



Attachment-based Prevention Program Involving Mothers and Fathers: Seven-year Post-Intervention Outcomes of a Randomized Control Trial

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Abstract

The effects of a holistic attachment-based primary prevention program (SAFE), which is aimed at fathers and mothers during the transition to parenthood, were assessed over the 7-year post-intervention follow-up of a randomized control trial. A non-clinical German sample was included in the trial (fathers: $n = 58$, mothers: $n = 71$; children: $n = 72$). The children's mean age was 7.30 years ($SD = 0.41$) and their attachment representations were assessed using a doll play procedure. Among the group of insecure mothers ($n = 58$), significantly more children (50%) in the SAFE group displayed a secure attachment representation compared to the control group (25%). No children of mothers with unresolved trauma displayed a disorganized attachment representation. In the parent domain, the increase in couple discord over time perceived by the SAFE mothers was significantly lower than that for the mothers in the control group. Furthermore, mothers in the SAFE group reported significantly higher partnership quality than the control mothers. The perceived benefits of the programs were significantly higher, in multiple domains, among SAFE fathers and mothers compared to control parents. The effect sizes were medium to large. Even after 7 years, program participation continues to have a positive impact on the children, and their fathers and mothers. The most important implication of this study for clinical practice is the need to support mothers with insecure or unresolved trauma in order to promote healthy child development. In addition, we think that it is important to support both parents during the transition to parenthood. TRN: DRKS00017050 (retrospectively registered, March, 28th 2019)

Keywords Attachment-based prevention · Couple functioning · Father involvement · Trauma · SAFE

Highlights

- We assessed the effects of an attachment-based intervention 7 years post-intervention in a randomized control trial.
- The intervention is aimed at fathers and mothers.
- The program addressed the quality of the parent's relationships and the parent-child relationships.
- Participation improved maternal partnership quality and attenuated the increase in couple discord experienced by mothers.
- The risk of the intergenerational transmission of insecure attachment was attenuated in mothers.

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Introduction

The old adage “An ounce of prevention is worth a pound of cure” has become increasingly salient in health policy over the past century (Catalano et al., 2012). The goal of primary prevention is to promote healthy living conditions in order to prevent the development of somatic and mental illnesses. The social benefit of this approach is a reduction in public expenditure (Taubner et al., 2013). SAFE (Brisch, 2010/2024) is a holistic attachment-based primary prevention program supporting mothers and fathers during the transition to parenthood in multiple domains. As an important transdiagnostic determinant, it is important to address attachment style in prevention programs.

John Bowlby’s attachment theory is a fundamental psychological framework used to explain why individuals differ in terms of social, behavioral, and emotional adjustment over the lifespan (Bowlby, 1969/1997). Secure attachment is a protective factor promoting healthy development, including better self-regulation of emotion, behavior and cognition, and higher social competence (Groh et al., 2014; Pallini et al., 2018). In contrast, insecure attachment is considered a risk factor for the internalization and externalization of symptoms, and for cognitive deficits (Fearon et al., 2010; Madigan et al., 2016; Pallini et al., 2019). Disorganized attachment is also a risk factor for externalizing problem behavior like aggression, as well as for dissociative symptoms; it is also a risk factor for the development of child psychopathology (van IJzendoorn et al., 1999). *Secure*, *insecure-avoidant*, and *insecure-resistant* are the three organized patterns of attachment; *disorganized/unresolved* attachment is the fourth attachment pattern. The patterns differ in terms of the cognitive-emotional representations of the self, others and relationships, which in turn form thoughts, emotions and behavior, especially in social situations. Inner working models of secure attachment include expectations that others will be available for support. Securely attached children use their caregiver as a secure base to explore the environment. In times of distress, the caregiver responds sensitively and offers comfort, thus regulating the child’s unpleasant feelings (Ainsworth et al., 1978). Internal working models of attachment insecurity are characterized by expectations about significant others (i.e., mothers and fathers) that include insensitive, rejecting, and generally untrustworthy behaviors. Insecure-avoidant children actively ignore their caregiver or avoid expressing negative feelings. Children classified as insecure-resistant show ambivalent behaviors: they demand excessive support but ultimately feel neither comforted nor secure (Fremmer-Bombik, 2002). Whereas most infants develop *organized* strategies, some infants’ strategies appear to break down such that no distinct strategy can be identified. During times of stress, children

classified as *disorganized* often show contradictory behaviors, such as approach followed by freezing, the expression of fear and stereotyping (Main & Solomon, 1990).

According to attachment theory, early parent-child interactions are important for the development of inner working models of attachment. Meta-analytic data show that maternal and paternal sensitivity are important proximal antecedents of secure infant-parent attachment (De Wolff & van IJzendoorn, 1997; Lucassen et al., 2011). Caregiver sensitivity refers to their awareness, as well as prompt and adequate reactions to the child’s signals (Ainsworth et al., 1978). Besides their behavior towards the infant, the parent’s own childrearing history is of importance. Mothers with a background of adverse childhood experiences (ACEs; emotional, physical, or sexual abuse) are at risk to be less emotionally available in the interaction with their infant and to exhibit more likely harsh, intrusive, threatening or dissociated behaviors towards their infant (Rowell & Neal-Barnett, 2022; Crowell et al., 2010). Mother’s own early ACEs were associated with increased mother’s parenting stress and with increased risk for child maltreatment (Lange et al., 2018, Narayan et al. 2021). Empirically, the intergenerational transmission of secure attachment and for unresolved trauma has been documented (Verhage et al., 2016). While research on infant-father attachment remains scarce (Rowell & Neal-Barnett, 2022), some studies showed that fathers’ unresolved relational loss predicted disorganized infant-father attachment (Berthelot et al., 2015; Madigan et al., 2011; Verhage et al., 2016).

From an ecological perspective, there is a need to look beyond the proximal antecedents of attachment (Belsky, 2006). In his process model, Belsky (1984) includes the social context in which the parent-child dyad is embedded. Empirical findings support a positive association between the quality of the interparental relationship and quality of the parent-child relationship (Erel & Burman, 1995). Greater marital conflict is directly associated with less security in child-mother and child-father attachments (Frosch et al., 2000). Disorganized infant-mother and infant-father attachment is predicted by low marital satisfaction and exposure to marital conflict (Moss et al., 2005; Owen & Cox, 1997). Through an indirect pathway, marital conflict affects parenting, resulting in rejecting, preoccupied or hostile behavior (Cummings & Davies, 2002; Hopkins et al., 2013; Krishnakumar & Buehler, 2000). In particular, witnessing destructive conflicts, including verbal or nonverbal aggression and hostility, has a negative impact on children’s developmental outcomes (Cummings & Davies, 2002). The cognitive representation of a conflictual relationship within the family is not concordant with the representation of a secure relationship. In particular, the transition to parenthood is a vulnerable period; having a child is accompanied by personal, social, family and financial changes. There is a need to renegotiate the couples’ roles, including in the context of the romantic partnership, which is a potential source

of conflict and psychological stress. A significant decline in marital satisfaction, and an increase in marital stress, has been well documented in meta-analyses (Lawrence et al., 2010; Mitnick et al., 2009).

Achieving a more comprehensive understanding of the multiple interacting determinants of secure attachment would have important implications for interventions. A secure parent-child relationship may be facilitated by numerous types of determinants. Mothers and fathers who build healthy interparental and parent-child relationships, and thus are responsive to the child's needs and able to deal their own emotional needs, are potential lifelong resources for a child (Sroufe & McIntosh, 2011).

Although the desire to integrate fathers into attachment-based interventions was already evident by the end of the last century, most attachment-based programs are designed exclusively for mothers. The few existing studies on the effects of attachment-based and broader parenting interventions on fathers have reported positive impacts on family relationships, which in turn promotes child adjustment (Belsky, 2006; Cowan & Cowan, 2014). Moreover, fathers' involvement in interventions was associated with higher effect sizes compared to when only mothers participated (Bakermans-Kranenburg et al., 2003; Magill-Evans et al., 2006).

A number of studies have shown that interventions effectively enhance mothers' and fathers' sensitivity, in turn promoting secure attachment of the infant. Video feedback appears to be the most effective method to improve maternal sensitivity (Juffer et al., 2017). A small number of intervention studies focusing on fathers successfully enhanced fathers' sensitivity to their infants (Bakermans-Kranenburg et al., 2003; Buisman, et al., 2022; De Waal, 2022).

Preventive interventions during the transition to parenthood designed to support couples had positive effects on mothers' and fathers' marital satisfaction, as well as on couple communication (Schulz et al., 2006; Shapiro & Gottman, 2005). Furthermore, interventions addressing the quality of the couple relationship had positive effects on child behavioral problems like aggression and hyperactivity (Cowan et al., 2011; Cowan & Cowan, 2014; Zemp et al., 2016). Parents' well-being is a potential target for interventions, where meta-analyses have indicated positive effects of interventions on the parental symptom burden (Taubner et al., 2013).

SAFE is an attachment-based primary prevention program aimed specifically at mothers and fathers (Brisch, 2010/2024). The main objectives of the program are to promote secure infant-parent attachment, prevent the intergenerational transmission of attachment insecurity and trauma, and support mothers and fathers as a couple during the transition to parenthood. The participants in the SAFE

program learn about attachment theory and general child development. The program was designed to enhance mothers' and fathers' sensitivity in infant-parent interactions using video-based sensitivity training and individual video feedback. Mothers and fathers reflect on their own attachment experiences and unresolved trauma. The quality of the mothers' and fathers' couple relationship is also of central importance to the program.

The purpose of the current follow-up study of the SAFE long-term randomized control trial was to examine the effects of that attachment-based prevention program on mothers and fathers, and their children at the age of 7 years. In our first evaluation study, we showed that significantly more infants in the SAFE program (84.6%) displayed a secure attachment to their father after their first birthday than infants in the control group (65.8%). In contrast, the infant-mother attachment did not differ between the groups (Walter et al., 2019). Long-term studies have the advantage of providing insight into the proximal and distal effects of interventions; sleeper effects may also be discovered. Current knowledge about the long-term effects of attachment-based interventions is limited, especially when mothers and fathers are involved in the intervention. Families who attended the SAFE program are expected to have significantly superior outcomes to the control group in several domains. In this study, we tested the following hypotheses:

- (1) Child domain: the children of couples in the SAFE program will be more likely to have developed a secure attachment representation by the age of 7 years;
- (2) Parent-child domain: associations of insecure mother and insecure father attachments with insecure child's attachment will be less frequent among couples enrolled in the SAFE program, as will associations of mothers' and fathers' unresolved loss with children's disorganization;
- (3) Parent domain: the increase in couple discord over time will be smaller, and the partnership quality will be higher, according to both mothers and fathers enrolled in the SAFE program;
- (4) Parent domain: the perceived benefit of the programs for mothers and fathers in the SAFE program will be higher.

Method

Study Design and Procedure

The main study started in 2006; participation was voluntary, the mothers-to-be and the fathers-to-be were recruited via

flyers at the offices of gynecologists, in birth clinics and at family practitioners. Inclusion criteria were pregnancy before week 28 and the ability to speak and understand German (see also Walter et al., 2019). The interventions and study assessments were carried out at the Dr. von Hauner Children's Hospital, University of Munich LMU, Germany. The participants were randomly assigned (block randomization, block size: 10 couples) either to the SAFE intervention program or the parallel control intervention (CG) with no focus on attachment. Participation in the main study was the key inclusion criterion for the current follow-up study. Both interventions started during pregnancy, before the last trimester and lasted until the end of the infant's first year of life. We collected the data presented at two time points. The pretest (Time 1) took place after the first group session, and the follow-up (Time 2) took place when the children were aged 7 years. We assessed the mothers' and fathers' attachment representations and the mothers' and fathers' quality of their couple relationship at Time 1. We assessed the children's attachment representations, the mothers' and fathers' quality of their couple relationship, the mothers' and fathers' perceived benefit of the programs and the sociodemographic characteristics, at Time 2. Participants signed the informed consent before randomization, and before Time 2. To minimize drop-out, we kept in touch with the families by sending birthday presents to the children. Each family was paid 100€ and received consultations on request. All families were recruited via telephone. Of the 121 families, we reached 93 (76.9%). The final follow-up sample consisted of 71 mothers (SAFE: $n = 37$; CG: $n = 34$), 58 fathers (SAFE: $n = 34$; CG: $n = 24$) and 72 children (SAFE: $n = 38$; CG: $n = 34$). The major reasons for drop-out were refusal to participate (47.8%), geographic relocation (30.4%) or lack of time (21.8%).

Participants

We recruited a non-clinical sample. At Time 2, the mean age of the mothers was 42.23 years ($SD = 4.27$) and that of the fathers was 45.24 years ($SD = 5.73$). In total, 84.3% of mothers and 89.7% of fathers were German. The education level was high: 82.8% of mothers and 72.4% of fathers had a university degree, 14.3% of mothers and 17.2% of fathers had a high school degree, and 2.9% of mothers and 10.3% of fathers had a lower educational level. Furthermore, 71.4% of the parents were married, 8.6% were living in a permanent partnership with each other, and 14.3% were separated or divorced; 4.3% of the mothers were single mothers (since the child's birth) and 1.4% was widowed. The mean duration of the partnership or marriage until the child's birthday was 2.0 years. Minimum were -4 years, the parents came together 4 years after the child's birth. Maximum were 16.8 years. Regarding the annual family net income, for 8.6% of the

participants it was 24.000€ or less, for 12.9% it was 24.001–36.000€, for 22.9% it was 36.001–48.000€, for 25.7% it was 48.001–60.000€, for 12.9% it was 60.001–72.000€, and for 14.3% it was 72.000€ or more; 2.9% of the families did not report their income. The mean age of the children was 7.30 years ($SD = 0.41$). In total, 62.5% of the children were in the first grade, 30.6% were in the second grade, and 1.4% was in the third grade. The children had an average of 0.83 siblings (*range*: 0–2; $SD = 0.61$), and 58.3% of the children were girls. Figure 1 shows the flow-cart.

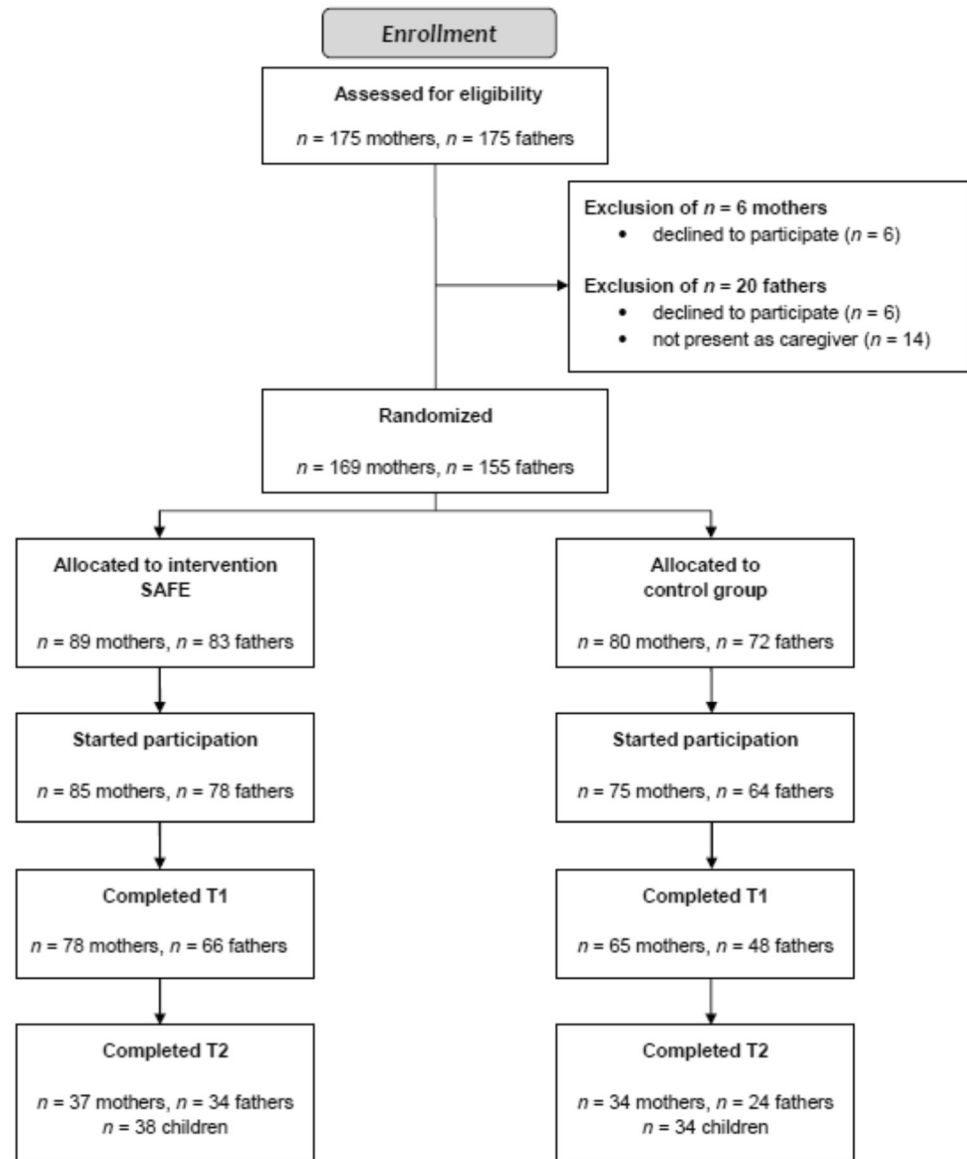
Interventions

SAFE

SAFE explicitly addressed both mothers and fathers; it started during pregnancy (before the last trimester) and lasted until the end of the infant's first year of life (Brisch, 2010/2024). The program consisted of 10 full-day group sessions (four pre- and six postnatal) and three individual sessions with the mother or father (one pre- and two postnatal). Once the infants were born, they took part in the group sessions. Two female "SAFE facilitators", both experienced professionals working in social services, led closed groups of five to eight couples or single mothers. Soon after birth, the infants participated in the sessions. The facilitators received 4 days of training and were supervised. Up until the end of the intervention, mothers and fathers were allowed to ask the facilitators for support via an emergency hotline. During the program, there was a strong focus on group discussions to reflect on the mothers' and fathers' expectations, concerns, difficulties and emotions. The facilitators intensively promoted group cohesion from the outset; the group format permitted the sharing and normalization of one's experiences. Social support was provided by the two facilitators and the group. Furthermore, mothers and fathers (-to-be) were able to use the group and facilitators as a source of comfort and safety, and for joint exploration of the new tasks, as a secure base.

The program was semi-structured; especially during the postnatal sessions, the facilitators adapted the contents to the participants' needs, and served as a role model guiding the mothers and fathers in terms of adapting to their infants' rhythms. The contents of the sessions were summarized in a manual with a pre- and a postnatal section. The prenatal contents included psychoeducation about attachment theory (e.g., benefits of secure attachment, determinants of secure attachment, co-regulation, and the intergenerational transmission of attachment), and information about the infants' basic needs and the psycho-social changes that occur during the transition to parenthood. To address the transmission of insecurity and trauma, we screened the participants for unresolved trauma during individual sessions; the mothers- and

Fig. 1 Overview of the SAFE program



fathers-to-be filled out two trauma questionnaires (PDS & TAQ; Ehlers et al., 1996; Foa, 1995; Hofmann et al., 1997; van der Kolk, 1997), and the facilitators conducted the Adult Attachment Interview (AAI; George et al., 1996) with the parents-to-be on an individual basis. As well as encouraging reflection on the mothers' and fathers' own childhood attachment experiences, the facilitators offered additional support to those who had answered in a dismissive (e.g. idealized or no memory of attachment experiences) or pre-occupied manner (e.g. confused or angry narrative), and to those showing signs of unresolved trauma. If necessary, the facilitators helped arrange further counseling.

The contents of the postnatal sessions included the processing of the birth, attachment versus exploration (Powell et al., 2012), the infants' socio-emotional and physiological development, feeding, sleeping, and techniques to provide comfort.

The following topics were intensively discussed both pre- and postnatally: the quality of the couple's relationship, mutual expectations ('the ideal partner'), needs within the dyad, and the expansion of roles (from being a part of a couple to additionally being a component of the mother-father-infant-triad). The couples learned about communication skills, as well as constructive and cooperative conflict strategies. By creating a list of one's own competences as a parent, and through stabilizing exercises (e.g. imaginary journeys, inner safe place (Reddemann, 2001)), the mothers' and fathers' self-esteem and resilience were promoted, respectively. The video-based sensitivity training was a key element in all group sessions. The mothers and fathers learned about the four elements of sensitivity: (a) parental awareness, (b) accurate interpretation, (c) appropriate response, and (d) prompt response to the infants'

signals (Ainsworth et al., 1978). During the training, the mothers and fathers watched video clips displaying positive infant-parent interactions and were encouraged to reflect on the types of actions, motives, emotions and empathy. In the two postnatal individual sessions, the mothers and fathers received only positive feedback on interaction scenes with their infants, to reinforce their sensitive behavior and strengthen their self-esteem as parents.

Control condition

The control group intervention (CG) consisted of a closed group of 8–10 couples or single mothers; the groups met during 10 full-day sessions (four pre- and six postnatal) that started before the third trimester of pregnancy and ran until the infants' first birthday. After birth, the infants also participated in the group sessions. There were no individual sessions. Two trained female facilitators, both experienced professionals working in social services, led the program, the processes and contents of which were summarized in a manual. The main focus was on teaching practical skills and the topics covered included birth preparation, nursing counseling, and infant care.

Measures

Children's Attachment: German Attachment Story Completion Procedure (GASCP)

We assessed the children's attachment representations using the German Attachment Story Completion Procedure (GASCP; Gloger-Tippelt & König, 2009) at Time 2. The doll play story completion procedure is based on the Attachment Story Completion Task (Bretherton et al., 1990); children are instructed to complete the beginning of five stories with attachment-related themes using a doll figure of the same sex. On the basis of verbal transcripts and videotapes, the attachment representation is classified as secure (B), insecure-avoidant (A), insecure-ambivalent (C), or disorganized (D). Inter-rater reliability, and convergent and discriminant validity, have all been shown to be good (Gloger-Tippelt & König, 2009). One GASCP in this study could not be coded. A reliable coder evaluated all cases, and 22.5% of the cases were coded by a second reliable and senior coder. Both coders were blinded to treatment group. Cohen's Kappa was substantial and significant ($\kappa = 0.73$, $p = 0.00$).

Mothers' and fathers' attachment: Attachment Assessment Projective Picture System (AAP)

We used the Attachment Assessment Projective Picture System (AAP; George & West, 2012) to assess the mothers' and fathers' attachment representations. We used the AAP at Time 1. In the AAP, adults describe, by way of

standardized questions, the scenes in seven pictures designed to activate the attachment system. The transcribed narratives are analyzed and the attachment representation is coded as secure (F), dismissing (DS), preoccupied (E), or unresolved (U). The AAP has excellent inter-rater reliability, test-retest reliability and concurrent validity with the Adult Attachment Interview (George et al., 1996; George & West, 2011). The AAPs were coded by a reliable coder trained by Carol George. The coder was blinded to treatment group.

Mothers' and fathers' couple discord

Mothers and fathers who were in a permanent partnership filled out the German "Zweierbeziehungsbogen (FB-Z)" ('questionnaire to assess couple functioning') at Time 1 and Time 2. The FB-Z assesses their self-rated couple discord. The FB-Z consists of 28 items, scored using a 4-point Likert scale, assessing problems within couples; higher scores indicate more problems (Cierpka & Frevert, 1995). The questionnaire includes seven subscales: (a) *Task Fulfillment* taps the partners' flexibility concerning fundamental demands and the ability to solve problems collaboratively; (b) *Role Behavior* assesses agreement with respect to role expectations and fulfillment; (c) *Communication* assesses the exchange of information and mutual understanding; (d) *Emotionality* assesses the expression of emotions; (e) *Affective Composition* measures the degree of relatedness, mutual support, and trust; (f) *Control* pertains to flexibility and predictability; and (g) *Values and Norms* assesses similarities and the shared perspective of the future. The questionnaire has been validated in a German non-clinical sample and has demonstrated good psychometric properties (Cierpka & Frevert, 1995).

Mothers' and fathers' partnership quality

The mothers and fathers who were in a permanent partnership filled out the German "Partnerschaftsfragebogen (PFB)" ('partnership questionnaire') (Hahlweg, 1996) at Time 2. The quality of the partnership was assessed by 20 items using a 4-point Likert scale, with higher scores indicating higher partnership quality. Joint activities, future plans, connection, openness of communication and constructive conflict behavior are assessed. Six experts for couple therapy developed the questionnaire. Empirical findings on the determinants of partnership quality served as the basis. The items were selected based on the results of a factor analysis. The questionnaire has been validated in a representative German sample and has good psychometric properties, namely objectivity, reliability, internal consistency and construct validity (Hahlweg, 1996; Hinz et al., 2001). The sum score correlated significantly with all sub-

scale scores and the sum score of the FB-Z. The correlation coefficients ranged from -0.63 to -0.92 .

Ratings of the perceived benefit of the programs to mothers and fathers

To explore the perceived benefit of the SAFE and control group intervention, we asked the mothers and fathers to answer a series of questions scored on a 7-point Likert scale (0 = “not at all”; 6 = “absolutely”) at Time 2. Higher scores indicate a better rating, i.e. more perceived benefit. We wanted to know how the parents perceived the personal *importance* and personal *benefit* of program participation. We asked whether they were able to put into practice (*realization*) what they had learned during the programs, whether they were able to recall (*recollection*) the contents at a later date, and whether they would have preferred a subsequent *refreshment* of the contents. We also wanted to know whether program participation changed their view of parenting (*change of attitudes*), and whether they felt motivated to reflect on their own family of origin and attachment experiences (*reflection*).

Statistical analyses

For the statistical analyses, we used IBM SPSS Statistics software (version 26.0; IBM Corp, Armonk, NY, USA). First, we performed a drop-out analysis. We compared the final sample with the sample that dropped out after Time 1 in terms of demographic characteristics and mothers’ and fathers’ attachment representations. Next, we performed group comparisons (SAFE vs. CG) of the final sample in terms of demographic characteristic and mothers’ and fathers’ attachment representations. According to the scale level, we used chi-squared tests, Mann-Whitney-U tests or independent t-tests. We performed Pearson correlation analyses between the main outcome variables and the demographic variables. Next, we performed assumption checks. Our analyses were per protocol. We included the participants that had both time points of data. To test the first hypothesis, we used Fisher’s exact test. To test the second hypothesis, we performed Fisher’s exact tests with maternal and paternal attachment representations as covariates. To test the third hypothesis, pertaining to the effect of the intervention on the mothers’ and fathers’ couple discord, we first calculated the change of the FB-Z subscales over time (Δ). Next, we conducted ANCOVAs on Δ FB-Z subscales, controlling for FB-Z scores at Time 1. We adjusted the p -values for multiple testing according to Benjamini and Hochberg (1995). Using independent t-tests, we compared the groups in terms of the mothers’ and fathers’ partnership quality. To test the fourth hypothesis, we performed t-tests. The level of significance was set at $p < 0.05$. Effect sizes are reported, as studies with small

sample sizes in particular may fail to detect results that are highly clinically relevant. Effect sizes can be interpreted according to Lovakov and Agadullina’s (2017) criteria for small ($d = 0.15$), medium ($d = 0.36$), and large ($d = 0.65$) effects, and Cohen’s (1988) criteria for small ($\eta^2_p > 0.01$), medium ($\eta^2_p > 0.06$), and large ($\eta^2_p > 0.14$) effects.

Results

Pre-analyses

Mothers ($t(139) = -4.42$, $p = 0.00$) and fathers ($t(112) = -2.24$, $p = 0.03$) who completed Time 2 had a significantly higher education level than parents who dropped out. Mothers who completed Time 2 were significantly older ($t(136) = -2.15$, $p = 0.03$) than those who dropped out. The groups (SAFE vs. CG) in the final sample did not differ significantly in any demographic characteristic, or in the parents’ attachment representations.

Main analyses

Table 1 shows the distribution of the child attachment classifications (GASCP) at Time 2. As expected, more children in the SAFE group were classified as secure (51.4%) compared to the CG (38.2%), but the group difference was statistically non-significant ($\chi^2(1, N = 71) = 1.23$, two-tailed $p = 0.27$, $OR = 1.71$). The relative chance of children in SAFE being classified as secure were 1.71 times higher compared to children in the control intervention. The proportion of secure attachment was higher in the intervention group compared to a meta-analysis of 14 middle-class samples including 642 children in middle childhood (36.6% secure attachment rate) (Gloger-Tippelt & Kappler, 2016). Regarding disorganization, as expected, more children in the SAFE group (94.6%) were classified as organized compared to the CG (88.2%), but the group difference was again not statistically significant ($\chi^2(1, N = 71) = 0.93$, two-tailed $p = 0.34$, $OR = 2.33$). The relative chance of children in SAFE being classified as organized was

Table 1 Distribution of child attachment representations in the German Attachment Story Completion Procedure at Time 2 by groups

	SAFE <i>n</i> = 37 (%)	CG <i>n</i> = 34 (%)	Total <i>n</i> = 71 (%)
Security of Attachment			
Secure	19 (51.4)	13 (38.2)	32 (45.1)
Insecure	18 (48.6)	21 (61.8)	39 (54.9)
Attachment Disorganization			
Organized	35 (94.6)	30 (88.2)	65 (91.5)
Disorganized	2 (5.4)	4 (11.8)	6 (8.5)

Table 2 Correspondence between mothers' (AAP) at Time 1 and child's (GASCP) attachment representations at Time 2 by groups

		GASCP: Security			GASCP: Disorganization		
		Secure <i>n</i> (%)	Insecure <i>n</i> (%)	Total <i>n</i>	Organized <i>n</i> (%)	Disorganized <i>n</i> (%)	Total <i>n</i>
AAP: Security							
Secure	SAFE	4 (57.1)	3 (42.9)	7	7 (100)	0	7
	CG	6 (100)	0 (0)	6	6 (100)	0	6
	Total	10	3	13	13	0	13
Insecure	SAFE	15 (50)	15 (50)	30	28 (93.3)	2 (6.7)	30
	CG	7 (25)	21 (75)	28	24 (85.7)	4 (14.3)	28
	Total	22	36	58	52	6	58
Total		32	39	71	55	6	71
AAP: Trauma and Loss							
Resolved	SAFE	16 (57.1)	12 (42.9)	28	26 (92.9)	2 (7.1)	28
	CG	10 (40)	15 (60)	25	21 (84.0)	4 (16.0)	25
	Total	26	27	53	47	6	53
Unresolved	SAFE	3 (33.3)	6 (66.7)	9	9 (100)	0	9
	CG	3 (33.3)	6 (66.7)	9	9 (100)	0	9
	Total	6	12	18	18	0	18
Total		32	39	71	65	6	71

AAP Attachment Assessment Projective Picture System, GASCP German Attachment Story Completion Procedure

2.33 times higher compared to children in the control intervention. In the sample of Gloger-Tippelt and Kappler (2016) 11.7% of the children were classified as disorganized. The meta-analysis of van Ijzendoorn et al., 1999 reported 15% children classified as disorganized in a comparable sample ($n = 492$, age > 24 months, middle-class and non-clinical). At 5.4%, the proportion of disorganized attachments was lower in the intervention group than in both meta-analyses.

Table 2 shows the correspondence between mothers' attachment classification (AAP) at Time 1 and child's attachment representations (GASCP) at Time 2, Table 3 shows the correspondence between fathers' attachment classification (AAP) at Time 1 and child's attachment representations (GASCP) at Time 2. In the subsample of children with mothers classified as insecure ($n = 58$), 50% ($n = 15$) of the children in the SAFE group were classified as secure, compared to only 25% ($n = 7$) of those in the CG. The group difference was statistically significant ($\chi^2(1, N = 58) = 0.385$, two-tailed $p = 0.05$, $OR = 3.03$). The relative chance of children in SAFE being classified as secure was 3.03 times higher compared to children in the control intervention. Of the $n = 18$ mothers classified as unresolved in both groups, no child was classified as disorganized. Regarding the correspondence between father and child attachment, we found no statistically significant results.

Table 4 shows mothers' and fathers' couple discord (FB-Z). In both groups, most mothers' and fathers' mean FB-Z scores increased over time (Time 1 to Time 2), indicating an increase in couple discord. For the following FB-Z subscales, the group differences in Δ were statistically significant for the mothers:

sum score ($F(2,53) = 8.21$, $p = 0.03$, $\eta^2_p = 0.14$), *emotionality* ($F(2,53) = 6.51$, $p = 0.03$, $\eta^2_p = 0.12$), *affective composition* ($F(2,53) = 6.98$, $p = 0.03$, $\eta^2_p = 0.12$), *control* ($F(2,53) = 5.41$, $p = 0.03$, $\eta^2_p = 0.10$) and *values and norms* ($F(2,53) = 6.60$, $p = 0.03$, $\eta^2_p = 0.16$). The results indicate a larger increase in marital discord over time, as rated by mothers in the CG compared to the SAFE group. There were no statistically significant group differences in the change in couple discord as rated by fathers. Table 5 shows the mean scores of mothers' and fathers' marital quality ratings on the PFB at Time 2. As expected, mothers' in the SAFE group ($M = 43.45$; $SD = 8.9$) reported significantly higher marital quality ($t(53) = -2.06$, $p = 0.04$, $d = 0.55$) compared to mothers in the CG ($M = 38$; $SD = 10.69$). The PFB ratings were higher for fathers in the SAFE group ($M = 38.93$; $SD = 10.7$) compared to the CG ($M = 36.7$; $SD = 11.83$), but the difference was not statistically significant.

Table 5 shows the mothers' and fathers' mean scores for the perceived benefits of the programs at Time 2. In the following domains, mothers in the SAFE group reported significantly higher perceived benefits of program participation compared to mothers in the CG: *importance* ($t(63) = -2.20$, $p = 0.03$, $d = 0.57$), *benefit* ($t(63) = -2.62$, $p = 0.01$, $d = 0.70$), *realization* ($t(63) = -2.01$, $p = 0.05$, $d = 0.52$), *recollection* ($t(63) = -2.07$, $p = 0.04$, $d = 0.55$), and *reflection* ($t(63) = -5.01$, $p = 0.00$, $d = 1.31$). For the fathers, the following domains were rated as statistically significantly more beneficial by the SAFE group compared to the CG: *change of attitudes* ($t(47) = -2.89$, $p = 0.01$, $d = 0.85$) and *reflection* ($t(63) = -2.89$, $p = 0.01$, $d = 0.86$).

Table 3 Correspondence between fathers' (AAP) at Time 1 and child's (GASCP) attachment representations at Time 2 by groups

		GASCP: Security			GASCP: Disorganization		
		Secure <i>n</i> (%)	Insecure <i>n</i> (%)	Total <i>n</i>	Organized <i>n</i> (%)	Disorganized <i>n</i> (%)	Total <i>n</i>
AAP: Security							
Secure	SAFE	6 (50)	6 (50)	12	12 (100)	0 (0)	12
	CG	3 (42.9)	4 (57.1)	7	7 (100)	0 (0)	7
	Total	9	10	19	19	0	19
Insecure	SAFE	13 (52.0)	12 (48.0)	25	23 (92.0)	2 (8.0)	25
	CG	10 (47.6)	11 (52.4)	21	18 (85.7)	3 (14.3)	21
	Total	23	23	46	41	5	46
Total		32	33	65	60	5	65
AAP: Trauma and Loss							
Resolved	SAFE	15 (55.6)	12 (44.4)	27	27 (100)	0 (0)	27
	CG	12 (48.0)	13 (52.0)	25	23 (92)	2 (7)	25
	Total	27	25	52	50	2	52
Unresolved	SAFE	4 (40.0)	6 (60.0)	10	8 (80)	2 (20)	10
	CG	1 (33.3)	2 (66.7)	3	2 (66.7)	1 (33.3)	3
	Total	5	8	13	10	3	13
Total		32	33	65	60	5	65

AAP Attachment Assessment Projective Picture System, GASCP German Attachment Story Completion Procedure

Table 4 Mothers' and fathers' couple discord (FB-Z) by groups

	Mothers		Fathers	
	SAFE <i>M</i> (<i>SD</i>) <i>n</i> = 30	CG <i>M</i> (<i>SD</i>) <i>n</i> = 23	SAFE <i>M</i> (<i>SD</i>) <i>n</i> = 29	CG <i>M</i> (<i>SD</i>) <i>n</i> = 21
FB-Z scales				
Δ Sum score	3.33 (7.57)	10.57 (10.47)	7.97 (10.47)	10.90 (16.31)
Δ Task Fulfillment	0.90 (1.67)	1.52 (2.13)	1.31 (2.21)	1.67 (2.94)
Δ Role Behavior	0.70 (1.58)	1.70 (2.05)	0.79 (2.19)	1.33 (2.11)
Δ Communication	0.57 (1.45)	1.35 (2.21)	0.79 (1.90)	1.62 (2.56)
Δ Emotionality	−0.03 (2.03)	1.52 (2.19)	0.83 (2.00)	1.24 (2.55)
Δ Affective Composition	0.90 (1.47)	2.26 (2.14)	1.55 (1.99)	2.29 (3.07)
Δ Control	−0.03 (1.65)	0.78 (2.61)	1.41 (2.24)	1.24 (2.64)
Δ Values and Norms	0.33 (1.27)	1.43 (1.97)	1.28 (2.14)	1.52 (2.48)

FB-Z = questionnaire to assess couple functioning; Δ = change of FB-Z scales over time (Time 1 to Time 2)

Discussion

The goal of this study was to assess the long-term effects of the attachment-based SAFE program on children's attachment representations at the age of 7 years, the intergenerational transmission of insecure attachment and trauma, and the mothers' and fathers' couple relationship. The study is particularly relevant due to the inclusion of both mothers and fathers in the intervention. Since secure attachment is a protective factor over the entire lifespan, it is also an important factor for prevention (Bowlby, 1969/1997).

The main findings of our study were as follows. Concerning the intergenerational transmission of attachment, we

found that in the group of children of mothers classified as insecure, significantly more children in the SAFE group were classified as secure compared to the children in the control group. Regarding the quality of the couple relationship, we observed that the SAFE mothers' increase in perceived couple discord over time was significantly lower than that of the mothers in the control group. The increases in the sum-score and scores on the following sub-scales were significantly smaller in the intervention group: *emotionality*, *affective composition*, *control*, and *values and norms*. We controlled for ratings of couple discord obtained before the intervention so that we could exclude effects of preexisting couple discord. In the cross-sectional analysis of

Table 5 Mothers' and fathers' marital quality (PFB) at Time 2 and parents' perceived benefit of the programs rated at Time 2 by groups

	SAFE <i>M (SD)</i>	CG <i>M (SD)</i>	<i>T (df)</i>	<i>p</i>	<i>D</i>
Mothers' PFB	<i>n</i> = 31	<i>n</i> = 24			
Sum score	43.45 (8.90)	38.00 (10.69)	−2.06 (53)	0.04*	0.56
Mothers' ratings of the benefits	<i>n</i> = 35	<i>n</i> = 30			
Importance	5.03 (1.12)	4.17 (1.88)	−2.20 (63)	0.03*	0.57
Benefit	5.26 (1.01)	4.23 (1.92)	−2.62 (63)	0.01*	0.70
Realization	4.94 (1.08)	4.23 (1.65)	−2.01 (63)	0.05*	0.52
Recollection	5.89 (1.32)	4.87 (2.40)	−2.07 (63)	0.04*	0.55
Refreshment	4.46 (2.77)	3.90 (3.13)	−0.75 (63)	0.45	0.19
Change of attitudes	3.74 (1.80)	2.97 (1.76)	−1.71 (63)	0.09	0.43
Reflection	4.97 (1.18)	2.87 (2.03)	−5.01 (63)	0.00*	1.31
Fathers' PFB	<i>n</i> = 29	<i>n</i> = 23			
Sum score	38.93 (10.70)	36.70 (11.83)	−0.71 (50)	0.48	0.20
Fathers' ratings of the benefits	<i>n</i> = 29	<i>n</i> = 21			
Importance	4.38 (1.68)	3.95 (2.09)	−0.80 (47)	0.43	0.23
Benefit	4.48 (1.84)	4.35 (1.81)	−0.25 (47)	0.80	0.07
Realization	4.17 (1.58)	4.00 (1.72)	−0.36 (47)	0.72	0.10
Recollection	4.96 (2.50)	4.86 (2.10)	−0.16 (47)	0.88	0.04
Refreshment	3.86 (3.03)	4.29 (2.67)	0.52 (47)	0.61	0.15
Change of attitudes	3.79 (1.80)	2.28 (1.74)	−2.84 (47)	0.01*	0.85
Reflection	3.64 (2.04)	2.05 (1.64)	−2.89 (47)	0.01*	0.84

PFB = partnership questionnaire; * $p = 0.05$; D = Cohen's d

the parents' partnership quality at Time 2, 7 years after the intervention, mothers in the intervention group reported significantly higher partnership quality compared to those in the control group. Concerning the perceived benefits of the programs, the mothers in the SAFE group had statistically significantly higher ratings for *importance*, *benefit*, *reflection*, *realization*, and *recollection*. The fathers in the intervention group had significantly higher *reflection* and *change of attitudes* ratings. The effect sizes were medium to large, which is particularly promising given that effect sizes usually decline with longer follow-up (Giblin et al., 1985).

Concerning our first hypothesis, we found no significant group differences. Nevertheless, the likelihood of being classified as secure and organized for children in the SAFE group was higher compared to children in the control intervention. Furthermore, the proportion of secure and organized attachments was higher in the SAFE group compared to comparable samples in meta-analyses (Gloger-Tippelt & Kappler, 2016; van Ijzendoorn et al., 1999). Our results in terms of children's attachment for the overall sample were in line with comparable long-term studies on attachment-based interventions, which found intervention effects in early childhood but not in middle childhood (Stams et al., 2001; Zajac et al., 2019). The lack of significant long-term intervention effects on children's attachment may result from the children's development. Through the sensitivity training in the SAFE group, mothers

and fathers learned to respond to their young infants' signals, i.e., to respond sensitively at the behavioral level. The question of whether the parents were able to generalize their knowledge about sensitive behavior in interactions with their newborns and transfer their skills to meet their older child's needs remains unanswered. Refresher sessions on sensitive parenting emphasizing verbal expression during middle childhood may have improved the long-term outcomes.

The lack of significant group differences in the overall sample might also result from the measurement method. During middle childhood, attachment transitions from the behavioral to representational level (Kerns, 2008; Main et al., 1985). In younger infants, the Strange Situation procedure is the gold standard to assess attachment. During the Strange Situation proximity seeking behavior is displayed by infants towards the caregiver, which is crucial for attachment classification (Ainsworth et al., 1987). In story stem procedures used in middle childhood to assess children's attachment, children are instructed to complete the beginning of stories with attachment-relevant themes, such as pain due to an accident or separation and reunion with the parents. The coherence of the child's narratives, help-seeking child behavior, and maternal or paternal assistance in their narratives are relevant for the attachment classifications. In samples in which the Strange Situation procedure is used, the percentage of secure attachment

classifications is notable higher compared to similar samples in middle childhood using story completion procedures (Gloger-Tippelt & Kapler, 2016; Verhage et al., 2016). Gloger-Tippelt and Kappler (2016) argue that it is likely more demanding to generate a coherent narrative in attachment relevant situations than to initiate and maintain physical contact with the caregiver.

Our second hypothesis was partially confirmed: we found a significant group difference in insecure mothers. In the group of mothers classified as unresolved, no child was classified as disorganized in either group. Concerning the association of insecure father attachment, and insecure child attachment and the association between fathers' unresolved loss and children's disorganized attachment, we found no significant group differences. However, we observed a small trend toward superiority of the SAFE intervention over the control intervention. In a study using the Ulm Model, which is an attachment-based intervention for mothers in Germany, maternal attachment did not influence child attachment, but high risk status of the mothers (e.g. adolescent mother, low education level) moderated the effects of the intervention on mothers (Pillhofer et al., 2015). Mothers at risk have benefited most from the attachment-based intervention (Zwönitzer et al., 2015). Van Ijzendoorn et al. (1995) assumed that interventions may only be effective in samples with mothers with insecure attachments.

We conclude, that attendance of the SAFE program reduced the risk of transmission of insecure attachment in mothers. The insecure mothers might have been more susceptible to new input or more motivated to learn about the mechanisms contributing to secure attachment. Concerning our fourth hypothesis, overall, the mothers' and fathers' perceived benefits of the programs even after 7 years; the significant effects were medium to large in both parents. We think that the following aspects of the SAFE program contributed to these results. The facilitators offered additional support to parents who answered in a dismissive or pre-occupied manner, and or to those who showed signs of unresolved trauma during the AAI. During group discussions, the mothers and fathers had the opportunity to explore their own attachment history and reflect on the influence of their experiences of their own upbringing on their impending parenthood. The goal was to promote attachment-friendly parenting attitudes. The sensitivity training provided an opportunity to translate theoretical knowledge into practice. The parents learned to be emotionally available to meet the infant's needs. The focus was on supporting the mothers and fathers and providing emotional support. The two facilitators focused on group cohesion. A trusting atmosphere allowed the parents to experience the group as a secure base. The mothers and fathers were invited to discuss and exchange their attitudes, expectations, concerns and joyful moments in relation to parenthood. Their parenting skills, as well as

mothers' and the fathers' self-esteem as parents were strengthened in this manner.

Participation in one of the intervention groups might have reduced the risk of transmission of unresolved loss in mothers. To break the circle of intergenerational transmission of unresolved trauma, we explored traumatic experiences before the program started in all participants. During the individual sessions, the facilitators conducted the AAI with the mothers- and fathers-to-be. In case of signs of unresolved trauma, psychotherapy was recommended. One explanation for the absence of disorganized children in the group comprising mothers with unresolved risk might be that they obtained psychotherapeutic support to work on their unresolved traumatic experiences. Future research on the SAFE program should account for further counseling as a possible moderator effect. Juffer et al. (2005) were able to show that a low-intensity intervention prevented disorganization in adoptive children, who were at particular risk of attachment disorganization. Although our control group had no focus on attachment, the intervention was nevertheless of high intensity. The parents learned a lot about child care during 10 full-day group sessions, which might have helped them to structure or regulate themselves while interacting with their child.

A question remains as to why we saw intervention effects on the correspondence of mother-child attachment but not father-child attachment. The results of previous studies on parenting programs revealed that the efficacy of interventions was usually higher in mothers than fathers (Zemp et al., 2016). Furthermore, we know much more about the mechanisms that contribute to secure mother-child attachments than about those that lead to secure father-child attachments. The mechanisms of parental influence on the child's secure attachment seem to differ between fathers and mothers (Grossmann et al., 2002; Verschueren & Marcoen, 1999). The associations between fathers' attachment and paternal sensitivity and infant attachment were weaker than those between maternal attachment and mothers' sensitivity and infant attachment (De Wolff & van Ijzendoorn, 1997; Lucassen et al., 2011; Van Ijzendoorn et al. (1995). Contextual factors increase the risk of insecure father-child attachments more than they increase the risk of insecure mother-child attachments (Belsky, 2006; Bureau et al., 2017). One of the most important contextual factors for fathers' involvement in parenting, and thus for secure infant-father attachment, is the fathers' perceived satisfaction with the parents' partnership. The probability of secure father-child attachments increases when fathers have a sense of well-being in relation to their partnership with the mother (Fegert et al., 2011; Lickenbrock & Braungarts-Rieker, 2015).

Regarding the effects of the intervention on the parents' couple relationship in our sample, we observed an increase in couple discord over time in mothers and fathers in both groups, as reported previously (Belsky et al., 1983; Mitnick

et al., 2009). In the SAFE group, the mothers' increase in perceived couple discord over time was significantly lower than that of the mothers in the control group. Moreover, they reported significantly higher partnership quality compared to the mothers in the control group. Our results provide strong evidence that the intervention successfully attenuated the generally observed increase in couple discord in mothers and improved maternal partnership quality. However, in contrast to the interventions of Schulz et al. (2006) and Shapiro and Gottman (2005), and the 10-year follow-up study of Cowan et al. (2011), who found significant intervention effects on mothers' and fathers' couple ratings, we found no significant group difference in fathers' couple ratings. However, the increased couple discord perceived by the fathers in our sample showed a trend toward being smaller in the intervention group compared to the control group, while their subjective perceptions of partnership quality showed a trend toward being higher in the intervention group. In the couples-intervention of Shapiro and Gottman (2005), a male and female facilitator ran the course, it may be that the fathers would have benefited more from our attachment-based intervention if there had been also a male facilitator instead of two women. We know from other studies on the effects of interventions on fathers that they can have difficulties in discussing personal concerns in a group setting. Some fathers reported fear of public scrutiny (Scourfield et al., 2016). Fathers also felt excluded and less supported by professionals (Zanoni et al., 2013). Additionally, the fathers in SAFE might have felt uncomfortable in the attachment-based prevention group focusing on group discussions about emotional experiences. This may have been the case for parenting as well as partnership topics.

Overall, it seems to be more difficult to achieve intervention effects in the more distal child domain compared to the proximal parent domain. Two meta-analyses on the effectiveness of early prevention programs in German-speaking countries showed no effects on the child-domain, although there were effects on mother-outcomes (Taubner et al. 2013; Taubner et al., 2015).

Our results can be generalized to similar German samples, that is, to non-clinical and highly educated middle-class samples. The decrease in marital satisfaction after the transition to parenthood is particularly marked in mothers (Shapiro et al., 2000), especially those with a high education level (Twenge et al., 2003). Given that 82.8% of the mothers in our sample had a university degree, they were at high risk of a decrease in partnership quality. The most important implication of this study for clinical practice is the need to support mothers with insecure or unresolved trauma, to reduce the risk of the intergenerational transmission of insecure attachment or trauma in order to promote healthy child development. Furthermore, we think that it is essential to integrate fathers in attachment-based prevention programs. Future studies on the

program including larger sample sizes should examine potential moderator effects to understand the underlying mechanisms for both mothers and fathers. Relevant questions for further studies on the SAFE program are as follows: Why have mothers, but not fathers, benefited in terms of partnership quality and transmission of insecure attachment? Did fathers' program attendance contribute to the effects seen in mothers? How can we adapt the design of the program so that fathers benefit more? The parents' partnership quality and subjective benefits of the program should be examined as moderators of children's attachment. Other potential moderators of children's attachment are parental separation and the sensitivity of their behavior towards their child. Furthermore, we need to evaluate the intervention effect of the SAFE program in different populations (e.g., in samples of parents with low levels of education, or with different ethnical or cultural backgrounds). Investigating the efficacy of SAFE is important in clinical samples, as the children are at particularly high risk for insecure or disorganized attachment.

Limitations

Several limitations of this study should be noted. First, the high drop-out rate was an important weakness. In order to exclude a systematic drop-out effect, we conducted a drop-out analysis including socio-demographic variables and mothers' and fathers' attachment quality. Mothers' and fathers' educational level was significantly higher among those who completed the Time 2 assessment compared to those who dropped out. Mothers who completed Time 2 were significantly older than those who dropped out. Although we also documented the reasons for non-participation, we cannot exclude the possibility that the results were distorted by the drop-outs. A second important weakness was the small size of the sample, which reduced the power to detect significant effects. We should thus be careful when drawing conclusions and making generalizations. Furthermore, we could not apply statistical methods to determine whether the effects on couple relationship quality had any connection to children's attachment representation. Third, we did not assess the quality of the mothers' and fathers' marital relationship in the posttest session, which would have provided more insight into the effects of the intervention on the couple relationship. Fourth, both interventions aimed to support the mothers and fathers during the transition to parenthood, but most parents-to-be wanted to be assigned to the SAFE program. Some mothers and fathers in the control intervention reported disappointment about their group assignment, which may have had a negative impact on their ratings regarding the perceived benefits of the program.

Conclusion

Our study contributes to the field by integrating fathers in primary attachment-based prevention. To our knowledge, no comparable attachment-based intervention in Germany has addressed secure infant-mother and infant-father attachment relationships and the parents' partnership quality. In Germany, parental allowance was introduced in 2007. Since then, parents have been able to freely divide the 14 months of state-sponsored parenting time at home. On the political and state side, this contributes to the process of change of the traditional role models in Western culture; mothers are supported to return to work and fathers have more opportunity to take an active parenting role and care for their children. Research clearly shows that active fatherhood has a positive impact on social, emotional and behavioral child development. The presence of at least one secure attachment person can buffer the deficits of the other person, as well as the effects of negative events such as separation or sickness, and give the child emotional security (Verschueren & Marcoen, 1999). "The parents get along well", the statement had the highest level of agreement, followed by "secure financial circumstances" in a representative German survey assessing the necessary conditions for a good upbringing (Fegert et al., 2011). Therefore, we think that it is clinically important to provide effective prevention programs that integrate fathers and help them establish secure attachments with their children. Attachment-based prevention aims to promote warm and engaged family interactions. It is important to support families through successful prevention to enable children to grow up into healthy adults. Therefore, work should continue to elucidate the mechanisms of attachment-based prevention programs.

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Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval The study was realized by resources of the University. Approval was obtained from the ethics committee of the Faculty of Medicine, University Hospital LMU Munich. The procedures used in this study adhere to the tenets of the 1964 Declaration of Helsinki.

Informed Consent Written informed consent was obtained from all participants, informed consent was obtained from the children's parents.

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