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# [Parenting stress in long-term foster carers: A longitudinal study]

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## Abstract

**Background:** Children in foster care tend to exhibit adverse psychosocial functioning, and foster parents tend to experience high levels of stress related to their role as carers.

**Methods:** The study included 60 foster children and 42 children living in biological families as a comparison group. Caregiver stress was measured using the Parenting Stress Index, while child problem behavior was measured using the Strengths and Difficulties Questionnaire. Children and their primary carer were assessed when the children were 2, 3, and 8 years, respectively.

**Results:** The results showed higher stress scores for foster parents at all time points, with the difference being most pronounced in stress related to the child. Problem behavior was also higher for foster children at age 8 years. Foster parent stress increased in all domains during the course of the study. Child domain stress was the only significant predictor of child problem behavior.

**Conclusion:** Foster parents are overall more stressed than biological parents, with stress levels increasing over time. Foster children have more behavior problems, and these problems are closely related to their carers' child-related stress. Further implications for the reduction of parenting stress are discussed.

KEYWORDS

foster care, parenting stress, problem behavior, internalizing, externalizing, longitudinal study

## 1 | INTRODUCTION

Foster parents care for children who can no longer live with their biological parents. These children may have experienced neglect, abandonment, trauma, and abuse (Dakil, Cox, Lin, & Flores, 2012). Due to these and other problems experienced prior to placement, foster parents risk facing children who exhibit psychological disorders, developmental delays, chronic health problems, and problem behaviors (Vasileva & Petermann, 2016). The idea behind foster care is that the stability and continuity of a foster home will provide a therapeutic relationship that will ameliorate these problems. For instance, a positive relationship with foster carers has been found to have an impact on children's ability to regulate emotions (Oosterman, DeSchipper, Fisher, Dozier, & Schuengel, 2010).

However, foster parents face several challenges that may impede their ability to achieve the therapeutic goal of the foster home. In addition to child-related matters, foster parents describe problems such as difficulties navigating the system, reduction in the amount of quality services, poor communication with caseworkers, and reductions in reimbursement rates (Brown & Campbell, 2007; Geiger, Hayes, & Lietz, 2013). Additionally, carers experience personal challenges including health issues, threats to their personal safety, and

feeling unrecognized or unappreciated for their work (Brown & Calder, 1999; Hudson & Levasseur, 2002).

The various demands associated with being a foster parent are often reflected in increased parental stress perceptions. Some of the common stressors reported by carers include introducing a temporary family member into one's home, parenting a child with potential emotional and behavioral disorders, dealing with the child's biological family, as well as knowing the child will eventually leave the household (Brown & Calder, 1999; Buehler, Cox, & Cuddeback, 2003). If foster carers experience high levels of stress, this may affect their ability to function as competent and nurturing in their parental role. Parent-related stress may contribute to over-reactive parenting, such as physical punishment and harsh verbal commands (Deater-Deckard & Scarr, 1996; Guajardo, Snyder, & Petersen, 2009) and parental laxness, like submitting to the child's demands (Guajardo et al., 2009). Moreover, studies in the general population have found associations between parenting stress and negative behavioral outcomes for children (Deater-Deckard, 1998; Mackler et al., 2015).

The few studies that emphasize parenting stress in foster parents have reported findings that are somewhat contradictory. For instance, whereas some studies report high overall levels of parenting stress (Havik, Jacobsen, & Lehmann, 2016; Lucey, Fox, & Byrnes, 2007; Nilsen, 2007), others report low to normal overall stress levels (Cole, 2005; Goemans, Geel, & Vedder, 2017; McKeough et al., 2017). Parenting stress can be divided into strain that is specific to parental attributes (e.g., competence, health, and spousal relationship) or strain that is limited to child attributes (e.g., mood, hyperactivity, and adaptability), as reflected in Abidin's (1995) distinction between parent domain and child domain stress in the Parenting Stress Index questionnaire. Research on foster families have found carers to sometimes report high (Megahead & Deater-Deckard, 2017; Murray, Tarren-Sweeney, & France, 2011) and other times low to normal stress levels in the parent domain (Cole, 2005; Harnett, Dawe, & Russell, 2014; Havik et al., 2016; Lucey et al., 2007; Vis, Lauritzen, Fossum, & Holtan, 2017). Despite these conflicting findings, there seems to be a recurring pattern among multiple studies that foster parents report high levels of stress related to the child domain (e.g., Harnett et al., 2014; Havik et al., 2016; Lucey et al., 2007; Megahead & Deater-Deckard, 2017; Murray et al., 2011).

There is a need for longitudinal studies to better understand the long-term outcomes for foster children and their families. Unfortunately, only a few studies in recent years have utilized a longitudinal design to examine parenting stress in this population (Gabler et al., 2014; Goemans et al., 2017; Vanderfaeillie, Van Holen, Vanschoonlandt, Robberechts, & Stroobants, 2013). Moreover, most longitudinal studies on foster families tend not to emphasize parenting stress, primarily using it as a variable to predict other phenomena under investigation. In a study on children in long-term foster care, parenting stress was found to be positively related to overall problem behavior over a 2-year period (Vanderfaeillie et al., 2013). Another study on foster families during the first year of placement reported that stress in the parent domain significantly predicted an increase in behavior problems and a reduction in attachment security in foster children (Gabler et al., 2014).

Another gap in the literature relates to the use of comparison groups. Some studies compare their participants to people in other of out-of-home care arrangements (e.g., Harnett et al., 2014), whereas others compare their findings to normative data (Gabler et al., 2014). Only a few studies on foster parent stress compare their participants to families with biological children. Lucey et al. (2007) assessed foster and biological families, with children in the age range of 1–5 years. They found no significant differences between foster and biological mothers in any of the stress domains, except from biological mothers scoring higher in parenting distress and defensive responding. Lohaus et al. (2017) reported significantly higher parenting stress among foster mothers than biological mothers (though no such difference between fathers in the two groups). This difference was no longer significant when child problem behavior was included as a covariate.

The present study sought to compare the parenting stress of foster parents with biological parents. The three main objectives were to (a) estimate group differences on parenting stress and children's problem behavior at all three time-points; (b) investigate the stability of parenting stress in both groups over time; and (c) examine whether parenting stress in both groups would predict children's behavioral problems.

## 2 | METHODS

### 2.1 | Background

The current study is part of an ongoing project on foster children's development and attachment to their foster parents. Originally, data were collected when the children were 2 (T1) and 3 years old (T2), with a follow-up study just before the age of 8 years (T3). At T1, 116 families were invited to participate, of which 60 foster families and 42 comparison families agreed to participate. Reasons for refusal were not systematically identified. At T3, all who participated at T2 were invited into the project again. In each family, one parent was chosen as primary carer, and all parent-reported data are based on responses from the primary carer.

### 2.2 | Participants

The initial sample consisted of 60 foster children aged 22–25 months and 42 comparison children aged 22–24 months (T1). The T2 sample consisted of 56 foster children aged 34–36 months and 40 comparison children aged 35–36 months. The T3 sample consisted of 48 foster children (17 girls) aged 96–100 months ($M$ = 96.9, $SD$ = 0.9) and 37 comparison children (20 girls) aged 96–98 months ($M$ = 96.7, $SD$ = 0.6). For more details on the participants see Jacobsen, Moe, Ivarsson, Wentzel-Larsen, and Smith (2013).

The majority of carers in both groups were either married or cohabiting and most were of Norwegian ethnicity. Foster parents had a significantly lower educational level than comparison parents overall, significantly fewer were working out of home, and their income level was significantly lower than comparison parents. Moreover,

**TABLE 1** Sample characteristics of carers in the two groups at T3

| Characteristics | Foster | % | Comparison | % | *p* value |
|---|---|---|---|---|---|
| | (*n* = 48) | | (*n* = 37) | | |
| Gender | | | | | |
| Male | 7 | 14.6 | 3 | 8.1 | .358 |
| Female | 41 | 85.4 | 34 | 91.9 | |
| Marital status | | | | | |
| Married | 36 | 75.0 | 21 | 56.8 | .084 |
| Cohabiting | 5 | 10.4 | 12 | 32.4 | |
| Earlier married/cohabiting | 4 | 8.3 | 2 | 5.4 | |
| Divorced | 3 | 6.3 | 1 | 2.7 | |
| Neither of the above | 0 | 0.0 | 1 | 2.7 | |
| Ethnic origin | | | | | |
| Norwegian | 44 | 91.7 | 36 | 97.3 | .419 |
| Norwegian/other | 2 | 4.2 | 0 | 0.0 | |
| Other | 2 | 4.2 | 1 | 2.7 | |
| Education | | | | | |
| High | 26 | 54.2 | 35 | 94.6 | <.001 |
| Low | 22 | 45.8 | 2 | 5.4 | |
| Working out of home | 36 | 75.0 | 35 | 91.9 | .005 |
| Mean income (USD) | 56 181(SD 22 513) | | 67 977(SD 26 654) | | .031 |
| Mean age | 44.1(SD 4.9) | | 39.3(SD 4.0) | | <.001 |
| Mean number of children | 2.3(SD 1.1) | | 3.4(SD 0.9) | | <.001 |

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

foster parents were significantly older and had fewer children in their home than carers in the comparison group (Table 1).

### 2.2.1 | Foster group characteristics

One child had been placed in a new foster home between T2 and T3, whereas the remaining children experienced no new placements during this period. None of the children had experienced institutional care and none had been reunited with their biological parents. The time spent in their current foster home varied from 74 to 98 months ($M$ = 87.3, $SD$ = 6.0). The number of visits by the biological parents ranged between 0 and 18 times per year ($M$ = 6.0, $SD$ = 5.2). Twelve children had been adopted during their stay in a foster home.

Thirty-eight primary carers (79.2%) had participated in PRIDE Training (i.e., a program to train and recruit foster parents before they are certified; Haus, Omre, Schjelderup, & Marthinsen, 2005) at T1. Moreover, 41 (85.4%) carers had received supervision after placement, whereas five (10.4%) had received no supervision after placement. Thirteen carers (27.1%) had one additional foster or adoptive child in their family, one carer (2.1%) had two, and one carer (2.1%) had three additional foster or adoptive children in their family.

## 2.3 | Procedure

Families were recruited throughout Norway during 2009 and 2010. Foster parents and their children were recruited through direct contact with the community CPS. CPSs were located around the country, but the majority was within the eastern, southern, and western parts of Norway. If the CPS allowed a child to be included, foster parents were asked whether they wanted more information about the study. Foster children were considered eligible for inclusion if they had lived in a foster home for at least two months at T1 and were currently living in a long-term foster home. Comparison carers and their children were mainly recruited through public health centers and kindergartens located in the same geographical areas as the foster families. Exclusion criteria were severe physical disability or a diagnosis indicating severe mental retardation, in the child. Additionally, caregivers had to understand and speak Norwegian. In total, 70 foster and 46 comparison parents were invited to participate. Informed consent was obtained from all participants. None of the carers were financially compensated for their participation in the study, but the children were given a small present at each measurement (e.g., a book). Those who needed to travel were offered compensation for their journey.

The dropout rate from T1 to T3 was 12 for foster families (11.8%) and 5 for comparison families (4.9%). Analyses revealed that child birth weight ($p$ < .009) and child domain stress at T1 ($p$ < .041) was associated with dropout. When child birth weight increased by 100 g, the odds for dropout increased by 16.6%, whereas when child domain stress increased by one point the odds for dropout increased by 2.9%. Neither group membership (foster or comparison), child gender or parent domain stress were clearly associated with dropout ($p$ ≥ .285).

## 2.4 | Measures

### 2.4.1 | Parenting Stress Index

Parenting stress was measured at each time point using the Parenting Stress Index (PSI; Abidin, 1995), a 120-item questionnaire. The PSI is a measure of stress in the parent-child dyad. Carers respond to statements on a five-point Likert scale, indicating whether they agree or strongly disagree. The instrument yields three subscale scores: parent domain stress, child domain stress, and life stress. The child domain refers to the degree to which the carer perceives characteristics of the child as stressful, and is made up of six subscales: Distractibility/hyperactivity, adaptability, reinforces parents, demandingness, mood, and acceptability. The parent domain refers to stress related to the carers' general functioning, and is made up of seven subscales: Competence, isolation, attachment, health, role restriction, depression, and spouse. Life stress reflects stressful circumstances experienced outside the parent-child relationship (e.g., death of a relative). The child and parent domains are summarized into the total stress scale, an indicator of the overall level of parenting stress. Due to the lack of normative data from a Norwegian sample (Kornør & Martinussen, 2011), the norm group and associated cut off values described in the PSI manual were utilized (Abidin, 1995). In the present sample, Chronbach's alpha was.95 (T1), .94 (T2), and .96 (T3) for total stress; .91 (T1), .91 (T2), and .89 (T3) for parent domain stress; and .92 (T1) .92 (T2), and.96 (T3) for child domain stress.

### 2.4.2 | Strengths and Difficulties Questionnaire

Children's behavioral and emotional problems were measured at T3 using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001). The questionnaire consists of 25 items rated using a three-point Likert scale, indicating whether the respondent regards a statement as not true, somewhat true or certainly true. The SDQ is made up of an internalizing, an externalizing and a prosocial behavior subscale. The internalizing subscale consists of ten items on peer problems and emotional problems, whereas the externalizing subscale consists of ten items on hyperactivity and conduct problems. The prosocial subscale is made up of five items reflecting caring and helpful behavior. The total difficulties score is a summary of the items contained in the internalizing and externalizing subscales, with high scores indicating greater difficulties. A Norwegian translation of the questionnaire was used, which has shown to have good construct validity (Posserud et al., 2008) and internal consistency (Sveen, Berg-Nielsen, Lydersen, & Wichstrøm, 2013). The SDQ has been used previously in research on Norwegian foster carers (Lehmann, Heiervang, Havik, & Havik, 2014). However, as no normative data from a Norwegian sample were available, the cut off values of the SDQ scoring sheet, based on a UK sample (Goodman & Goodman, 2009), was utilized. No cut off values for externalizing and internalizing behavior were described in the manual and, to the authors' knowledge, no such values are available for this instrument. In the current study, Cronbach's alpha was.90 for total difficulties, .87 for externalizing, .83 for internalizing behavior, and.77 for prosocial behavior.

### 2.4.3 | Carer questionnaire

Carers were asked to complete a questionnaire on subjects such as socioeconomic data, family size, and their experiences as foster parents (including visits with the child's biological family, assistance from support services, etc.). Questionnaires were completed at T1, T2, and T3.

### 2.4.4 | CPS questionnaire

Child protective service (CPS) workers completed a questionnaire about the age of the child, the number of placements, reasons for placement, number of visitations with the biological family, adverse caregiving experiences before placement, and whether the child had been adopted or moved back to his/her biological parents. These data were based on information from the child's case file and were collected at T1 and T3.

### 2.4.5 | Statistical analysis

Bivariate analyses of group differences on parenting stress among primary carers and behavioral problems among children were conducted using Student's *t* test. Hierarchical regression analyses were used to analyze the contribution of parenting stress on children's problem behavior. Mixed effects analyses, a type of multilevel analysis used to account for repeated measurements within each family, were used to investigate group differences and differences over time. Time was modeled as a categorical predictor, with T1, T2, and T3 used as the levels of measurement. The mixed effects analyses included one model for each outcome with a group by time interaction. All analyses were on a person level, based on data from either the child or the primary carer (i.e., none on a family level in which data from more than one parent was combined).

A significance level of .05 was used for all of the analyses. SPSS Version 23 was used to run most of the analyses. R version 3.3.2 with the nlme package was used with the mixed-effects models.

# 3 | RESULTS

## 3.1 | Group differences

### 3.1.1 | Parenting stress

Foster parents reported higher parenting stress than the comparison parents in total stress and child domain at all time points, though this difference was not significant for total stress at T1 or T2 (Table 2). Three foster carers (5.3%) at T1, one at T2 (1.9%), and nine foster carers (19.1%) at T3 scored above the 85th percentile on total stress, compared to one comparison carer (2.6%) at T2. There was a significant group difference on child domain stress at all time points. Four

**TABLE 2** Parental stress for foster parents and comparison parents at child's age 2, 3, and 8 years; and problem behavior for foster children and comparison children at child's age 8 years

| | | Foster home | | | Comparison home | | | Differences | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *n* | Mean | *SD* | *n* | Mean | *SD* | Mean diff. | 95% CI | *p* value |
| T1 | PSI total | 57 | 195.37 | 35.52 | 40 | 186.48 | 30.24 | 8.88 | −4.82 to 22.58 | .201 |
| | PSI parent | 57 | 102.98 | 18.99 | 40 | 106.64 | 18.77 | −3.65 | −11.39 to 4.09 | .351 |
| | PSI child | 57 | 92.38 | 20.57 | 40 | 79.85 | 14.32 | 12.53 | 5.05 to 20.01 | .001 |
| T2 | PSI total | 54 | 197.99 | 33.79 | 39 | 189.78 | 30.39 | 8.21 | −5.32 to 21.74 | .231 |
| | PSI parent | 54 | 104.02 | 18.13 | 39 | 108.67 | 20.51 | −4.66 | −12.65 to 3.34 | .251 |
| | PSI child | 54 | 93.97 | 20.26 | 39 | 81.10 | 12.79 | 12.87 | 6.04 to 19.69 | <.001 |
| T3 | PSI total | 47 | 217.18 | 36.91 | 36 | 181.42 | 29.28 | 35.76 | 20.85 to 50.66 | <.001 |
| | PSI parent | 47 | 109.22 | 15.88 | 36 | 103.51 | 18.29 | 5.71 | −1.77 to 13.19 | .132 |
| | PSI child | 47 | 107.95 | 27.42 | 36 | 77.91 | 14.52 | 30.05 | 20.73 to 39.36 | <.001 |
| | SDQ total | 48 | 11.41 | 8.10 | 36 | 4.81 | 3.47 | 6.61 | 4.01 to 9.21 | <.001 |
| | SDQ ext. | 48 | 7.58 | 4.86 | 36 | 3.19 | 2.32 | 4.39 | 2.79 to 5.98 | <.001 |
| | SDQ int. | 48 | 3.83 | 4.12 | 36 | 1.61 | 1.96 | 2.22 | .86 to 3.57 | .002 |
| | SDQ prosoc. | 48 | 7.90 | 1.86 | 36 | 8.83 | 1.40 | −0.94 | −1.67 to −.20 | .013 |

*Note*: Confidence intervals and *p* values were calculated using Student's *t* test for the PSI.
Abbreviations: PSI, parenting stress index; SDQ, strengths and difficulties questionnaire.

foster carers (7.0%) at T1, nine (16.7%) at T2, and 23 (48.9%) at T3 scored above the 85th percentile on the child domain, compared to comparison carers, of which two (5.6%) scored above the 85th percentile on T3. The difference between the two groups on the parent domain was minimal and nonsignificant, though foster parents did reach a higher level of stress at T3. Moreover, one foster carer at T1 (1.8%) and T2 (1.9%), and two at T3 (4.3%) scored above the 85th percentile on the parent domain, whereas two comparison carers (5.1%) scored above at T2.

### 3.1.2 | Children's behavioral problems

Foster carers rated their children as higher in all problem domains of the SDQ: Total difficulties, internalizing, and externalizing problem behavior. Eighteen (37.5%) foster children obtained scores above the 80th percentile for total difficulties, compared to none of the children in the comparison group. As for the prosocial scale, comparison children were rated significantly higher than the foster children. In addition to having a lower average score than the comparison children, there were also more foster children with very low prosocial scores. Seventeen foster children (35.4%) scored lower than the 80th percentile, compared to seven children (19.4%) in the comparison group.

## 3.2 | Changes in parenting stress over time

Multiple mixed-effects models were used to analyze the differences in parenting stress between the foster group and comparison group at all three time points (Figure 1). Significant group by time interactions were identified for all three domains: Total stress ($p < .001$), parent domain stress ($p < .001$), and child domain stress ($p < .001$).

### 3.2.1 | Group differences

Comparison parents had lower scores than foster parents on the total stress domain when the child was 2 (−8.89, $p < .210$) and 3 (−7.76, $p < .273$) years old. However, the difference between groups was only significant when the child reached school age, with an estimated difference of −40.32 ($p < .001$). The groups differed in terms of their scores on the parent domain, with the comparison parents initially scoring somewhat higher than comparison parents at the first two time points (T1: 2.97, $p < .446$; T2: 4.89, $p < .212$), and then scoring lower at the final time point (T3: −7.86, $p < .051$). Finally, the group differences for child domain stress were significant for all time points, indicating that comparison parents scored consistently lower than foster parents, with the difference between comparison and foster caregivers being -−12.20 at T1 ($p < .004$), −12.65 at T2 ($p < .003$) to −32.46 at T3 ($p < .001$).

### 3.2.2 | Time differences

The changes in time for total stress were significant for the foster parents between T1 and T3 (24.78, $p < .001$), as well as T2 and T3 (22.56, $p < .001$). However, the difference between T1 and T2 was not significant (2.21, $p < .603$). None of the changes in total stress over time were significant for comparison parents (T1 and T3: −6.65, $p < .201$; T1 and T2: 3.34, $p < .508$; T2 and T3: −9.99, $p < .051$). As for parent domain stress, foster parents scored significantly higher between T1 and T3 (6.87, $p < .003$) and T2 and T3 (6.22, $p < .009$). The change from T1 to T2 was not significant (0.66, $p < .771$). Comparison parents decreased significantly in their parent domain score from child age 3 to 8, with a reduction of 6.52 ($p < .017$), though none of the other changes in the parent domain were significant (T1 and

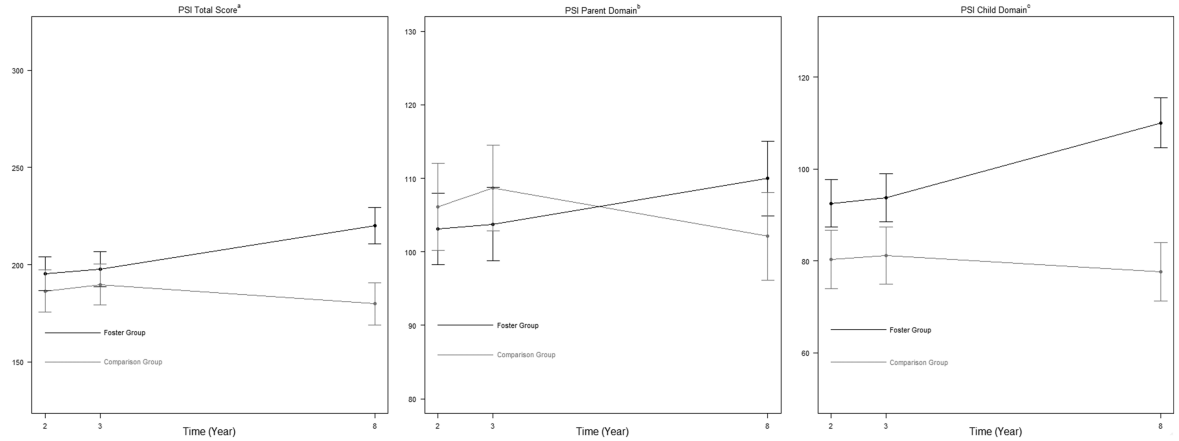


**FIGURE 1** Difference between the foster and comparison groups for total, parent and child domain stress. [a]Combined *p* value for the interaction group by time was $p < .001$; $p < .001$ for time difference in the foster group and $p < .142$ in the comparison group. [b]Combined *p* value for the interaction group by time was $p < .001$; $p < .006$ for time difference in the foster group and $p < .055$ in the comparison group. [c]Combined *p* value for the interaction group by time was $p < .001$; $p < .001$ for time difference in the foster group and $p < .519$ in the comparison group

T2: 2.57, $p < .337$; T2 and T3: −3.96, $p < .151$). Finally, foster parents' child domain stress scores increased with 17.53 between T1 and T3 ($p < .001$), and with a somewhat smaller difference of 16.31 between T2 and T3 ($p < .001$). Foster parent child domain stress did not increase significantly between T1 and T2 (1.22, $p < .642$). Comparison parents had no significant changes in their child domain stress over time (T1 and T2: 0.78, $p < .805$; T1 and T3: −2.72, $p < .401$; T2 and T2: −3.50, $p < .272$).

### 3.3 | Prediction of child problem behavior

The results of the regression analysis are presented in Table 3. The adjusted $R^2$ values of .73, .41, and .29 indicate that altogether the independent variables contributed 73, 41, and 29% of the variability in the scores on the SDQ externalizing, internalizing, and prosocial scale, respectively. PSI child domain stress is the only predictor variable that makes a significant contribution in any of the models, with PSI parent domain stress and carer's age only making small non-significant contributions.

## 4 | DISCUSSION

The first objective of this study was to assess the differences in parenting stress between foster and biological carers, as well as differences in problem behavior between foster and biological children. The outcome on child domain stress in the current study showed that foster parents scored consistently higher than comparison parents at all time points. Though other studies have not tended to compare child domain stress between foster and comparison carers, quite a few studies have found that foster parents' scores tend to be high compared to norm scores, often above the 85th percentile (see Havik et al., 2016; Megahead & Deater-Deckard, 2017; Murray et al., 2011). The results on group differences indicate that foster parents experienced more overall stress, measured by the PSI total stress domain, than biological parents at all measurement times, though the difference was only significant when the children reached school age. A similar study identified higher parental stress among foster mothers than biological mothers, though this difference was not tested over time (Lohaus et al., 2017). The interaction between group and time was significant on parent domain stress, but the differences between groups were not significant at any time. In other words, the analysis was not able to detect any significant differences in foster and comparison parents' perceived stress in their parental role. Interestingly, a US study that compared 30 foster mothers with a comparison group of 30 biological mothers found that biological mothers had *higher* parent domain stress than foster mothers (Lucey et al., 2007). In contrast to the present study, these biological mothers generally had lower income, lower education, and tended not to be married, compared to the foster mothers.

The parent reports of child problem behavior revealed significantly higher levels of total difficulties, internalizing and externalizing problem behavior, and lower prosocial behavior than the nonfoster group. These findings are not surprising, given that children in foster care often have been exposed to neglect, trauma, and abuse; and many are unable to get the treatment they need for mental health issues (Vasileva & Petermann, 2017). Several studies have found higher levels of problem behaviors in this population, with a high number of children in risk of being in the "abnormal" range (Lehmann, Havik, Havik, & Heiervang, 2013; Oswald, Heil, & Goldbeck, 2010; Rees, 2013; Vasileva & Petermann, 2017). In sum, findings on the first main objective showed that the difference between groups on parenting stress was most evident for stressors related to child characteristics and less so for stress related to the parent's functioning. This might be explained by the higher levels of problem behaviors among foster children than the comparison children, which could have impacted foster parents' stress levels in the child domain. The reason why this does not impact the stress related to foster carer parental role, may be due to parents having access to systems that are able to support them in

**TABLE 3** Summary of regression analyses for variables predicting child problem behavior ($N$ = 82)

| | B | 95% CI | β | $sr^2$ (unique) | $p$ value |
|---|---|---|---|---|---|
| SDQ externalizing[a] | | | | | |
| Group | −1.19 | −2.77 to 0.38 | n/a | 0.01 | .134 |
| PSI child domain | 0.14 | 0.11 to 0.17 | 0.84 | 0.36 | <.001 |
| PSI parent domain | −0.03 | −0.06 to 0.01 | −0.11 | 0.01 | .101 |
| Parent's age | −0.12 | −0.24 to 0.01 | −0.13 | 0.01 | .062 |
| $R^2$ | 0.75 | | | | |
| Adjusted $R^2$ | 0.73 | | | | |
| $R$ ($F$ = 45.06) | 0.87 | | | | |
| SDQ internalizing[a] | | | | | |
| Group | 1.03 | −0.76 to 2.82 | n/a | 0.01 | .256 |
| PSI child domain | 0.09 | 0.05 to 0.12 | 0.66 | 0.22 | <.001 |
| PSI parent domain | 0.01 | −0.04 to 0.04 | 0.02 | 0.00 | .806 |
| Parent's age | 0.01 | −0.13 to 0.15 | 0.02 | 0.00 | .862 |
| $R^2$ | 0.45 | | | | |
| Adjusted $R^2$ | 0.41 | | | | |
| $R$ ($F$ = 12.45) | 0.67 | | | | |
| SDQ prosocial[a] | | | | | |
| Group | −0.03 | −1.00 to 0.93 | n/a | 0.00 | 0.944 |
| PSI child domain | −0.04 | −0.05 to −0.02 | −0.54 | 0.15 | <.001 |
| PSI parent domain | −0.01 | −0.03 to 0.01 | −0.09 | 0.01 | .431 |
| Parent's age | 0.02 | −0.05 to 0.10 | 0.07 | 0.00 | .528 |
| $R^2$ | 0.34 | | | | |
| Adjusted $R^2$ | 0.29 | | | | |
| $R$ ($F$ = 7.74) | 0.58 | | | | |

*Note:* $sr^2$ denotes the percentage of unique variance explained the given variable.
[a]Adjusted for main carer education (high/low).
Abbreviations: PSI, parenting stress index at T2; SDQ, strengths and difficulties questionnaire at T3.

terms of their parenting needs. Furthermore, being supported by the Norwegian welfare system may help prevent fears of not being able to take care of one's child due to poor health or unemployment.

The second objective was to investigate the stability of parenting stress over time. Overall, the analysis indicated that foster carers became progressively more stressed, especially in terms of stress related to their child during the entire study period. The stress levels of comparison caregivers, on the other hand, changed very little as their children grew older, indicating a relatively stable stress level. Few other studies have examined the stability of stress of foster parents over time, and those studies have rarely found these kinds of changes. Two different longitudinal studies, Gabler et al. (2018) and Goemans et al. (2017) found little to no change in foster parents' stress levels over time. Contrary to the present study, the follow-up in these studies occurred quite shortly after the initial measurement (i.e., about a year), which may explain why no major changes were found. The relatively stable stress levels between T1 and T2 in the present study, with the major change occurring at T3, suggests that either the escalation or commencement of some phenomena occurs at this age period which has a particular impact on foster parent stress. For instance, having to deal with a new system (i.e., schools), and the professionals that work in this system, could be a stressful experience for foster parents who already have to cope with multiple systems to help support their child. Furthermore, certain phenomena, such as problem behavior, may be difficult to identify when children are young (e.g., as evidenced by challenges using instruments to identify signs of aberrant development at an early age, Sanner, Smith, Wentzel-Larsen, & Moe, 2016). These issues could intensify when the child reaches a new stage in life, which could explain the considerable increase in foster parent stress at this point in time.

The third and final objective of this study was to examine whether parenting stress would serve as a significant predictor of child problem behavior. Abidin (1995) proposes that parenting dysfunction may be an important variable to explain the relationship between parenting stress and child behavior problems. A relationship has previously been found between discipline, harsh punishment, and negative control and an increase in overall problem behavior (Vanderfaeillie et al., 2013). Thus, it is possible that parents who experience a high degree of child-related stress are more likely to exhibit dysfunctional parenting behaviors that again affects their children's problem behavior. Multiple studies on both foster families (Gabler et al., 2014; Vanderfaeillie et al., 2013) and families in the general population

(Mackler et al., 2015; Neece, Green, & Baker, 2012; Yates, Obradović, & Egeland, 2010) have found a relationship between parenting stress and children's behavioral problems. The present study found child domain stress to be the only variable to significantly predict problem and prosocial behavior. Interestingly, the present study did not replicate findings from other studies which found that parent domain stress predicted child problem behavior (Gabler et al., 2014). However, this could be due to the effect not being detectable because of the small sample size.

### 4.1 | Implications

The findings in the current study have important implications for practice and future research. First, child-related stress among foster parents shows a marked increase when the child was 8 years old. This underlines the need for additional preparation for foster parents to prevent issues from occurring before the child reaches school age, as well as support when dealing with schools and pedagogical staff later on. Second, the finding that child-related stress predicts problem behavior, indicates a need to aid foster families and help them cope with stressors as both parenting stress and child behavioral problems have been linked to placement instability in the past (Rock, Michelson, Thomson, & Day, 2015). Unfortunately, few interventions have been developed and rigorously tested for use with foster families, though some have shown to have positive effects on both behavior problems and parenting stress (Hambrick, Oppenheim-Weller, N'zi, & Taussig, 2016). Researchers should take note of factors tied to child-related stress when developing and evaluating interventions for young children in foster care, as this could have significant impact on them and their carers as they mature into school age. Finally, the present study shows that screening foster carers and their children could help identify families in need of help.

### 4.2 | Limitations

Despite the strengths of this study, such as inclusion of a comparison group and longitudinal data, some limitations need to be addressed. First, the low number of participants prevented doing analyses with many additional variables, such as carer working out of home, income or number of children. This was unfortunate, given the difference between foster and comparison families on these characteristics. An argument could be made that the elevated stress experienced by foster carers is due to their lower socioeconomical status and higher age, or, alternatively, that these factors exacerbate an already stressful situation. Future research could examine this relationship more closely.

Second, relying only on carer reports is a limitation, as the results cannot be compared to observational data or data reported by the children themselves. Carer reports do not necessarily reveal the true functioning of the child. For instance, it may be difficult for carers to correctly assess children's functioning, especially for parents who are highly stressed. Additionally, foster parents may have felt pressured to present themselves and their children in a positive way (i.e., the results could be influenced by social desirability bias). This could perhaps also be part of the reason for the large increase in parenting stress over time, in the sense that foster parents may feel less of a need to display themselves in an overly positive light as time passes.

## 5 | CONCLUSION

The results of the present study indicate that foster parents are at risk for increased levels of stress as their children reach school age. Moreover, as their stress can be an important influence on their children's behavioral problems, they need services that support them and help them reduce their stress and its impact on the children in their care. Future research should examine interventions that help foster families coping with child-related stressors and thus potentially serve to reduce problem behaviors over time.

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### ETHICS

This study was approved by the National Committees for Research Ethics and the Norwegian Social Science Data Services. Permission to include foster children without the consent of biological parents was given by the Ministry of Children and Families.

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