting stress’ on the NOSI Child domain as predictor, and a model with ‘experienced parenting stress’ on the NOSI Parent domain as predictor.

The analysis shows a significant effect for the child domain: a relatively high level of ‘experienced parenting stress’ in the Child domain is most often found in families with children who show a relatively high cortisol level for both morning and evening measures, and vice versa. For the Parent domain a similar trend has been found; the effect, however, is not significant.

Table 3: Effect estimates (and SE) of time (morning / evening) and ‘perceived parenting stress’ based on the NOSI Child and Parent domain

<table>
<thead>
<tr>
<th>Factors</th>
<th>Model with Child domain</th>
<th>Model with Parent domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning</td>
<td>1.68 (0.10)</td>
<td>1.71 (0.10)</td>
</tr>
<tr>
<td>Evening</td>
<td>0.12 (0.08)</td>
<td>0.15 (0.08)</td>
</tr>
<tr>
<td>Perceived parenting stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High stress</td>
<td>0.48 (0.21) *</td>
<td>0.45 (0.27)</td>
</tr>
<tr>
<td>Low stress (reference)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Random part (variances level 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning</td>
<td>0.89 (0.13)</td>
<td>0.93 (0.13)</td>
</tr>
<tr>
<td>Evening</td>
<td>0.61 (0.09)</td>
<td>0.61 (0.09)</td>
</tr>
<tr>
<td>Covariance</td>
<td>0.21 (0.08)</td>
<td>0.23 (0.08)</td>
</tr>
</tbody>
</table>

*p < .05
Figure 1 shows the measured cortisol level in a multilevel analysis model with the ‘perceived parenting stress’ level (Child domain) of the NOSI as a predictor variable.

Figure 1: Measured cortisol level by time and parenting stress level (Child domain)

Children of foster carers perceiving relatively high parenting stress scores on the NOSI Child domain tend to have higher scores on salivary cortisol levels, especially in the morning as compared to children of foster carers perceiving lower parenting stress scores. In contrast, both the continuous and the dichotomized EAS scores do not significantly relate with the cortisol levels measured in the morning and the evening.

5.6 DISCUSSION

5.6.1 Significance of the findings

In this study, we focused on the quality of newly formed relationships between recently placed foster infants and toddlers and their foster carers and we explored the role of child and carer related characteristics as relevant factors. Regarding the reaction of the children to their foster carer, it is notable that 67.5% of the children show a lack of responsive behaviour to the foster carer and 81.2% show a lack of involving behaviour as well. Biringen (2008) describes children with this kind of behaviour as reacting in an ‘emotionally shut down’ way; there is little or no eye contact with the (foster) carer. A shut down adaptation seems to be somewhat normal for infants and toddlers who find themselves in a new situation, but it is also known that safely attached children turn to their carer when in need or in pain (Biringen & Easterbrooks, 2012). The infants and toddlers we observed did not show this kind of behaviour. An explanation may be found in the stressful adaptation to the new foster home, but child related factors like anxiety because of trauma/neglect in the past, attachment disorders or covert psychiatric disorders (such as an autism spectrum disorder which often is being diagnosed at a later age) may also contribute (O’Neill, Risley-Curtiss, Ayon, & Williams, 2012).
Children score slightly better on EAS responsiveness compared to EAS involvement. This might be explained by the relatively young age of the children; very young children do have a relatively limited capacity to show involving behavior (Biringen, 2008).

It is striking that only a small percentage of the foster carers perceive stress in the relation with the child (11.8%) while so many children react in an ‘emotionally shut down’ way. So, a difference seems to exist between stress reported by foster carers on the NOSI and observed reactions of the child on the EAS.

It is also interesting to note that 30-40% of the foster carers score ‘suboptimal’ on the EAS domains sensitivity, structuring and nonintrusiveness, which implies that 60-70% react on average or above. The following question may be asked: Do foster carers react suboptimal because or despite of the ‘emotionally shut down’ way of reacting of the child? We found a significant positive correlation between EAS responsiveness and EAS involvement, and also between these EAS child domains and the way the foster carer scored on sensitivity, structuring, and non-intrusiveness. Foster carers seem to react less sensitive, with less structuring and more intrusive behaviour and with a tendency to be more hostile as well, when the child reacts in a non-optimal or maladaptive way. Foster carers do not seem to recognize the low scores on responsiveness and involvement as an area of concern. Within the NOSI Child domain, only a small percentage of foster carers experience relational stress because of the behaviour of the child. The question is whether foster carers can be expected to build a secure relationship with their child, if they do not fully seem to understand the meaning of the behaviour of the child.

Demographic and placement characteristics had little influence on the interaction between the child and the foster carer. Only for duration of placement a significant difference was found. It was notable that the children scored higher on EAS responsiveness and involvement, if the placement was expected to be long-term. Often a short-term placement also is an emergency placement. The child who is placed in an emergency foster family may have experienced a more stressful situation before placement. The child may be traumatized, which may be the reason for lower scores on EAS responsiveness and involvement. Also the foster carers may enter a relationship with the child differently if they know on beforehand that the placement will be short-term.

We did not find a significant association between EAS responsiveness/involvement of the child and the number of replacements the child had experienced. This result is notable because it is different from studies showing that moves in care increase the risk of behavioural and emotional problems (O’Neill et al., 2012; Strijker & Knorth, 2009). A possible explanation might be that 40% of the children in our group still live in the first foster care family and are under the age of 12 months. In addition, we think that the length of time the children are living in their new foster family may be too short (6-8 weeks) to develop these kind of behavioural problems.
It is also noteworthy that we did not find a significant difference in EAS child responsiveness scores between children placed in kinship and non-kinship care. We expected a difference in favour of kinship care. Some authors claim that kinship placements are preferable because they guarantee more stability. Kinship carers already know the child and vice versa; often they have developed a bond in the past and the kinship parents do know the biological parents (Smyke, Zeanah, & Fox, 2012). On the other hand, the kinship foster carer may be loyal to the biological parents and thus may see the child as a temporary guest, and this may be reflected in the way they build a relation with the child. Recently, evidence has been found in a follow up of 1,215 children who had been placed in foster care in the past, indicating there is no difference between kinship care or non-kinship care regarding the child’s well-being (academic achievement, behaviour, and health) (Font, 2014). It will be interesting to do a follow-up study on the quality of the relation between foster carer and the foster child focusing on possible differences in sensitivity in kinship and non-kinship carers and responsiveness/involvement outcomes in the child.

A next question is whether the child’s stress, expressed in salivary cortisol levels, is related to the quality of the relation with the foster carer. It is known that many foster children have been neglected or maltreated previous to placement (Strijker & Knorth, 2009), and that this deregulates their stress system (Cicchetti & Rogosch, 2001). We concluded that foster carers do not often recognize the child’s ‘shut off’ behaviour as problematic. In our group, 82.9% of the children had been neglected/maltreated in the past according to the case files. Furthermore, placement in foster care is considered to be a stressful life event (Dozier et al., 2006). A question that can be raised here is: Are foster carers not able to recognize stress-associated symptoms or do they perceive a certain amount of stress in the relation as ‘normal’ because the child is new in the family? More research in a larger research group is needed. Further research with older age groups and the developing relationship with the carer is also recommended in order to answer this question.

Nevertheless, we actually found a small group of foster carers who did recognize symptoms in their foster child leading to relational stress. We found a significant relation between ‘perceived parenting stress’ scores on the NOSI Child domain and cortisol levels of the child. This relation was strongest when the foster carer scored above average on the NOSI Child domain. This finding underlines the importance that foster carers carefully ‘read’ the behaviour of the child. Indeed, when foster carers experience stress in the relation with the child, this is related to higher levels of salivary cortisol. Still we do not know if the stress in the child causes the stress in the foster carer, and/or vice versa. We expected to find a relation between EAS variables as an indicator of the quality of the relationship between foster carer and foster child and cortisol outcomes. It seemed plausible that a problematic relationship would be associated with higher levels of stress.
and thus leading to higher levels of salivary cortisol. However, this was not the case. One reason for this lack of significance may be that the research group was relatively small. In addition, a rather large part of the research group consisted of very young children, which also may explain the lack of significance. It is known that the cortisol stress system in young children is still in development and it is a controversial matter at which age the system reacts at a mature level (Antonini, Jorge, & Moreira, 2000; Edwards, Clow, Evans, & Hucklebridge, 2001; Price, Close, & Fielding, 1983).

5.6.2 Strengths and limitations
This study has some strengths. It focuses on the budding relation between foster children and foster carers and on the importance of building a secure relationship between them. It notes the difficulties both foster carers and children face in this situation, and how a lack of ‘behavioural excesses’ identified during the child’s initial adaptation to the home should not be overlooked by providers nor professionals. The study focuses on risks and opportunities to promote healing relationships for children in foster care. This is important because developing a secure relation with the child is what the child needs in the first place (Zeanah et al. 2011). Furthermore, as far as we know, this is one of the few studies focusing on infants and toddlers in foster care.

This study has also some limitations. Because of the strict inclusion criteria needed to study the evidence base of the FFI program, only 123 children could be included. This is a rather small number considering the fact that merely in the Netherlands about 21,000 children are living in a foster family on a yearly basis and about one third of this group is under the age of five (Pleegzorg Nederland, 2014). A replication study in a larger sample of children having similar ages is needed in order to generalize the findings to the population.

Further, findings have to be interpreted carefully because of missing data on NOSI scores and salivary cortisol. Most of the missing NOSI data were due to wrong answers (blanks) in the questionnaire. Because of our strict entry criterion of data collection within 6-8 weeks after placement, it was not always possible to rectify these blanks by calling the foster carer and to ask her/him about the missing data. Missing data on salivary cortisol could not be rectified.

Another limitation concerns the age of the children. A substantial part of our sample were babies. Many researchers claim the stress system is still developing under one year of age (Antonini et al., 2000; Edwards et al., 2001; Van Andel et al., 2014).
5.6.3 Implications for practice

Our study has some implications for practice. It seems clear that the newly formed relationship between foster carer and the young foster child is precarious in many ways. It is plausible that the stress in the foster child often goes unnoticed, because of the child’s shut down behaviour. Foster carers may not notice the negative effects on the well-being of the child. The risk, especially when the foster child is in the first year of life or has a (unidentified) developmental problem, may be considerable. The child may feel that the foster carer does not understand his/her needs, which may trigger feelings of unsafety and stress, and that in turn may contribute to longer lasting or chronic relational stress. Longstanding relational stress is a high risk factor for attachment problems, an unhealthy social and emotional development, and somatic and psychiatric illness in later life (Wulczyn, Brunner Hislop, & Jones Harden, 2002).

As a clinical implication we recommend specific training for foster care workers. Foster care workers should learn to identify this risk and to help foster carers deal with it in adequate ways. Foster carers in turn need to be educated and trained on identifying symptoms of distress in their foster child and they have to learn to act in ways that improve the bond with the child in a sensitive and secure way. There is some evidence to support the positive impact of attachment-based interventions, especially in very young children (Kerr & Cossar, 2014). These interventions may help foster care workers as well as foster carers in dealing with the risks highlighted in this study.
REFERENCES


The developing relationship between recently placed foster infants and toddlers


