



Foster children are at risk for developing problems in social-emotional functioning: A follow-up study at 8 years of age

Heidi Jacobsen^{a,*}, Hans Bugge Bergsund^a, Tore Wentzel-Larsen^{b,d}, Lars Smith^c, Vibeke Moe^c

^a Section for Infants and Young Children, Regional Centre for Child and Adolescent Mental Health, Eastern and Southern Norway, Oslo, Norway

^b Regional Centre for Child and Adolescent Mental Health, Eastern and Southern Norway, Oslo, Norway

^c Department of Psychology, University of Oslo, Oslo, Norway

^d Norwegian Centre for Violence and Traumatic Stress Studies, Oslo, Norway



ARTICLE INFO

Keywords:

Foster children
Social-emotional functioning
Internalizing behavior
Externalizing behavior
Early school age

ABSTRACT

Foster children are at risk for becoming less well-adjusted in their social-emotional functioning due to possible abuse and neglect prior to placement. There is no consistent evidence that foster children's social-emotional functioning improves in foster care, and externalizing behavior has specifically been linked to placement disruption. Investigations of foster children's functioning over time and with multiple informants are scarce. Our first aim was to investigate foster children's social-emotional functioning (externalizing, internalizing and total problem behavior) reported by female and male caregivers, as well as by teachers, at 8 years (T3) of age, as compared with a non-foster group. Our second aim was to investigate the predictive power of internalizing and externalizing behavior from age 2 (T1) and 3 years (T2). Results showed that foster children were reported to show more problem behavior at age 8 years compared to the comparison children, although their scores were within the normal range. Externalizing behavior reported by foster mothers at age 2 and 3 years, and by foster fathers at age 3, strongly predicted externalizing behavior at age 8 years. The results suggest that social-emotional functioning in early childhood predicts externalizing and internalizing behavior in middle childhood. This study highlights the clinical importance of investigating such behavior among young foster children in order to help them move towards a healthy developmental pathway in early school years.

1. Introduction

When a child needs new caregivers, foster care is often the preferred option. The aim of the Norwegian foster care system is to provide long-term stable placements and give children an opportunity of permanency until they leave the foster home between ages 18 and 22 (The Norwegian Directorate for Children Youth and Family Affairs, 2017) and thereby promote healthier social-emotional functioning and less problem behavior (Rubin, O'Reilly, Luan, & Localio, 2007). When children need new caregivers, long-term foster care is the most used option compared to adoption. In 2018, 65 children were adopted from foster care, and of these only 2 were under 3 years old (Statistics Norway, 2019b). Most foster parents in Norway participate in Pride training to better care for a foster child on long-term basis (Haus, 2005; Havik, Jakobsen, & Moldestad, 2007). In December 2018, a total of 11030 children aged 0–22 years were in foster care in Norway, of which 4020 were 6–12 years old (Statistics Norway, 2019a). This study aims to investigate long-term placed foster children's social-emotional

functioning at early school age and its association with possible difficulties in toddlerhood. To the authors' knowledge, few studies have investigated foster children's social-emotional functioning from toddlerhood to early school age, with only a few exceptions (e.g. Zeanah, Humphreys, Fox, & Nelson, 2017). The present study adds to the scant literature on foster children's social-emotional functioning.

1.1. Social-emotional behavior in foster children

Several studies have shown that foster children are at higher risk for developing difficulties related to social-emotional functioning, including externalizing and internalizing problems (Goemans, van Geel, van Beem, & Vedder, 2016; Oswald, Heil, & Goldbeck, 2010), as well as psychiatric problems during childhood and adolescence (Lehmann, Havik, Havik, & Heiervang, 2013; Lehmann & Kaye, 2018). These children have typically experienced disruption in relation to their biological caregivers, as well as maltreatment prior to placement (Barber & Delfabbro, 2009; Fox, Almas, Degnan, Nelson, & Zeanah, 2011; Oswald

* Corresponding author at: Centre for Child and Adolescent Mental Health (RBUP), Eastern and Southern Norway, P.O. Box 4623, Nydalen, Oslo N-0405, Norway.
E-mail address: heidi.jacobsen@r-bup.no (H. Jacobsen).

et al., 2010). Such early care histories make foster children more vulnerable to adverse developmental pathways, including more problem behavior (Harwicke & Hochstadt, 1986; Lawrence, Carlson, & Egeland, 2006; Leslie et al., 2005; Lloyd & Barth, 2011; Pears & Fisher, 2005; Smyke, Zeanah, Fox, & Nelson, 2009).

Identification of social-emotional functioning early in the child's placement is necessary for providing the foster family with appropriate support and supervision. However, foster parents may have difficulties identifying and responding to aberrant child behavior (Heller, Smyke, & Boris, 2002). Furthermore, atypical behavior in young children can be harder to detect since their behavior problems are often more subtle than in older children (Sanner, Smith, Wentzel-Larsen, & Moe, 2016). Early identification of aberrant behavior among foster children is therefore important, since foster children often need help from caregivers to regulate their emotions (Dozier, Albus, Fisher, & Sepulveda, 2002). Using screening instruments, Jee et al. (2010) were able to identify social-emotional problems in 24% of foster children aged 6 months to 5.5 years.

1.2. The relation between foster children's early and later socio-emotional functioning

Social-emotional functioning includes problem behaviors, such as externalizing and internalizing behavior, which are the focal points of this paper. The prevalence of behavior problems in the clinical range, exhibited by foster children and measured by the Child Behavior Checklist (CBCL), has been estimated to be 47.9% in a US study among 2–14 year olds (Burns et al., 2004), and 29–49% among Australian adolescents (Tarren-Sweeney, 2018). Barboza, Dominguez, and Pinder (2017) followed 280 maltreated youth in foster care aged 8–15 years over 3 years. Mean T-scores for externalizing behavior were within the borderline range (between 60 and 62) or slightly better and remained stable during the first two years of out-of-home care.

There is no consistent evidence suggesting that the behavior problems of foster children decrease during their stay in care (Goemans, van Geel, & Vedder, 2015; Tarren-Sweeney & Goemans, 2019), behavior problems might even increase (Lawrence et al., 2006). The vulnerability of foster children was illustrated in a study reported by Simmel, Barth, and Brooks (2007). Foster children who had been adopted were reported to show problem behavior above that of the normal population even after adoption (Simmel et al., 2007). This gives rise to concern, given that many foster children enter care with high levels of mental health problems (Simms, Dubowitz, & Szilagyi, 2000) and behavior problems (Goemans et al., 2015), which, in turn, tend to be associated with placement instability (Konijn et al., 2019; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). Although foster care was not found to consistently improve children's functioning, it might be expected that type of care could be of importance. Lloyd and Barth (2011) observed a group of foster children's behavior problems when the participants were infants and later when they were 5.5 years of age. However, no substantial differences were found between those who were reunified with their parents, adopted or placed in foster care. Zorc et al. (2013) reported that unstable foster care was associated with less probability of attending school in a group of children aged 5–8 years, especially among those who were reunited with their parents. (Jacobsen, Moe, Ivarsson, Wentzel-Larsen, & Smith, 2013), compared foster children with children raised by their biological parents, using the Infant-Toddler Social and Emotional Assessment (ITSEA) (Carter & Briggs-Gowan, 2006). Even though the foster children, who mostly were placed in non-kinship care, exhibited more externalizing behavior at age 3, both groups remained within the expected age norm. However, kinship care has shown to be beneficial for foster children. In a meta-analysis by Winokur, Holtan, and Batchelder (2014), children in kinship care were reported to have fewer behavior problems, fewer mental health disorders, better well-being and less placement disruption compared to children in non-kinship care.

Despite these mixed findings, some studies have found evidence of positive developmental outcomes among children in foster care. One study followed 59 foster children over eight years and found that they exhibited positive developmental outcomes in domains such as social relationships and pro-social behavior (Fernandez, 2009). A positive developmental pathway among adolescents in foster care has also been documented by McWey (2004), although this trend depended on type of maltreatment prior to entering foster care. Using data from the Bucharest Early Intervention Project (BEIP), Humphreys et al. (2015) reported that severely deprived children placed in foster care showed significantly more adaptive behavior (e.g. family and peer relations, mental health) at the age of 12 years compared to those who remained in institutions. These results suggest that even severely deprived children may show an increase in adaptive behavior over time when receiving high quality care. Interestingly, a recently published paper reported that, despite there being no major overall changes in problem behavior among a group of foster children, some individuals showed either meaningful deterioration or improvement, suggesting differential developmental trajectories for children in foster care (Tarren-Sweeney, 2017). The author suggested that, instead of investigating whether foster care is beneficial or not for children's mental health, one needs to identify for whom it is beneficial and for whom it is not.

An association between early internalizing behavior and later externalizing behavior has been suggested in attachment theory. Bowlby (1998/1973) discussed the possibility that repressing anger in order to secure closeness to an attachment figure may be followed by expression of anger. An hypothetical explanation may be that repression of difficult feelings can be a way of developing internalizing behavior that later will be expressed as externalization of anger. There are some empirical findings that support this claim. Yoon et al. (2017) found that initial higher levels of internalizing behavior were associated with higher levels of externalizing behavior among children aged 2–5 years. Further, in a study by Bornstein, Hahn, and Haynes (2010) children with more internalizing behavior at age 4 years showed more externalizing behavior when they were 14 years old.

1.3. Information from multiple informants

Most studies use reports from one informant (often the primary caregiver) when investigating social-emotional behavior in foster children. However, when investigating behavior of foster children over time, information from multiple informants is of great value to reduce problems related to shared method variance (i.e. variance due to the method being used, rather than the phenomenon being studied (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003)). In a study of opioid-exposed children who were mostly adopted or in long-term foster care, Nygaard, Slinning, Moe, and Walhovd (2016) included reports from primary caregivers, as well as preschool teachers and school teachers. Preschool teachers reported aberrant behavior already when the children were 4.5 years old, whereas caregivers did not identify atypical behaviors before they were 8.5 years. In contrast to these findings, in a study by Gil Llarro, Ceccato, Molero Manes, and Ballester Arnal (2013), parents were more inclined to detect behavior and attention problems than teachers. A similar tendency was found in a study by McAuley and Trew (2000). In this study of 19 foster children, the authors found strong agreement between foster mothers and foster fathers, but not between foster carers and teachers. Foster carers' ratings on externalizing behavior four months post-placement were associated with placement outcome two years later. Notably, Tarren-Sweeney, Hazell, and Carr (2004) found disagreement between foster parent and teacher rating for internalizing, but not for externalizing behaviors. In addition to reports from caregivers and teachers, Strijker, Oijen, and Knot-Dickscheit (2011) argues that problem behavior should also be assessed from the perspective of the foster child as an additional informant. In their study disagreement between reports from foster parents and foster children, and that disagreement was associated with placement

Table 1
Sample characteristics of foster and comparison caregivers at T3.

Characteristics	Mothers					Fathers				
	Foster		Comparison		P value	Foster		Comparison		P value
	(n = 46)	%	(n = 36)	%		(n = 38)	%	(n = 30)	%	
Main participant	41	89.1	34	94.4		7	18.4	3	10.0	
Marital status										
Married	34	73.9	20	55.6	0.089	30	78.9	18	60.0	0.018
Cohabiting	5	10.9	12	33.3		3	7.9	11	36.7	
Earlier married/cohabiting	4	8.7	2	5.6		3	7.9	0	0.0	
Divorced	3	6.5	1	2.8		2	5.3	1	3.3	
Neither of the above	0	0.0	1	2.8		0	0.0	0	0.0	
Ethnic origin										
Norwegian	42	91.3	35	97.2	0.411	36	94.7	29	96.7	0.240
Norwegian/other	2	4.3	0	0.0		0	0.0	1	3.3	
Other	2	4.3	1	2.8		2	5.3	0	0.0	
Education ¹										
High	15	32.6	27	75.0	< 0.001	11	28.9	15	50.0	0.001
Medium	14	30.4	7	19.4		4	10.5	10	33.3	
Low	17	37.0	2	5.6		23	60.5	5	16.7	
Working out of home	33	71.7	34	97.1	0.003	37	97.4	30	100.0	0.371
Mean income (USD)	55699 (n = 44) (SD 19 253)		64 811 (n = 35) (SD 24 555)		0.068	85962 (n = 37) (SD 112 830)		84480 (n = 30) (SD 26 459)		0.944
Mean age	44.2 (SD 5.2)		39.3 (SD 3.9)		< 0.001	45.6 (SD 5.0)		41.8 (SD 4.2)		0.001

Note: Chi square and t-tests were used to analyze group differences.

¹Education: Low = Secondary school or less, Medium = 2–3 years full time education after Secondary school, High ≥ 4 years full-time education after Secondary school.

breakdown. Further examples of disagreements among informants can also be found in studies of non-foster families. Thus, Grietens et al. (2004) found low inter-rater agreement between mothers, fathers and teachers on CBCL and Teacher Report Form (TRF) data in a nonclinical preschool sample.

1.4. The impact of age at placement on foster children's development

Another factor to consider when placing children in foster care is the impact of the child's age. In the Bucharest Early Intervention Project (BEIP), children placed in foster care at 20 months or younger were more likely to exhibit adaptive functioning at the age of 12 years than those placed at an older age (Humphreys et al., 2018). The authors suggest that a sensitive period for psychosocial recovery may be between 18 and 24 months, meaning that when children are placed in foster care before this age, healthier development is more likely. Results from the Early Romanian Adoption Study suggest an even earlier breaking point, with children adopted at the age of 6 months or earlier showed dramatically better outcomes at the age of 11 years (Kreppler et al., 2007). However, these differential effects might be due to foster care and adoption placement having different impacts on child outcomes. The findings suggest that age at placement may not be the only factor influencing foster children's outcomes. Despite the importance of early identification of foster children's social-emotional functioning, there is a dearth of studies investigating the long-term impact of foster parenting. When foster children reach school age, new challenges tend to occur that will test their social-emotional functioning. Studies of the differential predictive validity of assessing social-emotional functioning at 2 and 3 years of age would be of interest considering the implications for early intervention.

1.5. Aims of this study

This study is part of a longitudinal investigation of the development and attachment of young foster children. The paper has two aims: first, to compare the social-emotional functioning (as reported by mothers,

fathers, and teachers) of foster children with a group of children living with their biological families at the age of 8 years. Second, to investigate a set of possible predictors of problem behavior at 8 years: social-emotional functioning at age 2 and 3, adjusted for age at final placement. The following hypotheses were investigated:

1. Foster children differ from their age-matched non-foster peers at 8 years of age in terms of social-emotional functioning, as reported by mothers, fathers, and teachers.
2. Social-emotional functioning at age 8 years among foster children is related to earlier functioning, having differential associations with functioning assessed at 2 and 3 years of age.

2. Method

2.1. Participants

The total sample when the children were approximately 8 years (T3) consisted of 48 foster children (17 girls, 35.4%) aged 8.00 to 8.35 years ($M = 8.07$, $SD = 0.07$), and 37 comparison children (20 girls, 54.1%) aged 8.01 to 8.21 years ($M = 8.05$, $SD = 0.05$). At T3, no significant group differences were detected regarding child gender ($p = .067$) or child age ($p = .221$). The original sample when the children were 2 years (T1) consisted of 60 foster children (FC) (24 girls, 40.0%) aged 1.83 to 2.11 years ($M = 1.98$, $SD = 0.06$), and 42 comparison children (CC) (21 girls, 50.0%) aged 1.86 to 2.07 years ($M = 1.97$, $SD = 0.04$) (T1). At the age of 3 (T2), there were 56 FC (21 girls, 37.5%) aged 2.89 to 3.07 years ($M = 2.98$, $SD = 0.03$) and 40 CC (21 girls, 52.5%) aged between 2.94 and 3.04 years ($M = 2.98$, $SD = 0.02$). Of the original sample ($n = 60$), forty-six (76.7%) of the FC children and 39 (92.9%) of those in the CC group were of Norwegian ethnicity. Based on female caregivers' report and those who answered the questions, 15 (36.6%) of the foster children and none of the comparison children had been evaluated by a child psychiatric day unit at T3, and only 3 (6.8%) had received any treatment. As for guidance in a school setting, foster mothers reported that 20 (43.5%) of the foster

children had received help since they started school and up to the time the questionnaire was completed. Among comparison children only one child (2.8%) had received such help.

As shown in Table 1, 46 foster mothers and 38 foster fathers participated in the present study by completing the CBCL at age 8 years. For the comparison group the numbers were 36 mothers and 30 fathers. The caregivers in both groups were typically married, few reported to be divorced and most were of Norwegian ethnicity. There was a clear difference in education among female as well as male care givers, with more female and male caregivers in the comparison group having higher education. This means that they had two or more years of full-time education after secondary school. Despite the difference in educational attainment, there were small group differences in household income for female as well as male caregivers. Both female and male caregivers in the foster group were somewhat older than the parents in the comparison group. Finally, there was a slight difference between the groups ($p < 0.001$) in terms of the number of children in the household at T3, with the comparison households having more children (3.4 vs. 2.3).

Characteristics of the foster group. Based on data at T1, all foster children ($n = 60$) received new caregivers at a relatively young age. They were between 0.03 and 18.6 months ($M = 4.6$, $SD = 5.2$) when they were removed from their biological parents, and between 0.07 and 21.7 months ($M = 8.2$, $SD = 5.8$) when they were placed with their long-term foster parents.

At T3, the Child Protection Services (CPS) reported that none of the children had been placed in institutions after T2. The main reasons for foster care placement at T1 were lack of parental caring abilities and other unspecified reasons ($n = 33$, 55.0%), parental substance abuse and lack of parental caring abilities ($n = 12$, 20.0%), and parental substance abuse and other unspecified reasons ($n = 11$, 18.3%). As for type of placement, only three (6.3%) children were reported to be in kinship foster care, and only one foster child had received new foster parents between T2 and T3. The length of time children spent in their current foster home at T3 varied between 74 and 98 months ($M = 87.1$, $SD = 6.0$). At T3, the number of visitations by biological parents ranged between 0 and 12 times per year for mothers ($M = 3.3$, $SD = 3.1$), and between 0 and 8 times for fathers ($M = 2.1$, $SD = 2.5$). Further, 12 (25.0%) of the foster children had been adopted at T3. Finally, based on the foster mothers' report, 15 foster families had one or more foster children living in the family at T3.

2.2. Procedures

The recruitment of participants for the original study was done during 2009 and 2010. When the children were close to 8 years old, the families were invited to participate again. Foster children and their foster parents were recruited through the community CPS. Only foster children where the CPS had taken over the care responsibility were included in the study. As investigating attachment patterns is part of the larger study, all foster children should have lived in a foster home for at least two months prior to the first assessment (Stovall & Dozier, 2000).

Recruitment of a comparison group was decided due to lack of Norwegian norms on the measures employed in this study. The comparison families were primarily recruited through kindergartens and public health centres in the same geographical areas as the foster families. Both female and male caregivers were invited to complete questionnaires; informed written consent was obtained from all caregivers prior to T1 (for both T1 and T2), and again at T3. Three foster fathers were not invited to participate at the eight-year assessment because they no longer had any contact with the foster children. The CPS gave written informed consent to include the foster children in the study at T1 (for both T1 and T2), and again at T3. The CPS gave permission for the preschool teachers to complete the ITSEA at T2 and T3. The teachers gave a written consent to complete the CBCL. The Norwegian Ministry of Children and Family Affairs gave permission to

recruit the foster children without informed consent from the biological parents. The dropout rate from T1 to T2 was minimal, only four FC (three girls and one boy) and two CC (two boys) were missing. At T3, to be able to include as many families as possible, those who declined to participate in the full study were invited to participate by only completing questionnaires and participate in a telephone interview. Among foster families 12 (20.0%) did not participate at all (including those who did not participate at age 3 years), and eight (13.3%) accepted to complete questionnaires and an interview. Among comparison families, the numbers were five (11.9%) and one (2.4%), respectively. The reasons for dropout among the foster group at T2 included moving to a new foster home or arrival of a new foster child. Reasons for dropout in the comparison group were not possible to determine. The main reason for foster families not to participate at T3 was that their children were struggling in different developmental areas, and hence they thought it would be a too much of a burden to participate. Other reasons included ongoing divorce processes between caregivers. The comparison families gave no clear reasons for not participating at T3. Analysis of drop-out included the following variables: child birth weight, group membership (FC or CC), child gender, internalizing and externalizing reported by the female caregiver at T1. The results revealed that the only factor that was somewhat associated with drop-out at T3 was child birth weight ($p = 0.019$), implying that when birth weight increased by 100 g, the odds for not participating increased with 15%. Neither for group (i.e. foster or comparison group), child gender, or internalizing and externalizing behavior reported by the female caregiver was there any clear evidence for association with drop-out at T3 ($p \geq 0.296$). For more information about the recruitment process; see (Reference omitted due to blind review).

All observations and tests were done in a laboratory setting within a single day, and questionnaires at T1 and T2 were mostly completed at home after the observations were completed. At T3 the caregiver who accompanied the child (mostly the main caregiver who also had accompanied the child at T1 and T2) completed the questionnaires when the children were doing tests and observations. The other caregiver completed the questionnaires at home.

2.3. Measures

Child Behavior Checklist/6–18 (CBCL) (Achenbach & Rescorla, 2001) is a widely used caregiver report for identifying competence and problem behavior in children age 6–18 years. Only the problem behavior section was used; it consists of 118 questions and has three response alternatives; 0 = absolutely not, 1 = a little or sometimes; and 2 = often or always. Three main scores (internalizing, externalizing and total problem score) are calculated from eight problem scale scores. The internalizing score consists of the anxious/depressed, withdrawn/depressed and somatic complaints sub-scale scores. The externalizing score consists of the rule-breaking behavior and the aggressive behavior sub-scale scores. The total problem score is calculated using the internalizing and externalizing scores in addition to social problems, thought problems, attention problems scale scores and other problems. T-scores were calculated, and cut-off scores were used to identify children with problem scores above the expected levels for children in this age group. Achenbach and Rescorla (2001) suggest using a T-score of ≥ 65 to identify children with and without behavior problems, meaning that they are on the borderline or in the clinical area of problem behavior. The reliability and validity of the CBCL are regarded as satisfactory (Achenbach & Rescorla, 2001), and the present Cronbach alphas were as follows: internalizing behavior 0.88 (female caregiver), 0.91 (male caregiver), externalizing behavior 0.95 (female caregiver), 0.95 (male caregiver), and total problems 0.96 (female caregiver) and 0.97 (male caregiver).

No national Norwegian norms for the CBCL exist, though some studies have data on specific regions of the country. For instance, a study by Jozefiak, Larsson, Wichstrom, and Rimehaug (2012) on

children aged 6–16 in Central Norway, reported CBCL total problem scores ranging from 12.2 to 17.2. Other studies have reported a somewhat broader range; 11.9 to 21.1 (Javo, Heyerdahl, & Rønning, 2000; Javo, Rønning, Handegård, & Rudmin, 2009; Kvernmo & Heyerdahl, 1998). Due to the lack of national norms, this study utilized the American norms (Achenbach & Rescorla, 2001). The construct validity has been reported to be good, the criterion validity promising, and the internal consistency good to excellent, based on Norwegian studies (Kornør & Jozefiak, 2012).

Teacher Report Form (TRF) (Achenbach & Rescorla, 2001) is a 113-item questionnaire completed by the child's teacher. The questionnaire, which like the parent report form includes eight problem scale scores that are calculated into three main scores (externalizing, internalizing, and total problems), identifies the child's competence and problem behavior. In this study the problem section was used. The Cronbach alphas for teacher report were as follows: internalizing 0.73, externalizing 0.95, and total problems 0.92. The Cronbach alpha for internalizing behavior was somewhat lower than what has been reported in previous Norwegian studies (0.77–0.89) (Kornør & Jozefiak, 2012). However, an alpha of > 0.70 is regarded as satisfactory when comparing groups (Bland & Altman, 1997).

The Infant-Toddler Social and Emotional Assessment (ITSEA). ITSEA (Carter & Briggs-Gowan, 2006) is a caregiver report measure for identifying social-emotional problems and competence in children ages 12–36 months. In this study ITSEA was administered at T1 and T2 with both caregivers, and with preschool teachers at T2. Externalizing and internalizing problem scores are calculated as behavioral domains, with T-scores being calculated for each domain, in addition to dysregulation and competence that are not used in the present study. A score of 1.5 SD above the mean is "of concern". Using T-scores made it possible to compare scores over time and determine if scores were "of concern". If the children had passed 36 months, the calculation of the T-scores was based on the norms for children aged 35 months and 30 days. All the domains could be calculated in accordance with the requirements of the manual (Carter & Briggs-Gowan, 2006). A Norwegian translation of the questionnaire was used, without available Norwegian norms. In this study, the caregiver report from both caregivers as well as preschool teachers were used. At 2 years of age Cronbach alpha for externalizing behavior was 0.87 (female caregiver), 0.81 (male caregiver), and for internalizing behavior 0.79 (female caregiver), 0.71 (male caregiver). At 3 years the alphas were 0.88 (female caregiver), 0.87 (male caregiver), and 0.87 (preschool teachers) for externalizing behavior, and 0.72 (female caregiver), 0.76 (male caregiver), and 0.79 (preschool teachers) for internalizing behavior. For increased readability, the term "teacher" is used both for preschool teacher and primary school teacher in the Results and Discussion sections.

Caregiver questionnaire. At each time point, both caregivers were asked to complete questionnaires about their social-economic status,

important household information (including family size and number of children in the household) and some brief questions about the child's mental health and need for therapeutic intervention and guidance in a school setting. Additional questions included their experience as foster parents, supervision and visitations from biological parents.

CPS questionnaire. Retrospective data about the foster child were obtained from the CPS at T1. A CPS worker was asked to complete a questionnaire regarding the information in the child's case file. The questions were about the age of the child at first and last placement, number of placements, reasons for placement, number of visitations with the biological parents and the child's possible adverse caregiving experiences before placement. The CPS questionnaire was completed for each foster child.

2.4. Data analyses

Descriptive statistics, chi square, and independent sample Welch t-tests were used to analyse the sample characteristics and group differences in internalizing, externalizing and total problem behavior at 8 years of age. Linear regression analyses were used to investigate group differences at 8 years of age, adjusting for parental education and child gender for mothers and fathers separately, and for child gender only for the teacher report. Linear regression analyses within the foster group were also used to investigate predictions of externalizing and internalizing child problem behavior as reported by female and male caregivers from child age 2, 3 and 8 years and predictions of child problem behavior as reported by preschool teachers at child age 3 years to reported problem behavior by teachers at child age 8 years. Analyses were adjusted for child age at final foster placement. Partial eta squares were computed for t-tests and linear regressions.

To address the last part of the second hypothesis, we compared regression coefficients for the relationships between problem behavior both at 2 and 3 years, with the same behavior at 8 years, separately for foster mothers and foster fathers. Confidence intervals for these differences were computed by the bootstrap BC_a procedure based on 10 000 bootstrap replications. These computations were only performed in cases where there was reasonable doubt about these differences based on overlap between the confidence intervals in the regression analyses. Logistic regressions were used to investigate drop-out at 8 years in the total sample. Analyses of drop-out included the following variables: child birth weight, group membership (FC or CC), child gender, internalizing and externalizing reported by the female caregiver at T1. The R (The R Foundation for Statistical Computing, Vienna, Austria) package boot was used for bootstrap analyses. SPSS version 23 (IBM SPSS, Armonk, New York, USA) was used for other analyses.

Table 2
Problem behavior at child age 8 years (T3) – T-scores.

CBCL/TRF	Foster children (n = 46)				Comparison children (n = 36)			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Female caregiver								
Internalizing	51.92	11.17	33.0	79.0	46.17	9.75	33.0	66.0
Externalizing	56.44	13.57	33.0	85.0	43.90	10.44	33.0	67.0
Total problem score	55.86	12.61	31.2	82.0	43.40	8.88	24.0	63.0
Male caregiver								
Internalizing	48.72	13.21	33.0	74.0	41.20	7.68	33.0	65.0
Externalizing	54.57	14.32	33.0	82.0	40.90	7.75	33.0	59.0
Total problem score	53.92	14.17	29.0	79.0	38.58	7.57	24.0	54.0
Teacher report								
Internalizing	52.76	9.26	37.0	75.0	43.62	6.68	37.0	55.0
Externalizing	56.32	10.99	41.0	81.0	47.16	6.15	41.0	58.0
Total problem score	56.46	10.09	38.0	77.7	44.96	7.08	32.0	58.0

Table 3
Group differences for Externalizing and Internalizing behavior at child age 8 years (T3) - T-scores.

Female caregiver	Mean FC	Mean CC	Diff.	CI	p-value	Partial eta squared
Internalizing	51.92	46.17	5.75	1.14 to 10.35	0.015	0.07
Externalizing	56.44	43.90	12.54	7.26 to 17.82	< 0.001	0.21
Total problem score	55.86	43.40	12.46	7.73 to 17.19	< 0.001	0.24
Male caregiver	Mean FC	Mean CC	Diff.	CI	p-value	
Internalizing	48.72	41.20	7.52	2.40 to 12.64	0.005	0.10
Externalizing	54.58	40.90	13.68	8.24 to 19.12	< 0.001	0.25
Total problem score	53.92	38.58	15.33	9.97 to 20.70	< 0.001	0.30
Teacher report	Mean FC	Mean CC	Diff.	CI	p-value	
Internalizing	52.76	43.62	9.14	5.06 to 13.23	< 0.001	0.23
Externalizing	56.33	47.16	9.17	4.75 to 13.58	< 0.001	0.19
Total problem score	56.46	43.96	12.50	8.10 to 16.90	< 0.001	0.33

Number of participants are as in [Table 2](#).

3. Results

Descriptive statistics on internalizing, externalizing and total problem behavior scores at 8 years of age, reported by both female and male caregivers and teachers, are shown in [Table 2](#). Using T-scores in the analysis, mean scores of both groups were below the clinical range although the range was wide. Both female and male caregivers as well as teachers reported that more foster children as compared to comparison children were in borderline/clinical range on the externalizing (14, 30.5% vs 1, 2.8%, 10, 26.4% vs 0, and 11, 30.5% vs 0, respectively) as well as on the internalizing scale (8, 17.3% vs 2, 5.6%, 6, 15.8% vs 1, 2.8%, and 4, 11.2% vs 0, 0%, respectively). As for the CBCL total score, 12 (26.1%) foster mothers, 10 (26.3%) foster fathers, and 6 (16.7%) teachers reported the children to be in the borderline/clinical range on the total problem scale. None of the children in the comparison group were rated to be in the borderline/clinical range on total problems by any of the caregivers.

Group differences on internalizing, externalizing, and total problem behavior, based on female, male and teacher reports at T3, are shown in [Table 3](#). Using independent sample t-tests based on T-scores, results showed that the foster children, compared to the children in the comparison group, were reported by female and male caregivers, as well as teachers, to have somewhat higher levels of internalizing behavior. Similar results were reported by teachers on foster children's externalizing behavior. Substantially higher levels of problem behavior in foster children were reported by female and male caregivers on externalizing behavior and for all three types of informants on total problem behavior at the age of 8 years ($p \leq 0.017$, see [Table 3](#)). When adjusting for child gender and parental education, group differences (using female and male parental reports) were somewhat lower, but still significant. Group differences in internalizing behavior, however, were no longer significant ($p \geq 0.055$). For teacher report, small changes occurred, but group differences remained highly significant ($p \leq 0.001$) (see [Supplementary table](#)).

As reported in [Table 4](#) externalizing and internalizing behavior at age 2, 3 and at 8 years of age, linear regression analyses only gave substantial evidence that externalizing behavior in early childhood was differently associated with problem behavior at age 8 years. Externalizing behavior reported by foster mothers at age 2 as well as 3 years predicted externalizing behavior reported by foster mothers when the children were 8 years old. Also externalizing behavior reported by foster fathers at 3 years of age strongly predicted foster children's externalizing behavior reported by foster fathers at age 8 years. Internalizing behavior reported by foster mothers and foster fathers at child age 2 and 3 was weakly associated with externalizing or internalizing behavior at child age 8 years. Finally, teacher report on children's externalizing behavior at child age 3 weakly predicted foster children's externalizing behavior at 8 years of age, as was the case for internalizing behavior at child age 3 on foster children's internalizing or

externalizing behavior at child age 8 years (See [Table 4](#)).

Bootstrap analysis revealed that externalizing behavior at child age 3 years reported by the foster father to a larger extent than behavior at age 2, could explain child externalizing behavior when the foster child was 8 years old (CI: 0.77 to 82.96, 99% CI level) signifying a stronger relationship with externalizing behavior at 3 years than 2 (coefficients: 29.79 versus 1.90). For internalizing for foster fathers', the confidence intervals included 0, as was also the case for the differential associations at age 2 and 3 for internalizing for foster fathers and externalizing at age 8 years. These analyses were only performed for foster fathers since the corresponding confidence intervals for foster mothers were highly overlapping.

4. Discussion

The results of this study were twofold. First, foster children evidenced higher T-scores on all three CBCL scales (internalizing, externalizing, and total problem behavior), reported by female and male caregivers, and teachers at 8 years of age. Additionally, more children in the foster children group were reported to have scores at or above the clinical range. Further, group differences were identified on all scale scores reported by all three informant groups. Secondly, results showed that externalizing behavior reported at age 2 and 3 years of age by female caregivers, as well as at 3 years by male caregivers moderately predicted externalizing behavior at age 8. Lastly, bootstrap analyses confirmed that male caregiver reports on externalizing behavior at age 3, to a larger extent than that at age 2, could explain child externalizing behavior at age 8.

As expected, the first hypothesis was supported. The group of foster children was reported by mothers, fathers and teachers to have poorer social-emotional functioning as expressed by internalizing, externalizing and total problem behavior when they were 8 years old, compared to the children in the comparison group. Our findings are supported by other studies which have reported that foster children showed more mental health problems and externalizing behavior compared to children in the typical population ([Havnen, Breivik, & Jakobsen, 2014](#); [Oswald et al., 2010](#)), and also when using comparison groups from the general population ([Goemans et al., 2016](#)). Further, in a study by [Vanschoonlandt, Vanderfaellie, Van Holen, De Maeyer, and Andries \(2012\)](#) foster children living in non-kinship foster care had more problem behavior than those living in kinship care. In our study, only three children lived in kinship care and we could therefore not investigate the possible importance of type of placement. However, such studies may illustrate why some children fare better than others. Foster children's social-emotional challenges may have a substantial impact on their possibilities to establish long-lasting relationships with their new caregivers. In particular, foster children's externalizing behavior has been found to be associated with breakdown in placement ([Konijn et al., 2019](#); [Oosterman et al., 2007](#)), and should therefore be of

Table 4
Linear regression analysis for problem behavior at T3.

T1				T2		
Internalizing ¹	Coeff ² (CI), Partial eta squared	p-value	R sq. (Ad. R sq.)	Coeff ² (CI) Partial eta squared	p-value	R sq. (Ad. R sq.)
Internalizing Foster mother	7.01 (−2.49 to 16.50), 0.049	0.144	0.111 (0.070)	7.03 (−1.49 to 15.55) 0.061	0.103	0.122 (0.081)
Internalizing Foster father	−2.62 (−14.99 to 9.75) 0.005	0.669	0.056 (0.000)	3.58 (−6.47 to 13.63) 0.015	0.474	0.065 (0.010)
Internalizing Teacher				−2.07 (−14.19 to 10.04) 0.005	0.727	0.126 (0.054)
Externalizing ¹	Coeff ² (CI) Partial eta squared	p-value	R sq. (Ad. R sq.)	Coeff ² (CI) Partial eta squared	p-value	R sq. (Ad. R sq.)
Externalizing Foster mother	20.86 (7.98 to 33.73) 0.199	0.002	0.241 (0.206)	21.65 (11.47 to 31.83) 0.299	< 0.001	0.337 (0.306)
Externalizing Foster father	11.90 (−5.63 to 29.42) 0.053	0.177	0.070 (0.016)	29.79 (17.39 to 42.19) 0.412	< 0.001	0.423 (0.389)
Externalizing Teacher				6.69 (−7.41 to 20.79) 0.038	0.337	0.221 (0.156)
Internalizing Foster mother	4.12 (−13.71 to 21.94) 0.005	0.644	0.058 (0.014)	5.19 (−10.86 to 21.25) 0.010	0.518	0.062 (0.019)
Internalizing Foster father	−0.86 (−22.49 to 20.78) 0.000	0.936	0.018 (−0.039)	9.68 (−7.66 to 27.02) 0.036	0.264	0.054 (−0.002)
Internalizing Teacher				−4.68 (−22.95 to 13.60) 0.011	0.602	0.192 (0.124)

¹ Adjusted for age at final foster placement.

² Regression coefficient.

high priority to identify early in placement.

As for their mean T-scores on a group level, the foster children's scores were within the expected age norms on internalizing, externalizing as well as total problem scores when they were 8 years old. On the other hand, more foster children were within the borderline/clinical range reported by foster parents as contrasted with the comparison group. Our findings are, to some degree, comparable with other studies that have reported foster children to be at risk for more mental health problems, compared to children in the typical population (Lehmann et al., 2013; Lehmann & Kaye, 2018; Oswald et al., 2010). However, it is difficult to say why some foster children in our study were within the borderline/clinical range whereas others were not. One may surmise that individual characteristics within the foster group (e.g. caregiver's parenting style, child vulnerability etc.) could explain this kind of difference, but it is outside the scope of the current study to examine these kinds of variables.

Previous research has suggested that foster children are at greater risk for developing externalizing as well as internalizing behavior (Goemans, Geel, & Vedder, 2018). Our results add credibility to the idea of such a developmental pathway. However, in the meta-analysis by Goemans et al. (2016), internalizing behavior did not differ significantly from that in the general population. Further, Kolko and Kazdin (1993) argue that externalizing behaviors might be more easily detected than internalizing behaviors when using caregiver reports.

When looking at the number of children who were in the borderline/clinical range, fewer children in our study were reported to have such a degree of problem behavior as the foster children in the study by Goemans et al. (2018), and in previous studies of foster care (e.g. Bernedo, Salas, Garcia-Martin, & Fuentes, 2012; Burns et al., 2004; Fernandez, 2009). In other words, considering number of children in the borderline/clinical range the children in the present sample had better social-emotional functioning than the children who participated in for example the Goemans et al. (2018) study (16.7–26.3% versus 43.0–58.3%). It should be noted that the Goemans study utilized the Strength and Difficulties Questionnaire (Goodman & Goodman, 2012), and that the children were somewhat older than those who took part in our study i. e. had a mean age of 10.7 years (range from 4 to 17 years) old at the first measurement point. Additionally, they had stayed for a shorter time in the foster home (49.4 vs 87.1 months).

In this study we used a comparison group of families that had never received any help from the CPS and thus might be described as a low-risk sample. Foster children have been found generally to have lower functioning than children from the general population, including children in a comparison sample similar to those reported on in the present paper (Goemans et al., 2016). It might seem obvious that such a difference would occur due to adverse childhood experiences, possible traumas, as well as receiving new caregivers. The question is therefore whether such a comparison is useful or not. In the present paper, we decided to include a comparison group due to the fact that many of our instruments did not have Norwegian norms. Ideally three groups could have been included; a foster group, a group of children living with their biological parents and receiving help from the CPS, and a low-risk comparison group. Studies with small sample size and different comparison groups may nevertheless be of interest, especially since they are often included in meta-analyses, such as the one by Goemans et al. (2016). They found that the general functioning of foster children was more similar to children at risk who lived with their families of origin. Additionally, it would be valuable to investigate if foster children are able to close the gap to children living in non-risk families. It is well known that children with families receiving help from the CPS lag behind in areas such as school education (Backe-Hansen, Madsen, Kristofersen, & Hvinden, 2014; Vinnerljung & Hjern, 2011) – areas which are of great importance for becoming a well-functioning adult person.

4.1. The relation between foster children's early and later socio-emotional functioning

Secondly, we hypothesized that the foster children's social-emotional functioning at age 8 years would be related to information on earlier functioning and age at final placement, possibly with differential relationships with functioning at 2 and 3 years. This hypothesis was partially supported. Again, the strongest evidence was obtained with respect to foster children's externalizing behavior. Although not examining predictions from early to middle childhood, our results are in line with previous research stating that externalizing behavior may be the more challenging behavior in foster children's social-emotional functioning (Goemans et al., 2016; Lawrence et al., 2006). Especially foster mothers' reports of externalizing behavior at 2 and 3 years of age

were strongly associated with reporting such behavior at age 8 years. This was also the case for foster fathers, although the association was only substantially supported between the ages of 3 and 8 years. For teachers, we identified a weak association between ages 3 and 8 years. To our knowledge, few studies have investigated the development of social-emotional behavior from early childhood to early school age. The present results showed that more externalizing behavior in early childhood was associated with more externalizing behavior later on. Since this was the case for both foster mothers' reports at 2 and 3 years of age and for foster fathers' reports when the child was 3 years old, there is evidence that externalizing behaviors at age 2–3 years have predictive validity for later child behavior. For foster fathers the association was stronger at child age 3 years. It is difficult to say why internalizing behavior was not found to be a substantial predictor for later behavior. One reason may be that externalizing behavior is more noticeable (Kolko & Kazdin, 1993), and hence more easily detected, even when the child is quite young. Moreover, there may exist an association that we were not able to identify due to our limited sample size.

As discussed above, there was evidence that externalizing behavior, but not internalizing behavior, in early childhood was associated with the same kind of problem behavior later in the child's life. Further, early internalizing behavior was only to a minor degree associated with later externalizing behavior. Do these findings mean that early social-emotional functioning in terms of internalizing problems has less impact on foster children's later social-emotional functioning? We did not find any support for such a hypothesis. Vanschoonlandt et al. (2012) found 50.0 percent of foster children in non-kinship care to be in the borderline range on internalizing behavior and 49.1 percent on externalizing behavior. Even though there are no consistent findings in the literature showing that problem behaviors increase or decrease over time (Goemans et al., 2015), internalizing and externalizing behaviors can have a considerable impact on foster children's adaptive functioning. For instance, problems with poor social-emotional functioning, such as externalizing behavior, may explain poor school achievements among foster children, as reported by Vinnerljung and Hjern (2011). Further, foster children's problem behaviors have also been found to be one of the most important predictors of placement breakdown (Konijn et al., 2019; Oosterman et al., 2007).

4.2. Strengths and limitations

The main strength of the present study was the use of multiple informants: female and male caregivers, as well as teachers. Thus, problems associated with shared method variance (e.g. attempting to maintain consistency, social desirability etc.) may have been reduced, which strengthens the confidence in our findings. It might have been expected that the use of different informants could yield diverging outcomes for each informant group, however, the caregivers seemed to agree that foster children's externalizing behavior was the main concern. Secondly, our study employed a longitudinal design making estimations of associations over time possible. Such a design makes it possible to detect possible antecedents of later problem behavior in foster children. Finally, a comparison group of non-CPS families was used. Although the importance of such a group may be discussed, the lack of Norwegian norms on many of the instruments used in this study meant that using a comparison group was necessary to investigate whether group differences were significant.

The study also had some limitations. Firstly, the limited sample size makes generalization to other foster care populations difficult. In other words, we cannot be certain that our results are typical for foster children in the same age range in Norway or other countries. Nevertheless, many studies in this area of research have small samples and therefore may be of importance when included in meta-analyses (Goemans et al., 2016). Secondly, neither group can be seen as a fully representative sample of a larger population. Recruiting participants from the CPS is a difficult task, and hence the recruitment of a

representative sample would require much more time and effort than what the researchers had at their disposal. All CPSs that were used for recruitment were located in different areas of Norway and represented quite diverse populations. For practical reasons the families in both groups had to be located close to a location with available technical facilities. Thus, it was not an option to include families in more rural parts of Norway. Using just parental reports would have made it easier to reach a larger population and to obtain results that could demonstrate social-emotional functioning among the typical foster care population at 2, 3 and 8 years of age. Thirdly, using different measures at 2 and 3 years for comparison with 8 years limited the use of more sophisticated analyses (e.g. mixed effect models). Further, stability and *longitudinal trajectories*, including change over time, were not possible to investigate. The rationale for using the ITSEA in early childhood was to have the option to investigate both foster children's social-emotional competence as well as their problem behavior. The CBCL can also be used to investigate competence, but as far as we know, the CBCL competence measure has not been widely used in research projects. Finally, some foster families who had experienced extensive challenges with their foster child declined to participate at the third measurement point due to the fear that participation could be too large a burden on the child. Further, the response rate from teachers was low, making these results more unreliable.

4.3. Conclusion and implications

In this study we investigated the possible difference between a group of foster children, and children living with their biological parents, at 8 years of age. We also studied the associations between early social-emotional functioning expressed by internalizing and externalizing behavior at 2 and 3 years of age in the group of foster children, and the same type of behavior at age 8 years reported by three types of informants. The results showed that foster children are at risk for developing more problems in social-emotional functioning, compared to their age-matched peers, especially in the area of externalizing behavior. We also found that early externalizing behavior was associated with the same kind of behavior at 8 years of age. The main clinical implication of this study is that practitioners should investigate foster children's social-emotional functioning at an early age to be able to prevent future challenges with problem behavior, especially externalizing behavior, when the children reach school age. Previous research has shown that children in the welfare services do not receive enough help with mental health issues such as behavioral and emotional problems (Burns et al., 2004). One might question if these children receive adequate help when needed (Larsen, Baste, Bjørknes, Myrvold, & Lehmann, 2018). In a recent paper Lehmann and Kayed (2018) discussed the need to focus on the importance of helping foster parents with tailored guidance in order to help their children towards enhanced mental health status. As most attention has been on in-patient treatment, the needs of foster children might easily be overseen.

Prevention of externalizing behavior reaching the borderline level might help these children to cope with challenges when they enter school later in life. Hopefully, lower levels of such behavior might help foster children towards better peer relationships and to improve their academic achievements, as has been shown among youths in non-foster care research (Masten et al., 2005; Moilanen, Shaw, & Maxwell, 2010). Developing a positive peer relationship has been found to moderate the effects of negative life experiences (e.g. harsh parenting) on the development of externalizing behavior (Criss, Pettit, Bates, Dodge, & Lapp, 2002). One needs more longitudinal studies from early childhood to adult age to further investigate foster children's social-emotional functioning and life satisfaction, including the importance of peer relationship, throughout the life span. Although participants in the BEIP study (Humphreys et al., 2018; Zeanah et al., 2017) who were followed over time and evidenced less externalizing behavior and better ability to establish peer relationships than those who remained in institutions,

the life paths of foster children with a less heavy burden early in life would be of great interest to study. Despite the fact that different types of interventions have been shown to help foster children with externalizing behavior over time (e.g. Thijssen, Vink, Muris, & de Ruiter, 2017; Van Holen, Vanschoonlandt, & Vanderfaellie, 2017), similar studies that target maltreated children in alternate care are much needed (Lehmann & Kaye, 2018).

Funding

This project has been financially supported by the Centre for Child and Adolescent Mental Health, Eastern and Southern Norway through funds from the Ministry of Children and Families, the Norwegian Extra Foundation for Health and Rehabilitation through EXTRA funds (Grant number: 210/FOM9392), and the Wøyen Foundation.

Ethical approval

Informed consent was obtained from all individual participants (caregivers and child protection services) included in the study. Informed consent was not obtained from the foster children's biological parents because a special permission to include foster children in the study was given by the Ministry of Children and Families. This project was approved by the Regional Committees for Medical and Health Research Ethics and the Norwegian Centre for Research Data at T1 and T2, and by the Regional Committees for Medical and Health Research Ethics at T3 due to changes in routines.

Declaration of Competing Interest

The author declare that there is no conflict of interest.

Acknowledgments

We would like to thank all the families who have taken part in our longitudinal study.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chi.2019.104603>.

References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont Research Center for Children, Youth, & Families.
- Backe-Hansen, E., Madsen, C., Kristofersen, L. B., & Hvinden, B. (2014). Barnevern i Norge 1990–2010. En longitudinell studie [Child Welfare in Norway 1990–2010. A longitudinal study] (Vol. 9/2014). Oslo: Norsk institutt for forskning om oppvekst, velferd og aldring [Norwegian Social Research].
- Barber, J. G., & Delfabbro, P. H. (2009). The profile and progress of neglected and abused children in long-term foster care. *Child Abuse and Neglect*, 33(7), 421–428. <https://doi.org/10.1016/j.chiabu.2006.03.013>.
- Barboza, G. E., Dominguez, S., & Pinder, J. (2017). Trajectories of post-traumatic stress and externalizing psychopathology among maltreated foster care youth: A parallel process latent growth curve model. *Child Abuse and Neglect*, 72, 370–382. <https://doi.org/10.1016/j.chiabu.2017.09.007>.
- Bernedo, I. M., Salas, M. D., Garcia-Martin, M. A., & Fuentes, M. J. (2012). Teacher assessment of behavior problems in foster care children. *Children and Youth Services Review*, 34(4), 615–621. <https://doi.org/10.1016/j.chi.2011.12.003>.
- Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *BMJ*, 314(7080), 572. <https://doi.org/10.1136/bmj.314.7080.572>.
- Bornstein, M. H., Hahn, C. S., & Haynes, O. M. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood through early adolescence: Developmental cascades. *Development and Psychopathology*, 22(4), 717–735. <https://doi.org/10.1017/s0954579410000416>.
- Bowlby, J. (1998). Attachment and loss: Vol. 2. Separation: Anxiety and anger. London, UK: Pimlico (original work published 1973).
- Burns, B. J., Phillips, S. D., Wagner, H. R., Barth, R. P., Kolko, D. J., Campbell, Y., & Landsverk, J. (2004). Mental health need and access to mental health services by youths involved with child welfare: A national survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(8), 960–970. <https://doi.org/10.1097/01.chi.0000127590.95585.65>.
- Carter, A. S., & Briggs-Gowan, M. J. (2006). *ITSEA. Infant-Toddler Social and Emotional Assessment*. San Antonio, TX: PsychCorp.
- Criss, M. M., Pettit, G. S., Bates, J. E., Dodge, K. A., & Lapp, A. L. (2002). Family adversity, positive peer relationships, and children's externalizing behavior: A longitudinal perspective on risk and resilience. *Child Development*, 73(4), 1220–1237. <https://doi.org/10.1111/1467-8624.00468>.
- Dozier, M., Albus, K., Fisher, P. A., & Sepulveda, S. (2002). Interventions for foster parents: Implications for developmental theory. *Development and Psychopathology*, 14(4), 843–860. <https://doi.org/10.1017/S0954579402004091>.
- Fernandez, E. (2009). Children's wellbeing in care: Evidence from a longitudinal study of outcomes. *Children and Youth Services Review*, 31(10), 1092–1100. <https://doi.org/10.1016/j.chi.2009.07.010>.
- Fox, N. A., Almas, A. N., Degnan, K. A., Nelson, C. A., & Zeanah, C. H. (2011). The effects of severe psychosocial deprivation and foster care intervention on cognitive development at 8 years of age: Findings from the Bucharest Early Intervention Project. *Journal of Child Psychology and Psychiatry*, 52(9), 919–928. <https://doi.org/10.1111/j.1469-7610.2010.02355.x>.
- Gil Llarío, M. D., Ceccato, R., Molero Manes, R., & Ballester Arnal, R. (2013). Socioemotional characteristics of minors in foster care: A comparison between the estimation of parents, teachers and children. *Children and Youth Services Review*, 35(4), 664–667. <https://doi.org/10.1016/j.chi.2013.01.013>.
- Goemans, A., Geel, M. V., & Vedder, P. (2018). Foster children's behavioral development and foster parent stress: Testing a transactional model. *Journal of Child and Family Studies*, 27(3), 990–1001. <https://doi.org/10.1007/s10826-017-0941-z>.
- Goemans, A., van Geel, M., van Beem, M., & Vedder, P. (2016). Developmental outcomes of foster children: A meta-analytic comparison with children from the general population and children at risk who remained at home. *Child Maltreatment*, 21(3), 198–217. <https://doi.org/10.1177/1077559516657637>.
- Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse and Neglect*, 42, 121–134. <https://doi.org/10.1016/j.chiabu.2015.02.003>.
- Goodman, A., & Goodman, R. (2012). Strengths and Difficulties Questionnaire scores and mental health in looked after children. *British Journal of Psychiatry*, 200(5), 426–427. <https://doi.org/10.1192/bjp.bp.111.104380>.
- Grietens, H., Onghena, P., Prinzie, P., Gadeyne, E., Van Assche, V., Ghesquiere, P., & Hellinckx, W. (2004). Comparison of mothers', fathers', and teachers' reports on problem behavior in 5- to 6-year-old children. *Journal of Psychopathology and Behavioral Assessment*, 26(2), 137–146. <https://doi.org/10.1023/B:JOBA.0000013661.14995.59>.
- Harwicke, N. J., & Hochstadt, N. J. (1986). Intellectual functioning in abused-neglected children. *Education*, 107(1), 76–82.
- Haus, I. (2005). PRIDE. Et utvalgelses- og opplæringsprogram for fosterforeldre [PRIDE. A selection and training programme for foster parents]. In L. E. Schjelderup, C. Omre, & E. Marthinsen (Eds.), *Nye metoder i et moderne barnevern [New methods in a modern child welfare]* (pp. 248–267). Bergen, Norway: Fagbokforlaget.
- Havik, T., Jakobsen, R., & Moldestad, B. (2007). Stolt av PRIDE: En evaluering av PRIDE-grunnopplæring [Proud of PRIDE: An evaluation of PRIDE basic Education]. Bergen, Norway: Barnevernets utviklingsenter på Vestlandet.
- Havnen, K. S., Breivik, K., & Jakobsen, R. (2014). Stability and change – a 7- to 8-year follow-up study of mental health problems in Norwegian children in long-term out-of-home care. *Child and Family Social Work*, 19(3), 292–303. <https://doi.org/10.1111/cfs.12001>.
- Heller, S. S., Smyke, A. T., & Boris, N. W. (2002). Very young foster children and foster families: Clinical challenges and interventions. *Infant Mental Health Journal*, 23(5), 555–575. <https://doi.org/10.1002/imhj.10033>.
- Humphreys, K. L., Gleason, M. M., Drury, S. S., Miron, D., Nelson, C. A., Fox, N. A., & Zeanah, C. H. (2015). Effects of institutional rearing and foster care on psychopathology at age 12 years in Romania: Follow-up of an open, randomised controlled trial. *The Lancet Psychiatry*, 2(7), 625–634. [https://doi.org/10.1016/S2215-0366\(15\)00095-4](https://doi.org/10.1016/S2215-0366(15)00095-4).
- Humphreys, K. L., Miron, D., McLaughlin, K. A., Sheridan, M. A., Nelson, C. A., Fox, N. A., & Zeanah, C. H. (2018). Foster care promotes adaptive functioning in early adolescence among children who experienced severe, early deprivation. *Journal of Child Psychology and Psychiatry*, 59(7), 811–821. <https://doi.org/10.1111/jcpp.12865>.
- Jacobsen, H., Moe, V., Ivarsson, T., Wentzel-Larsen, T., & Smith, L. (2013). Cognitive development and social-emotional functioning in young foster children: A follow-up study from 2 to 3 years of age. *Child Psychiatry and Human Development*, 44(5), 666–677. <https://doi.org/10.1007/s10578-013-0360-3>.
- Javo, C., Heyerdahl, S., & Rønning, J. A. (2000). Parent reports of child behavior problems in young Sami children: A cross-cultural comparison. *European Child and Adolescent Psychiatry*, 9(3), 202–211.
- Javo, C., Rønning, J. A., Handegård, B. H., & Rudmin, F. W. (2009). Social competence and emotional/behavioral problems in a birth cohort of Sami and Norwegian pre-adolescents in Arctic Norway as reported by mothers and teachers. *Nord J Psychiatry*, 63(2), 178–187. <https://doi.org/10.1080/08039480902741752>.
- Jee, S. H., Conn, A.-M., Szilagy, P. G., Blumkin, A., Baldwin, C. D., & Szilagy, M. A. (2010). Identification of social-emotional problems among young children in foster care. *Journal of Child Psychology and Psychiatry*, 51(12), 1351–1358. <https://doi.org/10.1111/j.1469-7610.2010.02315.x>.
- Jozefiak, T., Larsson, B., Wichstrom, L., & Rimehaug, T. (2012). Competence and emotional/behavioural problems in 7–16-year-old Norwegian school children as reported by parents. *Nordic Journal of Psychiatry*, 66(5), 311–319. <https://doi.org/10.3109/08039488.2011.638934>.
- Kolko, D. J., & Kazdin, A. E. (1993). Emotional/behavioral problems in clinic and

- nonclinic children: Correspondence among child, parent and teacher reports. *Journal of Child Psychology and Psychiatry*, 34(6), 991–1006. <https://doi.org/10.1111/j.1469-7610.1993.tb01103.x>.
- Konijn, C., Admiraal, S., Baart, J., van Rooij, F., Stams, G.-J., Colonna, C., ... Assink, M. (2019). Foster care placement instability: A meta-analytic review. *Children and Youth Services Review*, 96, 483–499. <https://doi.org/10.1016/j.chilyouth.2018.12.002>.
- Kornør, H., & Jozefiak, T. (2012). Måleegenskaper ved den norske versjonen av Child Behavior Checklist (CBCL) [Measurement characteristics of the Norwegian version of the Child Behavior Checklist (CBCL)]. *PsyktestBarn*, 1, 3.
- Kreppner, J. M., Rutter, M., Beckett, C., Castle, J., Colvert, E., Groothuis, C., ... Sonuga-Barke, E. J. (2007). Normality and impairment following profound early institutional deprivation: A longitudinal follow-up into early adolescence. *Developmental Psychology*, 43(4), 931–946. <https://doi.org/10.1037/0012-1649.43.4.931>.
- Kvermo, S., & Heyerdahl, S. (1998). Influence of ethnic factors on behavior problems in indigenous Sami and majority Norwegian adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(7), 743–751. <https://doi.org/10.1097/00004583-199807000-00014>.
- Larsen, M., Baste, V., Bjørknes, R., Myrvold, T., & Lehmann, S. (2018). Services according to mental health needs for youth in foster care? – A multi-informant study. *BMC Health Services Research*, 18(1), 634. <https://doi.org/10.1186/s12913-018-3365-6>.
- Lawrence, C. R., Carlson, E. A., & Egeland, B. (2006). The impact of foster care on development. *Development and Psychopathology*, 18(1), 57–76. doi: 10.1017/S0954579406006044.
- Lehmann, S., Havik, O. E., Havik, T., & Heiervang, E. R. (2013). Mental disorders in foster children: A study of prevalence, comorbidity and risk factors. *Child and Adolescent Psychiatry and Mental Health*, 7(39), <https://doi.org/10.1186/s12913-013-0365-6>.
- Lehmann, S., & Kaye, N. S. (2018). Children placed in alternate care in Norway: A review of mental health needs and current official measures to meet them. *International Journal of Social Welfare*, 27(4), 364–371. <https://doi.org/10.1111/ijsw.12323>.
- Leslie, L. K. M. D., Gordon, J. N. M. A., Lambros, K. P. D., Premji, K. B. S., Peoples, J. B. A., & Gist, K. M. S. (2005). Addressing the developmental and mental health needs of young children in foster care. *Developmental and Behavioral Pediatrics*, 26(2), 140–151.
- Lloyd, E., & Barth, R. P. (2011). Developmental outcomes after five years for foster children returned home, remaining in care, or adopted. *Children and Youth Services Review*, 33(8), 1383–1391. <https://doi.org/10.1016/j.chilyouth.2011.04.008>.
- Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradovic, J., Riley, J. R., ... Tellegen, A. (2005). Developmental cascades: Linking academic achievement and externalizing and internalizing symptoms over 20 years. *Developmental Psychology*, 41(5), 733–746. <https://doi.org/10.1037/0012-1649.41.5.733>.
- McAuley, C., & Trew, K. (2000). Children's adjustment over time in foster care: Cross-informant agreement, stability and placement disruption. *The British Journal of Social Work*, 30(1), 91–107. <https://doi.org/10.1093/bjsw/30.1.91>.
- McWey, L. M. (2004). Predictors of attachment styles of children in foster care: An attachment theory model for working with families. *Journal of Marital and Family Therapy*, 30(4), 439–452. <https://doi.org/10.1111/j.1752-0606.2004.tb01254.x>.
- Moilanen, K. L., Shaw, D. S., & Maxwell, K. L. (2010). Developmental cascades: Externalizing, internalizing, and academic competence from middle childhood to early adolescence. *Development and Psychopathology*, 22(3), 635–653. <https://doi.org/10.1017/s0954579410000337>.
- Nygaard, E., Slinning, K., Moe, V., & Walhovd, K. B. (2016). Behavior and attention problems in eight-year-old children with prenatal opiate and poly-substance exposure: A longitudinal study. *PLoS One*, 11(6), e0158054. <https://doi.org/10.1371/journal.pone.0158054>.
- Oosterman, M., Schuengel, C., Slot, N. W., Bullens, R. A. R., & Doreleijers, T. A. H. (2007). Disruptions in foster care: A review and meta-analysis. *Children and Youth Services Review*, 29(1), 53–76. <https://doi.org/10.1016/j.chilyouth.2006.07.003>.
- Oswald, S. H., Heil, K., & Goldbeck, L. (2010). History of maltreatment and mental health problems in foster children: A review of the literature. *Journal of Pediatric Psychology*, 35(5), 462–472. <https://doi.org/10.1093/jpepsy/jsp114>.
- Pears, K., & Fisher, P. A. (2005). Developmental, cognitive, and neuropsychological functioning in preschool-aged foster children: Associations with prior maltreatment and placement history. *Journal of Developmental and Behavioral Pediatrics*, 26(2), 112–122. <https://doi.org/10.1097/00004703-200504000-00006>.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>.
- Rubin, D. M., O'Reilly, A. L., Luan, X., & Localio, A. R. (2007). The impact of placement stability on behavioral well-being for children in foster care. *Pediatrics*, 119(2), 336–344. <https://doi.org/10.1542/peds.2006-1995>.
- Sanner, N., Smith, L., Wentzel-Larsen, T., & Moe, V. (2016). Early identification of social-emotional problems: Applicability of the Infant-Toddler Social Emotional Assessment (ITSEA) at its lower age limit. *Infant Behavior & Development*, 42, 69–85. <https://doi.org/10.1016/j.infbeh.2015.11.001>.
- Simmel, C., Barth, R. P., & Brooks, D. (2007). Adopted foster youths' psychosocial functioning: A longitudinal perspective. *Child & Family Social Work*, 12(4), 336–348. <https://doi.org/10.1111/j.1365-2206.2006.00481.x>.
- Simms, M. D., Dubowitz, H., & Szilagyi, M. A. (2000). Health care needs of children in the foster care system. *Pediatrics*, 106(4 Suppl), 909–918.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., & Nelson, C. A. (2009). A new model of foster care for young children: The Bucharest Early Intervention Project. *Child and Adolescent Psychiatric Clinics of North America*, 18(3), 721–734. <https://doi.org/10.1016/j.chc.2009.03.003>.
- Statistics Norway. (2019a). 11600: Children 0-22 years with placement measures from the Child Welfare Services per 31 December, by type of placement and assistance or care measure (F) 2015–2018. Retrieved from < <https://www.ssb.no/en/statbank/table/11600/> > .
- Statistics Norway. (2019b). Adoptions. Retrieved from < <https://www.ssb.no/statbank/table/06685/tableViewLayout1/> > .
- Stovall, K., & Dozier, M. (2000). The development of attachment in new relationships: Single subject analyses for 10 foster infants. *Development and Psychopathology*, 12(2), 133–156.
- Strijker, J., Oijen, S., & Knot-Dickscheit, J. (2011). Assessment of problem behaviour by foster parents and their foster children. *Child & Family Social Work*, 16. <https://doi.org/10.1111/j.1365-2206.2010.00717.x>.
- Tarren-Sweeney, M. (2017). Rates of meaningful change in the mental health of children in long-term out-of-home care: A seven- to nine-year prospective study. *Child Abuse and Neglect*, 72, 1–9. <https://doi.org/10.1016/j.chiabu.2017.07.002>.
- Tarren-Sweeney, M. (2018). The mental health of adolescents residing in court-ordered foster care: Findings from a population survey. *Child Psychiatry and Human Development*, 49(3), 443–451. <https://doi.org/10.1007/s10578-017-0763-7>.
- Tarren-Sweeney, M., & Goemans, A. (2019). A narrative review of stability and change in the mental health of children who grow up in family-based out-of-home care. *Developmental Child Welfare*, 1(3), 273–294. <https://doi.org/10.1177/2516103219874810>.
- Tarren-Sweeney, M., Hazell, P. L., & Carr, V. J. (2004). Are foster parents reliable informants of children's behaviour problems? *Child: Care Health and Development*, 30(2), 167–175. <https://doi.org/10.1111/j.1365-2214.2003.00407.x>.
- The Norwegian Directorate for Children Youth and Family Affairs. (2017, 4th January). The Norwegian Child Welfare Services. Retrieved from < https://www.bufdir.no/en/English_start_page/The_Norwegian_Child_Welfare_Services/ > .
- Thijssen, J., Vink, G., Muris, P., & de Ruiter, C. (2017). The effectiveness of parent management training-Oregon model in clinically referred children with externalizing behavior problems in the Netherlands. *Child Psychiatry and Human Development*, 48(1), 136–150. <https://doi.org/10.1007/s10578-016-0660-5>.
- Van Holen, F., Vanschoonlandt, F., & Vanderfaellie, J. (2017). Evaluation of a foster parent intervention for foster children with externalizing problem behaviour. *Child & Family Social Work*, 22(3), 1216–1226. <https://doi.org/10.1111/cfs.12338>.
- Vanschoonlandt, F., Vanderfaellie, J., Van Holen, F., De Maeyer, S., & Andries, C. (2012). Kinship and non-kinship foster care: Differences in contact with parents and foster child's mental health problems. *Children and Youth Services Review*, 34(8), 1533–1539. <https://doi.org/10.1016/j.chilyouth.2012.04.010>.
- Vinnerljung, B., & Hjern, A. (2011). Cognitive, educational and self-support outcomes of long-term foster care versus adoption. A Swedish national cohort study. *Children and Youth Services Review*, 33(10), 1902–1910. <https://doi.org/10.1016/j.chilyouth.2011.05.016>.
- Winokur, M., Holtan, A., & Batchelder, K. E. (2014). Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment. *Cochrane Database Syst Rev*, 1, Cd006546. <https://doi.org/10.1002/14651858.CD006546.pub3>.
- Yoon, S., Yoon, D., Wang, X., Tebben, E., Lee, G., & Pei, F. (2017). Co-development of internalizing and externalizing behavior problems during early childhood among child welfare-involved children. *Children and Youth Services Review*, 82, 455–465. <https://doi.org/10.1016/j.chilyouth.2017.10.016>.
- Zeanah, C., Humphreys, K., Fox, N., & Nelson, C. (2017). Alternatives for abandoned children: Insights from the bucharest early intervention project. *Current Opinion in Psychology*, 15. <https://doi.org/10.1016/j.copsyc.2017.02.024>.
- Zorc, C. S., O'Reilly, A. L. R., Matone, M., Long, J., Watts, C. L., & Rubin, D. (2013). The relationship of placement experience to school absenteeism and changing schools in young, school-aged children in foster care. *Children and Youth Services Review*, 35(5), 826–833. <https://doi.org/10.1016/j.chilyouth.2013.02.006>.