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What changes during specialized foster care? A study on adaptive functioning and emotional and social problems

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Abstract

Various models of specialized foster care have been developed, but research on them is limited. This longitudinal, exploratory study analysed data on adaptive functioning, emotional and social problems and self-concept in a specialized foster care service in Sweden. The focus of the study was on the development of the children and young people in placement. The Adaptive Behaviour Assessment System (ABAS-II) was used to measure adaptive functioning, and the Beck Youth Inventories of Emotional and Social Impairment (BYI) was used to measure self-rated emotional and social problems and self-concept. Self-ratings showed significant improvements in disruptive behaviour, anger, anxiety and depression. Adaptive functioning as rated by foster parents improved but not enough to catch up with the non-clinical norm group. The average adaptive functioning among the participants at baseline was considerably below the Swedish norm group. Similar to the results of a previous study of the same treatment model, children and young people rated improvement while their foster parents did not do so to the same extent. Possible explanations for this are discussed in the paper. The study is limited by the lack of a control group and by data attrition.

KEYWORDS
adaptive functioning, emotional problems, outcome, self-concept, social problems, specialized Foster Care

1 | INTRODUCTION

When children or young people are maltreated or behave antisocially, out-of-home placement is a common intervention by the social authorities in Sweden as well as in other countries (National Board of Health and Welfare, 2021; National Statistics, 2020; U.S. Department of Human Help Services, 2021; Washington et al., 2018). Foster care is the most common form of out-of-home placement in Sweden. According to the most recent official Swedish statistics, about 19 400 children and young people were in foster care at some point during 2020. This corresponds to about 1% of the population in the age group 0–20 years (National Board of Health and Welfare, 2021). In severe or complex cases, residential care is applied, but for younger children, this is generally avoided. In particularly complex cases, children and young people who need additional support are given specialized or therapeutic foster care. Such therapeutic or specialized foster care come in various forms but may in general be considered as a level of care between ordinary foster care and residential care.

1.1 | Consequences of maltreatment

Children and young people in foster care have usually experienced various types of maltreatment prior to placement, and the prevalence of emotional and behavioural disorders among young people in foster care has been shown to be large (Egelund & Lausten, 2009; Engler et al., 2022; Lehmann et al., 2013; Pecora et al., 2009; Vasileva & Petermann, 2018). Numerous studies have shown that maltreatment such as neglect and physical abuse poses risks for mental illness and negative development (e.g. Cicchetti & Toth, 2005; Gardner et al., 2019; Gruhn & Compas, 2020; Norman et al., 2012). In a study from Norway, children in foster care showed much higher prevalence of psychiatric diagnoses compared with the general child population (Lehmann et al., 2013). There is no similar Swedish study, but Swedish registry data have shown that children in long-term foster care are at significantly higher risk of developing various social or psychiatric problems as young adults than other children (Berlin et al., 2011; Vinnerljung et al., 2006; von Borczyskowski et al., 2013).

Many studies have focused on the impact of maltreatment on emotional and behavioural problems. There is also some research about the impact of maltreatment on adaptive functioning (Becker-Weidman, 2009; Clausen et al., 1998; Goemans et al., 2015; Urquiza et al., 1994). Adaptive functioning refers to competencies that every individual needs to possess to be able to cope with the demands of everyday life, for instance, taking care of oneself and relating to others with social responsibility. This means competencies like making one's bed, taking care of personal hygiene or avoid being exploited by others. These functions span a wide range from simple basic behaviour to complex social skills. Maltreatment has been shown to have a negative impact on adaptive functioning (Becker-Weidman, 2009; Clausen et al., 1998; Goemans et al., 2015; Urquiza et al., 1994). Specifically, childhood maltreatment has been found to be related to negative outcomes in the areas of self-care and academic functioning (Freer et al., 2017). Within the group maltreated children, those in foster care due to neglect show lower adaptive functioning than those in foster care because of abuse (Viezel et al., 2014). Problems in adaptive functioning may have a major impact on the future life of young people, as well as their experiences of self-worth and self-efficacy (Freer et al., 2017).

1.2 | Outcomes of foster care

In general, studies have shown that young people in foster care do not have a more positive development than young people at risk who have remained in their birth family. The groups are, however, most likely not comparable, as those with worst conditions are usually removed from their homes (Swedish Agency for Health Technology Assessment and Assessment of Social Services, 2017). A meta-analysis of longitudinal studies of adaptive functioning and behavioural outcomes of children in foster care found no change over time, neither for psychiatric symptoms nor adaptive functioning (Goemans et al., 2015). Furthermore, adaptive functioning outcomes for children in foster care have been found to be lower when compared with children in the general population (Goemans et al., 2016). A Swedish study evaluated the effects of a special type of intervention for children in foster care, namely, increased school support, on adaptive functioning aimed at young people in placement (Tordön et al., 2020). Two years of school interventions showed improvement in complex cognitive performances such as reading and mathematical ability. However, no change was found in adaptive skills or in mental health. None of these studies included enhanced or specialized foster care (Goemans et al., 2015).

1.3 | Specialized foster care

According to the assessments of the social authorities, ordinary foster care is not considered sufficient for children or young people with complicated needs. The social authorities tend to choose placement in specialized rather than ordinary foster care in particularly difficult cases (Gustle et al., 2007). Children placed in specialized foster care are expected to have more severe and complex problems in comparison with children in ordinary foster care. The foster families may need enhanced support and supervision (Redfern et al., 2018). The children or young people may also need psychological treatment. In specialized foster care services, attempts to meet the needs of these young persons and their foster carers are made. This is done through training and extended guidance for foster carers. Other and more extensive models also hold therapy for the children in care and treatment for the birth families. Several different models of specialized foster care have been developed, but research on these models is limited. The models have varying target groups, intensity and length of intervention, as well as different theoretical bases. However, the aims of the various models are similar: to create safety and conditions for positive development for children or young people with particularly severe problems in foster care. Kessler et al. (2008) concluded that specialized foster care programs may have positive effects on mental health in adults who have been in foster care.

Some treatment models are created for younger children in foster care. These models are often attachment-based or aim to support sensitive parenting. An example of such a model is the Attachment and Biobehavioral Catch-up (ABC) intervention created by Mary Dozier (Dozier et al., 2018). Randomized controlled trials of the ABC intervention have shown that it promotes more secure and organized attachment and better affect regulation than a non-attachment-based intervention (Dozier et al., 2018). This model is, however, designed for infants and toddlers, 6–24 months of age. Models that are attachment-based and are aimed at supporting older children and young people are less common, at least models that have been evaluated in research (Kerr & Cossar, 2014).

Multidimensional Treatment Foster Care (MFTC) is a specialized foster care model that provides short-term foster placement followed by aftercare. The treatment is delivered by a professional team and trained foster carers (Chamberlain & Smith, 2003). Theoretically, MTFC is based on social learning theory. One of the most widespread and evaluated models, Treatment Foster Care Oregon (TFCO), was

developed from MTFC (Buchanan et al., 2018). TFCO is intended for young people with antisocial and/or criminal behaviour. Evaluations of TFCO have shown some evidence of reducing risk of future criminal behaviour but low evidence of reducing mental health problems like depression (Åström et al., 2020). Another model, also developed from MTFC, is KEEP (Keeping Foster Parents Trained and Supported) (Price et al., 2009). KEEP is a foster parent training programme adapted for foster parents of children aged 5–11 years. The programme has been shown to increase parenting behaviour that is positively reinforcing and decrease externalizing symptoms in the children (Chamberlain et al., 2008). Two other models for foster parent training are Family Minds (Adkins et al., 2018) and the Reflective Fostering Programme (RFP) (Redfern et al., 2018). These programmes are mentalization based and have in controlled studies shown promising results in improving foster parents' reflective functioning (Adkins et al., 2018) and in, for instance, decreased parent stress (Midgley et al., 2021). However, these models are limited to foster parent training and do not encompass supervision and support over a longer period of time. In addition, they do not contain interventions to treat or support the foster child or the birth family.

Åkerman et al. (2020) found that a treatment model called Treatment By Foster care (TBF) was associated with improvements in psychiatric symptoms when measured with the Achenbach System of Empirically Based Assessment (ASEBA). This is the only study of the TBF-model. The results showed that the young people themselves reported that their psychiatric symptoms decreased but that foster parents' and teachers' ratings did not show improvements. However, the study was limited to focusing on psychiatric symptoms. More studies are needed to examine potential broader effects of this model, also given that studies of specialized foster care are few. The present study was conducted with this knowledge gap in mind, focusing on change in adaptive functioning, emotional and social problems and self-concept, using a sample that partly overlapped with the sample in Åkerman et al. (2020). Data were collected from the young people as well as from their foster parents during several years of placement.

1.4 | Children and young people in TBF

Children and young people who are placed in specialized foster care to receive treatment through the TBF-model have a history of being maltreated and neglected, and some of them have been abused. The majority have birth families with serious relationship problems. Often, the children and young people have experienced several disruptions and separations from attachment figures, e.g. birth parents, previous foster parents and treatment providers at institutions. Common problems in their birth families may be parents with psychiatric disorders, substance abuse and poverty. The social authorities have decided that ordinary foster care is not sufficient to meet these children's needs and achieve stable placements. In general, this is solely motivated not only by the child's individual difficulties but also by previous placement breakdowns. These breakdowns usually occur for reasons such as ongoing conflicts within the biological network, difficulties with the child that previous foster families could not cope with or disruptions caused by shortcomings in the social services' handling of their case.

1.5 | The TBF-model

The treatment model in the present study is called TBF. The aim of the TBF-model is to provide stable placements that help the young people in their psychological and social development. A basic assumption of the treatment model is that the relationship between the caregiver and the child is of great importance for the child's development. Extensive foster care such as TBF is expected to compensate for some of the negative effects of neglect and maltreatment.

Treatment was provided by a private company in Sweden. This company offers specialized foster care according to the TBF-model, on behalf of the social services. The TBF-model is based on psychodynamic theory—in particular attachment and mentalization theories. It focuses on enhancing foster parents' sensitivity and mentalizing capability. Mentalizing is defined as implicit and explicit understanding of human behaviour as based on mental states like thoughts, emotions and intentions (Allen et al., 2008; Bateman & Fonagy, 2016). The capacity to mentalize develops in the interaction between the caregiver and the child, ideally within a secure attachment relationship. The attachment system is thus foundational to the development of mentalizing. Children who have grown up in families with disrupted attachment relationships may have great difficulties mentalizing.

In recent years, there has been a growing interest in research focusing on the concept epistemic trust (e.g. Ensink et al., 2014; Fonagy & Campbell, 2017; Sprecher et al., 2022). The concept epistemic trust is taken from the theory of natural pedagogy and tries to explain how human, cultural knowledge is transferred between people (Csibra & Gergely, 2011). Epistemic trust has been defined as trust in the authenticity and personal relevance of interpersonally transmitted information (Sperber et al., 2010). It underpins the capacity for social learning and guides the individual in *how* to trust somebody and *whom* to trust. The TBF-models' focus on sensitive parenting and mentalizing could be seen as a way to establish epistemic trust in individuals for whom rather epistemic mistrust has been predominating (Fonagy & Allison, 2014). In the TBF-model, there is a team consisting of a treatment manager, a psychologist and the foster parents around each young person in care. Children and young people in treatment have contact with a TBF psychologist for assessment and psychotherapy. All professionals in the TBF-model, including the foster parents, receive training in mentalization-based treatment (MBT; Allen et al., 2008; Bateman & Fonagy, 2016; Cooper & Redfern, 2015). They are also trained in the International Child Development Programme (ICDP; Bergman & Edenhammar, 2008; Hundeide, 2001). The ICDP is a programme that aims to improve the caregiver's capability for self-reflection in order to enhance their responsiveness and sensitivity in interaction with the child. The programme is based on attachment theory, developmental psychology and the UN Convention on the Rights of the Child. In conformity with mentalization-based practice, the ICDP assumes that the interaction and relationship between

the caregiver and the child are of great importance to the child's development.

Collaboration with schools is also part of the TBF-model. This collaboration takes place through regular meetings and close contact between teachers and the TBF treatment team. The aim is to work together to facilitate the child's development and remedy problems that arise. The collaboration is also based on a mentalizing approach. Working together with the children's biological networks is also a part of the TBF-model. The contact with biological parents and siblings takes place in a planned and often structured way. However, generally, the TBF-model does not focus its treatment on the biological network. Taken together, this means that the TBF treatment takes place both in the foster homes through everyday life in the foster family and in the TBF offices, where the foster parents receive guidance and various meetings take place.

2 | THE PRESENT STUDY

The purpose of the present study was to study changes in adaptive functioning in everyday life and in emotional problems, social problems and self-concept during specialized foster care according to the TBF-model. We hypothesized that the extensive interventions in this relationally focused model would improve adaptive functioning, especially social functioning. Furthermore, we hypothesized that emotional and social problems would be reduced and that the self-concept would become more positive.

3 | METHOD

3.1 | Participants

The number of children and young people in TBF-treatment between 2009 and 2017 was 129. However, the number of participants in the study was smaller and diminished over time (see Table 1 for more information). The majority of the participants left foster care, either moving back to their biological family when possible or, more often, moving to their own accommodation with various forms of support. In some cases, data are missing due to mistakes in administration or routines. In a few cases, the young person refused to fill out the form. The participants were between 5 and 17 years old. Gender distribution was slightly skewed towards boys (55.3% at baseline). All participants were living with foster families in rural areas in the southeast of Sweden. A review of all children receiving TBF-treatment during the autumn of 2017 ($n = 58$) showed that 90% had at least one placement in foster care prior to the current placement, 33% had experienced institutional care and 38% had three or more prior placements (Åkerman et al., 2020). Nevertheless, the participants in this study constitute a heterogeneous group with individual strengths and difficulties.

In our previous study, the same foster care model was studied, albeit with focus on a different research question. Participants in that study overlap partly with participants in this study (44 of 101, i.e. 44%), as data were partly collected during the same time period.

3.2 | The TBF: training and interventions

In the TBF-model, one of the foster parents, either the mother or the father, is employed full-time in the TBF team. Each foster family takes care of one or maximum two foster children. When two foster children are living in the same foster family, sometimes both foster parents are employed full-time and sometimes only one of them. The foster parents receive continuous supervision and training and 24-hour support if urgent situations should arise. In general, the supervision is provided in both an individual setting for each foster family or parent biweekly, as well as in mentalization-focused groups with other foster families once a month. During difficult periods, more intensive guidance and treatment interventions may be used.

TABLE 1 Means (M) and standard deviations (SD) of BYI- and ABAS-ratings over time: baseline, 12 months, 24 months and 36 months post-baseline

Instrument	Baseline *M* (*SD*)	12 months *M* (*SD*)	24 months *M* (*SD*)	36 months *M* (*SD*)
BYI raw points	$n = 89$	$n = 61$	$n = 35$	$n = 15$
Anxiety	14.54 (11.46)	12.65 (9.78)	11.31(10.19)	10.47(7.47)
Depression	17.16 (12.75)	13.97(10.68)	11.94(10.56)	10.93(7.60)
Anger	18.38 (11.81)	14.69 (9.51)	12.39(12.11)	10.80(7.95)
Disruptive behaviour	9.93 (9.13)	6.18 (5.12)	5.69 (6.44)	3.87 (3.87)
Self-concept	36.92 (13.53)	38.87(13.09)	41.67 (9.76)	40.27(14.29)
ABAS scaled scores	$n = 76$	$n = 70$	$n = 45$	$n = 20$
Conceptual	13.85 (8.28)	14.18 (7.60)	14.77 (8.35)	13.76(10.41)
Social	6.29 (4.90)	6.99 (5.28)	7.77 (6.34)	7.19 (6.44)
Practical	23.99 (11.28)	24.75(10.10)	25.81(10.42)	24.95(11.49)
GAC	45.32 (22.42)	45.99(20.91)	48.26(22.99)	45.90(26.39)

Abbreviations: ABAS, Adaptive Behaviour Assessment System; BYI, Beck Youth Inventories of Emotional and Social Impairment; GAC, General Adaptive Composite.

For new foster parents, training starts at the beginning of their employment, i.e. when the foster child has moved in. After this, the training is given continuously. The ICDP training lasts three semesters, minimum 48 hours, with homework between each occasion. The foster families also receive basic training in mentalization, but this is not formalized in the same way and thus varies more in scope and content. The ICDP as well as the mentalization training focus on both theory and skills training and are based on the participants own experiences. In addition, continuous compulsory lectures on topics concerning children and young people with special needs for care (e.g. trauma and ADHD) and children in foster care are included.

The majority of the children enter individual psychotherapy, and some of them receive mentalization-based group therapy. In some cases, the therapy is arranged in a family setting. The psychotherapy for young people tends to vary more in length and arrangement than the psychotherapy for children. For children, the therapy consists of play therapy once a week, often for several years.

3.3 | Measures

The children and young people in care were rated by their foster parent with the *Adaptive Behaviour Assessment System-Second Edition* (ABAS-II: (Richardson & Burns, 2005). ABAS-II is an instrument standardized for ages 5–21 years and has been standardized and adapted to Swedish conditions (Tideman, 2008). Adaptive behaviour refers to the repertoire of competencies that every individual needs to possess to meet the demands and expectations of other people in their surrounding environment. This refers to the individual's independent display of behaviours associated with taking care of themselves and relating to others with social responsibility.

ABAS-II contains 185 items in nine subscales that assess nine adaptive skills: communication, community use, functional academics, home behaviour, health and security, leisure, self-care, self-direction and social skills. These nine subscales each contribute to one of the three domains: conceptual, social and practical. The domain scores are used to obtain the summary value called General Adaptive Composite (GAC). The foster parent rates the frequency of an observed behaviour on a 4-point Likert scale. High scores indicate good adaptive functioning. The ABAS-II has a norm-referenced scaled score ranging between 1 and 19, with a mean of 10 ($SD = 3$) for each subscale. Scores on the three domains and total skills (GAC) can be transformed into an index score with a mean of 100 ($SD = 15$). The rater, in this case the foster parent, is tasked with rating how often the young person unaided exhibits the skills that are required. In order to use ABAS-II, the rater must be familiar with the daily life of the child or young person.

Various studies have provided good support for the validity and reliability of the ABAS-II and have shown that adaptive functioning as defined in ABAS-II has relevance in different cultures (Oakland et al., 2013; Richardson & Burns, 2005; Tideman, 2008). The internal consistency of ABAS-II is high for a wide range of adaptive functioning (Community-University Partnership for the Study of Children, Youth, and Families, 2011). The instrument has also been shown to be useful in clinical work and with conditions like mental retardation and ADHD (Lindblad et al., 2013; Tideman, 2008). Sensitivity as well as specificity for clinical populations have been shown to be good (Community-University Partnership for the Study of Children, Youth, and Families, 2011).

The young people (children over 10 years) in care rated themselves using the *Beck Youth Inventories of Emotional and Social Impairment* (BYI; Beck et al., 2001). BYI is a self-rating instrument consisting of five subscales that measure emotional and social problems and includes inventories measuring anxiety, depression, anger, disruptive behaviour and self-concept. BYI is intended for use in various clinical settings and is aimed at evaluating the effects of treatment (Tideman, 2004, p. 16). Each subscale contains 20 items. High scores indicate more difficult problems, except for self-concept, which has a reversed scale. Self-concept refers to self-perceptions concerning topics such as competence and self-worth. BYI has been adjusted for Swedish conditions and standardized in Sweden (BUS; Tideman, 2004). Swedish norm data are available for ages 9–18 years for both genders. In this study, the Swedish version of BYI was used.

Both BYI and the Swedish version of BYI have shown satisfactory reliability (Beck et al., 2001; Tideman, 2004). The conceptual validity of BYI is based on the cognitive theory of psychopathology (Beck et al., 2001). Studies of BYI's empirical validity strengthen the use of the instrument for clinical assessment purposes (Runyon et al., 2009; Steer et al., 2005). In the current study, correlations between the different inventories were analysed and the results showed correlations as expected (the data are shown in the supporting information, see Table S1).

3.4 | Procedure

Data were collected as part of a routine quality assessment between 2009 and 2017. All young people rated themselves using BYI, and their foster parent rated them using ABAS-II every 12 months. BYIs were only performed by participants over 10 years of age. BYI self-ratings were administered by a psychologist and were filled out at the TBF offices.

The baseline rating was carried out within the first 6 months of placement but not immediately after placement. The reason for the delayed baseline rating is that the foster parent must know the child to be able to give reliable ratings. This procedure also reduces the risk of capturing the acute and immediate reactions to the changes and separations involved in the move itself. The foster parents' ABAS-II ratings were carried out at home. If ratings were missing, raters were reminded by phone or at meetings. Ratings were accepted with a two-month deviation (−/+) from the 12-month rating routine.

The number of participants diminished over time. For some participants, data are missing at the baseline (T1) but available for later measurement occasions (T2–T4). For this reason, the number of participants varies at different times. Linear mixed model analysis

ensured that all participants with any measurement are included, and linear slopes are estimated using the available data under the Missing At Random assumption (Rubin, 1976).

3.5 | Data analysis

The changes in ABAS-II and BYI scores were analysed at baseline (T1), 12 months later (T2), at 24 months (T3) and at 36 months post-baseline (T4) using linear mixed model analysis (Raudenbush & Bryk, 2002; Snijders & Bosker, 2011). Interactions between time and gender also were analysed using mixed model analysis. Correlations between ABAS-II and BYI were calculated with Pearson's *r* (two-tailed) by comparing the difference between the first and the last ratings in ABAS-II with the difference between the first and the last ratings in BYI. Data attrition analyses were made using one-way ANOVA. Participants were divided into two groups, depending on whether data were missing/not missing on follow-up occasions. Baseline scores were used as dependent variables to check whether they differed between those participants who delivered ratings at later occasions and those who did not.

Since children can be expected to improve their adaptive abilities as they grow older and develop, analyses of ABAS-II were made on both raw scores and scaled scores. Results of the three domains—Conceptual, Social and Practical—and the total GAC score were analysed. To make the results more understandable, the mean of the scaled scores at baseline was converted into index scores in Figure 1.

Analyses of BYI were made on raw scores for the whole group, even though Swedish norm data are available for boys and girls separately as analyses made on scaled scores could conceal differences between boys and girls (Tideman, 2004). For the statistical analyses, SPSS version 23 was used (IBM Corp, 2015). Ethical approval for this study was obtained from the Swedish Ethical Review Authority 2016-10-31 (Application number Ö23-2016).

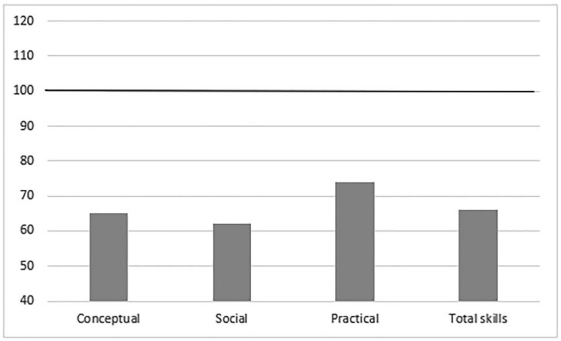

FIGURE 1 Adaptive Behaviour Assessment System (ABAS): Foster parents' ratings at baseline in comparison with the Swedish norm group (Total skills[= General Adaptive Composite [GAC]). Index scores (mean = 100, SD = 15)

4 | RESULTS

4.1 | Descriptive statistics

The total number of children and young people who received treatment according to the TBF-model between 2009 and 2017 was 129. The number of participants in the study was smaller due to short treatment periods and, in some cases, because of quality assessment routines not being followed. Due to internal missing data, the number of participants varies among analyses. BYI-data from baseline ratings are missing for 12 participants (12 out of 101). The data also diminish over time (see Table 1), mainly because placements were terminated. The total number of BYI-ratings was 204, and the total number of ABAS-II ratings was 228. Data attrition analyses did not show any significant differences in baseline scores when participants with missing/not missing data at later measuring points were compared. No differences were found on any BYI or ABAS-II variables.

The participants who were rated with ABAS-II were between 5 and 17 years of age at baseline ($n = 76$). The mean age at baseline was 12.71 years (SD = 3.32 years). There were 55.3% boys ($n = 42$) and 44.7% girls ($n = 34$) at baseline. The participants who rated BYI were between 10 and 17 years of age. The mean age at baseline for the participants rating BYI was 12.83 years (SD = 3.33 years). At baseline, there were 47.2% boys ($n = 42$) and 52.8% girls ($n = 47$).

Analyses of interactions between time and gender during treatment showed one significant interaction out of nine variables being analysed (more detailed results are available from the first author). Boys showed a significantly more positive development in the ABAS Conceptual domain than girls (F 1, 153,10 = 4.17, $p = .04$). However, due to small differences related to gender, data from girls and boys were merged and analysed as one group in the other analyses.

4.2 | Adaptive functioning

The results showed that adaptive functioning at baseline was significantly below the Swedish norm group (see Figure 1). In the Conceptual and Social domains, the mean index score was more than 2 SD below the index mean ($m = 100$, SD = 15) (Conceptual $m = 65$, Social $m = 62$). The Practical domain ($m = 74$) was more than 1 SD below the index mean. Total skills (GAC) ($m = 66$) were also more than 2 SD below the index mean.

The results of the foster parents' ABAS-II ratings are shown in Table 2. Analyses performed on the raw scores showed significant improvements in all domains—Conceptual, Social and Practical—and in the total skills of the GAC. For the Conceptual domain, the estimated mean rate of change was 5.69 ([3.26, 8.33], $p < .001$); for the Social domain, it was 2.90 ([1.37, 4.44], $p < .001$); and for Practical domain, it was 8.98 ([6.29, 11.68], $p < .001$). The estimated mean range was larger for the Conceptual and Practical domains than for the Social domain. This is partly explained by the fact that the first two contain more subscales. For GAC, total adaptive functioning (i.e. sum of scores on all items), the estimated mean rate of change was 19.09 ([11.98,

26.21], $p < .001$). All figures indicated improvements in adaptive functioning over time.

However, when the data were analysed using scaled scores, none of the domains showed significant improvement in adaptive functioning (see Table 2). For the Conceptual domain, the estimated mean rate of change was .15 ([−.74, 1.04], $p = .74$), while for the Social domain it was .36 ([−.30, 1.02], $p = .28$). The Practical domain was non-significant (but close to significant), and the estimated mean rate of change was .95 ([−.12, 2.02], $p = .08$). For GAC, the estimated mean rate of change was 1.19 ([−.1.12, 3.50], $p = .31$). Thus, analyses on scaled scores showed no significant improvements in adaptive functioning compared with the norm group.

4.3 | Emotional problems, social problems and self-concept

At baseline, the results showed that self-rated emotional and social problems were higher in comparison with the Swedish norm group. Results were divided by gender as the Swedish norms are divided by gender (Tideman, 2004). All symptom scales showed a mean percentile above the 75th percentile cut-off: anxiety (girls and boys, 79th percentile), depression (girls 86th and boys 80th percentile), anger (girls 88th and boys 86th percentile) and disruptive behaviour (girls 87th and boys 86th percentile). Self-concept was closer to the norm group (girls 33rd and boys 42nd percentile). The change over time on BYI ratings of the young people is shown in Table 3.

The young people rated their symptoms of anxiety and depression as reduced and rated decreased feelings of anger and reduced disruptive behaviour during treatment. Anger and disruptive behaviour improved the most. The estimated mean rate of change for anxiety was −1.43 ([−2.58, −.29], $p = .02$) and for depression −1.79 ([−3.12, −.47], $p < .001$), indicating that anxiety and depression decreased over time. For anger, the estimated mean rate of change was −2.42 ([−3.54, −1.29], $p < .001$) and for disruptive behaviour −2.08 ([−2.94, −1.21], $p < .001$), also indicating improvements over time. Self-concept (reversed scale) showed close to, but not

TABLE 2 Mixed model analysis of the ABAS ratings: parent form ($n = 76$) of scaled scores and raw scores: estimates of fixed effects

	Estimate		Std error		Sig.		Lower 95		Upper 95	
Parameter	Scaled	Raw	Scaled	Raw	Scaled	Raw	Scaled	Raw	Scaled	Raw
Conceptual Intercept[a]	13.99	123.26	1.11	3.13	<.001	<.001	11.80	117.09	16.17	129.43
Time[b]	.15	5.69	.45	1.23	.74	<.001	−.74	3.26	1.04	8.13
Social intercept	6.21	76.27	.75	1.92	<.001	<.001	4.74	72.48	7.69	80.06
Time	.36	2.90	.33	.77	.28	<.001	−.30	1.37	1.02	4.44
Practical intercept	22.92	165.60	1.44	3.90	<.001	<.001	20.07	157.90	25.76	173.3
Time	.95	8.98	.54	1.34	.08	<.001	−.12	6.29	2.02	11.68
GAC intercept	44.17	360.20	3.03	9.15	<.001	<.001	38.18	342.16	50.15	378.2
Time	1.19	19.09	1.16	3.60	.31	<.001	−1.12	11.98	3.50	26.21

Abbreviations: ABAS, Adaptive Behaviour Assessment System; GAC, General Adaptive Composite.
[a]Estimated initial value.
[b]Estimated change per year.

TABLE 3 Mixed model analysis of the BYI ratings ($n = 101$)

Parameter	Estimate raw points	Std error	Sig.	Lower 95	Upper 95
Anxiety intercept[a]	15.79	1.40	<.001	13.03	18.55
Time[b]	−1.43	.58	.02	−2.58	−.29
Depression intercept	18.47	1.57	<.001	15.34	21.58
Time	−1.79	.67	.01	−3.12	−.47
Anger intercept	20.60	1.44	<.001	17.76	23.44
Time	−2.42	.57	<.001	−3.54	−1.29
Disruptive intercept	11.90	1.05	<.001	9.82	13.98
Time	−2.08	.44	<.001	−2.94	−1.21
Self-conc. intercept	36.77	1.85	<.001	32.12	39.41
Time	1.43	.82	.08	−.19	3.05

Note: Estimates of fixed effects.
Abbreviation: BYI, Beck Youth Inventories of Emotional and Social Impairment.
[a]Estimated initial value.
[b]Estimated change per year.

significant, change, and the estimated mean rate of change was 1.43 ([−.19, 3.05], $p = .08$) (see Table 3).

4.4 | Correlations between ABAS-II and BYI

Correlations between the changes in ABAS-II and BYI were zero to small, non-significant. All correlations were negative except, as expected, for self-concept (reversed scale).

5 | DISCUSSION

In this explorative and longitudinal study, data collected as a part of a quality assessment programme were analysed. Data were collected during several years of placement in specialized foster care with the aim of analysing changes and potential improvements over time, in order to learn about the effects of specialized foster care and contribute to the knowledge of how to improve outcomes for this highly vulnerable population. The results showed positive effects on the emotional and social problems of the young people, but their adaptive functioning in everyday life did not improve to the same extent.

In a previous study, the TBF-model was associated with improvements in psychiatric symptoms (Åkerman et al., 2020). The results of the present study show that the model is also associated with improvements in emotional and social problems. It is possible that specialized foster care that is focused on attachment and mentalizing can improve mental health more than foster care in general and also more than specialized foster care with a different focus (Åström et al., 2020; Goemans et al., 2015). Most notably, feelings of anger and disruptive behaviour decreased. This could be an effect of the treatment's focus on relationships including collaboration between members of the team surrounding each young person as well as with their schools. In a study of depressed adolescents, Aitken et al. (2020) found that treatment focusing on relationships contributed to decreased conduct problems compared with treatment without this focus. In the present study, anxiety and depression also improved during the study period. These results show increased mental well-being during a substantial period of adolescence. Since all symptom scales showed a mean percentile value above the 75th percentile cut-off at baseline, it is clear that this group urgently needed treatment.

The self-concept of the participants did not improve significantly during treatment. Their self-perceptions regarding competence, self-efficacy and self-esteem did not improve. However, the results show that the self-concept was rated at a level close to the Swedish norm group at baseline, which shows that negative self-concept does not seem to be a general problem for the participants in this study. The self-concept has a more trait-like character than symptoms of anxiety, depression or feelings of anger and probably changes more slowly, at least for some young people (Harter & Whitesell, 2003).

Adaptive functioning as rated by foster parents showed that the children's adaptive skills improved in terms of raw scores, but they started from a low initial level and did not improve enough to catch up with the non-clinical norm group. The participants had an average adaptive functioning at baseline that was significantly below the Swedish norm group and more than two standard deviations below the index mean. It was even lower than young people in ordinary foster care in Sweden (Tordön et al., 2020). Compared with the participants in the study by Tordön et al., the participants in this study had experienced more previous placements. In this study, 38% had three or more previous placements before their current placement, compared with 17% in Tordön et al. (2020) This suggests that the participants in the current study have had a more unstable childhood.

Despite extensive support and treatment interventions, the young people in this study were not able to reach the norm group's level of adaptive skills. On average, they showed similar deviation from their age group during the study time. Put differently, in terms of adaptive functioning, the participants did not over time seem to behave more like their non-maltreated peers living in their birth families. This finding may be interpreted in different ways: The group of children and young people who are placed in specialized foster care is an extremely underprivileged group. Several studies have shown that young people in foster care comprise a difficult-to-help group that has many vulnerabilities that hinder their development. Early life stress has long-term consequences for cognitive and emotional development, affecting regulation and executive functions (Pechtel & Pizzagalli, 2011). Taken together with findings from previous research, this study suggests that the consequences of exposure to neglect and maltreatment may lead to a relatively chronic impairment of adaptive skills and that adaptive skills do not improve to the level of the population average even with specialized treatment. This interpretation of the findings may be related to epistemic mistrust. Low adaptive skills and rigidity, in the sense of difficulties to learn, can be understood as an expression of epistemic mistrust related to experiences of early neglect (Sprecher et al., 2022). Also, this finding may imply that on average, foster parents do not succeed in building a sufficiently secure and trustworthy relation with the child in foster care. Despite the TBF-model's focus on mentalizing and sensitive parenting, this result may indicate that a more sensitive approach from the foster parents is required to improve adaptive skills and, perhaps, build epistemic trust. The uncertainty of foster care and the fact that one often does not know how long the placement (and thus the relationship) will last, probably affects how much the child dares to trust the new parents and also how the foster parents dare invest in the relationship. If this is the case, symptoms and well-being may be less dependent on epistemic trust.

Another way of understanding this finding is that it is an effect of *relational regression*, where unfulfilled longings to be cared for and to feel like a small child are activated in the safe context of the foster family. In that case, the finding of no increase in adaptive functioning would, hypothetically, mean that the children do not wish to be as autonomous as might be expected and that this explains their apparent non-improvement in adaptive functioning while still improving in psychiatric symptoms and well-being. The developmental course of independent functioning in maltreated children may not be the same as that of children in general, so it might be a mistake to assume that

we can expect these children to become similar to peers of the same age (at least in the course of a few years).

Based on these interpretations of our findings, a different approach could be recommended in foster care for young persons with particularly severe problems implying lower expectations to catch up with the adaptive skills of peers without severe problems. Perhaps the TBF-model needs to focus even more on sensitive parenting and a mentalizing approach in everyday life. And—despite training and support—some foster parents may be less suitable to care for children and young people with extensive difficulties. Another potential improvement of the TBF-model could be to focus more specifically on behaviour change, although this might collide with the TBF-model's focus on mentalizing and sensitive parenting.

The results of the present study showed that the young people improved in terms of emotional and social well-being but not to the same extent in terms of adaptive functioning as rated from their foster parents' perspective. The foster parents' ratings and the young peoples' ratings did not correlate. In fact, the two most similar subscales or dimensions, Disruptive behaviour in BYI (rated by the young people) and the Social domain in ABAS-II (rated by the parents), were the ones that differed most at baseline. This suggests that the young people's perspectives and experiences are fundamentally different from how their foster parents experience them, at least in terms of social abilities and behavioural problems. Studies using qualitative methods could contribute to in-depth knowledge about this issue.

The most evident limitation in this study was the lack of a control group. Furthermore, access to more detailed background data about the participants could have enabled more in-depth analyses. All children and young people in specialized foster care using the TBF-model were included, and no sampling procedure was performed. In this kind of exploratory study, it is hard to randomize to different kinds of foster care. An untreated or placebo control group would have been ethically problematic. Another active control group would be both practically difficult to arrange and require a very large sample due to the expectation of small differences in outcome between such groups. Another limitation was the data attrition. We lack full information concerning reasons for this attrition, but most of it was caused by planned termination of placements. The high attrition was not primarily due to placement breakdown. Data attrition analysis showed no significant difference in baseline ratings of participants who had data at later occasions in comparison with those with missing data. It is possible that there could be an over-representation of more serious problems among the participants whose placements were terminated, which in that case should be evident in baseline ratings. On the other hand, it is possible that the children and young people who remained in specialized foster care for a longer period had greater needs for care. These two effects may have cancelled out each other.

Other limitations include the low number of participants and that all participants were placed within the same organization, which reduces generalizability. No measures were used to determine if interventions were performed in line with the treatment model. Another question is whether ABAS-II is sensitive to change. This is an assumption made in the manual that has not been shown in studies so far (Tideman, 2008). It is also a limitation that we do not know how the participants developed post-placement. A longer follow-up would have strengthened this study.

This study drew attention to young people's own experiences of their problems and themselves. In the previous study of the same foster care model, the results were similar (Åkerman et al., 2020): In both studies, children and young people improved according to their self-ratings but adults (foster parents and teachers) did not rate improvement to the same extent. One possible explanation could be that the foster parents' ratings at baseline could be influenced by a 'honeymoon phase'. In the early phase of a placement, foster parents may feel hopeful and the serious problems of the young person have not yet appeared due to 'surface adaption'. Gradually, as the young person becomes more secure in the new family context, they may begin to allow their negative feelings to impact the relationships with their foster parents, which could impact later ratings of, e.g. adaptive functioning.

This study followed the participants under an extended period during specialized foster care. Sense of anger and disruptive behaviour improved most in this study. Other studies have shown that self-rated norm-breaking behaviour predicts later criminality (Kazdin, 1995). The results from the present study could thus imply reduced risk of future criminal behaviour. This could be worth paying attention to in future studies. Finally, we need to gain a deeper understanding of why the well-being of young people improves but adaptive functioning from the foster parents' perspective does not. Qualitative studies may be needed to study the possibility of epistemic mistrust or regression as explanations for the lack of improvement in these children's adaptive functioning.

The TBF-model's most important contribution to foster care practice may be the ambition to focus on the relationship between the foster children or young people and their foster parents from a mentalizing perspective. The model offers extensive interventions on several levels which are carried through for a long period of time. Since many other treatment models focus on behavioural change in the foster children, it may be important to have treatment options that focus on mentalizing and the foster parent–foster child relationship (Cooley et al., 2021). The TBF-model provides an opportunity to increase knowledge about specialized foster care, which is an area in which research is scarce. The results from this study show that the model seems to be partly successful, but the results can be described as contradictory. This underlines the need for further research to deepen the understanding of treatment processes in foster care.

ETHICS STATEMENT

Ethical approval for this study was obtained from the Central Ethical Review Board in Sweden 2016-10-31 (Dnr Ö23-2016).

DATA AVAILABILITY STATEMENT

The data reported in this manuscript have not been used for previous publications. Data are available and can be requested from the first author.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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