Foster parents' emotional investment and their young foster children's socio-emotional functioning

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Abstract

Emotional investment may be defined as a willingness to accept and become committed to a child, and being aware of influencing the child's development. Research in this field is limited, and has shown that commitment in particular is associated with foster children's socio-emotional functioning. Our aim was therefore to investigate 60 foster parents' acceptance, commitment and awareness of influence to their early placed foster children at 2 years, as well as to investigate the association between these three concepts and the foster children's social-emotional functioning (externalizing, internalizing, dysregulation and competence) at 2 (T1) and 3 (T2) years of age. The caregivers were interviewed with "This is My Baby", and completed the questionnaire "Infant-Toddler Social and Emotional Assessment". Results showed that on average the foster parents were rated quite high on emotional investment. Linear regressions, including one predictor and one outcome variable, revealed associations between emotional investment and foster children's socio-emotional functioning. Moreover, in regressions including all three predictors, commitment significantly negatively predicted externalizing behavior in the foster children at T1, while acceptance significantly negatively predicted dysregulation at T2. Lastly, among others for externalizing, the coefficient of commitment was significantly higher at T1 than at T2. Our results indicate a possible short-term influence of commitment on externalizing- and a possible long-term influence of acceptance on dysregulation behavior in foster children. We will therefore highlight the clinical importance of emotional investment in foster care, in order to help the *young* foster child towards a healthy social-emotional functioning.

Keywords: emotional investment, commitment, socio-emotional functioning, foster parents, foster children

1. Introduction

An increasing number of young children in different countries are experiencing maltreatment and thereby lack of “good enough” parenting, such as in the U.S (U.S. Department of Health & Human Services. Children’s Bureau, 2017), and Norway (Clausen & Valset, 2012). Many children who have experienced maltreatment in any kind are at risk for a host of negative developmental outcomes (Cicchetti & Toth, 2005), as for example social-emotional challenges, and are often in need of highly sensitive and emotionally invested new caregivers. Foster care, either short- or long-term placement, is an option for many of these children, and we argue that foster children have a need for foster parents who are willing to engage in the child and develop a relationship that makes the child feel part of the family. In addition to other important parts of the caregiving role, such as sensitivity to the child’s socio-emotional development, the importance of the foster parents’ emotional investment in the foster child has been highlighted (Ackerman & Dozier, 2005; Dozier, Grasso, Lindhiem, & Lewis, 2007; Lindhiem & Dozier, 2007). Both experiencing belongingness to a family and being able to develop healthy social-emotional functioning must be seen as two important goals for these children. The aim of the present study was therefore to investigate a group of Norwegian foster parents’ emotional investment in their young foster children, and a possible association with the children’s social-emotional functioning.

1.1 Foster care

In Norway, long-term foster care is the preferred option when children are in need of new caregivers, and adoption is rarely used. However, children are also placed in short-term foster care or emergency shelter homes, an option which is frequently used before the selection of a long-term foster home. The foster care system in Norway thereby differs from those in many other Western countries, such as the U.S. (U.S. Department of Health and Human Services, 2017) where adoption of children is considered the optimal long-term option when reunification with biological parents is not possible.

At the end of 2016, 11.771 foster children (586 in the age group 0 – 2) lived in different kinds of foster homes in Norway (Statistics Norway, 2017b), and as few as 61 foster children were adopted (Statistics Norway, 2017a). Different kinds of foster care mean short and long-term, as well as voluntary and mandatory foster care. This means that the child lives in a family and not in an institution. Comparable numbers for example for the U.S. was approximately 428.000 children in foster care in 2015, and the most typical length of stay was 12 months (Child welfare information gateway, 2017). According to population size, far more children live in foster

care in Norway than in the U.S. The main aim of foster care in the Norwegian society is to provide the children with secure and health-promoting environments (Ministry of Children and Equality, 2012), and thereby give the child hope of a stable childhood, as well as enhance a positive developmental pathway and a secure attachment relationship with foster parents over time. Given the fact that children remain in foster care over a long time-period both in Norway and the U.S., foster parents' emotional investment in their foster children is one of several important factors for placement stability.

1.2 Emotional investment

As opposite to the more frequently investigated construct; child-caregiver attachment that is supposed to develop over time, emotional investment, and especially commitment, is hypothesized to be present from birth (Dozier & Lindhiem, 2006). Hence, unless parents are seriously distorted and not able to protect their infants from danger, most will develop a strong commitment to their newborn (Dozier et al., 2007; Dozier & Lindhiem, 2006). Emotional investment has been defined to include three different concepts hypothesized to be important for foster children's development and well-being; the foster parent's acceptance of the child's personality, commitment to the child, and awareness of being able to influence the child's development (Ackerman & Dozier, 2005; Bates & Dozier, 1998; Koren-Karie & Markman-Gefen, 2016). Such an investment has been found to be important for both young foster children and adolescents living in foster care (Dozier & Lindhiem, 2006; Lindhiem & Dozier, 2007; Lo et al., 2015). As the nature of foster care is not always meant to be enduring, one may argue that becoming emotionally invested in the child when placed in short-term foster home may be difficult and maybe even damaging for both the foster child and the foster parent. However, Lindhiem and Dozier (2007) argue the opposite, that having an emotional invested and committed caregiver is crucial for a child's survival as well as helping a child enter a healthy developmental pathway. In order to measure emotional investment, Mary Dozier and her colleagues developed an interview: This is My Baby (TIMB) (Bates & Dozier, 1998) including all the three abovementioned concepts.

1.2.1. Acceptance

Bates and Dozier (2002) have defined acceptance "as the degree to which a foster mother expressed positive feelings about her infant, a sense of pleasure or delight in caring for the child, and respect for the baby's individuality" (Bates & Dozier, 2002, p. 422). In their study, Bates and Dozier (2002) included also measures on parental attachment; the Adult Attachment Interview and thereby the adult state of mind with regard to

attachment. They found that foster parents with a secure state of mind with regard to attachment were rated as having higher degree of acceptance of their foster child than those with an insecure state of mind. Although child-parent attachment is investigated when the child is experiencing a stressful situation, having a secure state of mind means that the parent is more flexible in their relationship and may more easily adjust to the child's needs overall. Although not directly investigating social-emotional functioning, Ackerman and Dozier (2005) did report that foster children with more accepting foster parents, measured with the TIMB interview when the children were 2 years old, evaluated themselves in a more positive way, and showed better coping strategies in a separation situation at the age of 6. We may therefore argue that acceptance may be important for young foster children's social-emotional functioning, because an accepting caregiver will meet the child's needs to be soothed and understood emotionally in a more predictable way.

1.2.2 Commitment

Commitment has been defined as capturing "the extent to which the caregiver is motivated to have an enduring relationship with a particular child" (Dozier & Lindhiem, 2006, p. 340). Since little variation in commitment is expected in biological dyads, commitment has received much less attention compared to attachment (Dozier & Lindhiem, 2006). Although limited variation in commitment is expected among biological dyads, the opposite has been found in research on foster dyads (Lindhiem & Dozier, 2007).

Of the three concepts that are included in emotional investment, commitment is by far the most studied, and lack of commitment has for instance been found to be associated with the foster child's problem behavior. In a study of Lindhiem and Dozier (2007), 76 foster parents were interviewed with TIMB when the children were between 3 and 60 months of age and again 11 months later. Additionally, foster parents with foster children older than 24 months completed the Child Behavior Checklist (CBCL) questionnaire twice. Foster parents were found to be less committed to foster children with more problem behaviors, although the direction of the association could not be confirmed. In the study of Koren-Karie and Markman-Gefen (2016), also an association between high commitment and less challenging foster children, rated by the social workers, was reported. However, such an association was not identified when using the CBCL. Further, research showed that foster parents who have cared for many children, were less likely to be highly committed to their current foster child, and that foster parents tended to be more committed to young foster children (Dozier & Lindhiem, 2006). Finally, commitment has also shown to predict placement stability over time (Dozier & Lindhiem, 2006), meaning that higher commitment was associated with a higher stability in care. However, many other factors

may be important for placement stability, as for example placement with relatives and absence of a mental health diagnosis in the child (Koh, Rolock, Cross, & Eblen-Manning, 2014).

1.2.3 Awareness of influence

Bates and Dozier (2002, p. 423) have conceptualized an awareness of influence as “the degree to which the foster mother believed she could influence her infant’s psychological development both currently and in the long term”. The ability to reflect makes the caregiver more able to read the child’s needs. Very few results have been reported on the awareness of influence scale. However, a study including 14 foster- and 14 adoptive parents with children aged 1.6 – 4.7 years, using Event-Related-Potential (ERP), found that increased attention appeared when the foster parents looked at pictures of their own foster child, and that ERP patterns associated with a “motivated” attention were associated both with acceptance and awareness of influence measured with the TIMB interview (Grasso, Moser, Dozier, & Simons, 2009). Grasso and collaborators presented a possible explanation that a caregiver who accepts the influence the caregiver-child relationship has on the child’s psychological and emotional development will be aware of the child’s cues to a higher degree and thereby its changing needs. From these results, we might hypothesize a possible association between awareness of influence and the foster child’s social-emotional functioning, assuming that foster parents high on awareness of influence would more readily identify the foster child’s need for co-regulation of its emotions.

1.2.4 Social-emotional functioning

When moving into foster care at a young age, these children may need help to be able to regulate their emotions due to their troublesome caregiving history, including maltreatment and separation from their biological parents. Such a co-regulation is part of a foundation for developing an ability to self-regulate later in childhood (Kochanska, Coy, & Murray, 2001). As foster children in middle and late childhood have been reported to show more mental health problems than the normal population (Havnen, Breivik, & Jakobsen, 2014; Lehmann, Havik, Havik, & Heiervang, 2013), it is important to further investigate and understand the importance of foster parenting for young children. Research on very young foster children’s socio-emotional functioning is still scarce. In a study including the same sample of early placed foster children that is included in this paper, foster children were reported to show significantly more problem behavior both at the age of 2 and 3 as compared to a group of low-risk children (Jacobsen, Moe, Ivarsson, Wentzel-Larsen, & Smith, 2013). Similar results were

reported by Lloyd and Barth (2011) on a group of foster children that was followed from infancy and up to the age of 66 months; however, the majority were within the non-clinical range on the CBCL.

Looking at development of social-emotional functioning over time in foster care, in a study by Gabler et al. (2014), between 40 and 45 percent of foster children were reported to have internalizing and externalizing problems in the borderline or clinical range. Further in another study, problem behavior increased when living in foster care over time (Lawrence, Carlson, & Egeland, 2006). In fact, these foster children did worse when leaving care than those who had been living with their maltreating parents. However, in a recent meta-analysis (Goemans, van Geel, & Vedder, 2015), the authors concluded that there is no evidence that foster care influence the child's social-emotional functioning neither in a positive nor negative way. Although concerns about foster children's social-emotional functioning have been justified, it is also important to note that foster children may function within the normal range, even if that is not the case for all (Bernedo, Salas, Garcia-Martin, & Fuentes, 2012). Why some foster children do better than others is difficult to say, however the importance of the contribution of nurturing and committed caregivers may be one explanation.

1.3 Aim of our study

Our study focused on placement of a group of very early placed foster children and the foster parents' emotional investment. The aim of our study was twofold: 1) to investigate the degree of emotional investment (acceptance, commitment and awareness of influence) within a group of foster parents of early placed foster children, and 2) to investigate the association between acceptance, commitment and awareness of influence at approximately 2 years of age, and the foster children's social-emotional functioning (externalizing, internalizing, dysregulation and competence) at approximately 2 (T1) and 3 (T2) years of age. Specifically, it is hypothesised that a higher degree of acceptance, and/or commitment, and/or awareness of influence at T1 are associated with a lower degree of problem behavior and a higher degree of social-emotional competence, both at T1 and at T2.

2. Method

2.1 Participants

The sample in our study is part of an ongoing longitudinal study, which originally consisted of two groups of children and their caregivers: one foster care group and one comparison group. In the present study, only the

foster care group has been included. As explained previously (See page 2), most parents will be highly invested in their biological children and little variation is expected. Therefore Bates and Dozier (1998) developed the TIMB interview primarily for investigating emotional investment in foster- or adoptive parents, or other high-risk parents who might be at risk for losing custody for their child. At T1, the sample consisted of 60 foster children (24 girls) aged 22 to 25 months ($M = 23.3$, $SD = 0.7$), and at T2: 56 foster children (21 girls) aged 34 to 36 months ($M = 35.2$, $SD = 0.4$). A large majority of the foster children, 46 (76.7%), were of Norwegian ethnicity. One foster parent was selected as the primary participant who would take part in all the study observations, although the other caregiver was also invited to complete questionnaires. The following question was given to both foster parents at T1: "To which of the foster parents do you have the impression that the child is most attached (i.e. seeks comfort when physically hurt or sad)?" If the foster parents were undecided, the one who spent the most time with the foster child was asked to participate. The main participants were primarily female ($n=55$), typically married ($n=48$) and of Norwegian ($n=56$) ethnicity. We divided the main participant's education into low and high, meaning that those with a high education had two years or more of a full-time education, in addition to secondary school. As shown in Table 1, the mean age of foster parents was 37.7 years, and a slightly higher percentage of the main participants had a high level of education. Most foster parents had no previous experience as foster parents ($n=52$), only 11 foster children lived in a foster family with one additional foster child and 21 foster parents had no children of their own. Furthermore, the household income at T1 was USD 100,960 (2017 exchange) and did not differ substantially from that of an ordinary two-parent household with two children in Norway in 2011 (Statistics Norway, 2011), which was the year the data collection was finished.

Insert Table 1 here

The children in our study were removed from their biological parents at a very early age, and placed in the current foster home on average before the age of 9 months. All children were placed in long-term mandatory foster care. They had lived with their foster parents (although somewhat uncertain, mostly non-relative, $n=55$) for approximately 16 months on average at the first measure point (T1), and 28 months at the second (See Table 1). Most children were placed out of home (from presumably inadequate caregiving) before the age of 6 months ($n=40$). A small majority of the foster children ($n=33$) experienced being placed two times, 8 three times or more, whilst 19 had experienced one placement. The two placements were due to the child being placed in a short-term emergency shelter before being placed in a long-term foster home. To our knowledge no foster child had experienced institutional care. The foster children also had visitations with their biological parents on

average 6.5 times a year. The main reason for placement in foster care was lack of parental abilities without additional parental substance abuse (55%). Only a minority (15%) of the children experienced some type of abuse (physical, emotional or sexual) before placement.

2.2 *Procedures*

We recruited families throughout Norway during 2009 and 2010. Information about foster families with foster children in the age group of interest (≤ 22 months) was obtained by contact with the Norwegian Directorate for Child, Youth and Family Affairs (BUFETAT), and community Child Protection Services (CPS). All foster families were contacted by the CPS and asked if they were interested in participating in the study. Invitation to participate was given to 73 foster families, and 60 foster families gave their written informed consent and were included in the study. Of these, 56 participated one year later. Neither the reasons for declining participation nor reasons for dropping out were systematically obtained, however in some cases the foster parents uttered that they were afraid that participation would be a too large burden on the foster child. Based on research done by Stovall and Dozier (2000), showing that foster children begin to exhibit clear patterns of attachment after two months in foster care, we decided that the children had to have lived in a foster home for at least two months at T1. Furthermore, the children had to live in long-term foster care to be included in the study. Both the CPS and foster parents gave their written informed consent to participate in the study. Since permission from the Norwegian Ministry of Children and Equality to recruit the foster children who were in the care of the CPS was obtained, the foster children's biological parents were not asked for permission.

All observations and tests were done in a laboratory setting in a single day, and questionnaires were mostly completed at home after the observations were completed.

2.3 *Measures*

This is My Baby (TIMB) is a 5 to 15-minute-long semi-structured interview, especially developed in order to investigate -the foster- or adoptive parents' emotional investment to their foster- or adoptive child. The interview consists of eight questions that constitute the basis for a global scoring of acceptance, commitment and awareness of influence on a Likert scale from 1 to 5 including the possibility to use half-points. A score of 1 is defined as "low" and 5 as "high". Previous research has reported correlations between these three concepts to range between $r = .43$ and $r = .69$ (Lindhiem & Dozier, 2007). Correlations between these concepts in our study

were as follows: acceptance and commitment $r = .67$, accept and awareness of influence $r = .62$ and commitment and awareness of influence $r = .53$ (see Table 2).

Insert Table 2 here

High scores on *acceptance* are given when the caregiver consistently gives positive descriptions of the child, when there are few indices of irritability over the child's needs or way of being and when there is a convincing impression that the caregiver enjoys being a parent for the child. Low scores on acceptance are given in cases where the caregiver gives mostly negative descriptions of the child, complaints over the child, and where clear signs of frustrations with the child appear during the interview. The most relevant question is: *Can you describe (child's name) personality?* High scores on *commitment* are given when the caregiver utters a strong wish to be a parent to this child, expresses that he/she will miss the child deeply if the child must move and when the caregiver has *psychologically adopted* the child. In contrast, low scores are given when the caregiver is indifferent to whether the child will stay or not, when the caregiver is consciously limiting the emotional bond to the child, or when the caregiver sees the child as a source of income or an unwelcome guest. The most relevant questions are: *Do you wish to parent (child's name) forever?* and *How much would you miss (child's name) if he/she had to move?* High scores on *awareness of influence* will be given when the caregiver acknowledges that the relationship to the child has an important psychological and affective component, when the influence is described as an attempt to have the child feel valued and safe and when the caregiver acknowledges that his/her relationship will influence the child's ability to engage in stable relationships later in life. Among others, low scores will be given when the caregiver focuses on concrete goals in life (e.g. developmental milestones), or when the answers are general and less thought through for this actual child. Hence, the most relevant questions are: *How do you think your relationship to (child's name) will influence him/her now?* and *How do you think your relationship to (child's name) will influence him/her in the future?* *Which wishes do you have for (child's name) now?* and *Which wishes do you have for (child's name) in the future?* The interview ends with the following question: *Is there anything else about (child's name) or your relationship that we have not touched on and that you like to tell me?* Additionally, there are some questions about the caregiver's experience as a foster parent.

The TIMB interviews were audio-recorded and transcribed. All 60 interviews were blindly double coded by the second and third authors, who at that time were clinical psychology graduate students in their final

years. They were guided by the first author, who is a reliable coder and has received training at Mary Dozier's lab. The two coders passed the reliability test used at the Dozier lab. Acceptance, commitment and awareness of influence were coded on a Likert-scale from 1 to 5, also in our study, including half-points. Intraclass correlations (single measures) were calculated in our study, and were within acceptable norms: acceptance .86, commitment .90 and awareness of influence .83. In a further analysis, a calculated mean of the scores from the two coders were used, resulting in a 17-point scale (from 1–5 with intervals of .25) (Lindhiem & Dozier, 2007).

The Infant-Toddler Social Emotional Assessment (ITSEA) - ITSEA (Carter & Briggs-Gowan, 2006), was used to assess the children's social-emotional functioning. ITSEA is a caregiver report developed for children in the age groups from 12 to 36 months. The behavioral domains, based on the assessment of subscales, are: externalizing, internalizing, dysregulation and competence. T-scores are calculated for each of these domains, with a mean of 50 and a standard deviation of 10. A score of 1.5 SD above (problem behavior) and below (competence), the mean is considered to be "of concern." Very few data were missing, and all the domains were able to be calculated in accordance with the requirements of the manual (Carter & Briggs-Gowan, 2006). The scale that was used ranged from 0 to 2: 0 = not true/seldom, 1 = somewhat true/sometimes and 2 = very true/often. ITSEA was administered at T1 and again at T2. At T2, some of the children had just passed the age of 36 months, and in such cases the T-score calculation was done based on the norms for children aged 35 months and 30 days. We used a Norwegian translation of the questionnaire, but Norwegian norms were not available. In our study, we used the ITSEA report provided by the main foster parent participant, and reports from 57 and 55 participants were included in the analyses at T1 and T2 respectively.

Caregiver questionnaire – We asked both the foster mother and father to complete a questionnaire concerning social-economic data (e.g. education, income and information about family size). The foster parents completed questionnaires after the assessment at T1 and T2, respectively, primarily after the observations had been made. We also asked the foster parents to answer additional questions about their experience as foster parents, supervision and visitations from the biological parents.

CPS questionnaire – In order to be able to track the care history of the foster child, we asked the case worker for each child to provide information about the age when the child was placed out of home the first time, the age when the child arrived in the current foster home, how many times the child had moved to new caregivers, why the child was placed out of home, how many times during a year the child had visitations with the biological parents and the child's possible adverse caregiving experiences before placement.

2.4 Data analyses

Descriptive statistics was used to analyze sample characteristics and the distribution of TIMB (acceptance, commitment and awareness of influence), and ITSEA (externalizing, internalizing, dysregulation and competence) variables among foster children.

Descriptive information on TIMB scores at T1 were computed as a basis for subsequent judgement on the degree of emotional investment. Linear regression analyses were used to investigate acceptance, commitment and awareness of influence as possible predictors of the ITSEA variables: externalizing, internalizing, dysregulation and competence. Regression analyses by each of the predictors separately were performed for comparison (Model 1). The foster child's age at placement in the current foster home and caregiver education were controlled for, and separate analyses were conducted for each of the outcome variables at T1 and T2. Multicollinearity in multiple regression analyses was mainly investigated by variance inflation factor (VIF), and by bivariate correlations between independent variables.

To investigate whether the relationships with the TIMB variables were different at T1 and T2, confidence intervals for differences between regression coefficients at T1 and T2 for acceptance, commitment and awareness of influence in the full adjusted models were computed as bootstrap BC_a intervals based on 10,000 replications. Bootstrapping is a general procedure that does not make specific distributional assumptions. Differences were considered as significant if 0 was outside the 95% confidence interval.

SPSS version 23 (IBM SPSS, Armonk, New York, USA) was used for descriptive and regression analyses, whereas the R (The R Foundation for Statistical Computing, Vienna, Austria) package boot was used for bootstrap computations.

3. Results

As seen in Table 3, the mean scores of acceptance and commitment were at the higher end of the scale, with the awareness of influence somewhat lower. No foster parent was reported to be below the midpoint (2.5) for these predictor variables. All ITSEA mean T-scores at T1 and T2 were within the population-based normal range (40 to 60), though the children varied substantially in their scores (See Table 4).

Insert Tables 3 and 4 here

Linear regression analyses for each predictor and each outcome variable showed that commitment significantly negatively predicted externalizing behavior at T1 (see Table 5), meaning that a higher commitment score was associated with a lower externalizing behavior. As seen in Table 6, acceptance significantly negatively predicted dysregulation at T2, meaning that foster parents' higher acceptance of the foster child was associated with a lower dysregulation in the foster child. Finally, acceptance as well as commitment (Table 8) significantly positively predicted competence at both T1 and T2, meaning that a higher acceptance and higher commitment at both time points were associated with higher social competence in the foster children. As seen in Tables 5 to 8, no further significant predictions from any of the TIMB variables on the foster children's social-emotional functioning at either T1 or T2 ($p \geq .071$) were identified.

Including all three predictors in the linear regression, analyses to some extent yielded similar results. As seen in Table 5, commitment still significantly negatively predicted externalizing behavior in the foster children at T1, whereas acceptance significantly negatively predicted dysregulation at T2 (see Table 6). This means that foster parents' commitment at the age of 2 years was still associated with lower externalizing behavior, and that foster parents' acceptance of the foster child was associated with less dysregulation. No further significant predictions from any of the TIMB variables were identified either T1 or T2 ($p \geq .079$) (see Tables 4 to 7). $VIF \leq 2.34$ for all independent variables in all multiple regression analyses, and bivariate correlations are shown in Table 2.

None of the three TIMB variables significantly predicted internalizing behavior neither at T1 nor at T2.

Insert Table 5 to 8 here

Bootstrap analyses (Model 2) revealed that for externalizing, the difference between T2 and T1 was significant in the coefficients of acceptance (difference -9.3, 95% CI -17.0 to -1.6) and commitment (difference 11.8, 95% CI 5.8 to 22.3), but not for influence (difference 4.9, 95% CI -1.5 to 11.1). One more significant difference was identified for dysregulation in the coefficient of commitment (difference 8.6, 95% CI 0.2 to 17.6).

4. Discussion

The results of the present study showed that foster parents in our sample were highly emotionally invested in their foster children, especially regarding acceptance and commitment. One explanation for the fairly high level of acceptance in our sample might be that these children were placed in the foster home on average before nine months of age. Although association with age at placement has only been reported regarding commitment, we

may argue that it is easier to accept the emotional expressions of a young child than those of older ones. Further, the foster parent may to a larger extent expect a positive emotional relationship with their young foster child over time, due to the fact that the child has not spent a long time with possibly neglecting and/ maltreating parents. Such a relationship between a caregiver and a child is often more delightful and gives the foster parent a feeling of being an important person in the child's life. The child can be seen as more "easy" and thereby elicit positive feelings in the foster parent. Thus, we may hypothesize that highly accepting foster parents will also more readily express delight towards their foster child.

As for commitment, the ratings were substantially higher in our sample (mean 4.4) compared to what has been reported in previous research (means ranging from 3.3 –3.5) (Ackerman & Dozier, 2005; Dozier & Lindhiem, 2006; Lindhiem & Dozier, 2007). However, our ratings were somewhat closer to that reported in two other American studies: Bernard and Dozier (2011) and Lo et al. (2015), who reported a mean value of 3.8 and above 4, respectively. These findings may be explained in two ways. First, there may be a difference between the foster care system in Norway and in the United States (U.S.). Compared to the Norwegian system, the American system is more similar to short-term Norwegian foster homes, or so-called "emergency shelter homes". Such homes are meant for short-term care while waiting for a long-term placement (The Norwegian Directorate for Children, Youth and Family Affairs, 2017; U.S. Department of Health & Human Services, 2014). Taking care of a child on a short-term basis may necessarily mean a larger variation in how much the foster parents will invest emotionally in the children. In our study, the foster children were meant to stay in their present foster home on a long-term basis, hopefully until they reached adulthood. The foster parents in our study may therefore be more willing to invest in their children than foster parents who take care of children for a shorter period.

Second, the characteristics of our sample. Because our sample of foster parents became caregivers for very young children and many of the foster parents did not have a child of their own, they were highly motivated to establish long-lasting relationships with their foster children. Further, few foster parents in our sample had previous experience with being a foster parent and most of them had only one foster child in their home. Such caregiving background may be more comparable with what is seen among children who are being adopted. We may describe the child as being "psychologically" adopted (Bates & Dozier, 1998), meaning that although the child has not been legally adopted, the foster parent will behave emotionally towards the child as he or she would have done towards their own biological child. The foster parents may have started to view the child as their own baby, even though the child still had visitations with its biological parent(s). Only one child experienced placement rupture from 2 to 3 years of age, and in a follow-up at 8 years with the same sample only

one other child was placed in a new foster home. Although not tested empirically, our data are thereby in line with previous research on emotional investment which have reported that foster parents are more easily motivated to commit and establish a lasting relationship with a young foster child than an older one (Dozier & Lindhiem, 2006). However, the age of the foster child may not hinder the motivation to become a highly committed foster parent; such a commitment can also occur when an adolescent receives new caregivers (Lo et al., 2015).

4.1 Association between foster parents' emotional investment and foster children's socio-emotional functioning

As for our hypothesis, we did identify associations between foster parents' commitment and the foster children's socio-emotional functioning both at T1 and T2. As for acceptance, when the foster parents were rated as high on the acceptance scale, they reported the foster children to be less dysregulated on the ITSEA questionnaire at the age of 3 years. This association held when the two other TIMB variables (commitment and awareness of influence) were included in the analysis, and may therefore be viewed as more robust. Foster parents with higher acceptance may have been more able to value their relationship with their foster child in a positive way and not devalue the foster child when the child expressed negative emotions. Young children placed in foster care have often experienced stressors of different kinds early in their lives. Experience of separation from their primary caregivers, and possible neglect or abuse, may lead to the fact that such children enter the foster care system with emotional dysregulation (Fish & Chapman, 2004), and the child might express symptoms of stress such as inconsolable crying, sleep difficulties and difficulty with handling transitions. Comparable subscales in the ITSEA parental report are sleep, eating, negative emotionality and sensory sensitivity. Such behavior may be defined as difficult child behavior and challenging for the foster parents. We may therefore suggest that our results are in line with the ones of Koren-Karie and Markman-Gefen (2016). They found that foster parents were more accepting of a child who had been rated as "easy" compared to those who had been rated as "difficult". It should be noted that the foster children in the Koren-Karie and Markman-Grefen paper were older, aged 7–14 years, than those in our study, included only boys, and lived in foster villages (Koren-Karie & Markman-Gefen, 2016).

Also, in line with our hypothesis, we identified a second robust relation between commitment and externalizing behavior at the age of 2. Foster parents at the higher end of the commitment scale, reported less externalizing behavior in their foster children. One explanation for this may be that the foster parents were highly motivated to be caregivers for these children over a long-time period and therefore were able to provide

the foster child with a sense of belonging and being loved and cared for over time. As mentioned above, because foster children have mostly had stressful experiences, child difficulties may often be expressed as externalizing behavior (Fish & Chapman, 2004). This is in accordance with previous research which tends to conclude that foster children are a group of children at high risk of developing externalizing behavior (Goemans et al., 2015; Keil & Price, 2006; Lawrence et al., 2006). Although we cannot state the direction of the associations in our study, caregiver commitment may be highly important when helping foster children towards a healthy social-emotional functioning. Such an explanation is in line with the findings of Lindhiem and Dozier (2007), who reported that foster parents showed higher commitment towards foster children with less externalizing behavior. However, the direction of the association could not be identified. As opposed to our findings and the findings of Lindhiem and Dozier (2007), Koren-Karie and Markman-Gefen (2016) did not identify a significant association between commitment and parental reports of problem behavior. As was the case for acceptance, a significant association with child difficulty and commitment was only identified when using independent observers. However, in our study, even though we defined commitment as a predictor, we cannot state that high commitment leads to low externalizing behavior, since the children already had lived in their foster homes on average 16 months before the first measure point. We may though argue that the children were placed in foster care at a very young age and therefore the children had not entered foster care with a high degree of externalizing behavior, making prediction from commitment to externalizing behavior meaningful.

Lastly, we identified a significant relation between commitment and the foster children's social-emotional competence at both 2 and 3 years of age. This association was less robust, and did not hold when acceptance and awareness of influence were added to the regression. Since foster children's social-emotional competence has been less explored, our results should be investigated more in-depth. In a previous paper, including the same sample of foster children, an increase in foster children's social-emotional competence was identified over time (Jacobsen et al., 2013). Although our finding was less robust, it may indicate that foster parents' commitment may also be important in helping foster children to develop an adequate social-emotional competence in foster care. No statistically significant associations were identified between emotional investment and internalizing behavior. Discussing why an association does not reach statistical significance is a challenge, although we may not rule out that there is a substantial relation. A larger sample size or a more diverse sample might be two options to investigate such relationships in future research.

One important question is whether our results regarding acceptance and dysregulation, and commitment and externalizing behavior are clinically relevant. We may argue that they both are. The ITSEA domains scores

were computed to T-scores with a mean of 50 and a standard deviation of 10, and the TIMB variables were on a Likert scale from 1 to 5, including half-points. When commitment was raised by 1 point, dysregulation and externalizing behavior on a group level decreased by approximately one standard deviation, which may be regarded as a substantial decrease in problem behavior. Helping foster parents of young foster children to become committed to their foster child from an early stage in the placement may be beneficial for reducing externalizing behavior at an early stage, although the long-term effects are less clear. On the other hand, acceptance at an early stage may have beneficial effects on subsequent dysregulation. If both the possible influence of commitment at an early stage and acceptance later should be true, children with challenging social-emotional behavior may also have the opportunity to be raised in nurturing relationships. Encouraging foster parents to emotionally invest in their foster children should therefore be a priority when working with such family constellations early in the foster placement.

A final remark in our discussion is that awareness of influence does not seem to be as important as acceptance and commitment in the foster parent–foster child relationship. Our results are in accordance with previous studies (e.g. Ackerman & Dozier, 2005; Koren-Karie & Markman-Gefen, 2016) which have not identified significant associations between awareness of influence and problem behavior in the foster child.

4.3 Limitations

Although our study presents interesting findings concerning relationships between emotional investment and socio-emotional functioning in foster children, there are also several limitations. First, a relatively small sample size made it difficult to control for a higher number of factors that may have influenced the relationships identified in our analyses. The limited sample size and a sample that may not be representative made it difficult to argue for generalizing these findings to foster care in general. Hence, we do not know whether it is generalizable to Norwegian society. In order to increase the sample size, we could have added a group of parents with their biological children, who are also a part of this study. However, as mentioned earlier (See page 2), the TIMB interview is not suitable for such parents because little variation is expected, as most parents wish to care for their own children. Consequently, as we had no TIMB data on these parents, they were not included in our analysis. Secondly, we are not sure about the nature of causality in these relationships. We hypothesized that the three TIMB variables were predictors and that the four ITSEA were the outcome variables. The rationale for this is mainly the early placement of the foster children and that the emotional investment was established before we could measure the foster children's social-emotional functioning. However, we do not have baseline measures of

the outcome variables before placement, so the direction of the associations remains unclear. Thirdly, the variation was limited in the TIMB interview because no foster parents were rated at the very low end of the scale. However, there was a variation between 2.5 and 5 on the mean scores. Finally, it might have been a limitation that both the TIMB interview and the ITSEA questionnaire were both contributions from the foster parents. Social desirability can have influenced the results because the foster parents wanted to present both themselves and their foster children in a positive way. However, the early placement of these children in a long-term placement with foster parents with limited experience as foster parents and few children themselves, are arguments for the validity of the TIMB results. Further, some foster parents did report a high degree of problem behavior in their foster children as the T-scores ranged from 18 to 90.

4.4 Conclusion and implications

In our study, we investigated the degree of emotional investment including acceptance, commitment, and awareness of influence in a group of foster parents and the relationship to the foster children's social-emotional functioning. Our results indicate that placing young children with highly committed foster parents will have a positive impact on the children's functioning and therefore such placements must be of high priority.

To our knowledge an intervention that targets enhancement of emotional investment in foster care does not yet exist, and we actually do not know if some foster parents become committed more easily than other foster parents. Despite this lack of knowledge, we would argue that our findings may have important implications for the clinical field when working with foster parents and their foster children. Although generalization to other foster care populations may be difficult, the high degree of acceptance and commitment found in our sample of foster parents may indicate that the foster care system in Norway succeeds in recruiting foster parents who accept the child and wish to be parents for the child on a long-term basis. Clinicians working with foster parents have highlighted the importance of commitment for the quality of the foster parent-child relationship (Sjøvold & Furuholmen, 2015).

Therefore, guiding and helping foster parents towards a greater understanding of these children and their social-emotional needs is important when vulnerable children are placed in foster care. To know if we have succeeded in such a goal, we do need further longitudinal research on foster parents' emotional investment in their foster children and foster children's socio-emotional functioning. In line with previous research (Koren-Karie & Markman-Gefen, 2016) the variable "awareness of influence" was not significantly associated with

socio-emotional functioning in our study. A hypothesis may be that this is a less important factor, or that the covariance with acceptance and commitment makes it difficult to identify such an association. Further, associations between foster children's characteristics and emotional investment were not the scope of the present paper, but could be of interest for future investigations. There would then perhaps be a need for a more diverse sample of foster children, than was the case in our study. Additionally, we would propose a randomized controlled intervention study on foster care to include commitment as a target intervention variable.

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Ethical approval: Informed consent was obtained from all individual participants (caregivers and child protection services) included in the study.

¹This study was approved by the National Committees for Research Ethics and Norwegian Centre for Research Data.

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Table 1: Sample characteristics at T1 (24 months) and T2 (36 months)

	Mean (SD)	Min – Max
Child	months	
Age when removed from biological parents	4.6 (5.2)	.03 – 18.6
Age when placed in the current foster home	8.2 (5.8)	.07 – 21.7
Age T1	23.3 (0.6)	22 – 25
Age T2	35.2 (0.4)	34 – 36
Time in current foster care T1	15.1 (5.8)	2 – 23
Time in current foster care T2	27.1 (6.0)	13 – 35
Caregiver		
Main caregiver age T1 (years)	37.7 (5.3)	24 - 49
	High	Low
Main caregiver education (%)	51.7	48.3

Table 2: Correlations between the independent variables in the regression analyses.

	Education	Age	Acceptance	Commitment
Education				
Age	-.04			
Acceptance	.06	.21		
Commitment	.16	.18	.67	
Influence	.23	.27	.62	.53

Spearman correlations with education, Pearson correlations elsewhere.

Education: Whether the main caregiver had higher education. Age: Child's age at placement in current foster home. Acceptance, commitment and influence: TIMB scale scores at T1 (child age 24 months).

Table 3: This is My Baby (TIMB) – Descriptive statistics at T1

TIMB variable (N=60)	Min	Max	Mean	SD	95% CI
Acceptance	2.5	5.0	4.0	0.6	3.8 – 4.1
Commitment	3.0	5.0	4.4	0.6	4.3 – 4.6
Awareness of Influence	2.5	5.0	3.7	0.6	3.6 – 3.9

Table 4: Infant–Toddler Social and Emotional Assessment (ITSEA) – Descriptive statistics at T1 and T2

ITSEA domain	T1 (N=57)				T2 (N=55)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
Externalizing	35	89	52	11.7	32	90	54	12.5
Internalizing	34	75	50	10.4	30	78	53	10.0
Dysregulation	26	79	46	10.4	18	75	46	13.7
Competence	14	67	44	11.7	12	63	46	10.4

Table 5: Linear regression analysis for the Externalizing domain at T1 and T2

Variable	Model 1 ¹			Model 2 ²		
	Coeff. ³	CI	p-value	Coeff. ³	CI	p-value
T1						
Accept	-2.39	-7.33 to 2.56	.337	5.18	-1.81 to 12.17	.143
Commitment	-7.85	-13.59 to -2.11	.008	-10.25	-17.87 to -2.64	.009
Awareness of Influence	-4.45	-10.01 to 1.10	.114	-3.96	-10.57 to 2.64	.234
T2						
Acceptance	-2.82	-8.23 to 2.58	.300	-4.14	-12.22 to 3.94	.308
Commitment	-1.08	-7.63 to 5.48	.743	1.55	-7.05 to 10.14	.719
Awareness of Influence	-1.34	-7.38 to 4.69	.657	0.89	-7.19 to 8.97	.826

Note: $R^2 = .183$ and Adjusted $R^2 = .103$ and .058 and -.038 for the full model (Model 2) at T1 and T2, resp.

¹Separate models for each TIMB variable. Adjusted for main caregiver education and age at placement in the current foster home.

²All TIMB variables in the same model. Adjusted for main caregiver education and age at placement in the current foster home.

³Regression coefficient.

Table 6: Linear regression analysis for the Dysregulation domain at T1 and T2

Variable	Model 1 ¹			Model 2 ²		
	Coeff. ³	CI	p-value	Coeff. ³	CI	p-value
T1						
Acceptance	-2.32	-6.65 to 2.00	.286	0.41	-6.11 to 6.94	.899
Commitment	-4.55	-9.78 to 0.68	.087	-4.69	-11.79 to 2.42	.191
Awareness of Influence	-1.98	-6.94 to 2.98	.427	-0.43	-6.59 to 5.73	.889
T2						
Acceptance	-7.51	-13.05 to -1.96	.009	-9.60	-17.84 to -1.37	.023
Commitment	-3.23	-10.30 to 3.84	.363	3.90	-4.85 to 12.66	.375
Awareness of Influence	-4.91	-11.33 to 1.51	.131	0.12	-8.11 to 8.36	.976

Note: $R^2 = .113$ and Adjusted $R^2 = .026$ and $.190$ and $.107$ for the full model (Model 2) at T1 and T2, resp.

¹Separate models for each TIMB variable. Adjusted for main caregiver education and age at placement in the current foster home.

²All TIMB variables in the same model. Adjusted for main caregiver education and age at placement in the current foster home.

³Regression coefficient.

Table 7: Linear regression analysis for the Internalizing domain at T1 and T2

Variable	Model 1 ¹			Model 2 ²		
	Coeff. ³	CI	p-value	Coeff. ³	CI	p-value
T1						
Acceptance	-1.87	-6.24 to 2.49	.394	.24	-6.37 to 6.85	.942
Commitment	-3.81	-9.11 to 1.49	.155	-4.06	-11.26 to 3.14	.263
Awareness of Influence	-1.30	-6.29 to 3.70	.605	0.13	-6.12 to 6.37	.968
T2						
Acceptance	-3.85	-8.04 to 0.34	.071	-5.10	-11.36 to 1.15	.107
Commitment	-2.15	-7.31 to 3.02	.407	0.99	-5.66 to 7.64	.767
Awareness of Influence	-1.91	-6.67 to 2.85	.424	1.27	-4.98 to 7.52	.685

Note: $R^2 = .074$ and Adjusted $R^2 = -.017$ and $.128$ and $.039$ for the full model (Model 2) at T1 and T2, resp.

¹Separate models for each TIMB variable. Adjusted for main caregiver education and age at placement in the current foster home.

²All TIMB variables in the same model. Adjusted for main caregiver education and age at placement in the current foster home.

³Regression coefficient.

Table 8: Linear regression analysis for the Competence domain at T1 and T2

Variable	Model 1 ¹			Model 2 ²		
	Coeff. ³	CI	p-value	Coeff. ³	CI	p-value
T1						
Acceptance	6.01	1.29 to 10.72	.013	3.32	-3.68 to 10.31	.345
Commitment	8.66	-3.00 to 14.32	.003	6.81	-0.81 to 14.43	.079
Awareness of Influence	3.06	-2.57 to 8.69	.281	-1.85	-8.46 to 4.76	.577
T2						
Acceptance	4.97	0.59 to 9.35	.027	3.22	-3.28 to 9.72	.325
Commitment	5.66	0.37 to 10.95	.036	3.13	-3.79 to 10.04	.368
Awareness of Influence	3.96	-1.01 to 8.93	.116	0.23	-6.28 to 6.73	.945

Note: $R^2 = .187$ and Adjusted $R^2 = .107$ and $.129$ and $.040$ for the full model (Model 2) at T1 and T2, resp.

¹Separate models for each TIMB variable. Adjusted for main caregiver education and age at placement in the current foster home.

²All TIMB variables in the same model. Adjusted for main caregiver education and age at placement in the current foster home.

³Regression coefficient.