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**Attachment & Human Development** 

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rahd20

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To cite this article: Petra Winnette & Lior Abramson (22 Jan 2025): Behavioral problems, dissociative symptoms, and empathic behaviors in children adopted in infancy from institutional and foster care in the Czech Republic, Attachment & Human Development, DOI: 10.1080/14616734.2024.2444722

To link to this article: https://doi.org/10.1080/14616734.2024.2444722



Published online: 22 Jan 2025.

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#### **RESEARCH ARTICLE**

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## Behavioral problems, dissociative symptoms, and empathic behaviors in children adopted in infancy from institutional and foster care in the Czech Republic

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#### ABSTRACT

This study examined if considerably different caregiving experiences in infancy influence socio-emotional development later in childhood. We included children aged 6-9 years who were, immediately after birth, placed in quality state-run institutions (N = 24) or quality state-run foster care with one family (N = 23). All children have lived in stable families since their adoption before 15 months of age. Children in the comparison group have always lived with their biological parents (N = 25). We found that the previously institutionalized group had significantly more behavioral problems, more dissociative symptoms, and lower empathic behavior scores than the comparison group. The previously fostered group also exhibited more behavioral problems and dissociative symptoms than the comparison group but, notably, significantly fewer behavioral problems than the previously institutionalized group. The findings underscore the beneficial role of foster care compared to institutional care and that quality and consistency of early caregiving play a crucial role in later socio-emotional development.

#### **ARTICLE HISTORY**

Received 17 December 2024 Accepted 23 December 2024

#### **KEYWORDS**

Attachment relationships; parental separation; previously institutionalized children; previously fostered children; socioemotional development

Bowlby argued that infants need to experience an intimate and consistent attachment relationship with a present, warm, and stable caregiver, and such early socioemotional learning is necessary for further development and mental health (Bowlby, 1951). Decades of research have shown that healthy socioemotional development is rooted in consistent and sensitive caregiving (Bowlby, 1951; Le Bas et al., 2020; Zeanah et al., 2011).

#### Separation, institutional and foster care, and child development

In studying the impact of parental separation, Bowlby and his contemporaries concluded that such experience in infancy significantly negatively impacts the child's emotional development and may increase psychopathology (Bowlby, 1953; Robertson & Robertson, 1971; Spitz & Wolf, 1946). Indeed, in infancy, some neurobiological systems are highly sensitive and open to intensive social learning in interactions with caregivers, stressing

the importance of early social and attachment experiences (Greenough et al., 1987; Knudsen, 2004). Early separation from caregivers and disrupted caregiving may compromise infants' socioemotional development, leading to various negative outcomes, including developmental delays, impaired ability to form and maintain attachment relationships, anxiety-related difficulties, and changes in endocrinal and neurobiological development (Čater & Majdič, 2022; Lyons-Ruth & Yarger, 2022; Rutter & Woodhouse, 2019; Toinon et al., 2022).

In some cases, separation from the caregiver results in the infant being placed in institutional or foster care. Institutional care typically involves rigid timetables, and care is provided simultaneously to many infants; consequently, infants do not receive individual attention from responsive, consistent caregivers (Tarullo & Gunnar, 2005; Van IJzendoorn et al., 2020; Winnette, 2022). Previously institutionalized children often manifest social disorders and neurobiological changes several years after adoption (Gunnar & Bowen, 2021; Roy et al., 2004), including specific behaviors such as indiscriminate friendliness (Olsavsky et al., 2013) and quasi-autism (Wolstencroft et al., 2023). Foster care is considered a better option for infants (Van IJzendoorn et al., 2015, 2020). Under ideal circumstances, infants stay with one foster caregiver until adoption. However, the child still experiences caregiving disturbances. For infants adopted very early, the loss of a foster carer disrupts the process of developing attachment relationships with them; for older children, it presents the loss of the attachment relationships developed as an infant or toddler. Such disruptions during infancy are associated with changes in cortisol levels and behavioral problems related to elevated stress (Dozier & Bick, 2013).

#### Previous research and knowledge gaps

Studies on children who experience separation and changes in caregiving early in life offer a unique opportunity to explore how different attachment experiences during infancy impact socioemotional development. For example, the unique Bucharest Early Intervention Project (BEIP; Zeanah et al., 2005) focused on the development of institutionalized versus fostered young children in Romania after the communist regime collapsed in 1989. The BEIP researchers enrolled children living in Bucharest institutions and randomly divided them into two groups: children from one group stayed in the institutions, and children from the other group were placed with trained and supported foster families. The comparison group included children who were never institutionalized or fostered. Compared to foster-care children, institutionalized children showed more longterm difficulties in various developmental domains, including cognition, stress regulation, attachment relationships, behavioral problems, and psychiatric symptoms. The comparison group had fewer difficulties than either group and was similar to a comparable group assessed in the US (Gunnar, 2022; Humphreys & Zeanah, 2015; Teculeasa, 2017; Wade et al., 2022; Zeanah et al., 2009). The English and Romanian Adoptees (ERA) project examined children from Romanian institutions adopted by UK families and children adopted within the United Kingdom. It found that children who were adopted from Romania after the age of 6 months suffered from a higher degree of cognitive and emotional problems than children who were adopted earlier (Kreppner et al., 2007; Rutter, 1998). Another study from the United States on children internationally adopted from various countries (Wiik et al., 2011) assessed previously institutionalized children

who spent at least 12 months in an institution and previously fostered children who spent less than 8 months in a foster family. Compared with never-adopted children, previously institutionalized children had attention deficit hyperactivity disorder (ADHD) symptoms above the clinical cut-off, and both institutionalized and foster-cared children had higher levels of ADHD symptoms than never-adopted children.

Overall, previous studies suggest that the timing, length, and quality of pre-adoption care affect children's health and psychological outcomes. Scholars have highlighted some gaps in our understanding of the early caregiving mechanisms that may drive these differences and the need for more controlled studies (Gunnar, 2022; Van IJzendoorn et al., 2015; Wiik et al., 2011; Zeanah et al., 2011). To our knowledge, no study has examined groups similar to ours in terms of their relative homogeneity in early caregiving experiences and their socioemotional development in middle childhood. Behavioral problems, dissociation, and compromised empathic behaviors are more often found in children who live in institutions or foster families than in children who live with their biological families (Manso et al., 2011). However, studies on institutionalized and fostered children adopted later in childhood involve children who also experienced maltreatment, trauma, and caregiver changes prior to adoption (Wiik et al., 2011), making it hard to draw conclusions on the mechanism underlying these differences. Furthermore, limitations exist when studying internationally adopted children because of heterogeneity between countries in quality and type of pre-adoption care (Wiik et al., 2011).

#### **Specifics of the Czech Republic context**

Institutional care in the Czech Republic is a standardized system based on the law (Act No. 401/2012 Coll.; ÚZIS ČR, 2012), wherein all infants receive quality physical care, opportunities to play, and medical attention. Nevertheless, infants in these institutions live in groups of eight, have at least three caregivers rotating in shifts, and experience frequent social interactions with adults who are part of the institution (pediatricians, social workers, and volunteers). They have no individual consistent caregiver with whom they can develop an attachment relationship (Act No. 401/2012 Coll.; Brunthansová et al., 2005; Schneiberg, 2011; ÚZIS ČR, 2012). Foster care in the Czech Republic is also highly standardized (Pospíšilová, 2017), as mandated by Act No. 401/ 2012 Coll. Professional foster parents undergo rigorous mandatory assessment and training in infant fostering (72 hours) before approval. The training curriculum focuses on topics such as providing attachment and sensitive parenting. All approved foster carers must be registered with a licensed organization responsible for supervising their quality of care (every seven weeks at the foster home), further compulsory training (24 hours a year), and consultancy. The State Inspection Institute regularly inspects licensed organizations to ensure compliance with the law's guality standards. Foster carers receive fees of up to three-fourths of the average state income and social security and health insurance payments covered by the state. Infants in foster-care families typically live in stable caregiving environments and have a consistent attachment figure until adoption. The length of stay varies from a few weeks to a maximum of two years (Act No. 401/2012 Coll.; Bubleová et al., 2014).

Until 2012, all abandoned newborns, infants, and toddlers in the Czech Republic were placed in institutional facilities. Since the new law's enactment, the state-run

foster-care system began recruiting, training, supervising, and financially supporting new foster parents and placing newborns in their care. Gradually, as the number of foster caregivers increased, more children were placed in foster care. The law requires placing every child with foster carers if available (Act No. 401/2012 Coll.; Brunthansová et al., 2005; Schneiberg, 2011; ÚZIS ČR, 2012). Accordingly, the children in this study were placed either in an institution or foster care during 2012–2014, based on the availability of foster carers. The state system is meant to provide quality institutional and foster care.

#### Relatively homogeneous groups with unique care history

The uniform regulations of the state-run Czech Republic system led us to assume that both previously institutionalized and previously fostered children received quality preadoption care regarding their physical environment, nutrition, medical attention, and opportunities to play. The main distinction between the three groups (including the comparison group of never institutionalized or fostered children) was the quality and consistency of caregiving and the chance to develop and maintain attachment relationships in infancy. Therefore, comparing specific socioemotional competencies between these groups may provide insights into the specific contributions of caregiving consistency and attachment relationships during infancy to later development.

#### The present study

This study aimed to expand existing knowledge by assessing unique groups of children who experienced separation from their biological parents at birth and institutional or foster care before adoption in infancy in the unique context of the Czech Republic's state system. The children were adopted before the age of 15 months and have since lived in stable families. We examined whether the early caregiving experiences of institutionalized and fostered infants would influence their socioemotional development in middle childhood, focusing on three essential domains: behavioral problems, dissociative symptoms, and empathic behaviors. Behavioral problems refer to internalizing or externalizing behaviors (e.g. anxiety and aggression) (Stams et al., 2000). Dissociation is a process that alters the healthy accessibility and coherence of memory, sense, knowledge of self, and behavior (Putnam, 1997). Empathy is the capacity to recognize and experience others' emotional processes, and is associated with the motivation to share emotions and care about others and with interpersonal communication; it also associates with regulation in social interactions (Abramson et al., 2020; Decety, 2015; Decety & Svetlova, 2012).

We first hypothesized that early caregiving disruptions in previously institutionalized (PI) and previously fostered (PF) children would result in less favorable socioemotional outcomes than those in children living with their biological parents. Second, we hypothesized that PF children who developed early attachment relationships with foster carers (although they later lost them) would demonstrate, to some extent, improved outcomes relative to PI children who experienced many disruptions in caregiving and lacked the opportunity to establish early attachment relationships.

#### **Methods**

#### **Participants**

This study analyzed data from 72 participants who were recruited through advertisements posted in social services, parent organizations, and schools. The sample included three groups: PI, PF, and a comparison group of children who had only lived with their biological parents (Figure 1).

The PI group included adopted children whose biological parents abandoned them at birth and who were immediately placed in an institutional care unit. Of the participants in the PI group, four experienced a combination of foster and institutional care; two spent 13 weeks in an institution and 28 weeks in foster care; one spent 10 weeks in an institution and 54 weeks in foster care; and one spent 17 weeks in the institution and 34 weeks in foster care. Since these children spent ten or more weeks in institutional care without individual stable caregivers and experienced two more transitions thereafter that resulted in caregiving disruptions – from institution to foster care and from foster care to adoptive parents – we included them in the PI group. The children met the study criteria, as they underwent institutional rearing after birth, followed by foster care before adoption in infancy, which presents many changes and disruptions in caregiving. After their time in

## Unique Czech Study Group - Table

#### PREVIOUSLY INSTITUTIONALISED CHILDREN AGE 6 - 9 (PI, N=24)

Separated at birth and lived 3 – 15 months in an institution (or a combination of the institution and foster care). Since adoption, they have lived in one adoptive family.



#### PREVIOUSLY FOSTERED CHILDREN AGE 6 - 9 (PF, N=23)

Separated at birth and lived 3 - 15 months in one stable foster family. Since adoption, they have lived in one adoptive family.



#### COMPARISON GROUP CHILDREN AGE 6 - 9 (comparison group, N=25)

Never-separated children. Since birth, they have lived with their biological parents.

Birth							to max. age <b>9</b>
BIOLOGICAL FAMILY – STABLE CONSISTENT CAREGIVERS							

Figure 1. Caregiving history of the groups.

institutional or combined care, PI children were adopted and lived with their adoptive parents in stable families.

The PF group included adopted children whose biological parents also abandoned them at birth. They were then placed directly in individual pre-adoption care provided by stable caregivers in a foster family. The children met the study criteria, as they experienced only one stable caregiver before adoption. Subsequently, they were adopted and lived with their adoptive parents in stable families. The comparison group included children who had lived with their biological parents since birth. Table 1 presents the sample characteristics of each group.

The participating parents were mothers except for one father in the PF group. No parent reported having been diagnosed with mental illness on a care history questionnaire adapted from various anamnestic questionnaires. These are used in clinical settings to map the patients' caregiving, family, and medical history to focus the assessment and treatment (Baumeister et al., 2010). The care questionnaire asks about the child's caregiving history, adverse experiences (traumatic events, hospitalization, maltreatment, relationship-related traumas, divorce/custody issues), child's health, and diagnosed mental health conditions (fetal alcohol syndrome, autism spectrum disorders, ADHD, learning/ intellectual disability, psychiatric medications, serious illness/head injury), child's education, and parents' mental health issues (history of psychiatric care and experience of traumatic events, severe illness, or severe conditions following accidents). One adoptive mother in the PF group reported seeing a psychiatrist. All children and parents lived together, and no child-parent dyad had experienced prolonged involuntary separation. None of the parents showed elevated levels of anxiety or mental health issues at the time of the survey as measured by the General Anxiety Disorder-7 questionnaire (GAD-7; Spitzer et al., 2006) and Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001) (GAD-7: PI (*M* = 4.09, *SD* = 4.70), PF (*M* = 3.70, SD = 3.25), comparison (*M* = 3.48, *SD* = 3.69); PHQ-9: PI (M = 4.70, SD = 4.14), PF (M = 4.04, SD = 3.17), comparison (M = 4.00, SD = 3.91); one parent did not complete these questionnaires). Also, there were no significant differences in parental anxiety between the groups (GAD: F(2, 68) = 0.15, p = 0.864; np2= 0.004 [0.00, 1.00]; PHQ: F(2, 68) = 0.25, p = 0.779; np2 = 0.007 [0.00, 1.00]).

-			
	Comparison ( $N = 25$ )	PF ( <i>N</i> = 23)	PI ( <i>N</i> = 24)
Age	M = 7.26, range = [6-8.8] SD = 0.83	M = 7.35, range = [6–8.9] SD = 0.87	M = 7.9, range = [6–9] SD = 0.85
Sex	Female = 13 Male = 12	Female = 10 Male = 13	Female = 11 Male = 13
Weeks before adoption	-	M = 31, range = [12–56], SD = 15.85	M = 38.25, range = [12-64], SD = 14.38
Caregiver's education	Middle school = 4% Highschool = 24% College = 72%	Highschool = 52% College = 48%	Highschool = 44% College = 56%

Table 1. Sample characteristics.

Note. Caregiver education refers to the education of the current (biological or adoptive) caregiver.

#### Inclusion/Exclusion criteria

We set relatively narrow inclusion criteria to ensure the groups were as homogeneous as possible and to minimize confounding variables. We included children in the PI group who experienced many changes in caregiving before adoption (institutional care or a combination of institutional care and foster Care) for 3 to 15 months. We included children in the PF group who experienced only one stable foster care placement before adoption for 3 to 15 months. We included children who, according to parental reports, had neither been officially diagnosed with psychiatric disorders – including ADHD, learning disability, fetal alcohol syndrome, and autistic spectrum disorder – nor had experienced significant reported trauma other than parental separation and caregiver changes in infancy. Additionally, only children without significant learning difficulties or special educational needs who attended standard education systems were included.

Of note, partial data (N = 55) from this study were used to examine whether parental separation and inconsistent caregiving, generally, influenced children's dissociative symptoms and behavioral problems (Winnette & Bob, 2024). However, the aforementioned study did not distinguish between PF and PI children, which is the present study's focus.

#### Procedure

Data were collected in the Czech Republic during the COVID-19 lockdowns (June 2021– September 2022); parents completed the online questionnaires from their homes. They reported details regarding their children's health and care history and completed questionnaires on their socioemotional development (electronic versions of Brief Assessments Checklist for Children [BAC-C], Brief Problem Monitor-Parent Form [BPM-P], Child Dissociative Checklist [CDC], and Children's Empathy Quotient [EQ-C]). A few months after the lockdown was lifted, we invited the participants to the lab, where parents and children completed observational experiments. These findings will be discussed in future articles. The participants were compensated for their time and effort with a fee equivalent to 43 USD each. All parents provided informed consent for their children's participation. Children gave verbal agreement to participate in the lab before the observations were conducted. One child who disagreed with participation in the observations was excluded from the observational part of the study. Approval was obtained from the Ethics Commission of General University Hospital in Prague (number 979/20 OS-IV).

#### Measures

**Behavioral problems.** We used the BAC-C 4–11 (Tarren-Sweeney, 2013) to assess specific behavioral issues associated with disturbed attachment relationships in infancy. The BAC-C consists of a 20-item caregiver report of the child's behavior within the last 4–6 months. It uses a 3-point Likert scale ranging from 0 = not true to 2 = mostly true. It does not distinguish between the rating scales of clinically significant trauma and attachment-related mental health issues. We translated the BAC-C questionnaire to Czech using the standard procedure for translating psychological questionnaires and tests (Fenn et al., 2020). Previous studies have confirmed the tool's psychometrics (Harding et al., 2018; Tarren-Sweeney, 2013; Tarren-Sweeney et al., 2019). Internal consistency in the present sample was also good (Cronbach Alpha = .89 [.84–.92]). In addition to the BAC-C, the BPM-P Form for ages 6–18 years (Achenbach et al., 2017) was administered to examine general

behavioral problems (attention, externalizing, and internalizing). BPM-P comprises 19 items; parents report behavioral problems as they observe them in their child on a Likert scale ranging from 0 = not true to 2 = very true. Parents were allowed to provide their general view of the child's behavior. The duration of parental observation is not specified in the questionnaire. We translated the BPM-P questionnaire from English to Czech using the standard procedure required by ASEBA (Achenbach System of Empirically Based Assessment; ASEBA Overview, 2024; Fenn et al., 2020). ASEBA approved the final translation as culturally and linguistically appropriate and the official Czech translation of BPM-P. Psychometric properties were established in previous studies (Pedersen et al., 2021; Penelo et al., 2017). In the present sample, internal consistency was very good (*Cronbach's alpha* = .93 [.91–95]).

**Dissociative symptoms.** We used the CDC 6–15 (Putnam, 1988; Soukup & Papežová, 2008) to measure the participants' dissociative symptoms. The CDC comprises 20 items; parents report dissociative symptoms over the past 12 months on a Likert scale ranging from 0 = not true to 2 = very true. The measure reflects major areas of dissociative behaviors such as dissociative amnesia, rapid shifts in demeanor, access to information, knowledge, abilities, and age appropriateness of behavior. We used the official Czech translation of the CDC questionnaire (Soukup & Papežová, 2008). Psychometric properties (i.e. test-retest reliability and discriminant validity) have been established in previous studies (Putnam et al., 1993). Internal consistency in the present sample was good (*Cronbach Alpha* = .82 [.76–.88]).

Empathic behaviors. We used the EQ-C 5–11 (Auyeung et al., 2009; Baron-Cohen, 2014) to examine children's empathic behaviors. The EQ-C is a 27-item parent-report questionnaire that evaluates empathic behaviors and related abilities among children. Responses are indicated on a Likert scale ranging from 0 = definitely disagree to 3 = definitely agreeabout real-life situations, experiences, and interests requiring social understanding and empathizing abilities, such as taking care of others and sharing toys in contrast to blaming others, stealing from siblings, or aggressively teasing other children. The duration of parental observation is not specified in the questionnaire. We used the official Czech translation of the EQ-C questionnaire (Baron-Cohen, 2014). Consistent with the original scoring system of Auyeung et al. (2009), items indicating low empathic behaviors were reversed so that a higher score represented higher empathic behaviors. The first two options (definitely disagree and slightly disagree) were assigned a score of zero, slightly agree was assigned a score of 1, and definitely agree was assigned a score of 2. Psychometric properties (i.e. test-retest reliability and internal consistency) have been established in previous studies (Auyeung et al., 2009). The sample's internal consistency was good (Cronbach Alpha = .87 [.82-.91].

#### Statistical analyses

All analyses were performed using *R*-4.3.1. Time spent in institutions or foster care before adoption did not significantly differ between the PI and PF group, t(44.13) = -1.64, p = .108. An outlier examination based on the interquartile range confirmed that no child spent an extreme amount of time in institutions or foster care compared to the rest of the sample. Age during assessment differed between the groups, F(2,69) = 3.94, p = .024. Post

hoc comparisons showed that the PI children were older than those in the comparison group, diff = 2.60, adjusted p = .034, and the PF group, diff = 2.21, adjusted p = .046. The PF and comparison groups did not differ in age, diff = .34, adjusted p = .734).

Descriptive statistics and correlations between age, time before adoption, and other study variables are presented in Table 2. The BACC-C and BPMP-P scores were highly correlated. Since these measures theoretically tap into the same construct of behavioral problems, and because of their very high correlation, we merged them by standardizing each variable, averaging the two standard scores, and then standardizing this average score. Behavioral problem scores were also highly correlated with the CDC. However, the CDC questionnaire targets symptoms such as amnesia, disturbed sense of self, shifts in access to memory and competencies, and communication with imagined figures that are explicitly associated with dissociation in children (Putnam, 1993). Therefore, we did not combine these variables because they tap into different theoretical constructs concerning mental health categories.

Linear regressions were used to examine group differences in the study variables. The main effects are reported using type II ANOVA statistics. In preliminary analyses, children's sex was not significantly related to any of the study outcomes (d = -0.13-0.15, all p's > .53). Time before adoption (PI and PF) was also unrelated to the measured outcomes (Table 2). Therefore, these variables were not controlled for in the main analyses. Conversely, age at the assessment correlated with behavioral problems measured using BPMP-P. Since age also associated with group affiliation, it was controlled for in all analyses. Thus, each study outcome (behavioral problems, dissociative symptoms, and empathic behaviors) was modeled as a function of age and group affiliation.

An outlier examination based on the interquartile range confirmed that no child had an extreme score compared to the rest of the sample in the three study outcomes. A Shapiro-Wilk test showed that the empathic behavior scores were relatively normally distributed, W = .983, p = .436. They also conformed to the assumptions of homogeneity of regression slopes (i.e. empathic behaviors did not differ by the interaction between group and age, F (2,66) = 1.21, p = .305) and residuals' normal distribution, Shapiro-Wilk statistic = .995, p = .997. Conversely, behavioral problems and dissociative symptoms scores showed relatively right-tailed skewed distributions and did not fulfill the normal distribution assumption (behavioral problems: W = .923, p < .001; dissociative symptoms: W = .866, p < .001).

Table 21 means, standard deflations, and conclutions with confidence intervals.							
Variable	М	SD	1	2	3	4	5
1. Age	7.50	0.88					
2. Time before adoption (in weeks)	34.70	15.39	35*				
			[58,07]				
3. BAC-C	9.49	7.19	.20	.17			
			[03, .41]	[12, .43]			
4. BPMP-P	11.31	8.99	.24*	.10	.84**		
			[.01, .45]	[19, .38]	[.75, .90]		
5. CDC	4.97	4.89	.15	.13	.86**	.84**	
			[08, .37]	[16, .40]	[.78, .91]	[.75, .89]	
6. EQ-C	30.88	9.44	02	12	56**	57**	60**
			[25, .21]	[39, .17]	[70,38]	[71,40]	[73,43]

Table 2. Means, standard deviations, and correlations with confidence intervals.

Note. M and SD represent mean and standard deviation, respectively. Values in square brackets indicate 95% confidence intervals for each correlation. BAC-C, Brief Assessment Checklist for Children; BPM-P, Brief Problem Monitor – Parent Form; CDC, Child Dissociative Checklist; EQ-C, Children's Empathy Quotient.\* indicates p < .05. \*\* indicates p < .01.

Since these scores did not meet the parametric tests' assumptions, we ranked the scores and the covariate of children's age and performed regressions on these data (Conover & Iman, 1982). Because we performed three separate analyses (one for each study variable), we considered the main effect of the group to be significant using a Bonferroni-corrected value of p < .017 (.05/3). The Benjamini-Hochberg p-value correction (Benjamini & Hochberg, 1995) was applied to correct for post hoc comparisons within each analysis.

#### Results

Group differences in the study variables (before rank transformation) are presented in Figure 2. As mentioned, four children from the PI group spent time both at institutions and in foster care prior to adoption (see justification for the decision to include them in the PI group in the "Participants" section). While we could not place them in a separate group (as there were only four children), we investigated whether they differed descriptively from the PI group with respect to the study outcomes (Table 3). We also performed robustness analyses excluding the four children. Except for one comparison reported in the model of dissociative symptoms, the results were very similar to the primary analyses reported here.

#### **Behavioral problems**

The model explained a substantial proportion of the variance in children's behavioral problems, R2 = 0.28, F(3, 68) = 9.02, p < .001, adj. R2 = 0.25. Children's age did not significantly account for differences in behavioral problems, F(1, 68) = 1.93, p = .169;  $\eta p2 = 0.03$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 9.55, p < .001;  $\eta p2 = 0.22$  [0.08, 1.00]. The comparison group (non-ranked data M = -0.62, SD = 0.42) had significantly fewer behavioral problems than both the PF group (non-ranked data M = 0.01, SD = 1.06), b = -11.42 [-21.85, -0.98], t(68) = -2.18, p = .032, adjusted p = .043;  $\beta = -0.55$  [-1.04, -0.05], and PI group (non-ranked data M = 0.64, SD = 0.99), b = -23.64 [-34.45, -12.84], t(68) = -4.37, p < .001, adjusted p < .001;  $\beta = -1.13$ [-1.65, -0.61]. The PF group had significantly fewer behavioral problems than the PI group, b = -12.23 [-23.13, -1.32], t(68) = -2.24, p = .029, adjusted p = .38;  $\beta = -0.58$  [-1.11, -0.06].

We used BAC-C to explore behavioral problems specific to children with a history of institutional rearing and foster care. We also used BPM-P to measure a general range of behavior difficulties. Because the BAC-C and BPM-P questionnaires measure a comprehensive spectrum of children's behavioral problems, we decided to investigate them as a single construct and not divide them into different subscales. Nevertheless, evidence shows that early life adversity may have stronger effects on particular disorders (e.g. ADHD; Kennedy et al., 2016). Therefore, we conducted additional exploratory analyses wherein we categorized the BPM-P behavioral problems scale into externalizing, internalizing, and attention problems subscales. We did not do this for the BAC-C because its coding system does not distinguish between different subtypes of behavioral problems. Subscales were computed by averaging the items of each subscale and ranking the average scores.

For attention problems, the model explained a moderate proportion of the variance, R2 = 0.24, F(3, 68) = 7.27, p < .001, adj. R2 = 0.21. The effect of children's age was not



**Figure 2.** Behavioral problems, dissociative symptoms, and empathic behaviors as a function of an early caregiving environment. *Note*. Dots represent group's mean; Lines represent one standard deviation (SD) above and below the mean for each group; a) Behavioral problems as measured by a composite score of the Brief Assessments Checklist for Children 4–11 years (BAC-C) and the Brief Problem Monitor – Parent Form for ages 6–18 years (BPM-P); b) Dissociative symptoms as measured by the Child Dissociative Checklist 6–15 (CDC); c) Empathic behaviors as measured by the Children's Empathy Quotient 5–11 (EQ-C); PF = Previously fostered group; PI = Previously institutionalized group. Due to the violation of parametric tests' assumptions, analyses of behavioral problems and dissociative symptoms were performed on ranked-ordered data. \*Indicates adjusted p <.05 with Benjamini-Hochberg correction.

significant, F(1, 68) = 1.40, p = 0.240;  $\eta p = 0.02$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 7.75, p < .001;  $\eta p = 0.19$  [0.06, 1.00]. The PI group (non-ranked data M = 1.08, SD = 0.58) had significantly more attention problems than the comparison (non-ranked data M = 0.39, SD = 0.35), b = 21.75 [10.70, 32.80], t(68) = 3.93, p < .001, adjusted p < .001;  $\beta = 1.05$  [0.51, 1.58], and PF groups (non-ranked data M = 0.66, SD = 0.60), b = 13.03 [1.87, 24.18], t(68) = 2.33, p = .023, adjusted p = .046;  $\beta = 0.63$  [0.09, 1.16]. The PF and comparison groups did not significantly differ from one another, b = 8.72 [-1.95, 19.40], t(68) = 1.63, p = .108, adjusted p = .143;  $\beta = 0.42$  [-0.09, 0.93].

	Only PI ( <i>n</i> = 20)	PI + PF (n = 4)
Behavioral problems	0.81(0.82), range = [-0.53, 2.28]	-0.22(1.45), range = [-1.34, 1.79]
Dissociative symptoms	8.65(4.70), range = [1, 17]	4.50(5.45), range = [0, 12]
Empathic behaviors	27.55(10.65), range = [12, 49]	27.50(8.43), range = [15, 33]

Table 3. Descriptive statistics (mean, SD, and range) for the PI group children who did and did not also spend time in foster care.

For externalizing problems, the model explained a moderate proportion of the variance, R2 = 0.15, F(3, 68) = 3.89, p = .013, adj. R2 = 0.11. The effect of children's age was not significant, F(1, 68) = 0.49, p = 0.484;  $\eta p 2 = 0.01$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 4.54, p = .014;  $\eta p 2 = 0.12$ , 95% CI [0.01, 1.00]. The PI group (non-ranked data M = 0.87, SD = 0.57) had significantly more externalizing problems than the comparison group (non-ranked data M = 0.38, SD = 0.39), b = 17.45 [5.72, 29.19], t(68) = 2.97, p = 0.004; adjusted p = 0.008,  $\beta = 0.84$  [0.27, 1.40]. The PF group (non-ranked data M = 0.70, SD = 0.66) was placed in the middle and did not significantly differ from the comparison group, b = 10.60 [-0.73, 21.93], t(68) = 1.87, p = .066, adjusted p = .088;  $\beta = 0.51$  [-0.04, 1.05], or PI group, b = -6.85 [-18.70, 4.99], t(68) = -1.15, p = .252, adjusted p = 0.336;  $\beta = -0.33$  [-0.90, 0.24].

For internalizing problems, the model explained a moderate proportion of the variance, R2 = 0.14, F(3, 68) = 3.58, p = .018, adj. R2 = 0.10. The effect of children's age was not significant, F(1, 68) = 1.26, p = .265;  $\eta p 2 = 0.02$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 3.44, p = 0.038;  $\eta p 2 = 0.09$  [0.002, 1.00]. The PI group (non-ranked data M = 0.65, SD = 0.54) had significantly more internalizing problems than the comparison group (non-ranked data M = 0.20, SD = 0.21), b = 15.14 [3.53, 26.75], t(68) = 2.60, p = .011, adjusted p = .023;  $\beta = 0.74$  [0.17, 1.31]. The PF group (non-ranked data M = 0.45, SD = 0.49) was placed in the middle and did not significantly differ from the comparison group, b = 8.49 [-2.73, 19.70], t(68) = 1.51, p = 0.136, adjusted p = 0.181;  $\beta = 0.41$  [-0.13, 0.96], or PI group, b = -6.65 [-18.37, 5.06], t(68) = -1.13, p = .261, adjusted p = .265;  $\beta = -0.33$  [-0.90, 0.25].

#### **Dissociative symptoms**

The model explained a substantial proportion of the variance in children's dissociative symptoms, R2 = 0.33, F(3, 68) = 11.07, p < .001, adj. R2 = 0.30. The effect of age was not significant, F(1, 68) = 0.21, p = .647;  $\eta p 2 = 0.003$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 14.63, p < .001;  $\eta p 2 = 0.30$  [0.15, 1.00]. The comparison group (nonranked data M = 1.60, SD = 1.73) had significantly lower dissociative symptoms scores than both the PF (non-ranked data M = 5.52, SD = 5.01), b = -18.05 [-28.10, -8.00], t(68) = -3.59, p < .001, adjusted p = .001;  $\beta = -0.87$  [-1.35, -0.38], and PI groups (non-ranked data M = 7.96, SD = 4.96), b = -27.45 [-37.85, -17.05], t(68) = -5.27, p < .001, adjusted p < .001;  $\beta = -1.32$ , [-1.82, -0.82]. The difference between the PF and PI groups was not significant, b = -9.40 [-19.89, 1.10], t(68) = -1.79, p = .079, adjusted p = 0.105;  $\beta = -0.45$  [-0.96, 0.05]. However, descriptively, the PF group had lower scores than the PI group, a difference that was marginally significant at an uncorrected threshold. In addition, in the robustness analysis that excluded the four children who spent time in both institutions and foster care, the PF group had significantly lower dissociative symptoms scores than

the PI group, b = -13.25 [-23.27, -3.22], t(64) = -2.64, p = .010; adjusted p = .014,  $\beta = -0.67$  [-1.18, -0.16].

#### **Empathic behaviors**

The model explained a weak proportion of the variance in children's empathic behaviors, R2 = 0.12, F(3, 68) = 3.19, p = .029, adj. R2 = 0.08. The effect of age was not significant, F(1,68) = 0.42, p = .521;  $\eta p 2 = 0.01$  [0.00, 1.00]. A main group effect was found, F(2, 68) = 4.77, p = .011;  $\eta p 2 = 0.12$  [0.02, 1.00]. The comparison group (M = 35.12, SD = 6.66) had significantly higher empathic behavior scores than the PI group (M = 27.54, SD = 10.15), b = 8.10 [2.70, 13.50], t(68) = 3.00, p = .004, adjusted p = .015;  $\beta = 0.86$  [0.29, 1.43]. After correction for multiple comparisons, the comparison group had marginally significantly higher empathic behavior scores than the PF group (M = 29.74, SD = 9.88), b = 5.45 [0.24, 10.66], t(68) = 2.09, p = .041, adjusted p = 0.081;  $\beta = 0.58$  [0.03, 1.13]. The difference between the PF and PI groups was not significant, b = -2.65 [-8.09, 2.79], t(68) = -0.97, p = .335, adjusted p = .446;  $\beta = -0.28$  [-0.86, 0.30]. Thus, similar to behavioral problems and dissociative symptoms, descriptively, the PF group was placed in the middle between the comparison and PI groups.

#### Additional analysis: age of adoption

While age before adoption did not significantly relate to the study outcomes, a nonlinear pattern might describe the effect of adoption age on emotional development. For example, foster care may have a positive effect only if the child has enough time to develop a meaningful relationship with the foster carer (despite the child eventually experiencing their loss). Institutional care may have a more substantial negative effect if experienced for a longer period. The literature indicates that adopted children who spent more than 6 months in an institution show later developmental difficulties, such as in attention, emotional regulation, and peer relation behaviors, compared to children who spent less than 6 months in this setting (Kreppner et al., 2007; Rutter, 1998). To explore this possibility, we divided the sample into children adopted before and after 27 weeks (6 months) and examined study outcome differences as a function of age, group, binarized adoption age, and the interaction between group and adoption age (the comparison group was excluded from these analyses). Descriptive statistics of the study variables for each group are presented in Table 4. In all three analyses, the effect of group (np2 = 0.02-0.06, all p's > .117), adoption age (np2 = 0.002-0.04, all p's > .172), and the interaction between group and adoption age (np2 = 0.000-0.05, all p's > .140) were not significant. Nevertheless, the sample size of these analyses is very small and underpowered, and thus, these findings should be treated cautiously and as exploratory.

#### Discussion

This study aimed to examine how parental separation after birth, followed by the compromised chance to develop and maintain attachment relationships with caregivers owing to institutional or foster care history, affects socioemotional development in children aged 6–9 years with no known history of simultaneous trauma, physical abuse,

	PF-less than 6	PF-more than 6	PI-less than 6	Pl-more than 6
	months	months	months	months
	(n = 11)	(n = 12)	(n = 8)	(n = 16)
Behavioral problems	M(SD) = -0.35	M(SD) = 0.33(1.13),	M(SD) = 0.67(0.96),	M(SD) = 0.62(1.04),
	(0.90)	range = [-0.81, 2.46]	range = [-0.40]	range = [-1.34, 2.20]
	range = $[-1.27, 1.43]$	lunge [ 0.01, 2.10]	2.28]	Tulige [ 1.5 1, 2.20]
Dissociative	M(SD) = 4.36(4.67),	<i>M</i> ( <i>SD</i> ) = 6.58(5.26),	M(SD) = 7.88(5.17),	<i>M</i> ( <i>SD</i> ) = 8.00(5.03),
symptoms	range = [0, 12]	range = [1, 17]	range = [1, 16]	range = [0, 17]
Empathic behaviors	M(SD) = 30.45(9.73),	M(SD) = 29.08(10.40),	M(SD) = 27.62	M(SD) = 27.50
	Taliye – [15, 46]	ialiye – [7, 45]	range = $[12, 44]$	range = $[15, 49]$

Table 4. Descriptive statistics of the study variables for the PI and PF group children adopted before and after 6 months (27 weeks).

and neglect. The findings show that the previously institutionalized (PI) group exhibited significantly more behavioral problems and dissociative symptoms, as well as lower empathic behavior scores, than the comparison group (who had always lived with their biological parents). Similarly, the previously fostered (PF) group showed significantly more behavioral problems and dissociative symptoms than the comparison group. However, children in the PF group showed significantly fewer behavioral problems than those in the PI group, supporting previous findings that individual high-quality foster care for young children could be a protective factor against later maladaptive developmental outcomes (Dozier et al., 2013; Gunnar, 2022; Stovall & Dozier, 1998). While the PF group did not differ significantly from the other groups in empathic behavior and dissociative symptoms, descriptively, children in this group showed better outcomes (i.e. higher empathic behaviors and lower dissociative symptoms scores) than those in the PI group and worse outcomes than those in the never adopted group.

# Impact of institutional and foster care in infancy on the development of attachment relationships

Our findings are consistent with those of multiple studies that emphasize the central role of caregivers in early socioemotional development. Bowlby suggested that a satisfying relationship with stable and available caregivers is the foundation for mental health (Bowlby, 1951). Species-typical expectations of an attachment relationship include consistent, predictable, and sensitive caregiving (Richter, 2004; Tottenham, 2018; Winnette, 2022). When the predictability and consistency of caregiving are significantly disrupted during early development, as occurs in institutional care, it may impair various developmental areas, including socioemotional learning (Fries et al., 2005; Tarullo & Gunnar, 2005). The lack of consistent caregiving in institutions presents a severe risk to the regulation of stress, cognition, and socioemotional development during childhood (Bowlby, 1958; Čater & Majdič, 2022; Gunnar & Reid, 2019; Humphreys & Zeanah, 2015; Johnson et al., 2006; Oliveira et al., 2015; Van IJzendoorn et al., 2011; Zeanah et al., 2005). Recent studies have identified unfavorable effects of institutional rearing on physical growth, cognition, and attention (Van IJzendoorn et al., 2020). Such developmental trajectories may be explained by alterations in the oxytocin and vasopressin neuropeptide systems following institutional care. These are critical for regulating emotional behaviors and developing the ability to form and maintain attachment relationships (Fries et al., 2005). These difficulties often continue into adolescence and may represent a precursor for further mental health problems (Kreppner et al., 2007).

The literature also suggests that if very young children are moved from institutions to high-quality foster care, many developmental delays and difficulties can be mitigated (Bos, 2009; Fox et al., 2013; Humphreys et al., 2017; Zeytinoglu et al., 2023). Recent findings from the longitudinal BEIP research (Zeanah et al., 2005) show that fostered children aged 8, 12, and 16-18 years had better IQ, physical growth, and psychopathology outcomes than institutionalized children (King et al., 2023). Our finding of lower behavioral problem scores in the PF group than in the PI group aligns with these results. Differences between the BEIP and the present study participants may help to expand existing knowledge on this phenomenon. First, the children in the BEIP study experienced some degree of individual parenting (of unknown quality) before institutionalization (Smyke et al., 2009). Conversely, the children in our study were placed in institutions or foster care immediately after release from the neonatal ward. Second, abandoned Romanian children in institutions lived together in large dormitories with typically only one nurse for large groups of children, dark and cold rooms, and minimal touch or social stimulation (Rutter et al., 2007). Comparatively, the children in this study were assumed to have received high-quality pre-adoption care regarding their physical environment, nutrition, medical attention, and opportunities to play as required by the law (Act No. 401/2012 Coll). We acknowledge that we could not obtain specific information regarding these factors for each participant. Third, most children in the BEIP were not successfully adopted in infancy; 57% of children who were initially fostered experienced instability and changes in caregiving situations (King et al., 2023). In our study, each child experienced only one foster care placement before stable adoption by the age of 15 months.

The relatively known and homogenous early caregiving histories of children in this study might shed light on the specific developmental mechanisms underlying the effects of institutions and foster care on socioemotional development. Specifically, we suggest that the main difference between the groups in this study was in caregivers' consistency in infancy and their chance to develop and maintain an early attachment relationship (although the children in the PF group had such a chance, they also experienced the loss of their foster carers). In the ideal situation described by Bowlby, the caregiver's initial behaviors (e.g. cuddling, eye contact) establish the first connection, and soon, the first mutual social interactions begin. A sensitive caregiver tunes into the infant's cues and accommodates the baby's signals and needs. As the baby and caregiver come to know each other, the caregiver's presence and care support the development of attachment relationships (Bowlby, 1969, 1988), which serve as a secure base, allowing the child to explore the world (Bowlby, 1988). These attachment processes also contribute to the internal working model - the complex memory structure that includes the self, the other, and the relationship (Bowlby, 1958; Bretherton & Munholland, 2016; Liotti, 2009). Research indicates that children and adolescents with secure internal working models show a higher inner ability to appraise situations, modulate their reactions adequately, and recognize their and others' feelings in social situations (Zimmermann, 1999). In the future, larger sample studies that investigate the amount of time spent with a quality foster carer may support or refute the idea that the substantiation of an attachment relationship explains the benefits of foster care.

# Impact of institutional and foster care on behavioral problems, dissociative symptoms, and empathic behaviors

#### **Behavioral problems**

The PI group showed significantly more behavioral problems than the comparison group. Children in the PF group showed significantly higher scores than those in the comparison group but significantly lower scores than those in the PI group. This overall pattern was also found in our exploratory analyses, wherein we divided the behavioral problem scores into specific scales (attention problems, externalizing behaviors, and internalizing behaviors). Multiple studies agree that early adverse childhood experiences with caregivers are associated with various behavioral problems that may persist throughout life (e.g. Cruz et al., 2022; Felitti et al., 1998; Hanson et al., 2017; Van der Kolk, 2010). PI children who have experienced many changes in caregiving and lacked the opportunity to develop and maintain attachment relationships in infancy have a greater risk of later socioemotional and behavioral problems (Berens & Nelson, 2015; King et al., 2023). However, some of these studies are limited to children with a parallel history of physical neglect, maltreatment, and trauma before institutional or foster care. Thus, it is challenging to distinguish between the impact of disrupted attachment relationships, social neglect, and other adversities (Gabard-Durnam & McLaughlin, 2020; Gunnar et al., 2007). The present data suggest that behavioral problems in childhood may also be related to afterbirth separation from parents and relatively short institutional care or disrupted caregiving situations in foster care, both of which undermine the early foundations of developing and maintaining attachment relationships. However, our results are also congruent with research showing the overall positive impact of foster families that provide high-quality care for children (Dozier et al., 2013; Lawrence et al., 2006; Lee, 2023; McWey & Mullis, 2004; Zeytinoglu et al., 2023). A review of institutionalization and deinstitutionalization by Van IJzendoorn et al. (2020) concluded that individual caregiving is essential for healthy development. Therefore, institutionalization should be minimized, and placing children in stable foster or adoptive families should be a priority (Van IJzendoorn et al., 2020).

#### **Dissociative symptoms**

The results indicate that both the PI and PF group had significantly higher levels of dissociative symptoms than the comparison group. There were no significant differences between the PI and PF group, although descriptively, the PF group had less dissociative symptom scores than the PI group. Notably, this difference was significant when the four children who spent time in both institutions and foster care were excluded from the analysis. Dissociation can manifest as detachment from the world and disconnection from the self and self-related memories. This process harms cognition, personality development, social functioning, and behavior (Rafiq et al., 2018). Hesse and Main (2000) report that children with disorganized attachment exhibit unresponsive behaviors, freezing

movements, and half-closed eyes, which may signify dissociative states. Liotti (2006) suggests that impaired attachment relationships predispose children to dissociation when encountering stressors later in life. Literature in the field of child abuse and neglect indicates that impaired caregiving in early development predisposes children to dissociative symptoms (Berardelli et al., 2022; Cay et al., 2022; Nelson & Gabard-Durnam, 2020). Our data imply that dissociative symptoms might also be influenced by parental separation at birth and the lack of attachment relationships with consistent caregivers during infancy (even without experiencing other forms of early stress). This notion aligns with Bowlby's theory that consistent attachment with the caregiver plays a crucial role in developing the "self" and securely managing social relationships with others (Bowlby, 1980).

While replications in larger samples are needed, it is interesting that the PI and PF groups did not show significant differences in dissociative symptoms in the main analysis. One possible explanation could be that the experiences of parental separation at birth and changes in caregiving during the first 14 months of life experienced by both groups had substantial effects on dissociative symptoms. Attachment theory postulates that attentive, sensitive, and stable caregivers provide a safe haven for the developing young mind and are essential for regulating the infant's affect; conversely, disturbed caregiving may lead to dysregulated behavior and dissociative symptoms (Main & Morgan, 1996). Thus, even though the PF children were placed with foster carers immediately after leaving the maternity hospital, separation, followed by the later loss of foster carers, may have disrupted the initial attachment-building process, presenting marked stressors to the infants, with a considerable impact on their sense of safety and affect regulatory systems.

Although the children in the present study were not officially diagnosed with severe psychiatric disorders, an elevated level of dissociative symptoms at ages 6–9 years may indicate some risk to their future mental health. The high correlation between dissociative symptoms and behavioral problems observed in our data supports this notion and suggests that overlapping psychopathological symptoms may be part of the measured outcomes. Thus, another explanation for the lack of difference between the PI and PF groups may be that some aspects of dissociation related to general psychopathology (Ellickson-Larew et al., 2020; Mucci, 2021) are less malleable to environmental influences such as foster care. Indeed, the general psychopathology factor (p-factor) and dissociative symptoms exhibit relatively high stability from an early age and are highly heritable (e.g. Avinun et al., 2022; Becker-Blease et al., 2004). This possibility could not be tested as this was not a genetically informed research design, but it should be tested in future studies.

#### **Empathic behaviors**

The PI group had significantly lower empathic behavior scores than the comparison group. The PF group had scores that were not significantly different from those of the PI and comparison groups. There is consensus in the recent literature that empathy and caring for others emerge in infancy and develop in interactions with caregivers (Decety, 2015). Attachment theory (Bowlby, 1958, 1980) emphasizes the role of secure attachment in developing empathy. Attachment relationships with caregivers influence infants' emotional regulation and overall capacity to learn about others' mental

states and regulate their social behavior accordingly (Stern & Cassidy, 2018). Childhood adversities negatively affect the development of the neurobiological foundations of empathy, as they seem to be particularly sensitive to caregiving experiences. For example, children who experienced chronic social stress with their mothers show additional activity in brain areas related to empathy processing compared to children who experienced consistent mother-child synchrony and connection during infancy, possibly indicating hyper-reactivity to distressing stimuli reflecting empathic distress (Levy et al., 2019). Our data suggest that parental separation and disrupted attachment relationships in infancy might negatively influence the development of empathic behaviors, even when the child is adopted early and has stable caregivers thereafter. Further studies with larger samples are required to explore early empathy development in specific caregiving situations.

#### Limitations

The present study has some limitations. First, our sample was relatively small, given our efforts to examine relatively homogenous groups of children with specific caregiving histories. Examining larger samples while focusing on specific details of the early caregiving environment is a goal for future studies. Second, we could not gather reliable information about prenatal development and the children's biological parents. Genetic factors, maternal mental illness or trauma, and prenatal stressors can harm the child's development and contribute to emotional and mental health issues (Avinun et al., 2022; Becker-Blease et al., 2004; Lautarescu et al., 2020; Zhang et al., 2021). While such influences may account for part of the effects found here, our data support the notion that early individual consistent pre-adoption care could influence some behavioral domains beyond prenatal and genetic influences. Nevertheless, genetically informed designs incorporating prenatal information would be helpful in disentangling early attachment relationships from other influences.

Third, we could not obtain information regarding each participant's specific medical conditions or other factors immediately after birth, which may have affected the children's admission to institutional or foster care. Fourth, we could not obtain detailed information on the specific quality of caregiving for each child in the PI, PF, and comparison groups. Finally, we acknowledge that all measures in this study were reported by the caregivers, who might be prone to subjective reporting biases.

#### Conclusions

This study supports the notion that behavioral problems, dissociative symptoms, and empathic behaviors develop early in life and are affected by caregiving input. The presence of a consistent caregiver, the attachment figure, who provides sensitive, predictable care during infancy may be an essential building block for developing principal elements of human personality and social repertoire. The absence of consistency, predictability, and attachment relationships in infancy were the major adversities (without other known intense traumas) experienced by the children in our study. Thus, their difficulties might arise because of the impaired development of early attachment relationships and persist long after children are successfully placed in safe, adoptive families.

Notably, the data support the view that although individual foster care involves changes and disturbances in early caregiving, it can be a protective factor against developing severe behavioral problems. These findings highlight the importance of quality individual foster care as an essential alternative to institutional care for newborns and infants.

#### **Acknowledgments**

We wish to express our appreciation to Professor Nim Tottenham from Columbia University for her time, support, and insightful and knowledgeable comments and suggestions as we designed the study and drafted this article. We also wish to thank the families who participated in the study.

#### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

#### Funding

The Science and Research Funds of Natama Institute supported Petra Winnette. Lior Abramson was supported by fellowships from the Israel Science Foundation (ISF) and the Haruv Institute for research on child abuse and neglect. The data supporting this study's findings are available on request from the corresponding author.

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