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Exploring attachment representations and traumatic reenactment in foster children

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ABSTRACT

Foster children face an elevated risk of behavioral and mental health challenges, often stemming from early adversities such as abuse, neglect, or parental incapacity. This study assessed attachment representations in 28 Danish foster children (ages 4–10) using the Story Stem Assessment Profile (SSAP). Participants were enrolled in a trial comparing Mentalization-Based Family Therapy (MBT) to Care as Usual (CAU). Foster children showed more attachment disorganization than a community sample ($t(27) = 2.474$, $p = .019$). Post-treatment, attachment security increased ($z = -3.23$, $p = .001$) and disorganization decreased ($z = -2.82$, $p = .005$). Age and gender patterns highlighted the need for specific SSAP norms. SSAP narratives were also coded for content reflecting the children's personal experiences to explore the intersection of their attachment representations and lived experiences. Fifteen children included narrative content of personal experiences, offering qualitative insights. These findings underscore the importance of tailored interventions and further investigation into attachment processes among foster children.

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KEYWORDS
Trauma; attachment representations; foster children; attachment disorganization; Story Stem Assessment Profile (SSAP)

Introduction

Foster children are at significantly higher risk of behavioral and mental health issues compared to children raised in their family of origin (Engler et al., 2022; Stahmer et al., 2005; Turney & Wildeman, 2016). Many enter foster care due to abuse, neglect, or parental incapacity, which compromises their safety and well-being (McCrory et al., 2010). These early adversities, coupled with the instability of caregiver relationships, increase the likelihood of insecure or disorganized attachment representations (Dozier et al., 2002), which in turn contribute to emotional and behavioral challenges. Disruptions in attachment are particularly concerning, given the role of secure attachments in fostering emotion regulation, social

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competence, and psychological health (Van Ijzendoorn et al., 1999). Given the profound influence of attachment on developmental trajectories, understanding how attachment representations evolve in foster care is essential for informing interventions that promote secure attachment patterns in this vulnerable population (Granqvist et al., 2017).

Attachment theory and assessment

Attachment theory posits that children are born with an innate predisposition to form close bonds with their primary caregivers, a behavior essential for survival (Bowlby, 1969; Bowlby et al., 1992). Early interactions with caregivers shape a child's inner working models – mental representations of relationships that influence how children perceive themselves and others. These models form the foundation for four patterns of attachment: Secure, Insecure-Avoidant, Insecure-Resistant, and Disorganized-Disoriented (M. O. S. Ainsworth et al., 1971; Main & Solomon, 1990). Secure attachments, characterized by trust and confidence in caregivers, promote emotional resilience and independence, while insecure and disorganized attachments reflect difficulties in emotional regulation and managing relationships, often stemming from inconsistent or traumatic caregiving.

The Strange Situation Procedure is the most widely recognized method for assessing attachment in very young children, typically under the age of three (M. Ainsworth et al., 2015). In the Strange Situation, securely attached toddlers manage brief separations from their caregivers well and are readily comforted upon reunion, while insecure attachment patterns reflect difficulties in managing separation. For example, toddlers with an Insecure-Avoidant pattern may appear indifferent to their caregiver, minimizing distress while showing physiological signs of stress. Conversely, toddlers with an Insecure-Resistant pattern may exhibit ambivalence, reacting with intense distress during separation and showing anger upon reunion (M. O. S. Ainsworth et al., 1971). The Disorganized-Disoriented attachment category was introduced to capture behaviors that do not fit within the organized attachment categories and are often linked to trauma. For example, children in this category may display contradictory behaviors such as approaching the caregiver while averting their gaze, freezing in place, or showing sudden expressions of fear in the presence of the caregiver (Main & Solomon, 1990). As children move beyond infancy, observable attachment behavior may be less evident, and attachment representations may be more relevant. In infancy, behavioral methods such as the Strange Situation (Ainsworth et al., 1978) and its adaptations for older children (Cassidy & Marvin, 1992; Main & Cassidy, 1988) rely on direct caregiver-child observations, as does the Attachment Behavior Q-Sort (Waters, 1987). In middle childhood and adolescence three primary techniques are used to assess attachment (Kerns, 2008). Semi-projective and narrative discourse or story stem methods assess internal attachment representations such as Attachment Story Completion Task (Bretherton, Ridgeway, et al., 1990), the The MacArthur Story Stem Battery (Bretherton, Oppenheim, et al., 1990) the Manchester Child Attachment Story Task (Green et al., 2000) and the more recent Story Stem Assessment Profile (ASSP) (Hillman, 2011). Interview measures such as The Child Attachment Interview (Target, Fonagy & Shmueli-Goetz, 2003) evaluate attachment-related mental states. Finally, questionnaire measures capture children's attachment perceptions (Kerns et al., 2001).

A meta-analysis (k = 194) by Madigan et al. (2016) examining the link between attachment and behavioral problems in children aged 3–18 found that behavioral and representational measures produced comparable effect sizes, whereas questionnaire measures yielded significantly larger effects. However, story stem methods offer several advantages over interviews and questionnaires for assessing attachment in young children. By using storytelling and play-based narratives, these methods allow children to express their internal attachment representations more naturally and spontaneously. Unlike interviews, which require abstract reflection, or questionnaires, which depend on conscious self-evaluation, story stem tasks encourage children to project their relational expectations in a comfortable and engaging way. This indirect approach is also beneficial for children who may find the verbal and cognitive demands of structured interviews challenging.

Additionally, story stem methods provide richer, more nuanced data by capturing both the content and structure of children's narratives offering insights that may be harder to obtain through direct questioning. While interviews can be valuable for older individuals with greater verbal fluency, they may be constrained by memory recall and self-presentation concerns. Similarly, questionnaires, though efficient, may simplify complex attachment dynamics by reducing them to quantifiable scores. By eliciting spontaneous narratives in a developmentally appropriate manner, story-stem methods provide a flexible and ecologically valid way to explore attachment-related themes in children (Hodges & Hillman, 2007).

Validity of story stems approaches

Solomon and George (2016) propose four criteria for evaluating the optimal construct validity of attachment measures: 1) Attachment security should be positively related to the caregiver's accessibility 2) Attachment security in a particular caregiver – child relationship should tend to remain stable over time 3) Attachment security should predict other important aspects of development 4) Attachment security can be assessed using similar or parallel measures cross-culturally and across attachment figures. Various story stem tasks have been developed to assess children's attachment representations, each using different protocols for coding narratives and classifying attachment categories. Solomon and George (2016) acknowledge that while no single story stem measure has fully established construct validity, there is evidence suggesting that, collectively, story stem approaches align with the four evaluation criteria (Gastelle & Kerns, 2022; Solomon & George, 2016). While a comprehensive review of representational attachment measures is beyond the scope of this paper, existing studies indicate a connection between the quality of relationships in a child's life and the nature of their narratives (Dubois-Comtois & Moss, 2008). Story stem tasks appear to reflect attachment relationships and provide insight into children's capacities for emotional regulation (Appelman & Wolf, 2003). There is some evidence connecting children's narratives in story stems to infant attachment and to representational processes in adults (Miljkovitch et al., 2004). However, in accordance with attachment theory, it is also established that the children's attachment representations are not stable over time and thus may change in response to subsequent experiences in caregiving relationships (Hillman et al., 2020a). In studies measuring correlations between behavioral measures of attachment in preschool age children such as the Attachment Q-set, the correlations are typically low, and the general

conclusion is that behavioral and representational measures of approaches are not interchangeable measures of attachment (Gastelle & Kerns, 2022; Stievenart et al., 2012). Story stem approaches, however, have been associated with broader aspects of child development, including internalizing and externalizing symptoms, and have been used effectively across different cultural contexts. They also demonstrate an ability to differentiate between attachment figures in a child's life (Gastelle & Kerns, 2022; Solomon & George, 2016)

Attachment in foster children

Throughout childhood, internal working models become increasingly stable, generalizing to new relationships. As children internalize early interactions, their perceptions and interpretations of others' behavior are shaped by the expectations they have learned from early experiences. Foster children often bring attachment patterns learned from their biological parents into relationships with foster caregivers, reproducing insecure or disorganized strategies. Without appropriate understanding, this can result in relationship difficulties, placement breakdowns, and repeated disruptions in caregiving (Harkin & Houston, 2016). However, attachment theory recognizes that nurturing environments can facilitate change (Gardenhire et al., 2019). Placement with sensitive caregivers who consistently demonstrate empathy and understand that negative or destructive behaviors stem from prior abuse and neglect can help foster children develop more secure and less disorganized attachment representations (Cassidy, 2018).

Attachment representations in foster children have been studied in various contexts, though findings vary by age group. A Norwegian study, Using the Strange Situation Procedure, investigated attachment in foster children at ages 2 and 3. Most foster children were securely attached at age 2, with no significant differences from the community sample. Among those securely attached at age 2, the majority remained so at age 3. Among children classified as disorganized at age 2 significantly less remained so at age 3. This suggests that some young foster children can form secure attachments when placed in foster families (Jacobsen et al., 2014). A German study of 48 foster children (aged 1 to 6 years) using the Attachment Q-sort measure found lower attachment security levels compared to normative data (Gabler et al., 2014). In contrast, an American study using the same measure reported similar attachment distributions between foster children and a community sample but noted that 22% of foster children were unclassifiable, indicating disorganized attachment Ponciano (2010). This aligns with a meta-analysis by Vasileva and Petermann (2018), which found that 22% of young foster children exhibit disorganized attachment, and 43% display insecure attachment styles in the Strange Situation Procedure. However, this analysis focused on younger children, leaving gaps in understanding older foster children's attachment patterns.

Studies of older children in foster care also show mixed findings. A French study found higher levels of disorganized attachment and lower security in 40 children aged 4 to 10 years in emergency foster care compared to a community sample (Toussaint et al., 2018, cited in (Carrera et al., 2021)). Similarly, a Chilean study observed greater disorganization and insecurity in foster children aged 3–7 years old compared to those living with their biological parents (Quiroga et al., 2017), and a British found that children aged 4–11 years old placed in foster care had more disorganized, avoidant and negative representations,

whilst at the same time having significantly fewer representations characteristic of "secure" attachment (Hillman et al., 2020a)

Other studies demonstrated a more complex picture. A comparative study in Spain on foster children aged 4 to 9 years had levels that were lower on security and higher on avoidance while showing no differences in disorganization or insecurity compared with a community sample of children (Carrera et al., 2021). Conversely, a German study of 49 foster children aged 3 to 8 years reported increased disorganization but no differences in security levels compared to a low-risk community sample (Bovenschen et al., 2016). A British study of 62 adolescents in foster care found that while most exhibited insecure attachments to their biological parents, nearly half demonstrated secure attachments with their foster parents, comparable to community families (Joseph et al., 2014).

Despite the variability in findings, most studies report a high prevalence of disorganized attachment in foster children. Importantly, research highlights foster children's potential to develop secure attachments over time. Several studies demonstrated shifts toward more secure behaviors in both infants (McLaughlin et al., 2012; Stovall & Dozier, 2000) and preschoolers (Jacobsen et al., 2014; Lang et al., 2016). Longitudinal studies, such as Hillman et al. (2022), found that British foster children aged 5 to 10 years significantly increased secure attachment representations after 12 months, though insecurity and disorganization remained unchanged. These findings suggest that secure attachment can develop relatively quickly with consistent caregiving, while changes in insecure and disorganized representations may require more time.

In summary, foster children often exhibit high levels of disorganization in their attachment representations. Nevertheless, evidence suggests they can develop more secure attachment representations over time, particularly in stable and supportive foster care environments.

Trauma, disorganized attachment, and attachment disorders

Disorganized attachment and attachment disorders are related but distinct concepts. The distinction between Disorganized Attachment and Attachment Disorders is particularly important in the context of foster care, where attachment-related difficulties are prevalent and can have significant implications for child development. Disorganized attachment representations are associated with trauma and child maltreatment; however, they are far too common to serve as a reliable proxy or screening tool for identifying child maltreatment or trauma. Rather, disorganized attachment is one of many risk factors influencing a child's adaptation or maladaptation. Importantly, research suggests that disorganized attachment representations may be modifiable through supportive, attachment-based interventions (Granqvist et al., 2017).

In contrast, attachment disorders, such as Reactive Attachment Disorder (RAD) and Disinhibited Social Engagement Disorder (DSED), are clinical diagnoses defined in psychiatric classifications such as the DSM-5. RAD is characterized by emotional withdrawal and an inability to seek or respond to comfort from caregivers, while DSED involves indiscriminate sociability and a lack of preference for familiar caregivers, even in distress. Unlike disorganized attachment, RAD and DSED manifest pervasively across various naturalistic settings in a child's life. Although some studies have identified associations between disorganized attachment and DSED

(Gleason et al., 2014; Lyons-Ruth et al., 2009; Vorria et al., 2003), the two constructs are not equivalent. Disorganized attachment is far more common and reflects a broader spectrum of attachment difficulties. For example, Smyke et al. (2010) found that disorganized attachment rates declined in infants placed in foster care, whereas DSED rates remained unchanged regardless of the caregiving environment (Smyke et al., 2010).

Foster care in Denmark

In Denmark, foster care is the most common form of out-of-home placement, comprising 65 percent of all such placements (Järvinen & Luckow, 2020). It is considered the optimal care setting as it strives to provide children with a stable and typical family environment. Foster parents are paid to cover their costs and the time they could otherwise spend working outside the home. These remunerations are set by evaluating the scope of the caring task, the foster child's behavioral or health problems, the level of contact with the biological family, and the foster parent's qualifications, education, and experience (Järvinen & Luckow, 2020). Most foster families in Denmark are professional, meaning that at least one of the foster parents has fostering as their only source of income (Luckow et al., 2021). However, there is limited knowledge about attachment in Danish foster children and foster children within a Scandinavian context. This study aims to address this gap by being the first to examine attachment representations in Danish foster children and to explore potential patterns of change in response to supportive interventions.

Research aim

The present study aims to explore attachment representations in a sample of Danish foster children ages 4–9 years before and after a supportive intervention. Specifically, the study tests the following theoretically informed hypotheses:

(1) Foster children will show significantly fewer secure attachment representations and significantly more avoidant, insecure, and disorganized representations compared to a community sample of Danish children.
(2) Attachment representations in foster children will improve over time in foster care, with increases in secure attachment representations and decreases in avoidant, insecure, and disorganized representations.

A secondary aim is to qualitatively analyze children's narratives from the SSAP, exploring references to personal experiences or reenactments of traumatic events in order to gain a deeper insight into the intersection of their attachment representations and lived experiences.

Method

Setting and procedure

This study is based on data from a cluster randomized controlled trial (RCT) examining the effects of Mentalization-Based Therapy (MBT) in 98 foster families (66 MBT and 32 care as usual (CAU)) with children aged 4 to 17 years across ten Danish municipalities. Each family included at least one foster child aged 4–17 years who was reported by foster parents to have emotional or behavioral difficulties. Foster families were recruited by the municipality responsible for the child's placement. Due to ethical and legal constraints, it was not possible to randomize foster families individually. Instead, 49 foster care consultants (social workers providing support to foster families) were randomized to either MBT training ($n = 27$) or CAU ($n = 22$). Foster care consultants provided intervention to the foster families in both groups, and the allocation of foster families to consultants was based on availability and case load at the time of referral, making it approximately random. Foster care consultants in the MBT condition received four days of MBT training as well as four booster sessions and monthly supervision from certified MBT supervisors throughout the trial. Challenges in recruiting foster families for the CAU condition led to an imbalance in group sizes, with 66 families receiving MBT and 32 receiving CAU.

As part of the RCT, research staff conducted home visits to foster families with children aged 4 to 10 years, performing assessments both before the start of MBT or CAU and approximately 18 weeks later, following the intervention's conclusion. During these visits, foster children completed the Story Stem Assessment Profile (SSAP). The SSAP was administered by either the first or second author or by a trained research assistant, all of whom were accredited by the Anna Freud (Hodges & Hillman, 2007).

This paper focuses on data from the 28 foster children aged 4–10 who participated in the trial and were assessed using the SSAP. For further details on the trial design and procedures, please refer to the study protocol (Dalgaard et al., 2023).

Interventions: mentalization-based therapy (MBT) and care as usual (CAU)

MBT is a short-term intervention designed to strengthen attachment in foster children by enhancing caregivers' ability to understand and respond sensitively to their child's emotions and behavior (Camoirano, 2017; Midgley et al., 2017). MBT consists of up to 12 weekly sessions focused on psychoeducation, professional support, and therapeutic conversations. Foster families in the MBT group received an average of 7.2 MBT sessions (standard deviation = 3.1, range = 1–12 sessions). MBT aims to improve relationships, emotional regulation, and overall well-being in children by fostering reflective functioning in foster parents (Allen & Fonagy, 2008).

MBT is a semi-manualized and flexible intervention, allowing therapists to tailor the content and activities of each session to suit the needs of the foster family. Sessions incorporate discussions, games, and creative activities to foster mentalizing abilities in both foster parents and children. Therapists support this process by modeling curiosity, encouraging reflective thinking, and addressing instances of non-mentalizing interactions (Midgley et al., 2017, 2019).

In contrast, the CAU group received the regular and mandatory support services available to all foster families in Denmark. This support includes coursework and biannual supervision, with intensive support provided during the first six months of a placement. As part of routine follow-up, foster parents receive face-to-face counseling from local authorities at least twice a year or more frequently when problems arise. Foster care consultants in the CAU group had the flexibility to employ a range of counseling methods or techniques based on their professional judgment (Sørensen & Sjoe, 2021).

All children included in the study were identified by their foster parents as needing additional support, ensuring that both the MBT and CAU groups received some form of intervention during the same period. This parallel support justifies the inclusion of children from both conditions in the present study.

Participants

The present sample included 28 foster children aged 4–9 years, with 22 families receiving MBT and 6 receiving CAU. This sample comprises all children in the full trial within the specified age range, except for four who did not complete the SSAP. In two cases, research staff visited the foster families, but the children declined to participate in the SSAP. In the other two cases, foster parents refused the home visit, expressing concerns that the SSAP would be too stressful for the child. Of these four families, two were in the MBT group and two were in the CAU group.

Three children were only assessed at baseline: one had left the foster home by the follow-up assessment, and the other two declined to complete the SSAP a second time. Additionally, in one instance, a child completed only two of the seven story stems due to an unrelated emergency in the foster home. In total, 52 SSAP administrations were coded. In order to provide a detailed overview of the sample, descriptive statistics were computed and these are shown below in Tables 1 and 2.

Table 1 shows key demographic and study characteristics across the MBT and CAU groups, including child age, gender, and group allocation. There were no statistically significant demographic differences between the MBT and CAU groups on any of the variables presented. Table 2 provides summary statistics for the entire sample.

Data collection

The story stem assessment profile (SSAP)

The Story Stem Assessment Profile (SSAP) is a narrative-based measure designed to evaluate attachment representations in children aged 4 to 10 (Hillman, 2011; Hillman et al., 2020a, 2020b). In this study, we selected the SSAP as an outcome measure for two main reasons. First, the availability of the SSAP in Danish enabled accurate assessments without the complications of language translation. Second, the SSAP has been previously used in Danish research and in studies involving foster children, providing a relevant basis for comparison and enhancing the validity of our findings within these contexts (Gregersen et al., 2023; Hillman et al., 2020a).

The SSAP includes eight stories from the MSSB and five additional stories, making a total of 13 story stems. During the assessment, the interviewer narrates and enacts each story stem using doll figures, inviting the child to continue the story by showing and telling what happens next. The stories that children create during the SSAP are believed to

Table 1. Sample characteristics.

Child Pseudonym	Foster parents age in years	Foster parent gender	Number of biological children	Current number of biological children living at home	Total number of foster children	Current number of foster children	Target child gender	Target child age at baseline (years)	Target child's age at placement	Target child's placement duration (years)	Group
Tom	55	Female	4	0	8	3	Male	9	7	2	MBT
Aya	52	Female	2	0	3	3	Female	8	0,5	7,5	MBT
Olivia	46	Female	1	1	2	2	Female	6	0	6	MBT
Diana	47	Female	3	3	2	2	Female	6	0,3	5,7	CAU
Mads	57	Female	3	0	5	3	Male	9	6	3	MBT
Kian	62	Female	3	0	1	1	Male	9	5	5	MBT
Jonas	56	Female	3	1	2	1	Male	7	4	3	CAU
Willum	54	Female	0	0	5	2	Male	8	3,5	4,5	CAU
Jan	54	Female	4	1	2	2	Male	9	5	4	MBT
Frederik	52	Female	2	0	7	0	Male	9	6	3	MBT
Johan	41	Female	2	2	1	1	Male	8	2	6	MBT
Emma	45	Female	2	1	2	2	Female	5	0	5	MBT
Marie	60	Female	0	0	5	3	Female	9	0	9	MBT
Lasse	53	Female	2	1	2	2	Male	8	0,4	8	MBT
Villads	51	Female	2	2	3	2	Male	5	0,5	4,5	MBT
Agnethe	61	Female	2	0	1	1	Female	8	0	8	MBT
Oliver	56	Male	3	0	2	2	Male	5	3	2	MBT
Frederikke	54	Female	3	0	6	3	Female	6	4	2	MBT
Line	43	Female	2	2	4	2	Female	4	0,4	4	CAU
Liva	56	Female	3	0	2	1	Female	8	7	1	MBT
Christoffer	43	Female	3	1	1	1	Male	8	1,2	7	MBT
Lulu	47	Female	3	0	3	2	Female	6	0,2	5,8	MBT
Maja	47	Female	4	2	4	2	Female	6	0,5	5,5	MBT
Anna	53	Female	3	0	20	2	Female	9	1,2	7,8	MBT
Asbjørn	54	Male	1	1	3	3	Male	9	0,4	8,6	CAU
Karl	55	Female	3	1	4	2	Male	5	0	5	CAU
Wilfred	61	Male	0	0	6	4	Male	4	3	1	MBT
Rose	32	Female	0	0	2	2	Female	8	6	2	CAU

Table 2. Descriptive summary statistics.

Variables ($N = 28$)	M (SD)/N(%)
Child age at baseline (years)	7,18 (1,70)
Duration of placement (years)	4,85 (2,36)
Foster parents age in years	51,67 (6,87)
Number of biological children	2,25 (1,20)
Biological children living at home	0,68 (0,86)
Total number of foster children	3,86 (3,68)
Pct. males	15 (53,57%)
CAU	6 (21 %)

reflect their generalized representations of interpersonal interactions, shaped by their repeated experiences with their caregivers or attachment figures. The SSAP comprises 13 story stems, each presenting an "inherent dilemma." The method helps assess children's expectations and perceptions of family roles without directly questioning them about their own families, thereby avoiding potential conflict or anxiety. The SSAP coding system involves ratings (0, 1, or 2) on 38 content codes reflecting different themes across the stories. These themes shape four conceptually derived constructs: *Security, Insecurity, Disorganization*, and *Defensive-Avoidance*. Security encompasses all positive child and adult representation codes. Insecurity comprises all negative child and adult representation codes. Disorganization is a composite of all the extreme codes, such as extreme aggression or atypical responses. Defensive-Avoidance encompasses all codes or strategies that children may adopt when they struggle to manage the stories or tasks. Construct scores are calculated by summing the relevant codes and dividing by the number of stories, with higher scores indicating a stronger presence of the corresponding construct. In order to provide an overview of the SSAP representation codes and the calculation of construct scores, a summary table was created and is shown below in Table 3.

Table 3 shows the coding structure of the SSAP, detailing the distribution of content codes across the four derived constructs.Our study used the validated and psychometrically robust shortened version of the SSAP (Hillman, 2011), consisting of seven stories in each administration. Six stems are unique to each administration, while one story remains consistent across both. To facilitate coding, the SSAP administration was recorded and transcribed. SSAP coding was carried out by the first and last authors, who received training and accreditation in the SSAP from the Anna Freud. To establish interrater reliability, the first and last authors independently coded narratives from four children, representing 15% of the sample. Intercoder reliability was high, with an agreement rate of 89% across 266 codes. The remaining SSAP narratives were coded individually by either the first or the last author. In cases of uncertainty, codes were discussed and finalized collaboratively.

Anna Freud provides descriptive statistics (SSAP means and standard deviations for the construct scores) from a normative, non-clinical sample of British children ($N = 94$) and a smaller clinical sample of children placed in foster care ($N = 63$). While no normative data currently exist for children in Scandinavia, a recent study by Gregersen et al. (2023) reported descriptive statistics (SSAP means and standard deviations for three of the four construct scores) from a community sample of Danish children ($N = 186$). The children in the community sample were all 7 years of age at the time of assessment and 44.1% were female. Given its relevance, this Danish sample was selected as the primary point of comparison for the present study.

Table 3. SSAP Representation codes and construct scores.

Construct score	Content code
Security	Child Seeks Help
	Siblings/Peers Help, Comfort
	Realistic Active Mastery
	Acknowledge child's distress
	Adult Provides Comfort
	Adult Provides Help Protection
	Adult Shows Affection
	Acknowledge Adult Distress
	Limit Setting
	Pleasurable Domestic Life
Insecurity	Child Endangered
	Child Injured/Dead
	Excessive Compliance
	Self-Blame
	Adult Unaware
	Adult Actively Rejects
	Adult Injured/Dead
	Throwing Away/Out
Defensive Avoidance	No Engagement
	Disengagement
	Initial Aversion
	Premature Foreclosure
	Changing Narrative Constraints
	Avoidance within Narrative Frame
	Denial/Distortion of Affect
	Neutralisation/Diversion Anxiety
Disorganisation	No Closure
	Child 'Parents' or 'Controls'
	Extreme Aggression
	Catastrophic Fantasy
	Bizarre/Atypical Responses
	Bad <-> Good Shift
	Magic/Omnipotence
Descriptive Content Codes (not used when calculating construct scores)	Child Shows Aggression
	Adult Shows Aggression
	Coherent Aggression
	Coherent Physical Punishment
	Extreme Physical Punishment
	Sexual Material

Ethics

Our study adhered to the principles of the Declaration of Helsinki. VIVE – The Danish Center for Social Science Research's internal ethics review board granted the study's approval on 31 May 2022 (2022/2). According to Danish law, this trial did not require approval from the Danish National Committee on Health Research Ethics. Participation was voluntary, and we obtained informed consent from foster parents. We provided age-appropriate information to foster children about the data collection and sought consent from biological parents with legal custody. However, municipalities had the discretion not to seek consent from biological parents of children placed in foster care when it was deemed necessary for placement stability and in the best interest of the child. Within the presentation of qualitative content analysis, pseudonyms are used to protect the anonymity of participating children.

Data analytic strategy

Statistical analysis

Statistical analyses were performed in SPSS and R. The distribution of scores was initially examined to assess the appropriateness of parametric tests. Results from the Shapiro-Wilk test indicated that the assumption of normality might not be met for the construct scores. Consequently, non-parametric tests were prioritized where applicable. In order to explore potential associations between child age, gender, and construct scores, Spearman's rho correlations and Mann-Whitney U tests were used to relate construct scores. To test the first hypothesis : comparing the foster children sample with the Danish community sample, though an ideal approach would have been the Mann – Whitney *U* test, due to ethical and legal reasons, access to the raw data from the Gregersen et al. (2023) study was not possible. As a result, we used an independent samples *t*-test (two-tailed, $\alpha = .05$) to compare the groups, which could still provide valuable insights. We used the Wilcoxon Signed Rank test to analyze all four construct scores for the second hypothesis, which posits that attachment representations change over time. Due to the very small number of children in the sample (6) who received the CAU intervention, it was deemed inappropriate to test the effects of the MBT intervention compared to the CAU Intervention.

Qualitative content analysis

In addition to coding attachment representations, we conducted a qualitative analysis of the SSAP narratives using a purposive approach informed by thematic analysis (Terry et al., 2017). This analysis aimed to complement the quantitative findings by exploring how foster children's narratives reflect their personal experiences. The focus was on identifying instances where children's stories appeared to draw directly from their own lives, offering deeper insight into the intersection of their attachment representations and lived experiences. In the first round of coding, the first and second authors independently reviewed all transcripts to identify excerpts where children explicitly referenced personal experiences. An excerpt was coded as a personal reference if it met one or more of the following criteria: (1) the child interrupted the SSAP narrative to share personal experiences, (2) within the SSAP narratives, the child referred to the dolls using their own name or real names of siblings, biological or foster parents, or friends, (3) the child mentioned real-life places, activities, animals, or people such as teachers or extended family members, or (4) the child re-enacted known events from their own life. To ensure reliability, the second and last authors independently double-coded six SSAP narratives (three per author) that had been coded by the first author, totaling 12 double-coded narratives representing 21% of the total 56 narratives. Disagreements were resolved by discussion until consensus was reached, promoting consistency in data interpretation.

In the second round of coding, the first author analyzed the identified excerpts incident by incident to determine if they referenced neutral, positive, or negative/traumatic events from the child's life. It was possible for a single excerpt to contain multiple types of references (positive, neutral, or negative/traumatic). In the final round, excerpts were coded for specific thematic content, resulting in descriptive categories illustrated by representative quotes. During this stage, the second and last authors reviewed all coded material, and a consensus approach was used to refine and finalize the content codes.

Results

Descriptive statistics

Initially, we explored potential age and gender differences across the four constructs. In order to examine associations between child age and the SSAP constructs, Spearman's rho correlations were computed and these are shown below in Table 4.

Table 4 shows that child age was significantly correlated with scores on the security construct, with older children scoring systematically higher on the security construct ($r = .483$, $p < .001$, two-tailed).

Regarding gender, girls scored significantly higher than boys on disorganization (U = 51.50, Z = −2.15, $p = .03$). No significant gender differences were found for security (U = 85.50, Z = −0.58, $p = .57$), insecurity (U = 74.50, Z = −1.08, $p = .28$), or defensive avoidance, (U = 61.50, Z = −1.68, $p = .09$).

In order to present descriptive statistics by gender across time, means and standard deviations were calculated and are presented below in Table 5.

Table 5 shows the distribution of construct scores by gender, highlighting the significant gender difference observed in disorganization scores.

Foster children compared to the Danish community sample

An independent samples *t*-test (two-tailed, α = .05) was used to compare foster children in the study sample with a Danish community comparison group from Gregersen et al. (2023) on three constructs reported in their study.

In order to test for differences between the foster care sample and the Danish community sample, independent samples t-tests were conducted and the results are presented below in Table 6.

Table 6 shows that there were no significant differences in security or insecurity scores between the two groups; however, foster children scored significantly higher on disorganization.

The results showed showed no significant differences in security, $t(27) = -1.878$, $p = .070$, or insecurity, $t(27) = 1.338$, $p = .192$. However, foster children scored significantly higher on

Table 4. Spearman's rho correlations: child age and construct scores.

	Security	Insecurity	Defensive	Disorganization
Child Age	.48** (.009)	−.32 (.100)	−.10 (.598)	−.36 (.0560)

**.Correlation is significant at the 0.01 level (2-tailed).

Table 5. Mean and standard deviations across time distributed by gender.

	Pre intervention			Post intervention		
Time constructs	Female M (SD)	Male M (SD)	Total M (SD)	Female M (SD)	Male M (SD)	Total M (SD)
Security	3.03 (2.76)	2.07 (1.78)	2.55 (2.33)	3.90 (2.55)	3.61 (2.30)	3.77 (2.39)
Insecurity	1.98 (2.19)	.88 (.60)	1.43 (1.67)	1.71 (2.01)	.60 (.42)	1.20 (1.59)
Defensive avoidance	1.14 (1.36)	2.00 (1.36)	1.57 (1.40)	.85 (.87)	1.53 (1.03)	1.16 (.99)
Disorganization	2.08 (2.16)	.59 (.69)	1.34 (1.75)	1.23 (2.24)	.20 (.31)	.76 (1.71)
N	14	14	28	13	11	24

Table 6. One sample t-tests.

	Intervention Sample			Article sample					
Variables	M	SD	N	M	SD	N	*t*-test	*p*	*Cohen's d*
Security	2.5	2.3	28	3.4	1.4	186	−1.88	0.070	−0.583
Insecurity	1.4	1.7	28	1.0	0.7	186	1.34	0.192	0.448
Disorganization	1.3	1.7	28	0.5	1.04	186	2.47	0.019	0.699

disorganization compared to the community sample, $t(27) = 2.474$, $p = .019$. A comparison for the defensive avoidance construct was not possible, as data for this construct were not provided in the Gregersen et al. (2023) study.

These findings partially confirm the first hypothesis, suggesting that while foster children do not significantly differ from the Danish community sample on security or insecurity, they show significantly higher levels of disorganization.

Changes in attachment representations over time

Examining the means and SD of all four construct scores from baseline to the post-intervention indicated positive changes in attachment representations in the expected direction on all four construct scores for the full sample and within the two groups separately. In order to provide an overview of changes in mean scores across time for both the intervention and control groups, descriptive statistics were calculated and are presented in Table 7.

Table 7 shows increases in security and decreases in disorganization, insecurity, and defensiveness scores from baseline to post-intervention across both groups.

Using the Wilcoxon Signed Rank test to analyze changes for the full sample, we found significant improvements in two constructs: security, with children displaying significantly more secure attachment representations post-intervention ($z = -3.23$, $p = .001$), and disorganization, with children exhibiting significantly fewer disorganized attachment representations post-intervention assessment ($z = -2.82$, $p = .005$). For the remaining two constructs, insecurity ($z = -1.63$, $p = .102$) and defensiveness ($z = -1.96$, $p = .050$), the observed changes were in the expected direction but did not reach statistical significance. In order to test whether the observed differences from baseline (T1) to post-intervention (T2) were statistically significant in the full sample, Wilcoxon Signed Rank tests were conducted and are presented in Table 8, 9 and 10.

Table 8 shows statistically significant changes in the security and disorganization constructs over time, while changes in insecurity and defensiveness were non-significant but aligned with the hypothesized direction.

Table 7. Mean and standard deviations for intervention and control group across time.

	Pre intervention			Post intervention		
Time	Intervention	Control	Total	Intervention	Control	Total
Constructs	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Security	2,6 (2,6)	2,3 (1,1)	2,5 (2,3)	3,8 (2,7)	3,6 (1,3)	3,8 (2,4)
Insecurity	1,6 (1,8)	0,8 (0,4)	1,4 (1,7)	1,4 (1,8)	0,6 (0,5)	1,2 (1,6)
Defensive avoidance	1,6 (1,5)	1,5 (1,2)	1,6 (1,4)	1,2 (1,0)	1,0 (0,8)	1,2 (1,0)
Disorganization	1,5 (1,9)	0,9 (0,6)	1,3 (1,7)	0,9 (1,9)	0,3 (0,4)	0,7 (1,7)
N	22	6	28	18	6	24

Table 8. Wilcoxon signed ranks test: changes over time in full sample differences from baseline (T1) to post-intervention (T2).

	SecurityT2 - SecurityT1	InsecurityT2 - InsecurityT1	DefensiveT2 - DefensiveT1	DisorganizationT2 - DisorganizationT1
Z	−3.225[b]	−1.634[c]	−1.964[c]	−2.819[c]
Asymp. Sig. (2-tailed)	.001	.102	.050	.005

Table 9. Wilcoxon signed ranks test: changes over time in female sample differences from baseline (T1) to post-intervention (T2) ($n = 15$).

	SecurityT2 - SecurityT1	InsecurityT2 - InsecurityT1	DefensiveT2 - DefensiveT1	DisorganizationT2 - DisorganizationT1
Z	−2.272	−1.540	−1.190	−2.449
Asymp. Sig. (2-tailed)	.023	.123	.234	.014

Table 10. Wilcoxon signed ranks test: changes over time in male sample differences from baseline (T1) to post-intervention (T2) ($n = 14$).

	SecurityT2 - SecurityT1	InsecurityT2 - InsecurityT1	DefensiveT2 - DefensiveT1	DisorganizationT2 - DisorganizationT1
Z	−2.346	−.830	−1.649	−1.363
Asymp. Sig. (2-tailed)	.019	.407	.099	.173

These findings partially confirm the second hypothesis, demonstrating significant positive changes over time in foster children's attachment representations for two of the four constructs.

Qualitative content analysis

The qualitative analysis examined how foster children's narratives revealed aspects of their personal experiences. This approach identified instances where the content of the stories appeared to reflect the children's lived realities, offering nuanced insights into the relationship between their attachment representations and real-life experiences.

In total, 15 children made references at either the baseline or post-intervention assessment that appeared to reflect their own experiences. The references varied in nature, encompassing neutral experiences such as watching specific TV programs, playing specific games on an iPad, shopping at specific stores, washing dishes manually in the absence of a dishwasher, or eating certain foods. The narratives also reflected positive experiences, with children describing engagement in playdates with named friends, family activities they enjoy, favorite snacks, or family outings to specific locations near their past or present homes. For instance, "Aya," an 8-year-old girl, shared before the SSAP administration that she enjoys eating a specific brand of cookies while watching a specific TV program with her foster family. The protagonist mirrored these activities in her narrative, highlighting a connection to Aya's experiences.

The narratives in which the children referenced neutral or positive subjective experiences portrayed parent figures as either "caring and helpful" or as "neutral caregivers

performing parenting duties in a more perfunctory way." For example, "Liva" is an 8-year-old girl who narrates stories explicitly referencing autobiographical material. In Liva's stories, the parent figures were portrayed in a realistic but positive light. For instance, parents were portrayed as loving (e.g. calling the protagonist "*sweetheart*" and "*hug and kiss*" the protagonist) and responsive towards the protagonist (e.g. providing help when needed and offering useful advice when asked). They were also depicted as setting boundaries, such as when the mother offered strawberries and vegetables as a snack before dinner she subsequently refused the children's demands for candy. In another story, the father figure gets annoyed with the children but later apologized, reflecting a balanced and realistic parenting dynamic. In contrast, "Mads," a 9-year-old boy who also made explicit references to his personal experiences, portrayed parents in a more neutral and perfunctory manner. Mads's narratives were brief and uneventful, with parent figures performing minimal caregiving tasks, such as bringing a cup of cold water for the protagonist's burned hand or offering a simple acknowledgment of the protagonist's drawing by saying it was *"nice."*

Ten children referenced significant traumatic or adverse events at either baseline or post-intervention assessment, which seemed linked to their developmental histories. These references, potentially reflecting traumatic reenactment, included references to parental loss or abandonment, relocation to a new family, parental violence, aggression or hostility, domestic violence, and parental substance abuse. All these instances in the narratives were coded using the SSAP disorganization content codes, while they also provide unique insights into the children's lived experiences of foster care. The primary themes identified within the disorganized narrative content were: "Fear of Abandonment, Rejection or Loss of Parents," Child aggression and Violence, ""Parental Violence and Alcohol Abuse," and "Sibling Rivalry".

Fear of abandonment, rejection or loss of parents

A recurring theme of abandonment or parental loss emerged in the narratives of ten children, reflecting their personal histories or fears associated with foster care. For some, the narratives seemed to portray a loss of access to their biological parents. In others, the narratives seemed to enact their fears of rejection by their foster family and the possibility of being relocated. This theme was evident in narratives where the protagonists were penalized by being sent to a new family or the parents berated the child and threatened to place the child with a new family. An illustrative example comes from "Olivia" a 6-year-old girl, whose narrative demonstrates themes of berating and abandonment (Picture from School):

> Olivia: So what happened was that she had drawn incorrectly, so everyone in the family got really mad, and then the sister said to everyone in the family (sibling says to mom and dad): "She drew it wrong, so she has to go away." "Can I see?" asked the father, so the father came out to see, and he stood right here and looked because he didn't want to get mad at her (dad makes an angry sound), and he showed it to the mother, and the mother said: "Did she really draw it wrong?" The mother said: "Oh, that's not okay, oh my God." (Mom makes disgusted sounds) (the parents say) "Now we throw you." (Dad throws child 1 into the air) The father threw her and her mother (the protagonist is tossed between the parents).

Olivia: (. . .) then they found another family that took really good care of her, so she never, never, never dared anything.

Interviewer: So she went to another family that actually took care of her?

Olivia: Yes (confirms)

An example of parental rejection and hostility is seen in the narrative of "Emma," a 5-year-old girl who tells a story where the protagonist is thrown away and imprisoned by parent figures. The story concludes with the child saying, "and *the parents did not miss her (the protagonist) at all*." Another example comes from "Frederikke," a 6-year-old girl who narrates a story where the mother is punitive and aggressive and mocks the protagonist. The story ends with the mother warning the protagonist that "*if she misbehaves, she will have to move to a different family*." Additionally, eight children's narratives include the death of a parent in at least one story, with several children recounting multiple stories involving the death of one or both parents. This theme is illustrated in the following excerpt from "Lulu," a six-year-old girl, in response to the story stem "Burned hand:" Lulu: And then the mom says, "You're not supposed to be by the stove." "Sorry, mom." "It's okay, I'll just put it back up. We're still making dinner, all right?" And then dinner was ready, they put it on the table and they said, "Hmm, I like it." Then the dad said, "I'll just take it." "No! Remember, it's burning hot!" "Ouch, I hurt my finger," and then the dad died.

Child aggression and violence

A few children narrated stories where the parent figures die as a result of the protagonist's actions or violence directed toward them. These narratives may be interpreted as expressions of the child's own aggressive fantasies or as representations of feelings of guilt. An illustrative example is provided in the following excerpt from "Kian," a 9-year-old boy:

Interviewer: So now, Tim(protagonist's little brother) kicks mom in the groin?

Kian: Then he kicked her huaargh, then both of them go up here [mom and dad], "You've been pests, now you'll get a beating."

Interviewer: Who says that? Is it the dad saying it?

Kian: No, it's the mom.

Interviewer: It's the mom.

Kian: [with the children in hand] But we'll kill you and kick, and then him down, and then nine seconds, then he stops time.

Interviewer: Is it Carl-Børge (protagonist) who stops time?

Kian: Yes, and then he (the protagonist) kills a girl, and then the mom dies.

Another example included a story in which the protagonist killed her mother with a knife and one in which the protagonist beat up both of the parents, and the respondent child threw the parent dolls off the table.

Parental violence and alcohol abuse

Eight children referenced intimate partner violence between parents or parental violence against children that seemed to reflect their own experiences. In some cases the children used derogatory language and expressions that seemed realistic yet clearly not appropriate for a child to be familiar with. An example of such a narrative is provided in the following excerpt (Crying outside):

> Kian: So, what happens is that the dad goes out and takes his beer bottle, then he grabs Tim, smashes the TV, lays him over, throws his beer on the floor, and then he takes a bat and argh argh argh.
>
> Interviewer: And hits him?
>
> Kian:In the butt, and then he picks up the TV and throws it there. Then, the mom smokes cigarettes and gives him one, and then [makes fighting sounds].
>
> Interviewer: What happens next?
>
> Kian: And then, the big brother just starts crying, and then he gets a beating.
>
> Interviewer: Is it the dad giving Tim a beating? Kiaan: Yes, then he takes him under his arm, puts him on his lap, and gives him a spanking, spanking, spanking, and then [mumbles].

Another subtler example is found in the narrative of "Willum," an 8-year-old boy. In this instance, Willum starts narrating the story in the first person, referring to himself rather than the protagonist (Picture from School)

> Interviewer: Can you show and tell me what's happening?
>
> Willum: [. . .] and then the dad comes . . . and opens the door and says, "Hi." And then he comes in . . . and shows the mom the drawing. And then she says, "It's nice," and then they go out into the garden [. . .] and play football. And the little brother is inside watching TV.
>
> Interviewer: Does anything else happen here?
>
> Willum: And then Dad trips me on purpose, so **I** break my arm.
>
> Interviewer: Oh.
>
> Willum: So that was that.
>
> Interviewer: Is that the story?
>
> Willum: Yes.
>
> In addition to references to parental violence against children, many children described references to intimate partner violence between parents. This is illustrated in the following excerpt from "Jan" a 9-year-old boy (Lost keys):

In addition to references to parental violence against children, many children described references to intimate partner violence between parents. This is illustrated in the following excerpt from "Jan" a 9-year-old boy (Lost keys):

> Interviewer: Can you show and tell me what happens next?
>
> Jan: Then Dad is just about to hit Mom.

Interviewer: Okay.

Jan: Then Kaj(protagonist) comes and says Dad shouldn't do that. And then it turns out Kaj is the one who took the car keys.

Jan: and then she (mother) falls into some stinging nettles.

Interviewer: Stinging nettles?

Jan: Yeah, a lot of them.

Interviewer: Oh no.

Jan: And then a beehive falls on her, too, so she ends up in the hospital.

Interviewer: I see, what happened there?

Jan: She was lucky and survived. That's my story.

In many of the narratives where realistic parental violence is being portrayed, the respondent children also refer to parental alcohol use. For instance, Willum describes the dad figure as being "*too drunk*" to respond to the children, while respondent Lulu says, *"Dad gets mean when he drinks a secret drink*."

Sibling rivalry

Sibling rivalry emerged as a recurrent theme in a few narratives. In some cases, parents were depicted as favoring one sibling over another. This theme was particularly pronounced in Frederikke's narratives, which were long, highly disorganized, and characterized by aggressive and violent parental figures who clearly preferred the younger sibling over the protagonist. Frederikke has been placed in her current foster home since the age of three. The family cares for two foster children and three biological children and regularly hosts very young foster children on a temporary basis. Frederikke's narratives may, therefore, reflect feelings of jealousy and fear of rejection, as illustrated in the following excerpt (picture from school):

Frederikke: She (the protagonist) was crying.

Interviewer: Okay, and then what happened?

Frederikke: I don't know.

Interviewer: Then she came inside and sat down?

Frederikke: And cried the whole time, and then her dad said, "Now go to your room," and she did what they said. (The child turns the door into a bed.) And then she went up to her room, which she shared with her sister, and she hated her sister.

Interviewer: She hated her sister? Oh, what happened then?

Frederikke: Then her sister came up, and they argued all the time. And then they started hitting each other (the figures are rubbed against each other to indicate fighting). All of a sudden, mom and dad said, "Katrine (protagonist), stop it," and then Kitty started crying, and then they said, "Katrine, now you have to move somewhere else." And then she was gone.

Discussion

This study explored attachment representations in Danish foster children aged 4–9 years, comparing them to a representative community sample and exploring changes over time. Additionally, we analyzed how children referenced personal experiences or re-enacted trauma in their SSAP responses.

Age and gender differences in SSAP construct scores

Our results reveal a positive correlation between attachment security and the child's age, indicating a significant bias with important implications for both research and clinical applications. The finding is similar to a study using the Attachment and Traumatization Story Task, which is also an adaptation of the original MacArthur story stems. In this study, there was a significant positive association between the child's age and the global security score $r = .480$, $p = .011$ (two-tailed) (Dalgaard, 2016). Additionally, normative British SSAP samples suggest a similar age-related trend, with younger children (ages 4–6) scoring lower on security compared to older children (ages 6–9). To improve the future applicability of the SSAP, we recommend developing age-based norms for both research and clinical purposes. The vast differences in the narratives generated by 4-year-olds compared to 9-year-olds highlight the need for more precise age-referred scoring guidelines, as the current manual may leave scoring open to subjective interpretation. Furthermore, without these norms, observed increases in security scores over time could partially reflect the natural developmental changes associated with age rather than true changes in attachment representations. However, given the relatively short interval between assessments in this study (18 weeks), it is unlikely that the observed changes in attachment representation can be attributed solely to age-related development.

Our sample also revealed significant gender differences in SSAP construct scores. While this may reflect true gender differences, the absence of gender-specific norms warrants caution in interpreting these findings. In Denmark, more boys than girls are placed in out-of-home care (Statistics Denmark, 2024.), raising the possibility that problems in girls may go undetected for longer. This could explain why girls in our sample displayed higher levels of disorganization. Alternatively, prior meta-analyses have highlighted differing risk factors for girls and boys in foster care. For example, Konijn et al. (2019) found that the number of previous out-of-home placements predicted placement breakdown for boys but not for girls, while (O'Higgins et al. (2017) identified male gender as a consistent predictor of poorer educational outcomes among children in foster care. Future studies should address these complexities by providing age- and gender-specific results when analyzing attachment construct scores using the SSAP. This would help refine our understanding of gender differences and ensure that interventions are tailored to the unique needs of boys and girls in foster care.

Attachment representations in foster children

The observation that foster children demonstrate higher levels of disorganized attachment representations compared to a Danish community sample aligns with theoretical frameworks linking trauma to attachment disruptions. Similarly, previous studies on foster

children have also reported elevated levels of disorganized attachment representations (Bovenschen et al., 2016; Quiroga et al., 2017). However, unlike Carrera et al. (2021) and Hillman et al. (2020a), we did not observe lower levels of secure attachment representations in foster children compared to the community sample. This unexpected but positive result may suggest that the foster children in our sample developed more secure attachment representations after placement in foster care despite retaining high levels of disorganization. This hypothesis aligns with Hillman et al. (2022), who found that UK foster children showed increased security over time following placement. Moreover, our findings extend this by demonstrating not only increased security but also decreased disorganization over time, suggesting a potential benefit of the supportive interventions provided to foster families in this study. These results highlight the dual capacity for foster children to develop security while reducing disorganization with appropriate support. Our findings thus align with (Jacobsen et al. (2014), who found a positive development in the attachment classifications of Norwegian toddlers after time spent in foster care. However, a Dutch study suggests that child attachment security is only positively associated with foster parent sensitivity if symptoms of disordered attachment in the child are partialled out. Thus, it is possible that while children in foster care generally develop more positive attachment representations of time spent in foster care, this is not true if the child meets the criteria for an attachment disorder.

Foster care in Denmark is currently undergoing significant legal changes with the introduction of "Barnets Lov" (The Child's Act) in 2024. This new law aims to strengthen the legal rights of children in care and introduces initiatives such as allowing foster care placements to become permanent. In many ways, Barnets Lov parallels The Adoption and Safe Families Act (ASFA), implemented in the United States in 1997 (Rockhill et al., 2007). However, foster care in Denmark has historically been legally defined as a temporary arrangement, meaning foster parents always faced the possibility of having foster children removed from their care. The new law may change the profile of prospective foster families, moving them from professionals who care for multiple children in succession to families seeking to provide permanent care for a smaller number of children.

Interestingly, Ponciano (2010) found that, contrary to expectations, having a foster mother with little prior experience significantly predicted secure attachment in foster children. This finding suggests that placing children with foster families intending to provide permanent care could increase attachment security. Future studies should examine the potential impact of Barnets Lov on foster care dynamics, particularly on attachment outcomes for children in care.

Exploring personal experiences and traumatic reenactment in narratives from the SSAP

Slightly more than half of the children in our sample referenced personal experiences in at least one of their SSAP narratives, with the nature of these references ranging from neutral and positive to adverse. Approximately one-third of the children narrated stories that appeared linked to their personal experiences of traumatic events. A closer examination of the qualitative data revealed that disorganized narratives often reflected the children's personal experiences, with key themes including "Fear of Abandonment, Rejection or Loss of Parents," Child aggression and Violence,"Parental Violence and Alcohol Abuse" and

"Sibling Rivalry." Interestingly, some children with known histories of highly traumatic events did not produce disorganized narratives or make any apparent references to their personal experiences within their SSAP narratives. This highlights both the strengths and limitations of the story stem approach for research and clinical use. On the one hand, the SSAP offers a sensitive, engaging, and playful context for children to express their inner world and experiences, demonstrating its utility as a versatile tool beyond measuring attachment representations. On the other hand, the SSAP permits children to respond without drawing from personal experiences, and some narratives appear influenced by external sources such as books, television programs, or fairy tales. These narratives may represent idealized portrayals shaped by the child's assumptions about what the interviewer wishes to hear rather than an authentic depiction of their own experiences. As such, SSAP results should be interpreted cautiously in both research and clinical settings. When children disclose personal traumatic experiences or narrate highly disorganized narratives, these must be contextualized alongside other information from other sources about the child's history. Conversely, the absence of references to personal experiences in the SSAP narratives should not be taken as definitive evidence of their absence in the child's life. For children with known histories of trauma, the SSAP should not be used in isolation to draw conclusions about their personal experiences or relationships with specific caregivers.

Limitations and future research

The mixed-method approach is a key strength of this paper, as the two components complement each other effectively. While the quantitative analysis examines attachment constructs using a robust coding system, the qualitative approach provides a richer, more nuanced exploration of additional phenomena within the narratives.

However, several limitations must be acknowledged. One significant limitation is the potential selection bias introduced by the recruitment process. All participating foster parents were enrolled in a trial evaluating supportive interventions, indicating that they or their foster children were experiencing difficulties. As a result, the sample may not be representative of the broader population of foster children, potentially limiting the generalizability of the findings. The distribution and levels of attachment representations observed in this study may differ in foster families not actively seeking supportive services. Additionally, the limited sample size and the distribution of attachment construct scores limit the statistical results and their interpretation. Although the study suggest that age and gender may act as confounding factors, the limited sample size prevented us from testing the specific contributions of these variables to the observed changes over time. Consequently, the impact of these potential confounders remains uncertain.

Another significant limitation is the very small sample size of the CAU group, which prevented meaningful comparisons between MBT and CAU conditions, thereby limiting the ability to draw causal conclusions about the effects of MBT on foster children's attachment representation.

Replicating this research with a larger more representative sample of foster children and foster families is essential to validate findings from the present study and improve their generalizability. Furthermore, in future research, it would be beneficial to study the

evolution of children's internal representations of attachment for a longer period while controlling for possible confounding variables.

Implications for practice

The findings underscore the critical role of foster parents and social workers in reshaping children's negative internal representations by actively disconfirming negative representations and fostering positive ones. As our findings indicate, negative representations may persist over time, emphasizing the need for ongoing support to empower foster parents to become more confident and self-aware. Our results highlight the importance of therapeutic interventions tailored to address the deprivation and adversity experienced by children in foster care. Both the quantitative and qualitative components of this study demonstrate the SSAP's value as a tool for identifying underlying attachment representations and potential risks.

Conclusion

This study examined attachment representations in Danish foster children using the SSAP, finding elevated levels of disorganization compared to a community sample but no difference in attachment security. Significant improvements were observed over time in attachment security and disorganization, with other constructs showing non-significant positive trends. These results suggest the potential benefits of supportive interventions for foster families.

Age was positively correlated with attachment security, emphasizing the need for age-based norms to enhance the SSAP's research and clinical utility. Gender differences further highlight the importance of developing gender-specific norms for accurate interpretation. Over half of the children referenced personal experiences in their narratives, with one-third reflecting significant trauma. Key themes included "Fear of Abandonment," "Child Aggression," "Parental Violence," and "Sibling Rivalry." These results demonstrate the SSAP's potential as an interview tool beyond measuring attachment representations.

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Data availability statement

To protect participant privacy, the interview data are not publicly available but are available from the corresponding author upon reasonable request.

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