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I'll take you under my wing: Positive parenting in foster care

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I'll Take You Under my Wing

Positive Parenting in Foster Care

Nikita Kimberley Schoemaker

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I'll Take You Under my Wing
Positive Parenting in Foster Care

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Chapter 1

General introduction

Adverse early life experiences are not uncommon among foster children: The large majority of these children have had experiences with abuse and/or neglect in their birth families and they have all been separated from their attachment figures (i.e., their birth parents) when placed in foster care (Greeson et al., 2011). These adverse experiences may contribute to difficulties in trusting new adults in their lives, which can subsequently result in the persistence or development of behavior problems such as indiscriminate friendliness (Chisholm, 1998), and in difficulties in forming a secure attachment relationship with their foster parents (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). Previous research indicated that specific child or foster parent characteristics are related to the reduction of developmental problems (e.g., Hiller & St Clair, 2018; Vanderfaeillie, Van Holen, Vanschoonlandt, Robberechts, & Stroobants, 2013), but studies specifically examining correlates of indiscriminate friendliness in foster children are rare.

Moreover, taking care of children who have experienced such early life adversities and who display behavior problems may be a struggle for foster parents. Foster parents may therefore benefit from parenting support, such as intervention programs. Parenting interventions that use video feedback (i.e., filming caregiver-child interactions and reviewing the video-tape with the caregiver at a later time) are known to be useful in helping parents to recognize behavioral signals of their child (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). This may be especially helpful for foster parents who, in contrary to birth parents, have not known their foster child from pregnancy onwards and may be in need of help with getting to know (the possibly challenging behaviors of) their foster child.

Over the years, several intervention programs have been developed internationally and tested for its effectiveness in foster care. Some of these interventions are based on attachment theory, for example Attachment and Biobehavioral Catch-up (ABC; Dozier et al., 2006), Promoting First Relationships (PFR; Spieker, Oxford, Kelly, Nelson, & Fleming, 2012), and Foster Family Intervention (FFI; Van Andel, Grietens, & Knorth, 2012). Other intervention programs, such as Multidimensional Treatment Foster Care Program for Preschoolers (MTFC-P; Fisher & Kim, 2007), Parent Management Training-Oregon model (PMTO; Akin, Byers, Lloyd, & McDonald, 2015), and Parent-Child Interaction Therapy (PCIT; Mersky, Topitzes, Janczewski, & McNeil, 2015), are based on social learning theory. In general, these parenting interventions are individually effective in improving parental sensitivity (Bick & Dozier, 2013; Mersky et al., 2015; Spieker et al., 2012), reducing parenting stress (Fisher & Stoolmiller, 2008; Mersky et al., 2015), fostering attachment security (Dozier et al., 2009; Fisher & Kim, 2007; Pasalich, Fleming, Oxford, Zheng, & Spieker, 2016), and reducing child behavior problems (Akin et al., 2015; Dozier et al., 2006; Mersky, Topitzes, Grant-Savela, Brondino, & McNeil, 2016; Pasalich et al., 2016), but their combined effect is unknown. In addition, it is important to know which parent or child outcomes can be effectively enhanced with which kind of intervention programs.

To contribute to the quality of foster care, the overall aim of this dissertation was to test and improve parenting interventions for foster care using three objectives. Firstly, it was meta-analytically examined to what extent existing parenting interventions are effective in improving parenting (e.g., sensitivity and discipline) and child outcomes (e.g., attachment security and behavior problems) in foster families and in a related type of family: adoptive families. Secondly, the effectiveness of an adaptation of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) was tested for foster care. And a last objective was to examine the relations of foster parents' sensitivity, attachment security, and child inhibitory control with indiscriminate friendliness of foster children.

FOSTER CARE AND ATTACHMENT THEORY

Adverse early life experiences may negatively influence foster children's emotional development and may consequently result in behavioral problems. The formation of a secure attachment relationship with new caregivers may prevent or reduce the development of these problems. Research has shown that securely attached children are more resilient, show better adaptability, and have a more optimal behavioral and social development compared to insecurely and/or disorganized attached children (Groh, Fearon, Van IJzendoorn, Bakermans-Kranenburg, & Roisman, 2017; Groh et al., 2014; Sroufe, Egeland, Carlson, & Collins, 2005). Unfortunately, foster children are more likely to develop an insecure disorganized attachment relationship with their foster parents than children living with and being raised by their birth parents (Van den Dries et al., 2009; Vasileva & Petermann, 2018).

Parental sensitivity plays an important role in the development of attachment relationships. Sensitive caregivers observe and interpret their children's signals correctly and subsequently respond to those signals adequately and promptly (Ainsworth, Blehar, Waters, & Wall, 1978). As a result, children seek contact with and comfort from their attachment figures in times of need, are able to resume exploring after they have calmed down, and are therefore more likely to be classified as securely attached. If caregivers respond insensitively (i.e., indifferently, inconsistently, or in a frightening way) their children are more likely to develop an insecure (disorganized) attachment (Ainsworth et al., 1978; Main & Hesse, 1990). In stressful situations, insecurely attached children show either avoidant attachment behaviors characterized by not seeking contact with and comfort from their attachment figures or resistant attachment behaviors, by seeking contact with and comfort from their attachment figures but because of poor emotion regulation they stay upset or angry (Ainsworth et al., 1978). Insecurely disorganized attached children show a temporary breakdown of otherwise secure or insecure attachment behaviors (Main & Hesse, 1990). Children with limited experiences of

sensitive parenting are additionally more vulnerable to stress and they display difficulties in the development of self-regulation (Doom & Gunnar, 2015). Research showed that the development or perseverance of behavior problems in foster children may be partially related to an insecure (disorganized) attachment relationship and a dysregulated stress system (Koss & Gunnar, 2018). Foster children who display high levels of behavior problems are at a higher risk of placement breakdown (Konijn et al., 2019; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Vanderfaeillie, Goemans, Damen, Van Holen, & Pijnenburg, 2017) and a higher number of placements additionally increases the risk of developing psychological, behavioral, and emotional problems later in life (Newton, Litrownik, & Landsverk, 2000). It is important to break this cycle because it may jeopardize every next foster care placement and the development of foster children. Intervention programs that improve the interaction between foster parent and child are needed, because in foster care, caregivers and children start building a new (caregiving) relationship that is different from those of biological parents and their children who also share a genetic bond. Parenting interventions that are developed to improve parental sensitivity and/or decreasing child behavior problems may be especially helpful in strengthening the relationship and interaction between foster parents and children in order to prevent or decrease the risk of developing an insecure attachment relationship, behavior problems, and possibly placement breakdown.

OUTCOMES FOR CHILDREN PLACED IN FOSTER CARE

As stated in the Convention on the Rights of the Child, foster care is a preferred type of care when children are – for any reason – not able to live with and be raised by their birth parents, compared to residential care, because foster care resembles a natural family environment (United Nations, 1989). It is additionally preferred to place children with kin, i.e., relatives or acquaintances within the social network of the child and his/her birth family, because children are already familiar with them (Ehrle & Geen, 2002; Winokur, Holtan, & Batchelder, 2018). However, even though foster care is a preferred type of care when an out-of-home placement is needed, research to date showed inconsistent results regarding the development of children placed in foster care over time. Upon entering foster care, the majority of foster children show developmental problems such as socio-emotional, behavior, and attachment-related problems (Hochstadt, Jaudes, Zimo, & Schachter, 1987; Steele & Buchi, 2008). These problems frequently remain prevalent during a foster care placement (Maaskant, Van Rooij, & Hermanns, 2014; Turney & Wildeman, 2017). For example, foster children often do not differentiate between familiar adults and strangers when they show affectionate and friendly behavior towards others. This behavior is also known as indiscriminate friendliness (Chisholm, 1998) and may be a consequence of inconsistent and non-responsive care before placement (Bakermans-Kranenburg et al., 2011).

In general, it is expected that the developmental problems of foster children decrease or even disappear over time after placement in a stable and safe foster family. Some studies indeed have shown that foster children display a positive development after placement (e.g., Fernandez, 2009; Zeanah, Humphreys, Fox, & Nelson, 2017), but other studies showed no improvements (e.g., Maaskant, Van Rooij, Overbeek, Oort, & Hermanns, 2016; Perkins, 2008), or even a decline in developmental outcomes (e.g., Lawrence, Carlson, & Egeland, 2006). A recent meta-analysis on longitudinal research on the development of foster children showed that children's development does not improve or deteriorate over time after taking children out-of-home and placing them in foster care (Goemans, Van Geel, & Vedder, 2015). However, whether or not a foster child displays developmental improvements over time seems to be related to several factors. Child characteristics, such as older age at placement (Hiller & St Clair, 2018) and higher number of previous placements (Newton et al., 2000), have been found to be positively associated with the development of behavior problems displayed by foster children. Foster parent characteristics, for example parental insensitivity (Vanderfaeillie et al., 2013) and parental stress (Kelley, Whitley, & Campos, 2011; Murray, Tarren-Sweeney, & France, 2011), are also related to elevated levels of behavior problems in foster children. Lastly, type of foster care as a placement characteristic has been found to be related to long-term outcomes for foster children, with more behavior problems and psychopathology in children in non-kinship care (Winokur et al., 2018).

Indiscriminate Friendliness

As stated before, indiscriminate friendliness is atypical behavior often displayed by (postinstitutionalized) foster children (Bakermans-Kranenburg et al., 2011; Love, Minnis, & O'Connor, 2015; Van den Dries et al., 2009). Attachment theory can, in part, explain the development of indiscriminate friendliness. Due to inconsistent and nonresponsive care, foster children may either trust all adults including strangers because this may increase their chances of being taken care of, or they do not trust anyone at all because they have learned that they are not important and that they can only rely on themselves. These two types of behavior are included in two separate diagnoses of the Diagnostic and Statistical Manual of mental disorder (DSM-5; American Psychiatric Association, 2013), with Reactive Attachment Disorder (RAD) on the one hand and Disinhibited Social Engagement Disorder (DSED) on the other hand. RAD is characterized by inhibited social behavior, displayed as "a failure to initiate or respond to social interactions" (Love et al., 2015, p. 429), whereas DSED is characterized by indiscriminate friendliness, with children showing "a willingness to approach or interact with strangers in an overly friendly manner" (Love et al., 2015, p. 429). Research has shown that foster children are at higher risk of displaying symptoms of both RAD and DSED, probably because of the adverse early life experiences in their biological families (Cappelletty, Brown, & Shumate, 2005; Kliewer-Neumann et al., 2018; Minde, 2003; Minnis, Marwick, Arthur, & McLaughlin, 2006).

Even though attachment theory could explain both attachment insecurity and attachment disorders such as DSED, the direct association between attachment insecurity and attachment disorders is not so straightforward. Some research showed that attachment insecurity and (symptoms of) attachment disorders are not related (Bakermans-Kranenburg et al., 2011; Love et al., 2015; Pears, Bruce, Fisher, & Kim, 2010; Zeanah, Smyke, Koga, & Carlson, 2005). Other studies showed that parental sensitivity not only seems to play a significant role in the development of a secure attachment relationship (Ainsworth et al., 1978) but also in the decrease of indiscriminate friendliness in foster children after placement (Love et al., 2015). A longitudinal study additionally showed that attachment security serves as a mediator in the relation between caregiving quality, e.g., parental sensitivity, and indiscriminate friendliness (McGoron et al., 2012). Caregiving quality at 30 months of age predicted attachment security at 42 months (i.e., secure attachment relationships were more common if caregiving quality was higher), which in turn predicted lower levels of indiscriminate behavior at 54 months of age. Other studies, however, showed that in spite of improved caregiving quality indiscriminate friendliness remains prevalent over time (Guyon-Harris, Humphreys, Fox, Nelson, & Zeanah, 2018; Lawler, Koss, Doyle, & Gunnar, 2016; Scheper et al., 2019; Smyke et al., 2012). So far, results from empirical studies that examined the relation between attachment and indiscriminate friendliness have been inconsistent and more research is therefore needed.

It should also be noted that individual child characteristics, such as temperament, may also be related to indiscriminate friendliness. The temperamental trait 'inhibitory control' is defined as the ability to regulate the inhibition of attentional and behavioral responses, and poor inhibitory control can therefore result in disinhibited behavior that (among others) characterizes indiscriminate friendliness (Bakermans-Kranenburg et al., 2011; Rothbart, 2007). Research indeed has shown that poorer inhibitory control is associated with higher levels of indiscriminate friendliness in foster children (Pears et al., 2010).

Previous research of correlates of indiscriminate friendliness has mainly been conducted with (post)institutionalized children and research with family-reared, never-institutionalized foster children is scarce. More studies are therefore needed to understand if indiscriminate friendliness is related to foster parent characteristics (e.g., parental sensitivity), and/or child characteristics (e.g., inhibitory control), and/or characteristics of caregiver-child relations (e.g., attachment). One of this dissertation's objectives was therefore to examine correlates of indiscriminate friendliness in foster care.

THE NEED OF PARENTING SUPPORT AND INTERVENTIONS IN FOSTER CARE

In order to promote positive developmental outcomes in foster children, intervention programs focusing on supporting parenting behavior may be helpful. Parenting interventions aimed at supporting foster parents' behavior, such as parental sensitivity, may reduce or prevent the risk of developing an insecure (disorganized) attachment relationship, a dysregulated stress system, and subsequent current behavior problems and psychopathology later in life. Several intervention programs are available to help foster parents to overcome parenting challenges and to promote foster children's development through enhanced optimal parenting behavior. Generally, these parenting interventions are based on either attachment theory (Ainsworth et al., 1978; Bowlby, 1969) or social learning theory (Bandura, 1977). One objective of this dissertation was to examine if existing parenting interventions are effective in improving parenting and child outcomes in foster care using meta-analyses.

Interventions Based on Attachment Theory

Two well-known attachment-based interventions that were used in studies in foster care are Attachment and Biobehavioral Catch-up (ABC; Dozier et al., 2006) and Promoting First Relationships (PFR; Spieker et al., 2012). Both interventions use video-feedback as an intervention method to promote sensitive parenting and improve child outcomes.

ABC is a parenting intervention for caregivers of infants and toddlers who have experienced early adversity and is therefore well-suited for foster care. The intervention consists of 10 weekly 1-hour sessions (total intervention duration of 2.5 months; Dozier et al., 2009; Dozier et al., 2006). During these sessions several topics are discussed with two broader aims: to improve sensitive parenting behaviors and to enhance children's self-regulation. Improvements in parental sensitivity (Bick & Dozier, 2013), the reduction of parental stress (Sprang, 2009), avoidant attachment behaviors displayed by foster children (Dozier et al., 2009), and child behavior problems (Dozier et al., 2006; Lind, Raby, Caron, Roben, & Dozier, 2017; Sprang, 2009), and normalization of diurnal cortisol slopes in foster children (Dozier et al., 2006) have been found after receiving ABC.

PFR is a short-term intervention that takes 2.5 months to complete, during which 10 weekly sessions of 60 to 75 minutes take place (Pasalich et al., 2016; Spieker et al., 2012). The intervention aims to help foster parents to recognize and interpret children's signals adequately by discussing attachment theory, specific needs of foster children, caregiving characteristics that promote the development of secure attachment relationships and emotion and stress regulation, how to handle challenging behavior, and foster parent characteristics

that may influence caregiving quality (e.g., sense of self and emotional regulation). Results from randomized controlled trials showed that PFR is effective in enhancing parental sensitivity and parenting knowledge (Spieker et al., 2012). A positive intervention effect on attachment security has also been found, but only in children with a placement history of more than four previous placements (Pasalich et al., 2016).

Interventions Based on Social Learning Theory

Bandura's social learning theory states that human behavior is the product of reciprocal interactions between cognitive, behavioral, and environmental factors (Bandura, 1977). Several intervention programs use this theory as a starting point to support caregivers in dealing with difficult child behavior. Multidimensional Treatment Foster Care Program for Preschoolers (MTFC-P; Fisher & Kim, 2007), Parent Management Training-Oregon model (PMTO; Akin et al., 2015), and Parent-Child Interaction Therapy (PCIT; Mersky et al., 2015) are examples of parenting interventions that are based on social learning theory and that have been investigated in foster care.

MTFC-P aims to address the developmental and socio-emotional needs of foster children in preschool by making foster parents part of the treatment practitioners team (Fisher & Kim, 2007; Fisher & Stoolmiller, 2008). Before placement, foster parents have completed an intensive 12-hour training that was focused on providing a responsive and consistent caregiving environment for the children with positive reinforcement of positive child behaviors. After placement, foster parents receive daily phone calls for supervision and support and weekly group meetings to aid the preservation of the positive caregiving environment and to reduce parental stress. Staff is additionally available 24-hours per day. Individualized treatment is provided to the children to work on gaining prosocial skills and improve overall functioning at preschool and home. Research has shown that MTFC-P is effective in decreasing experienced stress of foster parents, increasing secure attachment behavior and reducing avoidant attachment behavior in foster children (Fisher & Kim, 2007; Fisher & Stoolmiller, 2008).

PMTO aims to support caregivers of children and adolescents with externalizing behavior problems (Akin et al., 2015). The intervention usually lasts up to 6 months with weekly sessions during which the PMTO practitioner focusses on five parenting topics: positive involvement, skill building, supervision and monitoring, problem-solving, and appropriate discipline (Forgatch & Patterson, 2010). Because Akin studied the effectiveness of PMTO with biological and families who adopted children from foster care, outcomes specifically for foster parent functioning are unknown. In this combined group, child social emotional functioning, prosocial skills, and behavior problems improved after PMTO completion (Akin et al., 2015; Akin, Lang, McDonald, Yan, & Little, 2019; Akin, Lang, Yan, & McDonald, 2018).

PCIT focusses on reducing child behavior problems by decreasing the occurrence of coercive cycles in the interaction between foster parent and child (Mersky et al., 2016; Mersky et al., 2015). Coercive cycles originate if parents reinforce unwanted negative behavior of their children with coercion or capitulation (Patterson, 1982). For example, a mother asks her child to do something (e.g., clean up toys), her child refuses, gets angry, and starts to cry, mother insists and gets annoyed, her child becomes more angry and cries even louder, mother gives in to have her child stop with the negative behavior, her child gets his way and learns that negative behavior pays off, with the result that the unwanted negative behavior continues to exist. To address these coercive cycles, PCIT is a group intervention including six to eight foster parent-child dyads simultaneously with additional individual phone consultation. The intervention consists of two stages provided during an intensive 2-day training. On the first day, child-directed interaction (CDI) is promoted by enhancing authoritative parenting and positive parent-child interactions, and on the second day, parent-directed interactions (PDI) in which effective discipline and behavior management skills are addressed. After the 2-day training, foster parents complete daily homework exercises and receive regular phone calls to refresh their knowledge of PCIT and to practice the skills at home. Positive effects of PCIT have been found for parenting behavior, e.g., parental sensitivity, and parenting stress (Mersky et al., 2015). PCIT was also effective in reducing internalizing and externalizing child behavior problems (Mersky et al., 2016).

Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC)

An intervention that combines both attachment and social learning theory is Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (Juffer et al., 2008). VIPP-SD aims to support parental sensitivity and sensitive discipline in order to promote secure attachment relationships and to reduce or prevent child behavior problems in families with zero to six-year-old children. The effectiveness of VIPP-SD on sensitive parenting and positive child outcomes has been demonstrated in several populations (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2017a, 2017b), but not yet in foster care. One of the objectives of this dissertation was to adapt VIPP-SD for use in foster care (resulting in VIPP-FC) and to examine the effectiveness of VIPP-FC on parent outcomes in a Dutch sample.

FOSTER CARE IN THE NETHERLANDS

As member of the United Nations, the Netherlands abides the Convention on the Rights of the Child and aims to place children and adolescents in a family environment, e.g., foster care, instead of in a residential institution when out-of-home placement is needed (Rijksoverheid, 2014; United Nations, 1989). Research from 2003 has shown that kinship foster care seemed to have no advantages nor disadvantages with regards to foster parent

and child outcomes over non-kinship foster care in the Netherlands (Strijker, Zandberg, & Van der Meulen, 2003). However, it may be easier to include birth parents in the process when the new caregiver of their child is someone familiar as is the care in kinship foster care. With kinship placements the children's environment is also unlikely to change drastically, because they can for example continue attending the same school as before placement. Foster parents are therefore initially searched for within the familiar social network of the child and his/her birth parents (Pleegzorg Nederland, 2019). Results from international scientific reviews have shown that children in kinship care experience less unplanned and undesired placement disruptions (also known as breakdowns), display lower levels of behavior problems, and have a better overall (mental) health compared to children in non-kinship care (Bell & Romano, 2017; Winokur et al., 2018). In addition to being familiar to the child, kinship foster parents in general also provide continuity, for example because they help maintaining contact with the birth parents and because the children are often able to attend the same school as before placement (Ehrle & Geen, 2002).

In 2018, 22,741 Dutch children and adolescents lived with a foster family (Pleegzorg Nederland, 2019). Almost half of these children (45%) lived with kin and about half of the children were younger than 12 years old (0-4 years: 15%, 5-11 years: 40%). Breakdown rates in the Netherlands lie between 23 and 46% (Strijker, Knorth, & Knot-Dickscheit, 2008; Strijker & Zandberg, 2004; Van Oijen, 2010; Van Rooij, Maaskant, Weijers, Weijers, & Hermanns, 2015). Differences may be due to research design (e.g., case file study (Strijker & Zandberg, 2004; Van Rooij et al., 2015) or retrospective longitudinal study (Strijker et al., 2008)) and period during which the foster care placement took place (e.g., placements between August 1996 and December 1997 in Strijker and Zandberg (2004) and placements between January 2002 and July 2004 in (Van Oijen, 2010)). Moreover, research showed that the first 18 months after placement are crucial because the risk of breakdown is the highest during this period (Vanderfaeillie et al., 2017). Child behavior problems are most frequently mentioned as the cause of breakdown, but parenting stress and parenting problems are also common reasons to terminate a foster care placement (Van Rooij et al., 2015; Vanderfaeillie et al., 2017).

Dutch Intervention Studies in Foster Care

Although the large majority of intervention studies present results from the United States of America, some have been conducted in the Netherlands. These studies examined the following parenting interventions: Foster Family Intervention (FFI; Van Andel et al., 2016), MTFC-P (Jonkman et al., 2017), and PMTO (Maaskant et al., 2017; Maaskant et al., 2016), of which FFI is the only attachment-based intervention. As stated before, MTFC-P and PMTO are based on social learning theory, but the results from the Netherlands are, however, not as positive as the results yielded by international (and specifically, North American) studies.

FFI aims to help foster parents of infants and toddlers recognize and deal with the stress their foster children may experience after placement, even though the distress is not so clearly displayed by the children (Van Andel et al., 2012). The intervention consists of six home visits of 1.5 hours during which video feedback is used and topics regarding foster parent-child interaction and attachment are discussed. In between home visits, foster parents make homework assignments which are discussed during the next visit. FFI was not effective in reducing stress in foster parents nor children, but positive effects on parental sensitivity and child responsiveness during interactions were found (Van Andel et al., 2016).

Effectiveness of MTFC-P was examined in comparison to treatment as usual and to regular foster care (i.e., no indications for treatment foster care; Jonkman et al., 2017). MTFC-P did not prove to be more effective than the usual treatment foster care in improving child behavior problems, attachment disturbances, trauma symptoms, hypothalamic-adrenal-pituitary (HPA) axis functioning, and parenting stress. Symptoms of disinhibited attachment (i.e., indiscriminate friendliness) and overall attachment disorder (symptoms of inhibited and disinhibited attachment combined) were additionally *more* apparent in the MTFC-P group than in the regular foster care group at posttest. The children in the regular foster care group also showed a decrease in externalizing behavior problems, after receiving no intervention at all, while the children in the MTFC-P group showed an increase in externalizing behavior problems. Compared to regular foster care, however, MTFC-P dyads showed a decrease in parenting stress and secure base distortions (Jonkman et al., 2017).

PMTO has found to be effective in reducing parental stress and enhancing parental warmth (often seen as an element of parental sensitivity) in foster parents of preschool children in the Netherlands (Maaskant et al., 2017). Nonetheless, at follow-up four months later, these intervention effects had disappeared and the levels of parental stress and parental warmth of the foster parents in the intervention group were comparable to those in the control group (Maaskant et al., 2016).

Compared to the results from the Unites States of America, as previously described, these Dutch results are not completely similar. This may be explained by heterogeneity of the samples and differences in the foster care systems between countries. Meta-analytic results can provide insight in the overall effectiveness of parenting interventions for foster care, while taking heterogeneity into account. Moreover, research on the effectiveness of intervention programs for Dutch foster parents is needed to help and support Dutch foster families as good as possible with the parenting challenges they may face. An adapted version of VIPP-SD for foster families, VIPP-FC, seems to be a promising intervention program to support foster families. First, because previous research has shown positive effects of the attachment-based VIPP-SD in different populations (Juffer et al., 2017a, 2017b). Based on this

research, the Netherlands Youth Institute has acknowledged VIPP-SD as effective with strong indications (Nederlands Jeugdinstituut, 2019). And second, because the foster parent-child interaction improved after FFI completion (Van Andel et al., 2016). This intervention shares a comparable theoretical background as VIPP-SD and is – as far as known – the only available attachment-based intervention specifically for foster parents in the Netherlands (Nederlands Jeugdinstituut, 2019).

OUTLINE OF THE DISSERTATION

The first aim of this dissertation is to investigate if existing parenting interventions are effective in supporting/enhancing specific parenting and child outcomes in foster families. In Chapter 2, a meta-analytic review was performed to examine the effectiveness of intervention programs for foster care and adoption to answer several questions. First, can parenting interventions directly improve parenting? Second, can parenting interventions indirectly enhance child outcomes and placement disruptions? And third, are specific sample, study design, and intervention characteristics related to the effects of the intervention programs?

The second aim is addressed in the following chapters that specifically focus on VIPP-SD and its use in foster care. Chapter 3 reviews how the VIPP-SD program has been used in different types of families and in childcare settings, with special attention to one of the most recent adaptations, i.e., VIPP-SD for foster care (VIPP-FC). The study protocol of the randomized controlled trial examining the effectiveness of VIPP-FC is described in Chapter 4. Chapter 5 reports the results regarding the effectiveness of VIPP-FC on parenting behavior and attitudes of foster parents using a randomized controlled trial design.

The third aim of this dissertation is to examine correlates of indiscriminate friendliness displayed by foster children. In Chapter 6, the associations of several predictors with indiscriminate friendliness (i.e., parental sensitivity, attachment security, and child inhibitory control) are investigated from data collected during the pretest of the VIPP-FC study.

Lastly, Chapter 7 includes a general discussion of the results presented in this dissertation and provides implications for clinical practice and recommendations for future research.



Chapter 2

A meta-analytic review of parenting interventions in foster care and adoption

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ABSTRACT

Foster and adoptive parents often face challenges while taking care of children who, due to their adverse early life experiences, are at risk of developing insecure attachment relationships, behavior problems, and stress dysregulation. Several intervention programs have been developed to help foster and adoptive parents to overcome these challenges. In the current study, a series of eight meta-analyses were performed to examine the effectiveness of these intervention programs on four parent outcomes (sensitive parenting, $k = 11$, $N = 684$; dysfunctional discipline, $k = 4$, $N = 239$; parenting knowledge and attitudes, $k = 7$, $N = 535$; parenting stress, $k = 18$, $N = 1{,}306$), three child outcomes (attachment security, $k = 6$, $N = 395$; behavior problems, $k = 33$, $N = 2{,}661$; diurnal cortisol levels, $k = 3$, $N = 261$), and placement disruption ($k = 7$, $N = 1{,}100$). Results show positive effects for the four parent outcomes and child behavior problems, but not for attachment security, child diurnal cortisol levels, or placement disruption. Indirect effects on child outcomes may be delayed and therefore long-term follow-up studies are needed to examine the effects of parenting interventions on children.

INTRODUCTION

Children placed in foster or adoptive families often have had adverse experiences (e.g., abuse and/or neglect) before their placement. Even though these experiences may differ from child to child, what these children have in common is a separation from their biological parents (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). Foster or adoptive placements generally signify an improvement, in which children are usually moved from unfavorable caregiving circumstances to nurturing families. Children's adverse experiences can, however, result in difficulties with trusting new adults, which in turn may contribute to difficulties in forming a secure attachment relationship with the (new) parent and to the development or persistence of behavior problems. Taking care of foster or adopted children is therefore frequently a demanding and difficult task. While foster care and adoptive placements can be considered as interventions in itself (Nelson, Fox, & Zeanah, 2014; Van IJzendoorn & Juffer, 2006), several intervention programs have been developed to help and support foster and adoptive parents and children to form a secure attachment relationship and to help these parents deal with child behavior problems and parenting challenges after placement. Parenting interventions may eventually decrease or even prevent the risk of developmental problems as a result of adverse early life experiences and increase resilience of foster and adopted children. The current meta-analysis is the first to examine the combined effect of these intervention programs in both foster and adoptive families. The focus is on parenting constructs (sensitivity, discipline, knowledge and attitudes, and parenting stress) that have been associated with child outcomes such as attachment security, problem behavior, and stress regulation. In addition, we tested effects on placement disruptions.

Developmental Challenges of Foster and Adopted Children

Adverse early life experiences may influence children's development and result in behavioral and emotional problems. One important underlying mechanism is the formation of attachment relationships. Children can use different behavioral strategies in response to the parent or caregiver (attachment figures) in stressful situations and these strategies are an indication of the quality of the attachment relationship. Children with a secure attachment relationship seek contact with and comfort from their attachment figure when they are upset. There are different patterns that are considered as an insecure attachment: children who show avoidant attachment behaviors in times of need do not seek contact and comfort from their attachment figures, whereas children who show resistant attachment behaviors do seek contact and comfort from their attachment figure, but they stay upset because they cannot regulate their emotions properly (Ainsworth, Blehar, Waters, & Wall, 1978). When children show a temporary breakdown of secure or insecure attachment behavior strategies they are classified as insecurely disorganized attached, which is often seen as the most insecure attachment classification (Main & Hesse, 1990). An insecure and/or disorganized attachment

relationship increases the risk of developing behavior problems and psychopathology later in life (Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010; Groh, Roisman, Van IJzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Sroufe, Egeland, Carlson, & Collins, 2005; Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999), whereas a secure attachment relationship promotes a more optimal social development, as well as adaptability and resilience in children (Groh et al., 2014; Sroufe et al., 2005). Meta-analytic results show that foster and adopted children are more likely to develop an insecure disorganized attachment relationship with their new parents than children living with and being raised by their biological parents (Van den Dries et al., 2009; Vasileva & Petermann, 2018), and they are more likely to develop emotional and behavioral problems (Juffer & Van IJzendoorn, 2005).

Early adverse experiences and behavior problems of foster and adopted children additionally increase the risk of disruptions in foster care and adoption (Coakley & Berrick, 2008; McDonald, Propp, & Murphy, 2001; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007), and the more previous placements and/or transitions, the higher the risk for children to develop emotional and behavioral problems later in life (Newton, Litrownik, & Landsverk, 2000). Prevention of placement disruption is important to prevent children from having to experience another separation of an attachment figure.

Lastly, adverse experiences early in life are often stressful for children. Low quality of care and separations from attachment figures can result in chronic stress in children and this early life stress may result in dysregulation of the hypothalamic–pituitary–adrenocortical (HPA) axis (Bunea, Szentágotai-Tătar, & Miu, 2017; Koss & Gunnar, 2018). The cortisol production (the end product of the HPA axis) of foster and adopted children seems to show an atypical, more blunted pattern during the day than that of non-foster and non-adopted children indicating that their stress-response system is atypically activated during the day (Bernard, Butzin-Dozier, Rittenhouse, & Dozier, 2010; Bunea et al., 2017; Koss & Gunnar, 2018). Previous research has additionally shown that dysregulation of the HPA axis is related to internalizing (e.g., depression, anxiety, or posttraumatic stress disorder (PTSD)) or externalizing behavior problems (e.g., conduct problems, aggression, and rule-breaking) later in life (Alink et al., 2008; Koss & Gunnar, 2018). Dysregulation of the HPA axis and the probable behavioral consequences may thus also increase the risk of placement disruption in foster and adopted children.

Intervention Programs for Foster and Adoptive Parents

Foster and adoptive parents often experience challenges with and have concerns about their children's attachment security, behavior problems, and (previously or currently) experienced stress. They often experience elevated levels of stress, because the placement, the caregiving of, and interacting with children who (due to their adverse experiences) show behavior problems can be stressful (Goemans, Van Geel, & Vedder, 2018). Such elevated stress levels

can inhibit parents' sensitive (disciplining) behavior while interacting with the child (Feldman, Weller, Zagoory-Sharon, & Levine, 2007). It is thus important that parenting interventions aim to reduce parenting stress in foster and adoptive parents. In addition, intervention studies have shown that children's attachment security can be improved with intervention programs focusing on increasing parental sensitivity of parents in general (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). Research also shows that children with early life stress and a dysregulated HPA axis benefit from intervention programs that increase parental sensitivity (Bernard, Hostinar, & Dozier, 2015; Fisher, Gunnar, Dozier, Bruce, & Pears, 2006; Fisher, Stoolmiller, Gunnar, & Burraston, 2007). However, sensitive parenting alone may not suffice to decrease the often tenacious behavior problems of foster and adoptive children. Consistent parental disciplining and positive reinforcement of desired child behavior may additionally be necessary to reduce child behavior problems (Patterson, 1982). Dysfunctional disciplining strategies can be reduced with parenting interventions (Ciff, Rus, Butterfield, & Parris, 2015; N'zi, Stevens, & Eyberg, 2016; Van Zeijl et al., 2006). In addition, for foster and adoptive parents it may be relevant to understand where the children's problems regarding (attachment) behavior and stress regulation come from. A previous systematic review shows that effective intervention programs that aim to improve the parent-child relationship and to reduce children's behavior problems include a psychoeducational component that teaches foster parents about the impact of the adverse early life experiences on the children's developmental problems regarding (attachment) behavior and stress regulation (Kemmis-Riggs, Dickes, & McAloon, 2018). A qualitative study among adoptive parents also recommends that intervention programs should educate adoptive parents about the relation between pre-placement adverse experiences and attachment security, and how they can sensitively respond to the children's needs (Dunkelberg, 2008).

Several intervention programs have been developed for foster and adoptive parents. Sensitive parenting, dysfunctional disciplining, and parenting stress of foster and adoptive parents can, for example, be improved respectively reduced with the Parent-Child Interaction Therapy (PCIT; Mersky et al., 2015) or the Child Parent Relationship Therapy (CPRT; Opiola, 2016), respectively. Promoting First Relationships (PFR; Spieker, Oxford, Kelly, Nelson, & Fleming, 2012) is an example of a parenting intervention that can increase foster parents' knowledge about the children's problems with (attachment) behavior and stress regulation.

Previous Meta-analytic Studies

Two meta-analyses examining the effectiveness of foster care intervention programs have previously been conducted. In the first meta-analysis, Van Andel, Grietens, Strijker, Van der Gaag, and Knorth (2012) included intervention programs that may be helpful for foster parents and children to cope with problem behavior and stress, but that were not necessarily tested in a foster care sample. Their literature search resulted in 19 studies and results showed

significant medium combined effect sizes for improved parenting skills and decreased behavior problems. However, most of the studies included in this meta-analysis did not report results specifically for foster parents or children (i.e., Becker-Weidman & Hughes, 2008; Evans et al., 2003; Henggeler et al., 1999; Marvin, Cooper, Hoffman, & Powell, 2002; Mesman et al., 2008; Moretti & Obsuth, 2009; Nabors, Proescher, & DeSilva, 2001; Ogden & Hagen, 2008; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003). Other studies did not examine the effectiveness of parenting interventions (i.e., Clark & Prange, 1994; Myeroff, Mertlich, & Gross, 1999) or used foster care (or a comparable kind of care) as an intervention itself (i.e., Chamberlain, Leve, & DeGarmo, 2007; Cowen & Reed, 2002; Whitemore, Ford, & Sack, 2003). Lastly, three studies did not include a (randomized) control group to test the effectiveness of the intervention programs (i.e., Marvin et al., 2002; Nabors et al., 2001; Whitemore et al., 2003), which makes it difficult to draw conclusions based on the results.

In the second meta-analysis, Solomon, Niec, and Schoonover (2017) examined the effectiveness of intervention programs aimed at improving foster parents' parenting skills, behavior, and knowledge and at reducing child behavior problems. The small to medium combined effect size based on 16 studies showed that the intervention programs effectively improved parenting skills and knowledge, and reduced child behavior problems, compared to a (randomized) control group. Because of the specific aim of this meta-analysis effectiveness studies of intervention programs with another outcome than parenting skills, knowledge, and/or child problem behavior were excluded (e.g., parenting stress and child attachment security). Studies including kinship foster care were also excluded, resulting in a selection of available foster care intervention studies. Examples of intervention programs that were excluded due to these inclusion and exclusion criteria are Fostering Attachments (Wassall, 2011), Multidimensional Treatment Foster Care for Preschoolers (MTFC-P; Fisher & Kim, 2007; Fisher & Stoolmiller, 2008), and Promoting First Relationships (PFR; Spieker et al., 2012).

To our knowledge, no meta-analyses regarding parenting interventions for adoptive families have been conducted. However, a systematic review by Drozd, Bergsund, Hammerstrom, Hansen, and Jacobsen (2018) included 21 studies with a pre-posttest design with at least one control group that examined parent outcomes in adoptive families. Some studies found improvements of interpersonal functioning and parenting, but the majority did not. Finally, a meta-analysis examining the effectiveness of interventions to prevent disorganized attachment did find that interventions focusing on increasing parental sensitivity resulted in a small but significant decrease of the prevalence of disorganized attachment and more so in children at risk, e.g., adopted children (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2005).

According to Dickes, Kemmis-Riggs, and McAloon (2018), methodological differences between individual intervention programs and/or individual studies make it difficult to draw definite conclusions from the results of meta-analyses. Effectiveness studies of intervention programs depend on the internal validity within a study (e.g., program fidelity) but also the external validity in terms of generalizability to the foster care population (Dickes et al., 2018). Dickes et al. (2018) systematically reviewed the quality of methods regarding participant (e.g., kinship vs. non-kinship, mean age, placement history), intervention (e.g., setting, format, aims), and outcome (i.e., measurement instruments) characteristics of 17 intervention studies, and results showed that due to heterogeneity within these methodological characteristics it remains difficult to compare individual studies and calculate an overall effect size. It is therefore important to take possible moderators into account when conducting a meta-analysis to control for this heterogeneity.

Current Study

In the current study a series of eight meta-analyses have been performed to examine the effectiveness of parenting interventions in foster and/or adoptive families on sensitive parenting, dysfunctional discipline, knowledge and attitudes, and stress, and on child attachment security, child behavior problems, child diurnal cortisol levels, and placement disruption. Contrary to the meta-analysis of Van Andel et al. (2012), the current study included studies with (at least) one intervention and one (randomized) control group, that did not consider foster care as type of intervention, and that specifically reported results for foster and/or adoptive parents. In addition, compared to the meta-analysis of Solomon et al. (2017), effectiveness studies of interventions working with foster and/or adoptive families were also included if they reported outcomes on parenting stress, child attachment security, children's diurnal cortisol levels, and placement disruption. In addition, studies with both kinship and non-kinship foster families were included. The current meta-analysis aims to provide insight in whether parenting interventions for foster and adoptive parents are effective in improving parenting, and whether parenting interventions can indirectly enhance child outcomes and placement disruptions.

METHODS

Literature Search

A systematic search in three digital databases (ERIC, PsycINFO, and Web of Science) was done to identify eligible studies published before January 2018. The databases were searched using the following terms: *interven** and/or *preven**, combined with *foster** and/or *adopt**, and *parent** and/or *mother** and/or *father**. The initial search resulted in 9,632 records. Fifteen papers were additionally included based on other sources, e.g., previously written meta-analyses and systematic reviews (Benjamin, 2010; Chamberlain, Moreland, & Reid, 1992; Fisher & Kim, 2007; Jonkman et al., 2017; Leathers, Spielfogel, Gleeson, & Rolock, 2012; J. H. Lee & Holland, 1991;

Linares, Li, & Shrout, 2012; Linares, Montalto, Li, & Oza, 2006; Macdonald & Turner, 2005; Price et al., 2008; Selwyn, Del Tufo, & Frazer, 2009; Sprang, 2009; Triantafillou, 2002; Vranjin, 2012; Wassall, 2011). After deletion of duplicates (n = 1,652) the retrieved titles, abstracts, and full texts were subsequently screened for their eligibility. Papers, dissertations, and (sections of) books were included when they were written in English and if they compared an intervention group of foster and/or adoptive parents with a control group. This resulted in a total of 63 records, of which two papers were not found with the initial search, but are a result from screening reference lists during the coding phase. A flow chart of the search process is presented in Figure 1. Interrater agreement of three coders for the selection of eligible records was good for both the screening of titles and abstracts (κ = 0.95) and the screening of full text records (κ = 1.00).

Coding System

To identify possible constructs for separate meta-analyses and moderators, the outcome, sample, study design, and intervention characteristics of each study were coded using a standardized coding system. *Outcome characteristics* were name of construct, instrument used to measure this construct, number of subscales used, and type of instrument (independent observation, independent assessment, self-report questionnaire parent, self-report questionnaire teacher/case worker, self-report questionnaire child, physiological assessment, or other). *Sample characteristics* were country of study, child age (*M*, *SD,* and range), and whether the children displayed problem behavior at time of inclusion (risk sample yes/no). The target group of the intervention program was coded as foster care, adoption, or combination of both. We subsequently coded if the foster care target groups consisted of non-kinship, kinship, or a combination of non-kinship and kinship foster parents. For the adoption target groups we coded if the study included domestic, international, or a combination of domestic and international adoptions. *Study design characteristics* were use of intent-to-treat analyses (yes or no), and level of randomization (random or non-random control group). Parent and child outcome variables and the sample and study design characteristics are presented in Table 1.

Intervention characteristics included name of the intervention program, delivery format (group and/or individual), setting of delivery (home, community center, or other), number of sessions, duration of intervention program (in months), focus of intervention program (psycho-education, video feedback, video modeling, in the moment feedback, or other), and control group treatment (dummy intervention, waitlist, or care as usual). An overview of the most relevant intervention characteristics is presented in Table 2.

Interrater reliability between three coders was good; intraclass correlations for continuous characteristics ranged from .96 to 1.00 (k = 10) and the percentages of agreements between coders for categorical characteristics ranged from 70 to 100% (M = 88.5, SD = 10.3, k = 10). All studies were coded by the first author, and more than half of the studies (k = 39, including the ten studies coded by all coders and used to calculate interrater reliability and coder agreements) were independently double coded by at least one other coder. Disagreements were discussed and consensus scores were made and used in the meta-analyses.

Outcome constructs. To perform a meta-analysis on a certain outcome, at least three studies reporting results on the same outcome were needed. Eight relevant constructs with sufficient effect sizes were identified: four regarding parent outcomes (sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, and parenting stress) and three regarding child outcomes (attachment security, behavior problems, diurnal cortisol levels), and (temporary) placement disruptions. To assess the construct(s) relevant for each study, the measurement instruments used in each study were critically reviewed. Three studies reported intervention (non-)effects on empathy using the Measurement of Empathy in Adult-Child Interaction (MEACI) (Carnes-Holt, 2010; Carnes-Holt & Bratton, 2014; Opiola, 2016), but after in depth review of this measure it was decided that this instrument fitted the sensitive parenting construct. Other studies labeled their outcome “parenting” or “parent-child interaction” which were coded as sensitive parenting (i.e., Mersky et al., 2015; N’zi et al., 2016), dysfunctional discipline (i.e., Bywater et al., 2011; Ciff et al., 2015), or knowledge and attitudes (i.e., J. H. Lee & Holland, 1991; Pithouse, Hill-Tout, & Lowe, 2002; Puddy & Jackson, 2003; Spieker et al., 2012). Two meta-analyses were performed for child behavior problems: one including studies with results on behavior problems reported only by parents, and one including studies with results on parent and teacher/professional reported behavior problems.

Unfortunately, not all instruments used in the studies could be coded as at least one of the eight constructs. Seven studies were excluded because they had outcomes that did not match the constructs (Bammens, Adkins, & Badger, 2015; Bernard, Lee, & Dozier, 2017; Dollberg & Keren, 2013; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008; Linares et al., 2015; Nelson & Spieker, 2013; Spieker, Oxford, & Fleming, 2014). Thus, 56 studies were eligible for data extraction (Figure 1).

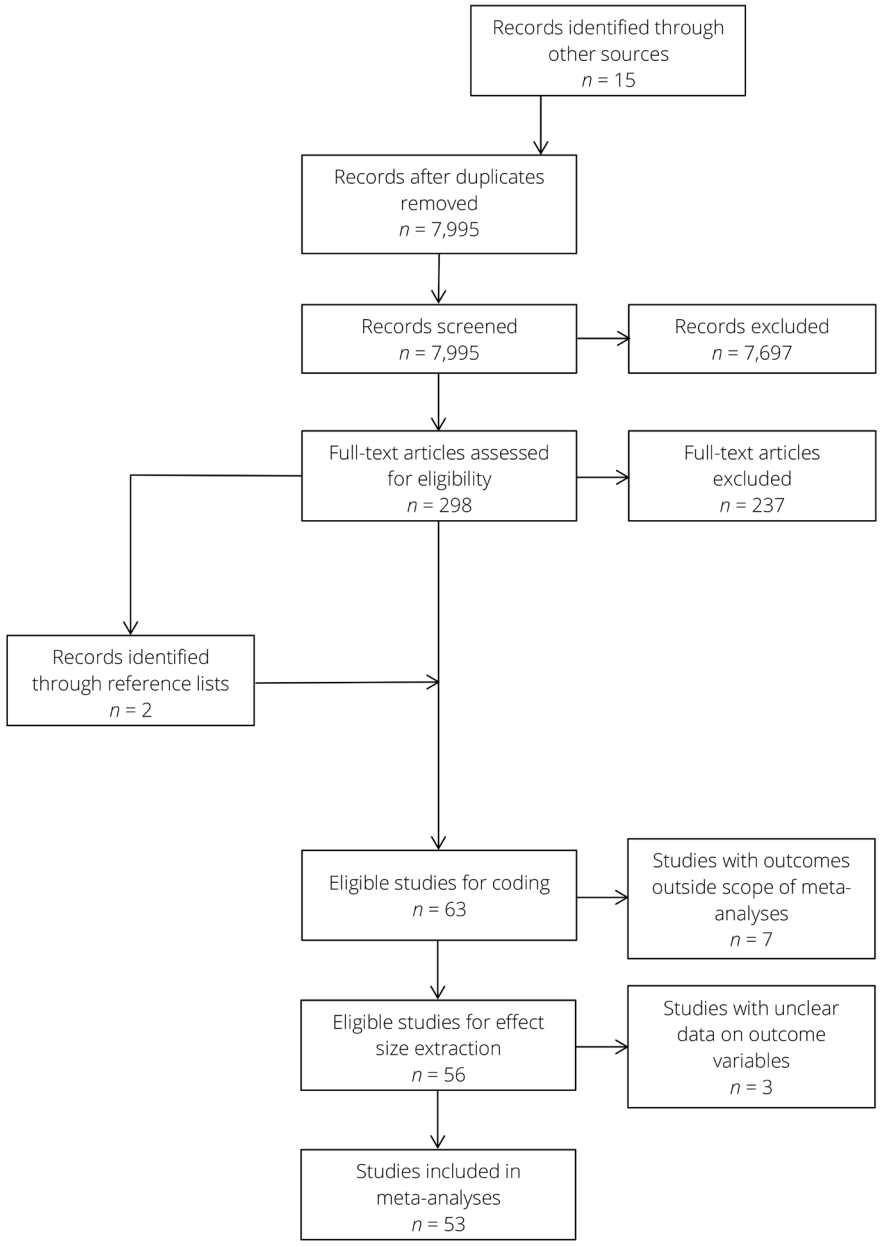


Figure 1. *Flow diagram of literature search.*

Effect Size Extraction

Of the included studies only one study reported posttest data only (i.e., Dozier et al., 2009), but all other studies reported data on or a change score between at least two measurements, i.e., pretest and posttest data. If a study reported data on more than one posttest measurement, the data of the measurement closest to the completion of the intervention was used. The separate meta-analyses were as much as possible based on raw data (means, standard deviations, and sample size of the pre- and posttest). Twelve studies used data of the same sample (e.g., Carnes-Holt (2010) and Carnes-Holt and Bratton (2014), Table 1). To ensure independence between samples in the meta-analyses, these studies could not be included in the same meta-analysis. The study with the most complete data (e.g., larger sample size, more outcome variables, etc.) was used in the meta-analyses, with a preference for peer-reviewed papers over dissertations or (sections of) books, and a preference of the most recently published paper over older publications (e.g., Euser, Alink, Stoltenborgh, Bakermans-Kranenburg, & Van IJzendoorn, 2015; Goemans, Van Geel, & Vedder, 2015). However, if the studies reported data of the same sample on different outcome variables, they could be included in separate meta-analyses. For example, Mersky et al. (2015) and Mersky et al. (2016) used data from the same sample but Mersky et al. (2015) was included in the meta-analyses on sensitive parenting and parenting stress, and Mersky et al. (2016) in the meta-analysis on child behavior problems. In addition, some studies used multiple instruments to measure the same outcome variable within one study. For example, Juffer, Bakermans-Kranenburg, and Van IJzendoorn (2005) used the Ainsworth coding scales for Sensitivity and Cooperation to measure sensitive parenting. In these cases, data of the different scales/instruments were averaged in the meta-analyses. Lastly, some studies examined the effectiveness of two intervention programs (see Table 2). These studies were considered as presenting two independent studies and they were thus included twice in the meta-analyses, but with a halved sample size of the control group compared to the whole sample size of each intervention group to prevent that the participants of the control group were included twice in the meta-analysis (Werner, Linting, Vermeer, & Van IJzendoorn, 2016).

To include data of all 56 records, the authors of four studies were contacted to provide data on (a number of) outcome variables. We obtained the requested data of Spieker et al. (2012). Thus, 53 studies were included in the final meta-analyses (Figure 1).

Table 1. *Sample and study design characteristics.*

Author(s)	Country	Target group		*N*°	Intent-to-treat	Level of randomization
		FC	AD			
Akin et al. (2015)	USA	C	n/a	121	NR	Random
Baker et al. (2015)	USA	n/a	C	15	No*	Random
Benjamin (2010)	USA	n/a	Nat	60	No*	Non-random
Bick & Dozier (2013)[1]	USA	NR	n/a	96	No*	Random
Bondy (1997)	USA	n/a	Nat	61	No*	Non-random
Bywater et al. (2010)	UK	NR	n/a	46	No*	Random
Carnes-Holt (2010)[a]	USA	n/a	C	61	No	Random
Carnes-Holt & Bratton (2014)[a]	USA	n/a	C	61	No	Random
Chamberlain et al. (1992)[1]	USA	NR	n/a	72	NR	Random
Chamberlain et al. (2008)[b]	USA	C	n/a	564	NR	Random
Ciff et al. (2015)	RO	NR	n/a	82[‡]	NR	Random
Dozier et al. (2006)	USA	NR	n/a	60	No	Random
Dozier et al. (2009)	USA	NR	n/a	46	No	Random
Farmer et al. (2010)[1]	USA	NR	n/a	247	Yes	Random
Fisher & Kim (2007)	USA	NR	n/a	91	No	Random
Gavița et al. (2012)	RO	NR	n/a	97	Yes	Random
Greeno et al. (2016)	USA	C	n/a	88	NR	Non-random
Hampson & Tavormina (1980)	USA	NR	n/a	42	No*	Non-random
Jonkman et al. (2017)	NL	NR	n/a	108	Yes	Non-random
Juffer et al. (1997)[c]	NL	n/a	Int	90	No*	Random
Juffer et al. (2005)[c]	NL	n/a	Int	130	No*	Random
Juffer et al. (2008)[1,c]	NL	n/a	Int	130	No*	Random
Leathers et al. (2012)[1]	USA	NR	n/a	25	Yes	Non-random
Lee & Holland (1991)	USA	NR	n/a	29	No*	Non-random

Child age range (years)º	Risk group	Outcome variables
3 to 16	Yes	Child behavior problems
1.9 to 5.2	No	Sensitive parenting, and parenting stress; Child attachment security, and behavior problems
6 to 15	Yes	Parental attachment characteristics; Child behavior problems
0 to 2	No	Sensitive parenting
≥ 7	Yes	Child adoption disruption
2 to 17	No	Dysfunctional discipline; Child behavior problems
2 to 10	Yes	Sensitive parenting, and parenting stress Child behavior problems
2 to 10	Yes	Sensitive parenting; Child behavior problems
4 to 18	No	Child behavior problems, placement stability
5 to 12	No	Child behavior problems
NR	No	Dysfunctional discipline
0.3 to 3.2	No	Child behavior problems, and cortisol
0.3 to 3.3	No	Child attachment security
2 to 21	No	Child behavior problems
3 to 5	No	Child attachment security
5 to 18	Yes	Dysfunctional discipline; Child behavior problems, and placement disruption
4 to 12	Yes	Parenting style, and stress; Child behavior problems
NR	No	Parenting attitudes; Child behavior problems
3 to 7	Yes	Parenting stress, and cortisol; Child behavior problems, and cortisol
0.4 to 1	No	Sensitive parenting; Child attachment security
NR	No	Sensitive parenting; Child attachment disorganization
NR	No	Sensitive parenting; Child attachment security, and attachment disorganization
4 to 12	Yes	Child behavior problems
NR	No	Parenting attitudes

Table 1. *Continued.*

Author(s)	Country	Target group		*N*°	Intent-to-treat	Level of randomization
		FC	AD			
Lee & Lee (2016)	USA	C	n/a	162	No*	Random
Linares et al. (2012)[1]	USA	C	n/a	94	Yes	Random
Lind et al. (2017)	USA	C	n/a	121	No*	Random
Maaskant et al. (2016)[1,d]	NL	C	n/a	86	Yes	Random
Maaskant et al. (2017)[d]	NL	C	n/a	86	Yes	Random
Macdonald & Turner (2005)[1]	UK	NR	NR	117	NR	Random
Mersky et al. (2015)[e]	USA	Non-k	n/a	96	No	Random
Mersky et al. (2016)[e]	USA	Non-k	n/a	91	Yes	Random
Minnis & Devine (2001)[1]	UK	NR	n/a	182	Yes	Random
Nilsen (2007)	USA	NR	n/a	18	No*	Non-random
N'Zi et al. (2016)[1]	USA	K	n/a	14	No*	Random
Opiola (2016)	USA	n/a	C	49	No*	Random
Pacifici et al. (2005)	USA	NR	NR	74	Yes	Random
Pasalich et al. (2016)[1]	USA	C	n/a	175	No	Random
Pithouse et al. (2002)	UK	Non-k	n/a	106	No*	NR
Price et al. (2008)[b]	USA	C	n/a	564	NR	Random
Price et al. (2012)[b]	USA	C	n/a	881[‡]	NR	Random
Price et al. (2015)[b]	USA	C	n/a	335	Yes	Random
Puddy & Jackson (2003)	USA	NR	n/a	64	NR	Non-random
Rushton et al. (2010)[1]	UK	n/a	NR	37	No*	Random
Selwyn et al. (2009)[1]	UK	n/a	NR	35	NR	Non-random
Spieker et al. (2012)[1]	USA	C	n/a	127	No	Random
Sprang (2009)	USA	NR	n/a	58	Yes	Random

Child age range (years)°	Risk group	Outcome variables
M_{int} = 3.4, SD_{int} = 0.5 M_{cont} = 3.4, SD_{cont} = 0.5	No	Child behavior problems
5 to 8	No	Child behavior problems
1.2 to 4.7	No	Child behavior problems
4 to 12	Yes	Parenting stress; Child behavior problems
4 to 12	Yes	Parenting stress; Child behavior problems
NR	No	Parenting knowledge; Child behavior problems, and placement disruption
2.5 to 7	Yes	Sensitive parenting, and parenting stress
3 to 6	Yes	Child behavior problems
5 to 16	No	Child behavior problems
5 to 12	No	Parenting knowledge and attitudes, and parenting stress; Child behavior problems
2 to 7.5	Yes	Sensitive parenting, discipline, and parenting stress; Child behavior problems
2.5 to 9	Yes	Sensitive parenting , and parenting stress; Child behavior problems
≥ 5	No	Parenting knowledge
0.8 to 2	No	Child attachment security, and behavior problems
3 to 17	Yes	Parenting attitudes; Child behavior problems
5 to 12	No	Child placement disruption
5 to 12	No	Child behavior problems
5 to 12	No	Parenting stress; Child behavior problems
NR	No	Parenting knowledge
3 to 8	Yes	Parenting stress; Child behavior problems
M_{int} = 8.6 M_{cont} = 7.2	No	Child behavior problems
0.83 to 2	No	Sensitive parenting, parenting knowledge, and stress; Child attachment security, and behavior problems
M_{tot} = 3.54, SD_{tot} = 1.55	No	Parenting stress; Child behavior problems

Table 1. *Continued.*

Author(s)	Country	Target group		*N*°	Intent-to-treat	Level of randomization
		FC	AD			
Stams et al. (2001)[1,c]	NL	n/a	Int	35	No	Random
Triantafillou (2002)[1]	CA	NR	n/a	16	No*	Non-random
Van Andel et al. (2016)	NL	C	n/a	96	No	Random
Van Holen et al. (2017)[1]	BE	C	n/a	63	Yes	Random
Vranjin (2012)[1]	USA	C	n/a	30	No*	Random
Wassall (2011)[1]	UK	NR	NR	25	No*	Non-random

Note. BE Belgium, *CA* Canada, *IL* Israel, *NL* The Netherlands, *RO* Romania, *USA* United States of America, *UK* United Kingdom, *Non-k* Non-kinship foster care, *K* Kinship foster care, *Nat* National adoption, *Int* International adoption, *C* Combination, *NR* Not reported, *n/a* Not applicable

[1] study with at least one follow-up measurement, [a,b,c,d,e] (partially) same study sample, [+] at posttest, [‡] at pretest, ° unless other indicated, * not needed because no attrition

Table 2. *Characteristics of intervention studies included in the meta-analysis.*

Author(s)	Intervention program	Delivery	Setting
Akin et al. (2015)	PMTO	I	H
Baker et al. (2015)	EA2 Tele-intervention	I, G	H
Benjamin (2010)	BIMP	G	NR
	LLP	G	NR
Bick & Dozier (2013)	ABC	I	H
Bondy (1997)	Family Psychotherapy	I	CC
Bywater et al. (2010)	IY	G	CC
Carnes-Holt (2010)	CPRT	G	CC
Carnes-Holt & Bratton (2014)	CPRT	G	CC
Chamberlain et al. (1992)	ES&T	I, G	H, CC
Chamberlain et al. (2008)	KEEP	G	CC
Ciff et al. (2015)	REBT	G	CC
Dozier et al. (2006)	ABC	I	H
Dozier et al. (2009)	ABC	I	H
Farmer et al. (2010)	Enhanced TFC	I	H
Fisher & Kim (2007)	MTFC-P	I, G	H, CC, O
Gaviță et al. (2012)	CEBPT	G	NR

Child age range (years)°	Risk group	Outcome variables
M_{tot} = 0.18, SD_{tot} = 0.09	No	Sensitive parenting; Child behavior problems
12 to 18	Yes	Child behavior problems
0 to 5	No	Sensitive parenting, and parenting stress; Child cortisol
3 to 12	Yes	Parenting stress; Child behavior problems, and placement disruption
3 to 17	Yes	Parenting stress; Child behavior problems
0 to 15.5	No	Parenting stress; Child behavior problems, and placement stability

Sessions	Duration (months)	Focus	Treatment control group
NR	Max. 6	NR	CAU
NR*	1.5	PE, VM, VF, O	Waitlist
7	2	PE,O	Waitlist
7	2	PE	Waitlist
10	2.5	PE, VF	Dummy
16	4	PE, O	CAU
12	3	PE, VM, O	Waitlist
10	2.5	PE, VF	Waitlist
10	2.5	PE, VF	Waitlist
NR	NR	PE, VM	CAU (+ monthly additional stipend)
16	4	PE, O	CAU
5	1	PE	CAU
10	2.5	PE, VF	Dummy
10	2.5	PE, VF	Dummy
6	1.5	PE, MF, O	CAU
NR	9 to 12	PE, O	RFC
5	4	PE, O	Waitlist

Table 2. *Continued.*

Author(s)	Intervention program	Delivery	Setting
Greeno et al. (2016)	KEEP	I, G	O
Hampson & Tavormina (1980)	Behavioral group training	G	CC
	Reflective group training	G	CC
Jonkman et al. (2017)	MTFC-P	I, G	H, CC
Juffer et al. (1997)	Video-feedback & Book	I	H
	Book only	I	H
Juffer et al. (2005)	Video-feedback & Book	I	H
	Book only	I	H
Juffer et al. (2008)	Video-feedback & Book	I	H
	Book only	I	H
Leathers et al. (2012)	Adapted KEEP	I, G	H, CC
Lee & Holland (1991)	MAPP	G	CC
Lee & Lee (2016)	Head Start	I, G	H, CC
Linares et al. (2012)	Adapted IY	G	CC
Lind et al. (2017)	ABC-T	I	H
Maaskant et al. (2016)	PMTO	I	H
Maaskant et al. (2017)	PMTO	I	H
Macdonald & Turner (2005)	No name	G	NR
Mersky et al. (2015)	Brief PCIT	I, G	H, CC
	Extended PCIT	I, G	H, CC
Mersky et al. (2016)	Brief PCIT	I, G	H, CC
	Extended PCIT	I, G	H, CC
Minnis & Devine (2001)	No name	G	CC
Nilsen (2007)	Adapted IY	G	NR
N'Zi et al. (2016)	CDIT	G	CC
Opiola (2016)	CPRT	G	O
Pacifici et al. (2005)	Anger Outbursts	I	H
Pasalich et al. (2016)	PFR	I	H
Pithouse et al. (2002)	No name	G	NR
Price et al. (2008)	KEEP	G	CC
Price et al. (2012)	KEEP	G	CC, O
	KEEP SAY	G	CC, O
Price et al. (2015)	KEEP	G	CC, O
Puddy & Jackson (2003)	MAPP-GPS	G	O
Rushton et al. (2010)	Cognitive Behavioral Programme	I	H
	Educational Programme	I	H

Sessions	Duration (months)	Focus	Treatment control group
32	4	PE, O	CAU
8	2	PE, O	Waitlist
8	2	PE, O	Waitlist
36	9	PE, O	TAU, RFC
3	3	PE, VF	Dummy
2	3	PE	Dummy
3	3	PE, VF	Dummy
2	3	PE	Dummy
3	3	PE, VF	Dummy
2	3	PE	Dummy
Max. 32[+]	4	PE, O	CAU
10	2.5	PE, O	CAU
2 to 54	NR	PE	CAU
3	3	PE	CAU
10	2.5	PE, VF, O	Dummy
M = 21.42	*M* = 5.36	O	CAU
M = 21.42	*M* = 5.36	O	CAU
5	1.25	PE, O	Waitlist
8	2	PE, MF	Waitlist
12	3.5	PE, MF	Waitlist
8	2	PE, MF	Waitlist
12	3.5	PE, MF	Waitlist
3	0.25	PE	CAU
12	3	PE, VM, O	CAU
8	1	PE, MF	Waitlist
10	2.5	PE, VF, O	CAU
NR	0.5	PE, VM	Waitlist
10	2.5	PE, VF	Dummy
4	1	PE	NR
16	4	PE, O	CAU
16	4	PE, O	CAU
16	4	PE, O	CAU
16	4	PE, O	CAU
10	NR	PE, O	CAU
10	2.5	PE, O	Waitlist
10	2.5	PE, O	CAU

Table 2. *Continued.*

Author(s)	Intervention program	Delivery	Setting
Selwyn et al. (2009)	CAKE	G	CC
Spieker et al. (2012)	PFR	I	H
Sprang (2009)	ABC	I	H
Stams et al. (2001)	Video-feedback & Book	I	H
	Book only	I	H
Triantafillou (2002)	SFPG	G	NR
Van Andel et al. (2016)	FFI	I	H
Van Holen et al. (2016)	No name	I	H
Vranjin (2012)	TAKE-5	I	H
Wassall (2011)	Fostering Attachments	G	NR

Note. ABC(-T) Attachment and Biobehavioral Catch-up(-Toddlers), *BIMP* Benjamin Interactive Parenting, *CAKE* It's a Piece of Cake?, *CDIT* Child Direction Interaction Training, *CEBPT* Short Enhanced Cognitive-Behavioral Parent Training, *CPRT* Child Parent Relationship Therapy, *EA2* Emotional Attachment and Emotional Availability, *EIFC* Early Intervention Foster Care, *Enhanced TFC* Enhance treatment foster care, *ES&T* Enhanced support and training, *FFI* Foster Family Intervention, *IY* Incredible Years, *KEEP (SAY)* Keeping Foster Parents Trained and Supported (Social Advocates for Youth), *LLP* Love and Logic Parenting, *MAPP(-GPS)* Model Approach to Partnerships in Parenting(/Group Selection and Participation of Foster and/or Adoptive Families), *MTFC-P* Multidimensional Treatment Foster Care for Preschoolers, *PCIT* Parent-Child Interaction Therapy, *PFR* Promoting First Relationships, *PMTO* Parent Management Training-Oregon model, *REBT* Reactional Emotive Behavior Therapy, *SFPG* Solution-Focused Parent Groups, *TAKE-5* Trauma Affects Kids Everywhere-5 ways to resilience
G Group, *I* Individual, *H* Home, *CC* Community center, *PE* Psycho-education, *VM* Video modeling, *VF* Video feedback, *MF* In the moment feedback, *CAU* Care as usual, *RFC* Regular foster care, *O* Other, *NR* Not reported
* number of group sessions not reported, one individual session via Skype, † number of individual sessions max. 16

Data Analyses

Eight meta-analyses were conducted to examine the effectiveness of parenting interventions on the different parent and child outcomes using Comprehensive Meta-Analysis version 2 (CMA; Borenstein, Rothstein, & Cohen, 2005). Sample size, raw means and standard deviations of (preferably) pre- and posttest, or change scores of means and standard deviations, and aggregated test-retest correlation were used to compute Hedges *g* (Morris & DeShon, 2002). Hedges *g* is for the most part a similar effect size measure as Cohen's *d*, but where Cohen's *d* tends to overestimate the effect sizes of small samples, Hedges *g* removes this bias from Cohen's *d* and thus represents an unbiased estimate of the overall effect size. Hedges *g* can be calculated by the difference between two means divided by the pooled standard deviation (Borenstein, Hedges, Higgins, & Rothstein, 2009). If the test-retest correlation was not reported

Sessions	Duration (months)	Focus	Treatment control group
6	6	PE	CAU
10	2.5	PE, VF	Dummy
10	2.5	PE, VF	Dummy, Waitlist
3	3	PE, VF, O	Dummy
2	3	PE, O	Dummy
6	1.5	PE, O	CAU
6	3	PE, VF	CAU
10	2.5	PE, O	CAU
5	1.25	PE	Waitlist
18	6	PE, O	Waitlist

in the included studies of any of the eight meta-analyses a literature search was performed to make a substantiated estimate (Borenstein et al., 2009). Only for the meta-analysis on parental dysfunctional discipline an estimate of .50 was used, due to lack of reports on the test-retest correlation. All included studies in this meta-analysis used a questionnaire to measure parental discipline and a test-retest correlation of .50 is a conservative estimate considering that questionnaires usually have a moderate to high test-retest correlation.

Assuming that there is variation in effect sizes per study, a random effects models was used to analyze the data and calculate an estimated overall effect size of the distribution of effect sizes of the included studies per construct (Borenstein et al., 2009). The homogeneity across studies was tested with Q-statistics, with a significant Q test indicating true homogeneity across studies. To quantify the heterogeneity between the effect sizes of the included studies the I^2 was used. I^2 represents the percentage of total variability in a set of effect sizes due to true heterogeneity (Borenstein, Higgins, Hedges, & Rothstein, 2017). If I^2 is large, the proportion of variance of observed effects is due to a high variation in true effects rather than sampling error.

Outliers were identified by transforming the individual effect sizes of the included studies into standardized *z*-scores with $-3.29 < z > 3.29$ indicating outlying effect sizes (Tabachnick & Fidell, 2007). Only the study of Baker, Biringen, Meyer-Parsons, and Schneider (2015) had an outlying effect size ($z > 3.29$) in the meta-analysis of child behavior problems. This meta-analysis was done twice: once without and once with the outlying effect size.

To control for possible publication bias, and thus an overestimation of the effect sizes in the meta-analyses, Kendall's τ and the trim-and-fill procedure were used. Kendall's τ was used to assess the risk of publication bias. The Kendall's τ method calculates the relation between

the standardized effect sizes and the variance of these effect sizes (Begg & Mazumdar, 1994; Macaskill, Walter, & Irwig, 2001). The presence of possible publication bias is indicated by a significant correlation that indicates that studies with small sample sizes and non-significant results were unlikely to be published. The trim-and-fill procedure constructs a funnel plot of the effect sizes of the studies against the sample size or the standard error (usually plotted as 1/SE, or precision; Duval & Tweedie, 2000a; Duval & Tweedie, 2000b). If no publication error is present the funnel plot will look like a normality curve: increasing large variation in effect sizes is expected for studies with smaller sample sizes and larger standard errors, whereas smaller variation in effect sizes is expected in studies with larger sample sizes and smaller standard errors (Duval & Tweedie, 2000b; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). However, studies with results in the unexpected direction are less likely to be published and are thus missing in the bottom left hand corner of the plot (Sutton et al., 2000). The trim-and-fill procedure trims the *k* right most studies considered to be symmetrically unmatched and fills (i.e., imputes) their missing counterparts as mirror images of the trimmed outcomes. An adjusted estimate of the overall effect size could subsequently be calculated, taking a potential publication bias into account (Gilbody, Song, Eastwood, & Sutton, 2000).

Moderator analyses. The included studies varied in sample, study design, and intervention characteristics. Some studies used a randomized controlled trial, whereas others had a quasi-experimental design. Studies also varied in target group (foster care, adoption, or both), in examining a risk group or not, and in age of the included children. The investigated intervention programs varied in delivery format (group meetings, individual meetings, or both), in setting (home or community center), in number of sessions, and in using video-feedback or not. Moderator analyses were therefore performed to examine the associations of some of these characteristics with intervention program effects.

For each meta-analysis several moderator analyses were performed if possible. The role of potential moderators related to sample, study design, or intervention characteristics were examined only if a subset consisted of at least three studies ($k \geq 3$). Considering sample characteristics, it was examined whether the outcomes of intervention programs differed between foster and adoptive parents. Also the overall intervention effects for families with children who displayed high levels of behavior problems (risk group = yes) were compared with families with children that did not (risk group = no). Considering study design characteristics, the overall effect of studies that included a random control group were compared with studies with a non-random control group. Lastly, considering intervention characteristics, intervention programs that used video-feedback were compared with interventions with another focus. Intervention programs working with groups, individuals, or both, were also compared. Different intervention settings were compared, distinguishing between at home, at a community center, or both.

The number of sessions varied between intervention programs and a meta-regression analysis was conducted to examine the moderator effect of this intervention characteristic. Because children's age range varied between studies, two meta-regression analyses were performed for each meta-analysis using continuous moderators for child age; one for the minimum age and one for the maximum age of the children included in the studies.

RESULTS

Parent Outcomes

Sensitive parenting. Eleven studies yielded effect sizes on sensitive parenting of a total of 684 foster and/or adoptive parents (Table 3). There was a significant and large combined effect size of Hedges' $g = 2.20$, $p < .001$. Figure 2 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates an increase in sensitive parenting. The Q statistic showed that the studies included in the meta-analysis were highly heterogeneous ($Q(10) = 233.73$, $p < .001$) and the percentage of variance was fairly high ($I^2 = 95.72$) thus the proportion of the variance of observed effects is due to a high variation in true effects rather than sampling error.

Table 3. *Results of the meta-analyses on parent and child constructs.*

	k	*N*	*g*	95% CI	*Q*	I^2	Kendall's tau
Sensitive parenting	11	684	2.20**	1.39 to 3.01	233.73**	95.72	0.73*
Dysfunctional discipline	4	239	0.58*	0.14 to 1.02	7.23	58.50	-0.17
Parenting knowledge and attitudes	7	535	0.35*	0.08 to 0.61	12.50	51.99	-0.19
Parenting stress	18	1,306	0.60*	0.21 to 0.98	171.77**	90.10	0.07
Attachment security	6	369	0.22	-0.07 to 0.50	8.77	43.02	0.53
Behavior problems[a]	33	3,001	0.53**	0.40 to 0.67	87.28**	63.34	0.05
Diurnal cortisol levels	3	264	-0.08	-0.75 to 0.59	13.83*	85.06	0.00
Placement disruption	7	999	0.20	-0.41 to 0.00	3.99	0.00	-0.10

Note. Results from the trim-and-fill procedure are only mentioned in the text; none of the trim-and-fill results yielded different results.

[a] without the outlying effect size of Baker et al. (2015)

* $p < .05$, ** $p < .001$

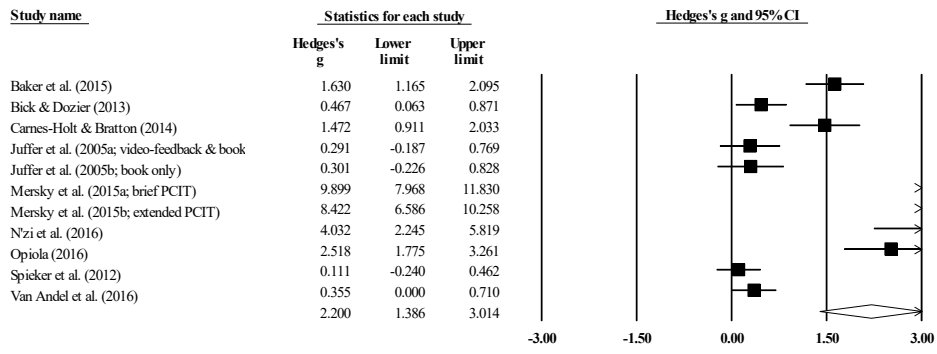


Figure 2. *Forest plot for the meta-analysis on sensitive parenting.*

The results for publication bias were inconclusive. Kendall's τ was 0.73 ($z = 3.11$, $p = .002$), which suggests the presence of publication bias (Table 3), while Duvall and Tweedie's trim-and-fill procedure did not. Results indicate that foster and/or adoptive parents receiving a parenting intervention showed significantly stronger improvements in sensitive parenting between pre- and posttest compared to the control group.

Overall effect sizes of studies that examined intervention programs working with foster parents ($g = 3.21$, $p < .001$, $k = 6$, $N = 429$) were significantly higher than those of studies examining intervention programs for adoptive parents ($g = 1.23$, $p < .05$, $k = 5$, $N = 255$), $Q(1) = 5.08$, $p = .049$ (Table 4). Studies that focused on interventions with children who displayed high levels of behavior problems ($g = 4.55$, $p < .001$, $k = 6$, $N = 220$) were also significantly more effective than studies that did not ($g = 0.52$, $p = .23$, $k = 5$, $N = 464$), $Q(1) = 32.57$, $p < .001$ (Table 4). In addition, effect sizes of intervention programs working with groups ($g = 2.47$, $p < .001$, $k = 3$, $N = 124$) and intervention programs working with both groups and individual parents ($g = 5.62$, $p < .001$, $k = 3$, $N = 111$) were significantly higher than those of studies working with only individuals ($g = 0.31$, $p = .52$, $k = 3$, $N = 449$), $Q(1) = 37.86$, $p < .001$ (Table 4). The intervention programs working with both groups and individuals were most effective. Meta-regression analyses showed that intervention effects were significantly moderated by number of sessions ($z = 3.28$, $p = .001$, $k = 10$, $N = 669$, range: 2 to 12 sessions), and by minimum age ($z = 10.18$, $p < .001$, $k = 11$, $N = 684$, range: 0 to 2.5 years) and maximum age ($z = 8.28$, $p < .001$, $k = 11$, $N = 684$, range: 1 to 10 years) of the included children. Studies that examined the effectiveness of intervention programs on sensitive parenting were most effective if intervention programs had a higher number of sessions and targeted older children.

Table 4. *Results of the categorical moderator analyses on parent constructs.*

	Moderator	*Q*	Category	*k*	*N*	*g*
Sensitive parenting	Adoption/foster care	5.08*	Adoption	5	255	1.23*
			Foster care	6	429	3.21**
	Risk group	32.57**	No	5	464	0.52
			Yes	6	220	4.55**
	Group/individual	37.86**	Group	3	124	2.47**
			Individual	5	449	0.31
			Both	3	111	5.62**
Knowledge and attitudes	Random	6.12*	Random	3	318	0.60**
			Non-random	3	111	0.04
Parenting stress	Adoption/foster care	1.58	Adoption	6	527	0.33
			Foster care	11	754	0.80*
	Risk group	0.31	No	7	674	0.46
			Yes	11	632	0.69*
	Random	4.44*	Random	14	1,067	0.81**
			Non-random	4	239	-0.17
	Video-feedback	0.74	Video-feedback	6	406	0.85*
			Other	12	900	0.48
	Group/individual	2.29	Group	6	502	0.69
			Individual	7	497	0.89*
			Both	5	307	0.09
	Setting	0.85	Home	8	512	0.67
			Community center	3	410	1.07
			Both	3	204	0.30

Note. Categorical moderator analyses were only performed if a subset consisted of at least three studies ($k \geq 3$), therefore no moderator analyses were possible for the meta-analysis on dysfunctional discipline.

* $p < .05$, ** $p < .001$

Dysfunctional discipline. Four studies yielded effect sizes on dysfunctional discipline of a total of 239 foster and/or adoptive parents (Table 3). There was a significant and medium combined effect size of Hedges' $g = 0.58$, $p = .01$. Figure 3 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates a decrease in dysfunctional discipline. The Q statistic showed that the studies included in the meta-analysis were homogeneous ($Q(3) = 7.23$, $p = .07$) and the percentage of variance was mediocre ($I^2 = 58.50$) thus proportion of the variance of observed effects is due to some variation in true effects rather than sampling error.

Kendall's τ was -0.17 (z = 0.34, p = .73), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure showed that one study to the left of the mean was likely to be missing. If this study was trimmed and filled the point estimate would shift from 0.58 (95% CI: 0.14 to 1.02) to 0.53 (95% CI: 0.13 to 0.93), which still indicates a significant overall effect. Based on the results of these two measurements it was assumed that there were no strong indications for the presence and effect of publication bias. Thus, results indicate that dysfunctional discipline of foster and/or adoptive parents receiving a parenting intervention decreased significantly stronger between pre- and posttest compared to the control group.

Categorical moderator analyses were not possible, because the subsets consisted of fewer than three studies. Meta-regression analyses showed that intervention effects were significantly moderated by number of sessions (z = -2.41, p = .02, k = 4, N = 239, range: 5 to 12 sessions), and by minimum age (z = 2.07, p = .04, k = 3, N = 157, range: 2 to 5 years). The effect size was highest for intervention programs with a lower number of sessions and for studies including children with a higher minimum age. No moderator effect was found for studies with maximum child age (z = -0.34, p = .74, k = 3, N = 157, range: 7.5 to 8 years).

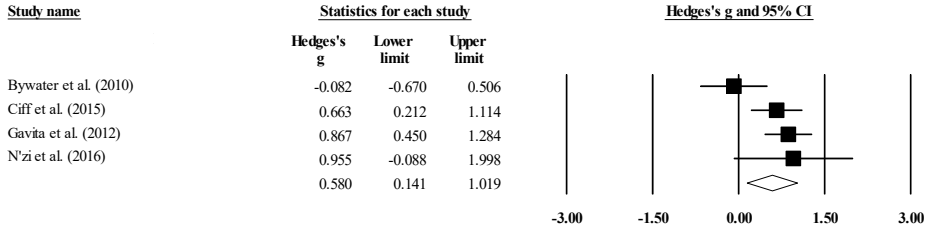


Figure 3. *Forest plot for the meta-analysis on dysfunctional discipline.*

Parenting knowledge and attitudes. Seven studies yielded effect sizes on knowledge and attitudes of a total of 535 foster and/or adoptive parents (Table 3). There was a significant and small to medium combined effect size of Hedges' g = 0.35, p = .01. Figure 4 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates an increase in parenting knowledge and attitudes. The Q statistic showed that the studies included in the meta-analysis were homogeneous ($Q(6)$ = 12.50, p = .05) and the percentage of variance was mediocre (I^2 = 51.99) thus proportion of the variance of observed effects is due to some variation in true effects rather than sampling error.

Kendall's τ was -0.19 (z = 0.60, p = .55), which suggests absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure showed that one study to the right of the mean was likely to be missing. If this study was trimmed and filled the point estimate would shift from

0.35 (95% CI: 0.08 to 0.62) to 0.40 (95% CI: 0.23 to 0.60), which still indicates a significant overall effect. Based on the results of these two measurements it was assumed that there were no strong indications for the presence and the effect of publication bias. Thus, results show that foster and/or adoptive parents receiving a parenting intervention improved significantly stronger between pre- and posttest in parenting knowledge and attitudes compared to the control group.

Overall effect sizes of studies with a random control group (g = 0.60, p < .001, k = 3, N = 318) were significantly higher than those of studies with a non-random control group (g = 0.04, p = .85, k = 3, N = 111), $Q(1)$ = 6.12, p < .05 (Table 4). Meta-regression analysis showed no significant effect for number of sessions (z = -0.31, p = .74, k = 6, N = 461, range: 4 to 12 sessions). Regarding child age, only a meta-regression for minimum child age was possible and this analysis showed that intervention effects were not moderated by minimum age (z = 0.66, p = .51, k = 3, N = 325, range: 0.8 to 5 years).

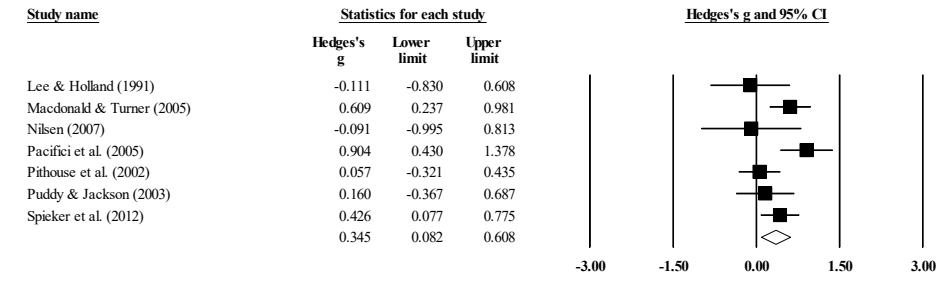


Figure 4. *Forest plot for the meta-analysis on parenting knowledge and attitudes.*

Parenting stress. Eighteen studies yielded effect sizes on parenting stress of a total of 1,306 foster and/or adoptive parents (Table 3). There was a significant and medium combined effect size of Hedges' g = 0.60, p = .002. Figure 5 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates a decrease in parenting stress. The Q statistic showed that the studies included in the meta-analysis were highly heterogeneous ($Q(17)$ = 171.71, p < .001) and the percentage of variance was fairly high (I^2 = 90.10) thus proportion of the variance of observed effects is due to a high variation in true effects rather than sampling error.

Kendall's τ was 0.07 (z = 0.38, p = .70), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure also indicated no publication bias. Thus, results indicate that parenting stress of foster and/or adoptive parents receiving a parenting intervention decreased significantly stronger between pre- and posttest compared to the control group.

Of six categorical moderator analyses, only the moderator analysis that compared studies with a random control group and studies with a non-random control group yielded a significant difference, $Q(1) = 4.44$, $p < .05$ (Table 4). The overall effect size of studies with a random control group ($g = 0.81$, $p < .001$, $k = 14$, $N = 1{,}067$) was significantly higher than the overall effect size of studies with a non-random control group ($g = -0.17$, $p = .68$, $k = 4$, $N = 239$). In addition, meta-regression analyses showed that intervention effects were significantly moderated by number of sessions ($z = -3.39$, $p = .001$, $k = 16$, $N = 1{,}205$, range: 5 to 36 sessions), by minimum age ($z = 2.68$, $p = .01$, $k = 17$, $N = 1{,}248$, range: 0 to 5 years) and maximum age ($z = 3.39$, $p < .001$, $k = 17$, $N = 1{,}248$, range: 2 to 17 years) of the included children. Intervention programs on parenting stress were most effective if intervention programs had a lower number of sessions and for older children.

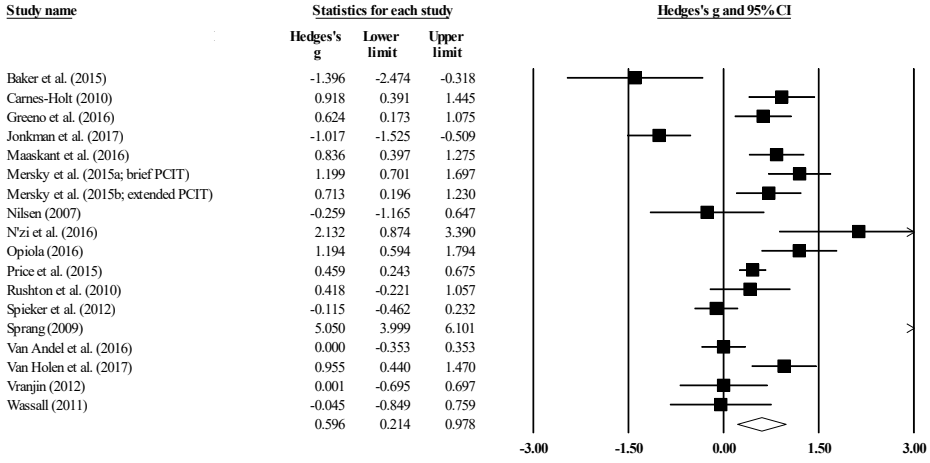


Figure 5. *Forest plot for the meta-analysis on parenting stress.*

Child Outcomes

Attachment security. Six studies yielded effect sizes on children's attachment security of a total of 369 foster and/or adopted children (Table 3). There was a non-significant combined effect size of Hedges' $g = 0.22$, $p = .14$. Figure 6 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates an increase in attachment security. The Q statistic showed that the studies included in the meta-analysis were homogeneous ($Q(5) = 8.77$, $p = .12$) and the percentage of variance was mediocre ($I^2 = 43.02$) thus proportion of the variance of observed effects is due to some variation in true effects rather than sampling error.

Kendall's τ was 0.53 (z = 1.50, p = .13), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure also indicated no publication bias. Thus, results show that foster and/or adopted children of foster and adoptive parents attending an intervention program did not improve significantly stronger between pre- and posttest in attachment security compared to the control group.

Neither intervention programs working with adoptive (g = 0.37, p = .15, k = 3, N = 105) nor with foster parents (g = 0.14, p = .47, k = 3, N = 264) were found to improve scores of attachment security, Q(1) = 0.50, p = .48 (Table 5). Meta-regression analyses showed that intervention effects were not moderated by number of sessions (z = -0.00, p = 1.00, k = 4, N = 263, range: 2 to 10 sessions), minimum age (z = 0.21, p = .83, k = 6, N = 264, range: 0.3 to 3 years), nor maximum age (z = 0.76, p = .45, k = 6, N = 264, range: 1 to 5 years) of the included children.

Table 5. *Results of the categorical moderator analyses on child constructs and placement disruption.*

	Moderator	*Q*	Category	*k*	*N*	*g*
Attachment security	Adoption/foster care	0.50	Adoption	3	145	0.37
			Foster care	3	352	0.14
Behavioral problems	Adoption/foster care	0.27	Adoption	8	322	0.62**
			Foster care	25	2,845	0.53**
	Risk group	2.54	No	18	2,265	0.44**
			Yes	16	921	0.65**
	Random	0.77	Random	9	2,794	0.59**
			Non-random	24	392	0.44*
	Video-feedback	0.67	Video-feedback	7	643	0.65**
			Other	27	2,543	0.51**
	Group/individual	0.79	Group	15	1,620	0.49**
			Individual	10	1,102	0.51**
			Both	9	464	0.64**
Placement disruption	Risk group	0.10	No	4	778	-0.19
			Yes	3	221	-0.30

Note. Categorical moderator analyses were only performed if a subset consisted of at least three studies ($k \geq 3$), therefore no moderator analyses were possible for the meta-analysis on diurnal cortisol levels.

* $p < .05$, ** $p < .001$

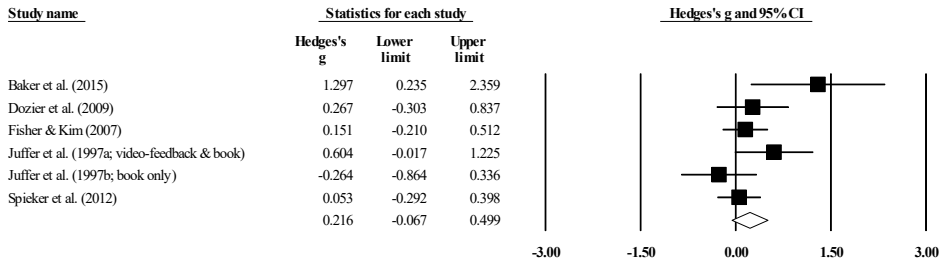


Figure 6. *Forest plot for the meta-analysis on attachment security.*

Behavior problems. Thirty-three studies yielded effect sizes on children's behavior problems of a total of 3,001 foster and/or adopted children (Table 3). There was a significant and medium combined effect size of Hedges' g = 0.53, p < .001 (without the outlying effect size of Baker et al., 2015). Figure 7 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates a decrease in behavior problems. The Q statistic showed that the studies included in the meta-analysis were highly heterogeneous ($Q(32) = 87.28$, $p < .001$) and the percentage of variance was fairly high ($I^2 = 63.34$) thus proportion of the variance of observed effects is due to a somewhat high variation in true effects rather than sampling error.

Kendall's τ was 0.05 ($z = 0.42$, $p = .68$), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure also indicated no publication bias. Thus, results indicate that children of foster and adoptive parents attending an intervention program showed significantly fewer behavior problems between pre- and posttest compared to the control group. The results were similar if the outlying effect size of Baker et al. (2015) was included: Hedges' g = 0.56, *CI*: 0.42 to 0.69, $p < .001$, $k = 34$, $N = 3{,}016$. The studies were also still highly heterogeneous ($Q(33) = 96.92$, $p < .001$, $I^2 = 65.95$) and Kendall's τ and the trim-and-fill procedure still suggested the absence of publication bias.

None of the categorical moderator analyses showed significant differences (Table 5). Meta-regression analyses showed that intervention effects were moderated by number of sessions ($z = 2.02$, $p = .04$, $k = 28$, $N = 2{,}560$, range: 3 to 36 sessions). Intervention programs on child behavior problems were most effective if intervention programs had a higher number of sessions. No moderator effects were found for minimum age ($z = 1.96$, $p = .05$, $k = 27$, $N = 2{,}552$, range: 0 to 12 years) and maximum age ($z = 0.64$, $p = .52$, $k = 27$, $N = 2{,}552$, range: 2 to 21 years) of the included children.

The 33 studies included in this meta-analysis included data on behavior problems from parent and teacher/professional reports. The majority of these studies used parent reports only ($k = 29$), some studies used a combination of parent and teacher/professional reports

(*k* = 4), and only two studies solely used teacher/professional reports. To test whether results would be different when only parent-report was used, a separate meta-analysis was conducted of effect sizes based on parent reports of children's behavior problems and the overall effect size was compared with the combined effect size for the total set of studies in which parent- and teacher/professional reports were used. The meta-analysis on parent-reports showed that the overall effect size remained significant (g = 0.55, CI: 0.41 to 0.69, p < .001, k = 31, N = 2,804) and was not different from the overall effect size based on parent- and teacher/professional reports. No differences were found regarding homogeneity (Q(30) = 79.44, p < .001, I^2 = 62.24) or publication bias compared to results for parent- and teacher/professional reports.

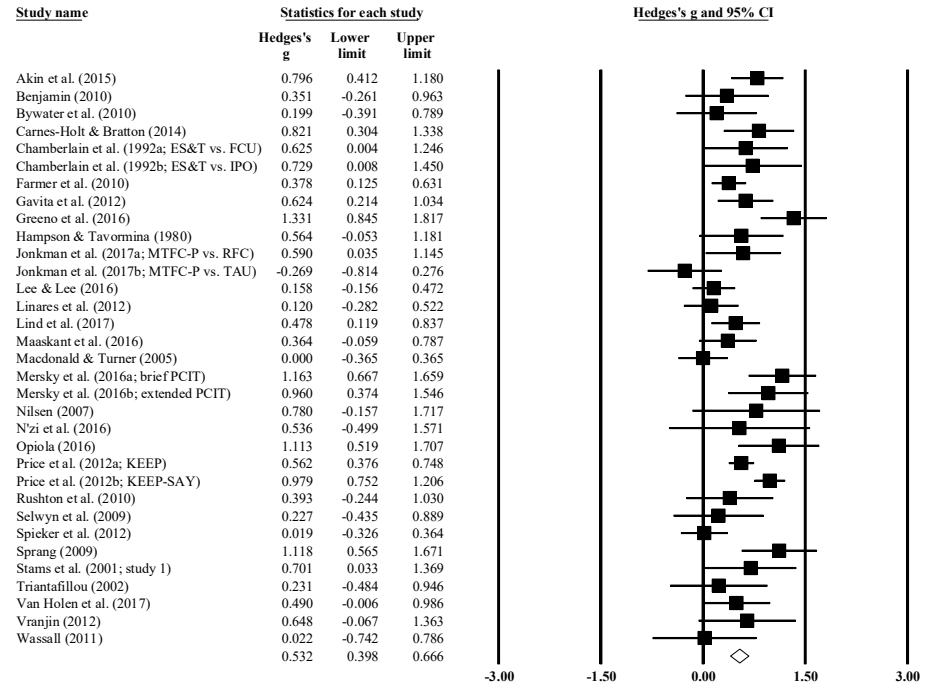


Figure 7. *Forest plot for the meta-analysis on behavior problems.*

Diurnal cortisol levels. Three studies yielded effect sizes on children's diurnal cortisol levels of a total of 264 foster and/or adopted children (Table 3). There was a non-significant combined effect size of Hedges' *g* = -0.08, *p* = .82. Figure 8 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates a decrease in diurnal cortisol levels from pre- to posttest. The Q statistic showed that the studies included in the meta-analysis were highly heterogeneous (*Q*(2) = 13.38, *p* = .001) and

the percentage of variance was fairly high (I^2 = 85.06) thus proportion of the variance of observed effects is due to a high variation in true effects rather than sampling error.

Kendall's τ was 0.00 (z = 0.00, p = 1.00), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure also indicated no publication bias. Thus, results indicate that diurnal cortisol levels of children whose foster and adoptive parents attended an intervention program did not differ significantly between pre- and posttest compared to the control group.

Categorical moderator analyses were not possible, because the subsets consisted of less than three studies. Meta-regression analyses were also not performed because of the small subset of studies.

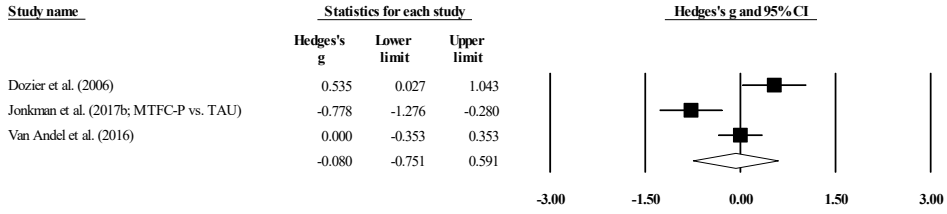


Figure 8. *Forest plot for the meta-analysis on diurnal cortisol levels.*

Placement Disruption

Seven studies yielded effect sizes on (temporary) placement disruptions of a total of 999 foster and/or adopted children (Table 3). There was a non-significant combined effect size of Hedges' g = 0.20, p = .05. Figure 9 presents the effect sizes of the included studies in a forest plot, in which a positive effect size indicates a decrease in placement disruptions. The Q statistic showed that the studies included in the meta-analysis were homogeneous ($Q(6)$ = 3.99, p = .68) and there was no variance (I^2 = 0.00) thus the effect sizes of the studies included in this meta-analysis tend to be consistent.

Kendall's τ was -0.10 (z = 0.30, p = .76), which suggests the absence of publication bias (Table 3). Duvall and Tweedie's trim-and-fill procedure showed that four studies to the right of the mean needed to be imputed for the meta-analysis to result in a significant overall effect size. If this study was trimmed and filled the point estimate would shift from -0.20 (95% CI: -0.41 to 0.00) to -0.11 (95% CI: -0.30 to 0.08), which still indicates a non-significant overall effect. Thus, results show that foster and/or adoptive children whose caregivers received a parenting intervention did not experience fewer (temporary) placement disruptions between pre- and posttest compared to the control group based on the effect sizes of the included studies of this meta-analysis.

Overall effect sizes of studies that examined children who displayed high levels of problem behavior (g = 0.30, p = .36, k = 3, N = 221) were similar to those of studies that did not (g = 0.19, p = .08, k = 4, N = 778), Q(1) = 0.10, p = .75 (Table 5). Meta-regression analyses showed that intervention effects were not moderated by number of sessions (z = 0.99, p = .32, k = 6, N = 927, range: 5 to 18 sessions), minimum age (z = 1.05, p = .29, k = 6, N = 882, range: 0 to 7 years), nor maximum age (z = -1.09, p = .27, k = 5, N = 821, range: 12 to 18 years) of the included children.

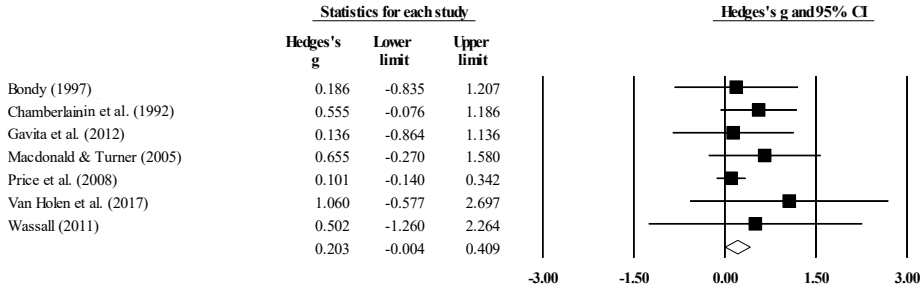


Figure 9. *Forest plot for the meta-analysis on placement disruption.*

DISCUSSION

The effectiveness of parenting interventions for foster and/or adoptive families was tested in a series of meta-analyses regarding four parent outcomes, three child outcomes, and placement disruption. Two measurements for publication bias were used and overall no strong indications were found for the presence and effect of publication bias.

Parent Outcomes

Results showed that parenting interventions are positively effective (with small to large overall effect sizes) in improving sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, and parenting stress of foster and adoptive parents. The implementation of parenting interventions thus not only improves foster and adoptive parents' behaviors, knowledge and attitudes, but also reduces their stress. The largest overall effect size was found for sensitive parenting, indicating that the evidence base for existing parenting interventions that are aimed at improving sensitive behaviors in foster and adoptive parents is strong. The subsets of effect sizes for dysfunctional discipline, parenting knowledge, and parenting stress yielded smaller effect sizes and may thus benefit from more studies or the development of intervention programs that specifically aim to improve these constructs. Within each subset of effect sizes, not

all intervention programs directly focus on yielding a positive effect on dysfunctional discipline, parenting knowledge, or parenting stress. For example, included in the meta-analysis on parenting stress are Parent Management Training – Oregon model (PMTO, used by Maaskant, Van Rooij, Overbeek, Oort, & Hermanns, 2016) and PCIT (Mersky et al., 2015) which both aim to reduce behavior problems of foster children. Child behavior problems can increase stress in the caregivers, but neither PMTO nor PCIT intervention do purposely aim to reduce parenting stress.

Foster versus adoptive parents. Significantly larger improvements in sensitive parenting were found for intervention programs working with foster parents compared to adoptive parents. Previous research has shown that adoptive parents display more sensitive behaviors towards their children than foster parents (Bickell, 2012), and this may leave little room for improving adoptive parents' sensitive skills as compared to foster parents. Especially kinship foster parents may benefit most from parenting interventions, because they often originate from the same (deprived) socioeconomic environment as birth parents, whereas adoptive parents generally have a higher economic status (Johnson, McGue, & Iacono, 2007; Sakai, Lin, & Flores, 2011). In addition, the perspective of a foster care placement is often temporary or unknown. Foster parents may (unconsciously) not want to invest too much in their relationship with their foster children because the children may return to their birth parents or another, more permanent, solution will be found. Adoptive parents may be more committed to the children from the start of the placement, because it is less likely than in foster care that the adoption placement will be disrupted (Van den Dries et al., 2009).

Risk versus no-risk group. Intervention programs also showed significantly larger improvements in sensitive parenting if parents took care of a child displaying high levels of behavior problems compared to parents who did not. Taking care of and interacting with children who show behavior problems can be very stressful for parents and parents' sensitive behavior can be inhibited by elevated stress levels (Feldman et al., 2007). Parents who take care of children with high rates of behavior problems may therefore benefit most from parenting interventions, because there is more to gain in terms of sensitive parenting and parenting stress reduction as compared to parents who do not take care of children that display high levels of behavior problems. Mersky et al. (2015) and N'zi et al. (2016) included at risk families and indeed reported improvements in both sensitive parenting and parenting stress due to intervention programs. However, in the current meta-analysis no difference in intervention effects for families with and without children with high levels of behavior problems was found for parenting stress. This suggests that families with children that display behavior problems and with children who do not, both experience less parenting stress after completing an intervention program, and parents who take care of children with behavior problems benefit more from parenting interventions that increase their sensitive parenting behavior than parents who do not take care of children with behavior problems.

Video-feedback versus other interventions. It was unfortunately not possible to compare the effectiveness of intervention programs that include a video-feedback component with intervention programs that do not on sensitive parenting, discipline, and parenting knowledge and attitudes in the current meta-analytic review. The effectiveness of video-feedback intervention programs in the current meta-analysis did not differ from other interventions in improving parenting stress. Video-feedback is useful if parents need help to correctly recognize and interpret behavioral signals of their children and how they can adequately respond to these signals (Fukkink, 2008). However, for improving parenting stress, video-feedback may not be necessary because parenting stress can be easily recognized by parents without the use of video-feedback.

Group versus individual approach. Improvements in sensitive parenting were larger if the intervention program was delivered in groups compared to individuals, and the overall effect was even larger if the intervention was delivered in groups with additional individual sessions. Foster and adoptive parents thus seem to benefit from other parents in comparable situations because they may serve as a source of social support. Working with an intervener on their individual situation is only effective if the group sessions are also part of the intervention program. Previous research shows that adoptive parents report less parenting stress if they experience more social support (Viana & Welsh, 2010), which may make them more receptive of parenting interventions. This effect was, however, only found for sensitive parenting and not for parenting stress in the current meta-analysis. Results show that parenting interventions delivered in groups, individuals, or a combination of both were equally effective in reducing parenting stress.

Number of sessions. Meta-regression analyses on number of sessions were inconsistent. For dysfunctional discipline and parenting stress fewer sessions seem to generate stronger effects, whereas for sensitive parenting a larger number of sessions seemed more beneficial. However, the range of number of sessions for interventions aimed at improving sensitive parenting was relatively small with a maximum of 12 sessions. According to the meta-analysis of Bakermans-Kranenburg et al. (2003) intervention programs are most effective in increasing parental sensitivity and attachment security if the intervention consists of 16 or less sessions. Based on the current meta-analytic results it is not possible to draw the same conclusion because studies examining the effectiveness of parenting intervention programs with more than 16 sessions were rare.

Child age. Lastly, intervention programs were most effective for older children with regards to sensitive parenting, dysfunctional discipline (only for children up to five years old), and parenting stress. Thus, intervention programs are effective for both foster and adoptive parents of preschoolers and for foster and adoptive families with school-aged children or adolescents.

Age seems to act as a confounding variable related to both child and parent outcomes. Of the 10 studies that included families with adolescents only Benjamin (2010) included an adoption sample. Moreover, foster children are on average older than adopted children at time of placement and older children often show more severe behavior problems because the adverse period before placement was longer which gives the negative experiences more time to influence the children's development (Helder, Mulder, & Gunnoe, 2016; Leloux-Opmeer, Kuiper, Swaab, & Scholte, 2016; Tarren-Sweeney, 2008). The child behavior problems related to the adverse early life experiences may also influence parent outcomes such as sensitive parenting and parenting stress (Feldman et al., 2007; Goemans et al., 2018).

Child Outcomes

Behavior problems. The meta-analyses for child outcomes showed that parenting interventions are only effective in decreasing child behavior problems. Thus, the implementation of parenting interventions in foster care and adoption samples reduces behavior problems in children. Moderator analyses showed no significant differences, with the exception of number of intervention sessions. Intervention programs with a higher number of sessions are most effective in decreasing behavior problems in foster and adoptive children.

Overall, the included studies of the current meta-analyses examined intervention programs specifically focusing on behavior, knowledge, attitudes and stress in foster and/or adoptive parents. Any effects on child outcomes are thus indirect and may take some time to be revealed because they are dependent on the development and interaction of parent and child behaviors over time. The majority of the included studies had a relatively short interval of approximately 4 months between the pre- and post-intervention measurements. Improvements in parenting behavior, knowledge and attitudes, and/or parenting stress may not have resulted in changes (yet) in child outcomes during these few months. Of the 19 studies with a follow-up measurement only one study reported results on attachment security (Spieker et al., 2012; 6 months after the post-intervention measurement) and no studies reported results on diurnal cortisol levels, which made it impossible to investigate the long-term follow-up effects of intervention programs on these constructs. This might explain why no significant overall effects of parenting interventions were found for attachment security and diurnal cortisol levels. However, the strongest overall effect was found for sensitive parenting and previous research has suggested that increasing parents' sensitive behavior may result in improvements in attachment security, stress regulation, and placement disruption of children can be improved (Bakermans-Kranenburg et al., 2003; Feldman et al., 2007; Fisher et al., 2007). Experiences with sensitive behavior of new caregivers may enable foster and adopted children to adjust their internal working model. In other words, sensitive parenting can help foster and adopted children adjust their expectations of how people around them will respond to them (Bakermans-Kranenburg et al., 2003; Schoemaker et al., 2018). Previous research additionally shows that

children with sensitive parents experience less stress when this attachment figure is present during a negative experience (Dozier, Highley, Albus, & Nutter, 2002) and that parenting interventions can reverse the dysregulation of the HPA axis by increasing sensitive parenting (Fisher et al., 2006). Parenting interventions can thus indirectly improve children's attachment security and stress regulation by changing their internal working models, but this may be a time-consuming process that seems to start by increasing parents' sensitive behavior.

Attachment security. Results showed that parenting interventions are not effective in improving attachment security. Because of the indirect effects of parenting interventions on child outcomes, the overall effect sizes were expected to be smaller and a larger set of studies reporting on child outcomes was thus needed to find significant overall effects. Compared to 33 studies reporting results on child behavior problems, which yielded a significant meta-analytic intervention effect, only six studies reported results on attachment security of foster and/or adopted children. A previous meta-analysis of 29 studies did show that attachment security could be improved by increasing sensitive parenting with parenting interventions (Bakermans-Kranenburg et al., 2003). However, this previous meta-analysis did not specifically focus on foster care or adoption populations and if more intervention studies were available for foster care and/or adoption samples a significant overall effect of parenting interventions on attachment security may emerge. In addition, of the six studies included in the current meta-analysis on attachment security, only Juffer et al., (2005) used the Strange Situation Procedure (Ainsworth et al., 1978) which enables coding of attachment disorganization, which is more prevalent among foster and adopted children compared to children living with and being raised by their biological parents (Van den Dries et al., 2009; Vasileva & Petermann, 2018). The four other studies used the Attachment Q-Sort (AQS; Baker et al., 2015; Spieker et al., 2012) or the Parent Attachment Diary (PAD; Dozier et al., 2009; Fisher & Kim, 2007) which do not measure disorganized attachment. It was not possible to examine the moderating effect of the type of measurement (observation vs. questionnaire) because the subset of studies using an observational instrument was too small. The effectiveness of parenting interventions on attachment disorganization could also not be examined because only Juffer et al. (2005) reported results on attachment disorganization. This study showed that a video-feedback intervention focused on increasing sensitive parenting of adoptive parents was effective in decreasing attachment disorganization. Future intervention studies for foster and adoptive families focusing on attachment, should also report effects for attachment disorganization, not only because foster and/or adopted children are at higher risk of developing an insecure disorganized attachment (Van den Dries et al., 2009), but also because an insecure disorganized attachment puts these children at an additional risk of developing behavior problems and psychopathology (Fearon et al., 2010; Groh et al., 2012; Sroufe et al., 2005; Van IJzendoorn et al., 1999).

Diurnal cortisol levels. The meta-analysis on diurnal cortisol levels of foster and/or adopted children also showed no significant overall effect. Because only three studies reported data on the effectiveness of parenting interventions on child diurnal cortisol levels the total sample size was relatively small and categorical moderator analyses could not be performed. Of the three studies included in this meta-analysis, the study by Jonkman et al. (2017) differed from the Dozier, Peloso, et al. (2006) and Van Andel et al. (2016) studies in a number of ways. First, Jonkman et al. (2017) was the only study that included a sample of foster children who displayed high levels of behavior problems. Second, it was the only study with a quasi-experimental design that included a non-random control group. Third, the intervention program investigated by Jonkman et al. (2017) was the only one not including a video-feedback component and the only intervention program that also worked with groups of foster parents at a community center instead of only with individual parents at home. Because categorical moderator analyses were not possible it is unclear which sample, study design, and/or intervention characteristics were associated with possible intervention effects. It is therefore important that more studies investigate the effectiveness of parenting interventions on foster and/or adopted children's stress regulation because intervention programs may help children overcome the chronic stress they often experienced early in life and to reverse the dysregulation of the stress system in order to have the children respond adequately to stressful and arousing events (Koss & Gunnar, 2018).

Placement Disruption

The meta-analysis on placement disruption also did not show a significant overall intervention effect. It may take more time to observe a decrease in placement disruption because parenting interventions are more likely to first improve parent outcomes (e.g., parenting behavior), which subsequently may improve child outcomes (e.g., behavior problems), and lastly, reduce placement disruptions. Previous meta-analytic evidence has shown that the risk of placement disruptions is higher if foster or adopted children display behavior problems and that if the relationship between foster or adopted children and their new parents is good (e.g., a secure attachment relationship due to sensitive parenting) the likelihood of placement disruption is small (Oosterman et al., 2007).

The effect of parenting interventions on placement disruption would thus be indirect and the overall effect size was (as with the child outcomes) expected to be smaller. A larger set of studies with longer follow-up periods may have resulted in a significant overall intervention effect for placement disruption. The majority of the studies included in the current meta-analysis reported data on placement disruption during the post-intervention measurement approximately six months after baseline. Only Bondy (1997) measured placement disruption at a one-year follow-up measurement, thus it was not possible to examine the moderating effect of time of measurement. In addition, only Price et al. (2008), Van Holen, Vanschoonlandt, and

Vanderfaeillie (2017) and Wassall (2011) reported some information about placement duration at baseline. This information suggested that the variation in placement duration is large, but the possible moderating role of placement duration could not be examined. Moreover, longitudinal effectiveness studies of parenting interventions on placement disruption are needed, because (foster care) research shows that the first 18 months after placement may be critical for placement disruption (Vanderfaeillie, Goemans, Damen, Van Holen, & Pijnenburg, 2017). The existing intervention studies often lasted too shortly or provided incomplete data on placement duration to draw conclusions about the effects on placement disruption.

Limitations

Intervention studies are often heterogeneous which makes it difficult to compare and combine the effects of the different studies in meta-analyses (Dickes et al., 2018). I^2 values were mediocre to high for most of the conducted meta-analyses, indicating that the variation in a set of individual effect sizes was large. This large variation between studies may influence the reliability of the overall effect sizes for sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, and child behavior problems. Moderator analyses were used to examine the variation. The overall effects of parenting interventions on these parent and child outcomes may not be generalizable. Moderator analyses are crucial to control for the heterogeneity between studies, but in the current meta-analytic review performing moderator analysis was not always possible because the subset of studies was too small, or the required information was not reported frequently enough or not at all. As a result, it was not possible to perform moderator analyses to compare kinship and non-kinship foster care, domestic and international adoptions, and to examine the moderating effect of placement duration. In addition, moderator analyses that examine differences in the treatment of the control group (i.e., care as usual (CAU), waitlist, dummy intervention, or regular foster care (RFC)) were not possible because it was not always clear what the different treatments entailed. Specifically, CAU may not only differ between foster care and adoption but also between countries. In the United States and the United Kingdom it is common that foster children are adopted from foster care, whereas the Dutch foster care policy primarily aims for reunification of children with their biological parents and adoptions from foster care are rare (Goemans, Vanderfaeillie, Damen, Pijnenburg, & Van Holen, 2016; Wulczyn, 2004). Differences in control group treatment may (partly) explain the heterogeneity between studies.

If an out-of-home placement is needed, it is often preferred to place children with kin (Ehrle & Geen, 2002; Winokur, Holtan, & Batchelder, 2018). Research suggests that foster children in kinship and non-kinship care do not differ in terms of gender, age at placement, and reasons for out-of-home placement, but foster children in kinship foster care show fewer behavior problems, psychopathology, and have a lower risk of placement disruption than children in non-kinship care (Winokur et al., 2018). *Non-kinship* foster families may thus benefit more

from parenting interventions than kinship foster families. However, kinship foster parents are on average older, poorer, and less well educated. They also have less contact with their assigned family social worker and receive less support and services (Ehrle & Geen, 2002; Farmer, 2009). These factors may imply that *kinship* foster parents would benefit more from interventions than non-kinship foster parents. More research is needed to meta-analytically test differences between kinship and non-kinship foster parents.

The effectiveness of parenting interventions for domestic and international adoptions could also not be compared, but could be relevant because domestic adoptees show more behavior and mental health problems than international adoptees (Juffer & Van IJzendoorn, 2005). This does not necessarily mean that parents of international adoptees are not in need of or will not benefit from parenting interventions, because international adoptees still show more behavior and mental health problems than non-adopted children (Juffer & Van IJzendoorn, 2005).

It was not possible to perform meta-regression analyses for placement duration because this information was not provided by the majority of the individual studies. Nevertheless, it can be argued that the longer the placement (in the same family) the better foster and/or adoptive parents and children are attuned to each other. The likelihood that foster and adoptive families already received extra support, for example a parenting intervention to improve parenting skills, is also greater when the duration of the placement is longer. As stated before, there is evidence that the risk of placement disruption is smaller when caregiving quality is good and when the placement lasts longer (Oosterman et al., 2007; Vanderfaeillie et al., 2017). In addition, if the duration of the placement is longer it is more likely that the children where younger at time of placement. Previous research shows that younger children experience fewer mental health problems and they and their families are consequently in less need of extra support such as parenting interventions (Tarren-Sweeney, 2008).

Lastly, the aim of the current study was to test the effectiveness of intervention programs for foster and adoptive parents on several parent and child outcomes, and placement disruption. In line with the meta-analysis of Bakermans-Kranenburg et al. (2003) we additionally investigated the moderating effect of video-feedback by comparing video-feedback interventions with interventions without a video-feedback component. Future research is needed to examine which specific program elements (other than video-feedback vs. no video-feedback component) are effective in improving parent and child outcomes, and placement disruption in participants with specific characteristics (e.g., families with children who display high levels of behavior problems), for example with the Distillation and Matching Model (DMM; Chorpita, Daleiden, & Weisz, 2005) or the Common Components Analysis (CCA; Morgan, Davis, Richardson, & Perkins, 2018). Knowledge about the effectiveness of specific intervention program elements is valuable for the implementation and use of parenting interventions in clinical practice.

Conclusion

Foster care and adoptive placements can be challenging for both parents and children. Children with adverse early life experiences may be less likely to form a secure attachment relationship with their new caregivers, which can increase the risk of the development and persistence of behavior problems and stress dysregulation. Taking care of foster and adopted children is in turn often very stressful for foster and adoptive parents because of the children's previous adverse experiences and their behavior problems. Many foster and adoptive families need help and support to overcome these challenges. The results of the current meta-analytic review showed that parenting interventions are effective in increasing sensitive parenting and parenting knowledge and positive attitudes, and in decreasing dysfunctional discipline and parenting stress. The subset of effect sizes for sensitive parenting yielded strong evidence for the effectiveness of intervention programs. The evidence base for the effectiveness of intervention programs aimed at improving dysfunctional discipline, parenting knowledge, and parenting stress was not so strong and may therefore benefit from more studies examining the effectiveness of (newly developed) parenting interventions in foster care and adoption populations. In addition, an indirect effect on child behavior problems was found: children of foster and adoptive parents attending a parenting intervention program showed greater reductions in behavior problems than children whose parents did not receive an intervention. No significant overall effects were found for children's attachment security and diurnal cortisol levels. However, because any effect on child outcomes would be indirect, it may take more time to observe significant changes in children's attachment security and diurnal cortisol levels. Longitudinal effectiveness studies are thus needed to examine the long-term effects of intervention programs on especially child outcomes. Future studies should also report results of subgroups within the foster care and adoption populations; the effectiveness of parenting interventions for kinship versus non-kinship foster care and domestic versus international adoption is still unclear. For professionals working in the field of foster care and adoption it is also important to know which specific program elements are effective in improving parent and child outcomes, and placement disruption in families with specific characteristics (e.g., families with children who display high levels of behavior problems). Future research is needed to examine the effectiveness of program elements in more depth. Knowledge from these future studies may lead to the development of intervention programs that are specifically designed to use in foster care and adoption populations. Results of the current series of meta-analyses, showing that parenting interventions can effectively help foster and adoptive families in the important areas of sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, parenting stress, and child behavior problems, lay an important basis for these future directions.

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Chapter 3

Using Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) in different types of families and in childcare settings

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ABSTRACT

Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) is based on insights from attachment theory and social-learning theory. Since the development of VIPP-SD the effectiveness of this early intervention program has been demonstrated in several populations, with significant effects on sensitive parenting and positive child outcomes. In this intervention model description we elaborate on how VIPP-SD has been used in different types of families and in childcare settings with children aged zero to six. Populations with child-related challenges (e.g., Autism Spectrum Disorder), parent-related challenges (e.g., insecure attachment representations), or families in special situations (e.g., minority families) may benefit from specific parenting support and empowerment. Additionally, the family-focused VIPP-SD program can be used – with some adaptations – in group childcare settings. As an illustration of recent work we describe a slightly adapted version of VIPP-SD in foster families. Vignettes of the intervention process illustrate how the VIPP-SD program has been implemented and received in foster care.

INTRODUCTION

Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) is based on insights from attachment theory (Bowlby, 1982) and social-learning theory, particularly coercion theory (Patterson, 1982). VIPP-SD is an early intervention aimed at increasing caregiver sensitivity and improving adequate discipline strategies in order to encourage positive caregiver-child interaction, and to prevent or reduce challenging behaviors in children aged zero to six years. To reach this goal, this home-based program with video feedback works on: (1) increasing the observational skills of caregivers; (2) increasing caregivers' knowledge about the upbringing and development of young children; (3) increasing the capacity of caregivers to empathize with their children, and (4) making caregiving behavior more effective by using sensitive responsiveness and sensitive discipline. The method of video feedback is used: filming caregiver–child interactions and at a later time reviewing the videotape with the caregiver.

In this intervention model description we elaborate on how VIPP-SD has been used in different types of families and in childcare settings with children aged zero to six. Parents with young children may struggle with a great variety of challenges and may benefit from support and empowerment. Here we distinguish between parent-related challenges and child-related challenges. Parents may face difficulties resulting from the parent's own adverse childhood experiences (e.g., insecure attachment representations), difficulties in the parent's psychological wellbeing (e.g., eating disorder), and socio-economic and financial difficulties. Child-related challenges refer to the characteristics of children with special needs, requiring specific care from their parents (e.g., adopted and foster children, children with externalizing behaviors, children with Autism Spectrum Disorder). Such populations with parent-related or child-related difficulties, as well as families in special situations (e.g., ethnic minority families), may face various challenges and benefit from specific parenting support. Additionally, the family-focused VIPP-SD program requires some changes in a setting for group childcare.

We describe how the VIPP-SD program has been adapted for some specific populations and how these adapted programs differ from the original VIPP-SD program in terms of aims, content, and procedures. As an illustration of recent work we also describe a slightly adapted version of VIPP-SD in foster families. Vignettes of the intervention process illustrate how the VIPP-SD program has been implemented and received in foster care and in group childcare settings.

DEVELOPMENT OF VIPP-SD

Over the last 30 years the VIPP-SD program was developed and fine-tuned by Femmie Juffer, Marian Bakermans-Kranenburg, and Marinus van IJzendoorn. Together with colleagues they developed and rigorously tested several variants of VIPP-SD to make the program work in supporting parents in a variety of families, either as an adjunct or stand-alone intervention. The original VIPP program was aimed at increasing parental sensitivity in families with infants (see Table 1 for the sensitivity themes). Initially applied in families with an adopted infant (Juffer, 1993; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2005) and in families with mothers rated as insecure on the Adult Attachment Interview (AAI, George, Kaplan, & Main, 1985; Bakermans-Kranenburg, Juffer, & Van IJzendoorn, 1998), the program was extended to older children, ranging from one to six years of age, to specific parenting issues of sensitive limit setting to the "terrible twos and threes" (Van Zeijl et al., 2006), and to childcare settings (Groeneveld, Vermeer, Van IJzendoorn, & Linting, 2011; Werner, Vermeer, Linting, & Van IJzendoorn, 2017). Its theoretical basis – attachment theory – was broadened with insights from social learning theory of coercive cycles, resulting in the VIPP-SD program (Bakermans-Kranenburg, Juffer, & Van IJzendoorn, 2018; Juffer et al., 2008; for a case study see Juffer & Bakermans-Kranenburg, 2018).

Table 1. *Themes in the VIPP-SD program.*

Session	Sensitive Parenting[a]	Sensitive Discipline
1	Exploration versus attachment behavior	Inductive discipline and distraction
2	'Speaking for the child'	Positive reinforcement
3	Sensitivity chain	Sensitive time-out
4	Sharing emotions	Empathy for the child
5	Booster session	Booster session
6	Booster session	Booster session

[a] The VIPP program does not include the four sensitive discipline themes

Families with a child that shows externalizing behaviors frequently experience difficulties in parent-child interactions (Smith, Dishion, Moore, Shaw, & Wilson, 2013). These children have, for example, difficulties in following rules (i.e., complying with parental requests) and when they grow up they may display antisocial behaviors such as aggression and vandalism (Thompson et al., 2011). To support parents of children with externalizing behaviors VIPP-SD includes themes that address sensitive discipline strategies. Thus, VIPP-SD not only aims to increase parental sensitivity, but also to enhance the use of sensitive discipline strategies in order to diminish externalizing behaviors of the child and to increase empathy for the child (Juffer et al., 2008; Mesman et al., 2008).

To become a VIPP-SD intervener, professionals have to successfully complete the basic VIPP-SD training and supervision process in which they conduct a first VIPP-SD case under supervision of a qualified VIPP-SD supervisor or trainer, after which they receive certification and registration in the VIPP Training and Research Centre's database (Leiden University, 2018; Tavistock and Portman NHS Foundation Trust, 2019a, 2019b). Completion of the whole training process (4-day basic VIPP-SD training and supervision) will approximately take six months. A broad range of professionals can become a VIPP-SD intervener, e.g., (child) psychologists, therapists, social workers, and mental health professionals. So far, professionals from more than 15 countries have been trained and certified in VIPP-SD (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2017b). Families preferably receive VIPP-SD from a professional who has experience in supporting families with similar parenting challenges. In the United Kingdom, for example, adoption professionals are specifically trained to support adoptive families that are eligible for receiving VIPP-SD (Tavistock and Portman NHS Foundation Trust, 2019c).

VIPP-SD interveners use a standardized manual (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2015) and work with the primary caregiver (usually the mother) and the target child during six home visits, using video feedback. The first four home visits focus on a specific theme regarding sensitive parenting (e.g., children's exploration and attachment behavior) and sensitive discipline (e.g., reinforcement of positive child behavior), the last two visits are booster sessions in which all themes are repeated (see Table 1). During the booster sessions, the partner of the parent is invited to join the session. At the beginning of each home visit, the intervener films the interaction between parent and child during everyday situations for 10 to 30 minutes. Examples of such situations are playing or reading together, and a mealtime. After filming, the recorded interactions of the previous home visit are discussed and the intervener gives personalized video-feedback to the parent with an emphasis on positive moments and sensitive discipline. The intervener prepares the video-feedback during the interval between two home visits: the first four sessions are biweekly and between sessions four and five, and five and six, there is an interval of about three to four weeks. In two studies the majority of the participating mothers evaluated the video-feedback intervention method as valuable and useful (Klein Velderman, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008; Stolk et al., 2008).

The effectiveness of VIPP-SD has been demonstrated in several populations through 12 randomized controlled trials in different countries (total N = 1,116), with substantial effects on sensitive parenting (Cohen's d = 0.47) and positive child outcomes (Cohen's d = 0.37) (see for details Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2017a, 2017b). Families voluntarily participated in the effectiveness studies. In some studies families were screened based on parent-related challenges (e.g., insensitive parenting, see Kalinauskiene et al., 2009) or child-related challenges (e.g., high risk of developing an Autism Spectrum Disorder, see Green et al., 2013, 2015) before inclusion. Observations of sensitive parenting were coded with the

Ainsworth scale for sensitivity (Ainsworth, Bell, & Stayton, 1974; range of interrater reliability between coders: 0.72 to 0.86, see Kalinauskiene et al., 2009) or the Emotional Availability Scales (EA scales, Biringen, 2008; range of interrated reliability between coders: 0.72 to 0.95, see Negrão, Pereira, Soares, & Mesman, 2014). Attachment security was observed with the Strange Situation Procedure (Ainsworth, Blehar, Waters, & Wall, 1978) and child behavior problems were measured with the Child Behavior Checklist (CBCL, Achenbach & Rescorla, 2000; internal consistency of three broadband Externalizing Problems scales between 0.66 and 0.89, see Van Zeijl et al., 2006). An overview of populations and adaptations of VIPP-SD is presented in Table 2. The VIPP-SD program and its adaptations can support and help families with parent-related or child-related challenges as a short-term home-based intervention on its own, but also in combination with other interventions/programs in a broader treatment trajectory. VIPP-SD is successfully implemented and offered to families in clinical practice (e.g., Tavistock and Portman NHS Foundation Trust, 2019c).

Recently, some new adaptations to the VIPP-SD program were made. Lawrence, Davies, and Ramchandani (2013) conducted a pilot study (n = 5) in the United Kingdom to examine whether VIPP-SD can be used to enhance sensitivity of fathers. Overall, the fathers participating in this study were positive about the intervention. Based on these promising first results, the effectiveness of VIPP-SD is currently being investigated in a larger sample of fathers.

At Leiden University and VU University Amsterdam, the Netherlands, VIPP-SD is currently being adapted for use in families with older children (six years and older). Furthermore, at Leiden University, the Netherlands, in collaboration with the University of Québec at Montréal, Canada, VIPP-SD is examined as a diagnostic tool in the decision-making process of out-of-home placements in child protective services. At Leiden University, VIPP-SD is also used in a study supporting parents in responsive feeding practices during their infants' transition from fluid to solid foods (Van der Veek & Mesman, 2014). In Italy, an adapted VIPP-SD program for late-adopted children has shown positive results on parent and child outcomes (Barone, Barone, Dellagiulia, & Lionetti, 2018; Barone, Ozturk, & Lionetti, 2018). Lastly, VIPP-SD has been adapted for parents of children with a visual impairment at the VU University Amsterdam, the Netherlands (Sterkenburg, Platje, Overbeek, Kef, & Schuengel, 2017).

To summarize, after the development VIPP-SD and several adaptations to meet the needs of different populations, researchers are examining whether VIPP-SD can help even more caregivers to increase their sensitivity and adequate discipline strategies and thus prevent or decrease insecure attachment relationships and struggles with child characteristics, such as externalizing behaviors. For clinical and practical implementation purposes it is important to describe the components of the (adapted) VIPP-SD programs used in several research studies and to continue examining VIPP-SD adaptations in the future.

USING THE VIPP-SD PROGRAM IN DIFFERENT TYPES OF FAMILIES

SUPPORTING FAMILIES WITH PARENT-RELATED CHALLENGES

When parent-related challenges are present that might influence (sensitive) parenting, it is important that these families can be supported and empowered with the VIPP-SD program. We describe how VIPP-SD has been used in studies including mothers rated as insecure or insensitive, parents with eating disorders, maltreating parents, parents with intellectual disabilities, families in economically deprived contexts, and Turkish minority mothers.

Mothers with Low Sensitivity or an Insecure Attachment Representation

Parental sensitivity contributes to children's attachment security because sensitive parents are able to observe, interpret, and react adequately to their child's signals (Ainsworth et al., 1978; Bakermans-Kranenburg et al., 2003). The original VIPP program without adaptations was used to support mothers of 6-months-old infants with low sensitive responsiveness (i.e., below a cutoff of 5) according to Ainsworth's sensitivity rating scale (Ainsworth et al., 1974; Kalinauskiene et al., 2009, see Table 2). The VIPP program focusses solely on sensitivity (see Table 1 for the four themes), which made this program suitable to use with these mothers.

Parents with insecure attachment representations might unconsciously repeat the negative parenting skills of their parents with their own children (Cassibba, Castoro, Costantino, Sette, & Van IJzendoorn, 2015; Van IJzendoorn, 1995). Despite the importance of parents' feelings and thoughts about their own attachment experiences for the development of attachment relationships with their children, few interventions have aimed to support parents with insecure mental attachment representations (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). Negative representations may be changed by letting the parents recall, re-experience and reflect on their childhood attachment experiences (Bakermans-Kranenburg et al., 2008; Fraiberg, Adelson, & Shapiro, 1975; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008). The original VIPP program was adapted to support this group of parents.

VIPP-R. VIPP-R (VIPP with a Representational approach, see Table 2) focusses on the representation of the mother's attachment experiences in her own childhood, and the association between these experiences and the development of the relationship with her child (Bakermans-Kranenburg et al., 2008; Cassibba et al., 2015). The intervention consists of four home visits in which the VIPP sensitivity themes are discussed (see Table 1), with additional discussions about the mother's own attachment experiences. The intervener has a supportive role and does not criticize when listening to the mother's childhood memories, thoughts and feelings.

Table 2. Overview of (adapted) VIPP/VIPP-SD programs.

Population	VIPP[1]/VIPP-SD or adapted VIPP[1]/ VIPP-SD	Additional material / treatment
Families with parent-related challenges		
Mothers with low sensitivity	VIPP[1]	
Mothers with an insecure attachment representation	Video-feedback Intervention to promote Positive Parenting with additional Representational discussions (VIPP-R)	Discussions about parent's own attachment representations
Mothers with eating disorders	VIPP[1]	Watch, Wait and Wonder Touchpoints Individualized photo-album with written information Self-help manual based on CBT[2]
Maltreating parents	VIPP[1]	Discussions about child development, emotion regulation, discipline, and family ecology
Parents with intellectual disabilities	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline for parents with Learning Disabilities (VIPP-LD)	Personal scrapbook with screenshots and feedback or quotes
Families in economically deprived contexts	VIPP-SD	Booklet with messages and tips
Turkish minority mothers	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline for Turkish Minority families (VIPP-TM)	

	Adapted or extra film episodes compared to VIPP	Adapted or extra themes compared to VIPP	Structural adaptations
		Additional themes: 1. Separations: past and present 1. Parenting: past and present 3. Defining adult relationships 4. Child of my parents, parent of my child	
	Additional episodes: Five extra mealtimes	Additional theme: 1. Conflicts (during mealtimes)	
	Specific rules for parents during videotaped situations (e.g., "Only react when child asks you to")		Video-feedback given immediately after filming
		Sensitivity and sensitive discipline themes repeated during several home visits Real life situation used for sensitive discipline strategies Sensitive time-out excluded Corrective feedback first given during 4th feedback session (instead of 3rd home visit)	Separate film visits (max. 10 minutes) and feedback visits Only care professionals as interveners with supervision from experienced behavior counselor
	Home visit 1: Play with tea set instead of reading a book together Home visit 3: Fantasy play instead of singing songs Home visit 4: Play with clay instead of play with hand puppets		Only female interveners from same ethnic group

Table 2. Continued.

Population	VIPP[1]/VIPP-SD or adapted VIPP[1]/ VIPP-SD	Additional material / treatment
Families with child-related challenges		
Children with externalizing behaviors	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD)	Booklet with messages and tips
Children with an Autism Spectrum Disorder	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline for Children with Autism (VIPP-AUTI)	
	VIPP within the British Autism Study of Infant Siblings (iBASIS-VIPP)	
Adopted and foster children	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline for Foster Care/ Adoption (VIPP-FC/A)	Booklet with messages and tips Booklet with physical contact games
Childcare settings		
Home-based childcare	Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline for Child Care (VIPP-CC)	Booklet with messages and tips
Center-based childcare	VIPP-CC for center-based childcare	Booklet with messages and tips

[1] VIPP does not include the four sensitive discipline themes, [2] CBT = Cognitive Behavioral Therapy

	Adapted or extra film episodes compared to VIPP	Adapted or extra themes compared to VIPP	Structural adaptations
	Additional episodes (for discipline themes): "Do not touch"-task and "Clean-up"-task	Additional discipline themes: 1. Induction and distraction 2. Positive reinforcement 3. Sensitive time-out 4. Empathy	
		Additional themes: 1. Mastery motivation and play 2. Joint attention 3. Daily problems and routine 4. Emotions and (stereotypical) behavior	
			Up to six booster sessions (instead of two) 30 minute exercise for daily practice of parents in between home visits
	Additional episodes: Play with physical contact (e.g., Itsy Bitsy Spider)	Additional themes: 1. Disrupted/subtle signals 2. Positive physical contact	
	Toys suitable for a group of children (two to six children present)	"Speaking for the children" in addition to "Speaking for the child"	Interveners shortly leave the home after videotaping No second caregiver invited for booster sessions
	Toys suitable for a group of children (four children present) Adapted "Do not touch"-task instead of "Clean-up"-task	"Speaking for the children" in addition to "Speaking for the child"	Interveners shortly leave the center after videotaping No second caregiver invited for booster sessions Laptop used to watch videotapes instead of TV and DVD player

Four representational themes are discussed during the home visits, each focusing on past and current situations. First, separations that the mother has experienced as a child and separations from her own child in the present are reviewed. Parenting experiences as a child and as a parent are discussed during the second session. The process of forming adult relationships with one's parents are discussed during the third home visit. Furthermore, the mother is asked about what she expects of the relationship with her own child in the future. Lastly, the mother is invited to think about her childhood experiences which she also wants her own child to experience. This theme is also known as "child of my parents, parent of my child" (Juffer et al., 2008, p. 20).

Mothers with Eating Disorders

Eating disorders may influence parenting quality, including the quality of the mother-infant interaction. Woolley, Hertzmann, and Stein (2008) found that mothers with eating disorders show more intrusiveness and are less sensitive during mealtime compared to mothers without eating problems. Mealtimes are often characterized by negative maternal emotions, i.e. mothers with eating disorders express themselves in a negative way toward the child by, for example, using commands instead of suggestions. The children, in turn, show more negative affect during mealtime and have lower weights. VIPP was used to support the quality of mother-infant interaction and to reduce or prevent conflict during mealtime by encouraging maternal sensitivity and maternal understanding of the developmental skills and needs of their child (Stein et al., 2006; Woolley et al., 2008).

VIPP for mothers with an eating disorder. Following the VIPP protocol, the intervener focuses on positive behaviors of mother and child, and on moments of positive interactions between mother and child (Stein et al., 2006; Woolley et al., 2008). The intervener not only uses "speaking for the child" (Carter, Osofsky, & Hann, 1991), but also information from Watch, Wait and Wonder (Muir, 1992) and Touchpoints (Brazelton, 1994) to provide subtitles for the child's reactions and expressions (see Table 2). Mothers gradually will acknowledge and accept that while their child is learning new (eating) skills and becomes more independent, they will probably be messy (Woolley et al., 2008).

The researchers illustrated child behavior and development during the first 12 months in an individualized album using photographs and additional written information, to combine with the video-feedback intervention (Woolley et al., 2008). The album focused especially on mealtimes, by highlighting the normal development of early exploratory behavior of the infant (e.g., looking and reaching), experiences with new tastes and food textures (with stills from the videotapes), precursors of self-feeding (e.g., when the child plays with food), and of conflicts that occur regularly during mealtimes (e.g., the messiness). In addition, because the mothers' eating disorder also (partly) influences the way she interacts with her child, a self-help manual based on cognitive behavior therapy (CBT) was used to provide extra help for the mothers to work on their eating habits (Woolley et al., 2008).

Maltreating Parents

Maltreating parents are often less able to openly communicate, to have a reciprocal interaction with their children, and to deal with conflicts than other parents. Children of maltreating parents have an increased risk of developing an insecure or disorganized attachment relationship with their parents (Cyr, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2010). A program using principles similar to VIPP and other interventions (e.g., the Attachment and Biobehavioral Catch-up of Dozier et al. (2006)) was used to increase attachment security of the children by enhancing parental sensitivity (Moss et al., 2014).

Intervention for maltreating parents using principles similar to VIPP. At the beginning of each session, the parent and intervener discuss a theme related to child development, emotion regulation, discipline, and family ecology (see Table 2). After this, a play situation is videotaped for 10 to 15 minutes (Moss et al., 2011, 2014). The intervener chooses an activity that is suitable for the child's age and that addresses the child's needs. The intervener usually provides feedback on the videotaped episode immediately after filming. Because this can be quite challenging, the videotape may first be reviewed with a supervisor before video feedback is given to the parent (Moss et al., 2014). The home visit ends with a summary of the progress the parent has made so far and the intervener encourages the parent to continue with playing similar games with the child (Moss et al., 2011, 2014).

Parents with Intellectual Disabilities

Children of parents with intellectual disabilities are at higher risk of being neglected or abused and of having a developmental delay. These parents are more often under supervision of child protection services and they often find parenting stressful (Hodes, Meppelder, Schuengel, & Kef, 2014). However, existing interventions aimed at enhancing parenting skills may not work, because these families experience challenges with acquiring new knowledge and skills (Feldman, 1994). Video-feedback Intervention to promote Positive Parenting for parents with Learning Difficulties (VIPP-LD) was developed to enhance sensitivity and sensitive discipline strategies in parents with intellectual disabilities (Hodes et al., 2014; Hodes, Meppelder, de Moor, Kef, & Schuengel, 2017, 2018).

VIPP-LD. Several adaptations were made to the VIPP-SD program to make the intervention suitable for parents with intellectual disabilities (Hodes et al., 2014; see Table 2). The home visits were divided in film visits and separate feedback visits. Both types of visits preferably take place in the same week. The total duration of the video-taped episodes was limited to 10 minutes and fewer tasks were performed, because the parents may find it hard to concentrate for long periods and they may find a large number of different tasks overwhelming. "Speaking for the child" is used all the time to give the parents as much practice as possible to learn how to interpret their child's behavior, and the sensitivity and discipline themes are repeated in several home visits.

Each parent also gets a personal scrapbook to provide them with a visual reminder of the feedback visits. The intervener puts screenshots from the video fragments in the scrapbook and writes down the feedback or a quote of the parent that corresponds with the theme. General information about the themes is also written in the scrapbook in such a way that the parent can understand and use this information in the time between home visits.

Families in Economically Deprived Contexts

Parents living in poverty encounter significant challenges in providing a safe and stable caregiving environment for their child. The Family Stress Model (Conger et al., 1992, 1993) states that the economic struggles experienced by low-income families have negative effects on the emotions, behaviors, and relationships of parents, which in turn can lead to adverse parenting. Low quality of parenting subsequently may result in adverse child outcomes (Conger & Donnellan, 2007; Mesman, Van IJzendoorn, & Bakermans-Kranenburg, 2012).

Low-income families often receive material help, such as subsidies or social housing, but help with parenting is rarely provided (Negrão et al., 2014). To support families in an economically deprived context on a social-emotional level, VIPP-SD was implemented to enhance positive parenting and family functioning, and to decrease challenging behaviors of children (Negrão et al., 2014; Pereira, Negrão, Soares, & Mesman, 2014)

At the end of the VIPP-SD intervention, all families received a booklet in which the topics discussed during the home visits were summarized to enable the parents to reread the messages and tips given during the sessions whenever they needed to (Negrão et al., 2014; Pereira et al., 2014; see Table 2).

Turkish Minority Mothers

In several studies, ethnic minority parents have been found to be on average less sensitive and challenging behaviors are more common among their children (Barnett, Shanahan, Deng, Haskett, & Cox, 2010; Mesman et al., 2012; Propper, Willoughby, Halpern, Carbone, & Cox, 2007). Turkish minority families are the largest group of non-Western immigrants in the Netherlands (Centraal Bureau voor de Statistiek [CBS], 2015), and have also been found to show lower levels of sensitive parenting compared to Dutch parents (Yaman, Mesman, Van IJzendoorn, Bakermans-Kranenburg, & Linting, 2010). In addition, Dutch mothers showed more authoritative behavior (i.e., positive feedback, induction, and understanding) than Turkish minority mothers. To enhance maternal sensitivity and the use of sensitive discipline strategies among Turkish minority mothers in the Netherlands, VIPP-SD for Turkish Minority families (VIPP-TM) was developed (Yagmur, Mesman, Malda, Bakermans-Kranenburg, & Ekmekci, 2014).

VIPP-TM. Some adaptations to the original VIPP-SD program were made, based on the experience and knowledge of a focus group of Turkish experts and mothers (all second-generation immigrants), to make the video-intervention acceptable for Turkish minority mothers (Yagmur et al., 2014; see Table 2). Only female interveners should conduct VIPP-TM and they should use the language (Dutch, Turkish or a combination of both) the mothers use. Furthermore, some situations that are filmed during the original intervention, such as reading a children's book together or singing a song together, would not occur during the daily life of Turkish families. During the first home visit, reading together was therefore replaced by mother and child playing together with a children's tea set and singing of a song during the third session was replaced by fantasy play.

SUPPORTING FAMILIES WITH CHILD-RELATED CHALLENGES

Specific challenging behaviors of children – for example, stereotypic behavior of children with autism – require special attention and parenting qualities from their parents. Several features of the VIPP-SD program try to provide optimal help and empowerment for the parents of these children. We describe how VIPP-SD has been used in studies including children with Autism Spectrum Disorder, and adopted and foster children.

Children with an Autism Spectrum Disorder

Several studies suggest that parenting children with Autism Spectrum Disorders (ASD) can be particularly difficult, because the children's symptoms make observing and interpreting the child's (attachment) signals challenging (Green et al., 2013, 2015; Rutgers et al., 2007). In a study that examined their self-perceived health, parents of children with ASD reported more stress, which resulted in higher rates of depression and anxiety compared to parents of typically developing children and children with mental retardation (Benjak, Vuletic Mavrinac, & Pavic Simetin, 2009). To support these parents, two VIPP programs have been developed for families with infants or a child with (a high risk of) ASD (see Table 2). Video-feedback Intervention to promote Positive Parenting for Children with Autism (VIPP-AUTI; Poslawsky et al., 2014) was implemented in Dutch families with 1- to 6-year-old children with an ASD diagnosis. In the British Autism Study of Infant Siblings (iBASIS-VIPP) a preventive video-feedback intervention program was used for infants at high risk of ASD (Green et al., 2013, 2015). This program is based on VIPP with up to six (instead of two) booster sessions and with an extra exercise of 30 minutes every day-practice for parents between sessions.

VIPP-AUTI. VIPP-AUTI consists of five sessions with the first four sessions each addressing the original VIPP-SD sensitivity and discipline themes and an additional autism theme, and one booster session (see Table 2).

Children with ASD often show limited play behavior and have difficulties with joint attention (i.e. the ability to share visual attention towards an object with someone else; Naber et al., 2007). Also, it is important to verbalize the nonverbal reactions and expressions of the child, i.e. with "speaking for the child", because children with ASD rarely use nonverbal cues or these cues are difficult to read for the parents (Poslawsky et al., 2014). Furthermore, parents often face non-compliant behavior of their child (e.g., Couturier et al., 2005). Sensitive discipline themes of VIPP-SD are used during the third session to teach parents how they could manage non-compliant child behavior (Poslawsky et al., 2014). Children with ASD often show stereotypical behavior, which are discussed during the fourth home visit.

Adopted and Foster Children

A meta-analysis of 17 adoption studies and 11 foster care studies showed that both adopted and foster children were more often insecurely attached than children who lived with their birth families (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). The prevalence of disorganized attachment was twice as high among adopted and foster children, 31% and 36% respectively, in comparison with children living with their birth parents (15%). To help these children to feel (more) secure in their new homes, two video-feedback interventions to support sensitive parenting in adoptive and foster families were developed.

Adoptive families. Adoptive parents often face a lot of uncertainty about the early life experiences of their adopted child who usually lived in adverse circumstances before placement, experiencing neglect, abuse, and malnutrition (Juffer et al., 2011; Rutter & the English and Romanian Adoptees (ERA) Study Team, 1998). Although the overall catch-up of adopted children is impressive, they do show some delay in several domains of development (e.g., elevated rates of disorganized attachment and mental health referrals; Juffer & Van IJzendoorn, 2005; Van IJzendoorn & Juffer, 2006).

To help adoptive parents of adopted infants to provide a secure home environment for their adopted children, a brief video-feedback intervention was developed (Juffer, 1993; Juffer et al., 2005). This intervention was a first version of the VIPP program and consisted of three home-based video-feedback sessions. During the video-feedback sessions the intervener focused on sensitive parenting using "speaking for the child" (Carter et al., 1991) and positive reinforcement to enhance maternal sensitive behavior towards the child.

Foster families. Like children adopted at older ages, foster children often have histories of adversity before the placement in their foster family. These experiences may be reflected in difficulties trusting adults and developing secure attachment relationships (Dozier et al., 2009; Gabler et al., 2014), which, in turn, can result in (the persistence of) challenging behaviors. VIPP-SD for foster care and adoption (VIPP-FC/A) aims to support foster parents (and adoptive parents of older-placed adopted children) in creating a secure home environment.

VIPP-FC. VIPP-FC uses VIPP-SD themes plus some additional themes addressing specific behaviors often seen in foster children (see Table 2). Some signals of foster children are subtle or even completely absent. For example, foster children may not cry when they have hurt themselves because they are not used to being comforted in these situations. Sometimes foster children look briefly at the foster parents when they are distressed, but other foster children do not show any signals at all. By making foster parents aware of these small or absent signals and teach them how to nevertheless respond, they show their foster children that they can be relied on in times of need. Foster children may gradually adapt their expectations and start to feel secure in the presence of their foster parents.

An important basis for comforting children and sharing their emotions, is sensitive physical contact. Foster children often have had hardly any or mainly negative experiences with physical contact, due to a history of abuse and neglect. As a consequence, they may not actively seek physical contact or respond defensively when their foster parents want to touch them to soothe them. Positive physical contact appears to enhance parental sensitivity not only in parents and their birth children (Gordon, Zagoory-Sharon, Leckman, & Feldman, 2010a) but also in parents and their genetically unrelated children (Bick & Dozier, 2010). By sensitively promoting positive physical contact, children may gradually feel more secure in physical interactions with their foster parents. In addition to sharing emotions and providing comfort to children, physical contact may also reduce stress in both children and adults. Foster children often experienced a (chronically) stressful period before placement and foster parents often face challenges in taking care of children with difficult behaviors. Stress can dysregulate the hypothalamic–pituitary–adrenocortical (HPA) axis which results in increased levels of the HPA axis' end product cortisol. Increased cortisol levels are subsequently related to less parental sensitivity (Feldman, Weller, Zagoory-Sharon, & Levine, 2007). Sensitive physical contact can decrease cortisol levels in both children and adults (Field, 2010) and serves as a buffer against stress (Feldman, Singer, & Zagoory, 2010).

In VIPP-FC, the VIPP-SD program is extended with a theme addressing the observation and interpretation of disrupted or subtle signals of attachment behavior displayed by foster children. This theme is introduced in the first home visit and repeated during all following sessions. The intervener also focuses on enhancing adequate stress regulation through sensitive physical contact between foster parent and child. For example, foster parent and

child are videotaped in several games with physical contact, such as *Row row row your boat* or *Itsy bitsy spider*, during each home visit. During the video-feedback the intervener verbalizes the child's possible reluctance or avoidance of physical contact (with "speaking for the child"), and points to (subtle) moments of positive, shared physical contact.

At Leiden University we are investigating the effectiveness of VIPP-FC in a randomized controlled trial (for a study protocol see Schoemaker et al., 2018), after a pilot study including three foster families had been conducted. During the first home visits, all foster parents participating in this pilot study noted that they were worrying about the child's attachment and difficult behavior. They showed great enthusiasm towards the VIPP-SD and VIPP-FC themes. Vignettes 1 and 2 describe two families of the pilot study. Both families volunteered to participate in the pilot study. They completed all six sessions, each lasting approximately 90 minutes. Following the standardized manual, the VIPP-SD themes (e.g., exploration vs. attachment behavior; Juffer et al., 2015) and additional VIPP-FC themes (e.g., subtle or missing behavioral signals) were discussed and video feedback was provided by the intervener during the sessions. The two foster children in the vignettes showed behaviors often seen in foster children, i.e., controlling behavior and avoiding physical contact, respectively.

Vignette 1: VIPP-FC – A foster child with controlling behavior. Being the daughter of substance abusing parents, 4-year-old Amy was addicted to cocaine when she was born and she was severely neglected during the first years of life.

During the videotaped episodes at the start of the intervention, Amy showed externalizing behaviors and signs of controlling behavior, possibly as a result of insecure disorganized attachment. She showed non-compliant (e.g., actively resisted cleaning up when requested) and aggressive behavior, and she gave commands to her foster mother (e.g., pointing with her finger she fiercely commanded her foster mother to "Sit!" on the couch). When she was building a tower, Amy looked puzzled when she came to a point where she did not know how to proceed. She did however not ask or even look at her foster mother for help. Her foster mother offered her help by showing Amy the next building block, but Amy pushed the block away. The intervener discussed with the foster mother that this controlling behavior was probably a result of Amy's adverse early life experiences and how she could deal with it (i.e., setting clear boundaries and showing Amy that she is there to help if needed). After the intervention, Amy behaved quite differently: when the foster mother told her to clean up the toys, she was cooperative and compliant and completed the task together with her foster mother in a relaxed atmosphere.

Vignette 2: VIPP-FC – A foster child avoiding physical contact. Three-year-old Anita and her teenage mother moved into a foster family's home together when Anita was a few months

old. However, this did not work out well, and after two more placements Anita is now living with another foster family and her mother is visiting her every two weeks.

During the physical contact games (most of them unknown to Anita), she avoided having physical contact with her foster mother. She tried to escape to playing with toys instead, and created more distance between herself and her foster mother. When playing a game in which Anita was invited to run into her mother's arms, she again fiercely refused. The intervener noticed in the previous sessions that Anita did like to cuddle, however, and suggested that the foster mother calls Anita with the word she always used to start cuddling. As soon as the foster mother invited her with this familiar, 'magic' word, Anita ran into her foster mother's arms to cuddle and they continued with a warm and positive physical contact game.

USING VIPP-SD IN CHILDCARE SETTINGS

Parents often rely on childcare settings where professionals take care of their children while they are at work. As in families, one of the essential goals of childcare is to provide children with a secure base, and caregiver sensitivity is considered a key component in providing such a secure base. Therefore, the VIPP-SD approach was adapted to Child Care settings (VIPP-CC), and, as a first step, its effectiveness was empirically tested in home-based childcare. Home-based childcare is more personalized and reflects the children's home more than center-based childcare (Groeneveld et al., 2011). As a second step, VIPP-CC was adjusted for center-based childcare, with larger groups of children and at least two caregivers present on a group. Key component in this group-based intervention is the professional caregiver's sensitivity and discipline while interacting with a *group* of children (Werner et al., 2017).

VIPP-CC for home-based childcare. To implement VIPP-SD in home-based childcare, some adaptations were made (Groeneveld et al., 2011; see Table 2). The intervener uses "speaking for the children" in addition to "speaking for the child" to provide subtitles for the whole group of children during the video-feedback, with a focus on the different developmental levels of the pertinent children. Further, because the play material of the VIPP-SD program was not always suitable for use in a group setting, some toys were replaced. For example, a large storybook was used for group book reading.

VIPP-CC for center-based childcare. VIPP-CC for center-based childcare (Werner et al., 2017) is based on VIPP-CC for home-based childcare as described above (see Table 2). A laptop was used to review the videotapes with the caregiver, because often no TV screens and/or DVD players are available at the childcare centers.

DISCUSSION

The VIPP-SD program provides an illustration of how an attachment-based intervention enriched with components from social learning theory, in particular Patterson's (1982) theory of coercive cycles, can be implemented in a wide range of populations, with some adaptations for specific groups of children or parents. The changes to the original VIPP-SD program in the various study populations are relatively small, and the essential elements and structure of the original protocol have been maintained in all cases. From this perspective we may be optimistic about implementing the original or a slightly adapted version of the VIPP-SD program in new populations and settings.

We described how the intervention model of VIPP-SD can be used in different types of families, taking into account their specific characteristics. For example, adoptive and foster parents become parents through self-selection, and they usually go through a screening and training process. However, they may need extra support and empowerment to parent their adopted or foster children who often show developmental delays and challenging behaviors. Other parents may struggle with specific child characteristics, such as externalizing behaviors or autism. If parents experience difficulties themselves, they may also have a need for extra help with parenting. Their difficulties may range from personal challenges such as eating disorders to more environmental factors, for example financial struggles. To date, children spend a substantial amount of time in home-based or center-based childcare settings. Caregivers working at these settings become important attachment figures for these children, and thus, VIPP-SD adapted for group settings can be seen as an important building stone to improve the rearing environment of children. It should be noticed that all versions of the VIPP-SD program can be used as a component in a broader, more intensive or longer treatment. A combination of VIPP-SD with another treatment (e.g., CBT or a self-help manual for eating disorders; Woolley et al., 2008) can be relevant for specific populations or settings.

The various versions have some consequences for the VIPP-SD training. The basic VIPP-SD training, which consists of four training days and (after successfully completing the course) conducting a first case of VIPP-SD under supervision, is sufficient for a wide range of families (Leiden University, 2018; Tavistock and Portman NHS Foundation Trust, 2019b). During the 4-day training course, professionals practice with video feedback in a group and during role play with other professionals using the standardized manual (Juffer et al., 2015). Some extra training is needed for VIPP-AUTI, VIPP-FC/A, and VIPP-CC. During these extra training hours the specific adaptations are discussed, for example the theme of "speaking for the children" in VIPP-CC (Vermeer, Groeneveld, Werner, Linting, & Van IJzendoorn, 2015). In sum, professionals working with families or with caregivers in out-of-home childcare can be successfully trained to implement the VIPP-SD program, and depending on the target group some specific requirements should be taken into account.

Conclusion

Awaiting the results from the studies that currently examine the effectiveness of the VIPP-SD program for fathers, families with older children, and other populations (see section Development of VIPP-SD), the existing body of evidence convincingly shows that the VIPP-SD program has positive effects on parenting and child outcomes in various types of families (Juffer et al., 2017a, 2017b). Moreover, the successful use with Turkish minority mothers in the Netherlands points to opportunities for using VIPP-SD with other cultural groups in other (non-Western) countries.

To use VIPP-SD in foster care two specific foster care themes (i.e., subtle/missing attachment behaviors and importance of sensitive physical contact) were added to the original intervention program resulting in VIPP-FC. Vignettes 1 and 2 illustrated how VIPP-FC positively changed the behaviors of two foster children that showed controlling behavior or avoided physical contact, respectively. These behavioral changes and the experiences of the foster families participating in the VIPP-FC pilot study are promising for the results of our ongoing research study regarding the effectiveness of VIPP-FC.

VIPP-SD with minor adaptations (i.e., “speaking for the children” and some toy replacements) was also studied in home-based and center-based childcare settings (VIPP-CC). Vignettes 3 and 4 illustrated the positive evaluations of VIPP-CC in home-based childcare and how VIPP-CC can improve caregiver behavior in center-based childcare. The adaptation to childcare settings may provide clues for improving group childcare in which the quality of care is highly disadvantageous for young children, for instance in institutionalized care and orphanages.

In conclusion, the VIPP-SD program has been implemented successfully in various populations who could benefit from parenting support. The flexibility of this intervention model may be based on the use of personalized video-feedback in which the parents or caregivers in interactions with their children constitute the starting point. Each parent or caregiver is his or her own yardstick with unique expertise about their own children. This approach is not one size fits all as each parent or caregiver looks into the mirror of his or her own unique interactions with the child, with unique potentials for reflection on improvement in the direction of more sensitivity and sensitive discipline. Therefore, there seems to be room for application of the VIPP-SD program in other, as of yet unserved populations.

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Chapter 4

The effectiveness of Video-feedback Intervention to promote Positive Parenting for Foster Care (VIPP-FC): Study protocol for a randomized controlled trial

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ABSTRACT

Background: Foster children are at higher risk of the development of behavior and emotional problems, which can contribute to the development of insecure attachment bonds with their foster parents and (subsequently) to placement breakdown. Sensitive parenting might minimize the adverse effects of the behavior and emotional problems. Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC) is an adaptation of the evidence-based Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) and aims at increasing sensitive parenting and the use of sensitive discipline strategies of foster parents. The current study is the first to examine the effectiveness of VIPP-FC.

Methods: A randomized controlled trial is used with 60 foster parent-child dyads (intervention group n = 30, control group n = 30). The primary outcomes are parental sensitivity, parental disciplining, and parental attitudes towards parenting. Data about attachment (in)security, behavioral and emotional problems, neurobiological parameters, and possible confounders is additionally collected.

Discussion: Examining the effectiveness of VIPP-FC contributes to the knowledge of evidence-based prevention and intervention programs needed in foster care practice.

Trial registration: NTR3899

BACKGROUND

Foster children often have had adverse experiences (e.g., abuse and/or neglect) in their birth families, including separation from an attachment figure (Greeson et al., 2011). These experiences may hamper their ability to trust new adults in their lives, which subsequently can contribute to (the persistence of) behavior problems and difficulties in forming a secure attachment relationship with new parents. Meta-analytic results show that foster children are indeed twice as likely to have an insecure disorganized attachment relationship with their foster parents (36%) than children in biological families (15%; Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). An insecure and especially a disorganized attachment relationship puts children at risk for behavior problems and psychopathology later in life (Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010; Groh, Roisman, Van IJzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Sroufe, Egeland, Carlson, & Collins, 2005; Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). There are concerns regarding the behavior problems of foster children which can contribute to breakdown of foster care placements (Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). Research also shows that the higher the number of placements, the higher the risk of developing psychological, behavior, and emotional problems at a later age (Newton, Litronownik, & Landsverk, 2000).

A secure attachment relationship provides an optimal basis for children's adaptive and resilient development (Sroufe et al., 2005). A meta-analysis of intervention studies showed that increases in caregiver sensitivity were associated with increases in attachment security in the children (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). It is therefore important that foster parents show sensitive parenting towards their foster children, provide their foster children with positive experiences, and create a nurturing environment in which the children feel secure.

It is known that parenting support that uses video feedback can help parents to recognize the behavioral signals of their child and enables them to adequately react to their child's behavior. Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008, 2017a, 2017b) is an evidence-based, attachment-oriented intervention aimed to enhance parental sensitivity and sensitive discipline, by use of providing personal video feedback on recorded parent-child interactions. In order to meet the needs of foster parents and enhance the effectiveness for foster families in improving the quality of the relationship with their foster child, VIPP-SD has been adapted to VIPP Foster Care (VIPP-FC) in two ways: first, by enhancing sensitive physical contact to improve the stress regulation of both foster parents and children, and second, to support foster parents in recognizing (the absence or reduction of) behavioral signals that are specific

for foster children (e.g., not crying after being physically hurt) and helping them to adequately respond to these (sometimes subtle) signals. This paper describes the adaptations of VIPP-SD to foster care and outlines the study protocol used to examine the effectiveness of VIPP-FC.

Stress Regulation

Affinitive bonds (defined as selective and enduring attachments) are formed on the basis of bio-behavioral synchrony, such as multiple hormonal, neural, autonomic, behavioral, and mental processes that coordinate to establish the parent–infant bond (Feldman, 2007; Feldman et al., 2012). Stress regulation plays an important role in sensitive parenting, both from the perspective of the child and the parent. Low parental nurturance can result in chronic stress for young children (Loman & Gunnar, 2010). Early life stress, such as inadequate care and separations, is associated with long-term changes in regulation of the hypothalamic–pituitary–adrenocortical (HPA) axis. Infants who have experienced disruptions in care and who have not yet formed an attachment bond with their (surrogate) caregivers cannot benefit from the buffering effect of sensitive parenting to stress (Dozier, Highley, Albus, & Nutter, 2002). Children in foster care following involvement of Child Protective Services (CPS) within the first two years of life (mostly because of neglect), for example, had higher incidences of atypical patterns of cortisol production (the end product of the HPA-axis) than children without a history of CPS involvement (Bernard, Butzin-Dozier, Rittenhouse, & Dozier, 2010; Bernard, Zwerling, & Dozier, 2015; Dozier, Manni, et al., 2006). Specifically, cortisol production of 55 foster children who were 20 to 60-months old decreased less across the day than the cortisol daytime levels of 104 children who had lived continuously with their biological parents (Dozier, Manni, et al., 2006).

There is increasing evidence that sensitive and responsive care is helpful for children with early life stress (e.g., Feldman, Weller, Zagoory-Sharon, & Levine, 2007). Enhancing foster parents' sensitivity might help normalize basal HPA axis activity of children (Fisher, Stoolmiller, Gunnar, & Burraston, 2007). Indeed, the effects of early life stress on the HPA axis can be reversed with interventions that support the foster parent-child relationship (Fisher, Gunnar, Dozier, Bruce, & Pears, 2006). Children whose foster parents had received a parenting intervention (Attachment and Biobehavioral catch-up (ABC; Dozier, Peloso, et al., 2006) or Early Intervention Foster Care Program (EIFC; Fisher, Burraston, & Pears, 2005)) showed increases in morning cortisol levels (resulting in a more normalized diurnal pattern), fewer behavior problems, increased attachment security, and fewer placement disruptions compared to a group of foster children who received care as usual.

Not only do foster children often enter their new foster home with dysregulated stress systems, foster parents are also at risk of experiencing increased stress levels. Interacting with foster children with disturbed and problematic behaviors due to their difficult life-history can be

stressful for foster parents. Their increased stress levels can influence the parents' level of sensitivity to the child. Indeed, research has shown that increased levels of maternal cortisol were related to lower parental sensitivity during parent-child interactions (Feldman et al., 2007). On the other hand, mothers who were highly sensitive during interactions with their child, had a lower heart rate indicating lower stress levels when they listened to cry sounds of babies in comparison with less sensitive mothers (Joosen et al., 2012).

The forming of an affinitive bond (in different mammals such as rats, sheep, primates, and also humans) is, in addition to cortisol, related to oxytocin, a neuropeptide produced in the hypothalamus and also known as the 'cuddle-hormone' (Holman & Goy, 1995; Kendrick, Keverne, & Baldwin, 1987; Neumann, 2008). Research shows that oxytocin is related to parental sensitivity (Feldman et al., 2012) and also enhances physiological and behavioral readiness for social engagement in parent-infant interactions (Weisman, Zagoory-Sharon, & Feldman, 2012). It was found that fathers who received nasally administrated oxytocin were less hostile and offered more structured play to their child than fathers who received a placebo (Naber, Van IJzendoorn, Deschamps, Van Engeland, & Bakermans-Kranenburg, 2010). There are also indications that oxytocin has a decreasing effect on the amount of stress someone experiences Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003). An fMRI-study showed that the amygdala (the brain's fear center) was less active in women who received oxytocin than in women who had not received oxytocin when hearing infant cry sounds (Riem et al., 2011). These results indicate that oxytocin decreases the stress response of parents to children's crying and thus may increase their responsiveness to children's crying.

Positive physical contact. There is evidence that physical touch by the caregiver serves as a buffer against stress (Feldman, Singer, & Zagoory, 2010) and helps regulating stress in both children and adults through increased oxytocin levels and decreased cortisol levels (Field, 2010). This suggests that foster children and their foster parents can be supported in regulating stress by positive physical touch while forming an attachment bond together. From birth onwards physical touch calms down infants and children when they are in pain or discomfort (Bellieni et al., 2007; Ferber, Feldman, & Makhoul, 2008). Foster children, however, often have had minimal experiences with positive physical touch and sometimes even experiences with negative physical touch which can result in developmental delays (Field, 2010). Fortunately, there are indications that these delays can be overcome with exposure to physical touch. Children of depressed mothers who also experienced touch deprivation benefitted from massages given by their mothers and maternal sensitivity and responsivity increased (Field et al., 1996; Lee, 1996). It has additionally been demonstrated that play with physical contact positively correlates with oxytocin levels in parents. Mothers who often touched their baby lovingly had higher oxytocin levels afterwards (Feldman, Gordon, Schneiderman, Weisman, & Zagoory-Sharon, 2010; Gordon, Zagoory-Sharon, Leckman, & Feldman, 2010b). The same

was true for fathers who interacted more playfully with their baby, for example by touching the baby with a soft toy, or by showing the baby objects. Research shows that oxytocin levels not only increase after interaction with biological children, but also with unrelated children. In fact, Bick and Dozier (2010) showed that maternal oxytocin levels increased even more after playing a computer game that focused on physical contact with unrelated children than with biological children. Therefore, interventions that focus on increasing positive physical contact might help regulate stress for both the foster child as well as the foster parent.

Behavior of Foster Children

Sensitive caregivers can help children to develop self-regulatory abilities (Bakermans-Kranenburg et al., 2003). These abilities can be internalized through repeated experiences of being reassured by a caregiver when children are upset and/or cry. Unfortunately, most children in foster care do not have these experiences. The absence of a familiar, trusted, and predictable caregiver leaves the child without help in regulating distress. For example, many foster children will not always show that they are in pain when physically hurt because they are often not used to being comforted and therefore the help-seeking behavior extinguishes.

The lack of self-regulatory abilities of children in foster care makes that they are often treated differently from typically developing children who grow up with their birth parents. In addition, children in foster care often have a history of maltreatment and additionally have experienced the trauma of being separated from their parents, which makes them vulnerable and susceptible to develop posttraumatic stress disorders (PTSD) and behavioral problems (Leslie et al., 2005; Oosterman et al., 2007; Racusin, Maerlender, Sengupta, Isquith, & Straus, 2005; Stovall & Dozier, 2000).To overcome the disabilities in self-regulation, it is important for foster parents to not only respond adequately to the obvious behavioral signals of the child, but to also take into account the actual situation. They should not only pay attention to behavior that they can see in the child, but also to behavior that is not there, but should be there such as showing pain or distress (Stovall & Dozier, 2000). By providing comfort in such situations, foster parents show that the child can trust them if something is wrong. This enables foster children to adjust their expectation pattern (i.e., the internal working model of the child) to the new environment and to feel secure with the foster parents (Bakermans-Kranenburg et al., 2003).

Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC)

VIPP-SD has been developed to enhance parental sensitivity and sensitive discipline in order to eventually promote children's attachment security and prevent or reduce child problem behavior (Juffer et al., 2017a). VIPP-SD can be used in families with children of 0 to

6 years old and consists of six intervention home-visits. The intervention method supports parents to respond sensitively to their children's behavioral signals and to set rules and boundaries in a sensitive manner. Because of the importance of stress regulation in both children and parents and the atypical behaviors of foster children (e.g., lacking signals such as showing pain when hurt), the existing VIPP-SD program has been adapted to use in foster care (VIPP-FC) in two ways. First, a component was added that specifically focuses on increasing sensitive physical contact in order to increase oxytocin production and stress regulation in both foster children and parents. Second, a component was added that focuses on supporting foster parents in recognizing (subtle or missing) behavioral signals that are specific for foster children (e.g., not crying after being physically hurt) and how to adequately react to these signals.

Aims and Hypotheses

The current study examines the effectiveness of VIPP-FC by use of a Randomized Controlled Trial (RCT) with two groups: an intervention group receiving VIPP-FC and a control group receiving a dummy intervention. The primary goal of this study is to test the following hypothesis: VIPP-FC has a positive effect on foster parents' sensitive parenting, sensitive discipline, and attitudes towards parenting. Additionally, this study aims to test the following secondary hypotheses: 1) VIPP-FC results in increased oxytocin production during parent-child interactions in foster parents and their foster children; 2) VIPP-FC results in better physiological stress regulation in foster parents and foster children; 3) VIPP-FC results in a reduction of behavior problems in foster children; 4) VIPP-FC results in less disorganized and more secure attachment relationships between foster children and foster parents; 5) The increase in parental sensitivity/sensitive disciplining and the decrease in child problem behavior is mediated by an increase in oxytocin production and stress regulation in foster parents and foster children, respectively.

METHODS

Study Design

We use a randomized controlled trial (RCT) with two groups: An intervention group receiving the VIPP-FC (six intervention home visits) and a control group receiving a dummy intervention (six telephone interviews). Participants are foster families living in The Netherlands. The study consists of three assessments and each assessment consists of a home visit and a visit to the laboratory. After the pretest (T1), the foster families were randomly assigned to either the intervention group or the control group. All pretests and randomization are completed. The first post-test (T2) takes place immediately after the intervention and a follow-up post-test (T3) is carried out three months later. Data collection for these two posttests is currently ongoing.

Procedure

Foster families were recruited with (n = 56) or without mediation (n = 4) by nine Dutch foster care organizations spread throughout the Netherlands. In order to recruit foster families outside the range of the participating foster care organizations, advertisements of the study were published on Facebook and in a Dutch foster care magazine, and were distributed among several foster care network groups. Foster families with a foster child of 1 to 6 years of age were eligible for participation. The placement could be either kinship or non-kinship foster care, and should have been expected to last at least six months. Part-time or short-term crisis placements were excluded from the study. Children with severe physical disabilities, diagnosed intellectual disability (IQ < 70) and/or diagnosed autism spectrum disorder were also excluded. Lastly, twins who were placed in the same foster family could not participate in the study. If more than one child was eligible for participation within the same foster family, the most recently placed child was included, or in case of concurrent placement, the oldest child within our age range would participate.

In case of recruitment through foster care organizations, eligible foster families received a recruitment letter and a subsequent telephone call. During this call, foster parents could indicate whether they would like to receive more information about the study by (e)mail or whether they would like to make a non-committal appointment with a research assistant to receive and discuss an information brochure and an information letter in person. Foster parents who showed interest in participation without mediation of a foster care organization were also offered to receive more information about the study by (e)mail or during a non-committal appointment. To ensure blindness to study condition (intervention versus control group), foster parents were told that this study investigates various treatments to support foster parents which consist of six home visits and/or six telephone calls. After receiving more information about the study, foster parents received another telephone call within a week to ask whether they would like to participate. Because most foster parents do not have legal custody of the child, the biological parent(s) with legal custody or the legal guardian were also contacted and they received the same information as the foster parents by (e)mail or during a non-committal appointment. If both the biological parent(s)/legal guardian and the foster parents had given their consent for participation in the study, the pre-test appointments for the home visit and laboratory visit were made with the primary foster parent of the foster child. Figure 1 displays a flow diagram of the study procedure including an outline of the study design. Inclusion was finished in January 2018 and a total number of 60 foster families were included in this study.

All travel expenses are compensated and both foster parent and the child receive a small gift after completing every assessment. As a compensation of their time and effort foster parents receive a financial reimbursement of €100 for their participation in the study.

Participating foster families in either the intervention or control group are not prevented to use medical drugs. Both also receive the care as usual provided by foster care organizations. If needed, foster families assigned to the control group can receive additional treatment (as part of the care as usual) during the study period. All additional treatments in both groups are documented. If necessary, type and amount of additional care and treatment can be controlled for in analyses.

This study was approved by the Medical Ethics Committee of the Maasstad Hospital in Rotterdam, The Netherlands. The trial is registered in the Netherlands Trial Register (NTR; Trial ID: NTR3899).

Study Sample

A total of 434 foster families were eligible for participation (Figure 1). 170 families (41.2%) did not want to receive additional information and 155 families (35.7%) did not want to participate after receiving additional information, resulting in a successful recruitment of 100 foster families (23.0%). The biological parents with legal custody or the legal guardian of 29 (6.7%) children did not give consent for participation. Additionally, 11 foster families (2.5%) refrained from participation after giving informed consent, mostly due to personal circumstances. A final sample of 60 families (13.8%) was enrolled.

The children were on average 3.63 years old (*SD* = 1.35, range: 1 to 6) at pretest, 27 (45.0%) are boys, and 73.3% of the children are placed with a non-kinship foster family. All foster parents, of which fifty (83.3%) foster mothers, participating in the study are the primary caregiver of the child with a mean age of 45.43 years (*SD* = 7.42, range: 31 to 61). The foster parents have on average 1.74 (*SD* = 0.83, range: 1 to 4) foster children and on average 1.87 (*SD* = 1.39, range: 0 to 5) biological children.

Randomization

The random assignment to the VIPP-FC intervention or control group was done using a computer-generated blocked randomization sequence, stratified by kinship or non-kinship foster care and with a block size of 10 foster families. Group allocation was performed after the pretest and before the start of the intervention. Participating foster families are blind to condition and all data will be coded by independent researchers who are blind to the condition of foster families.

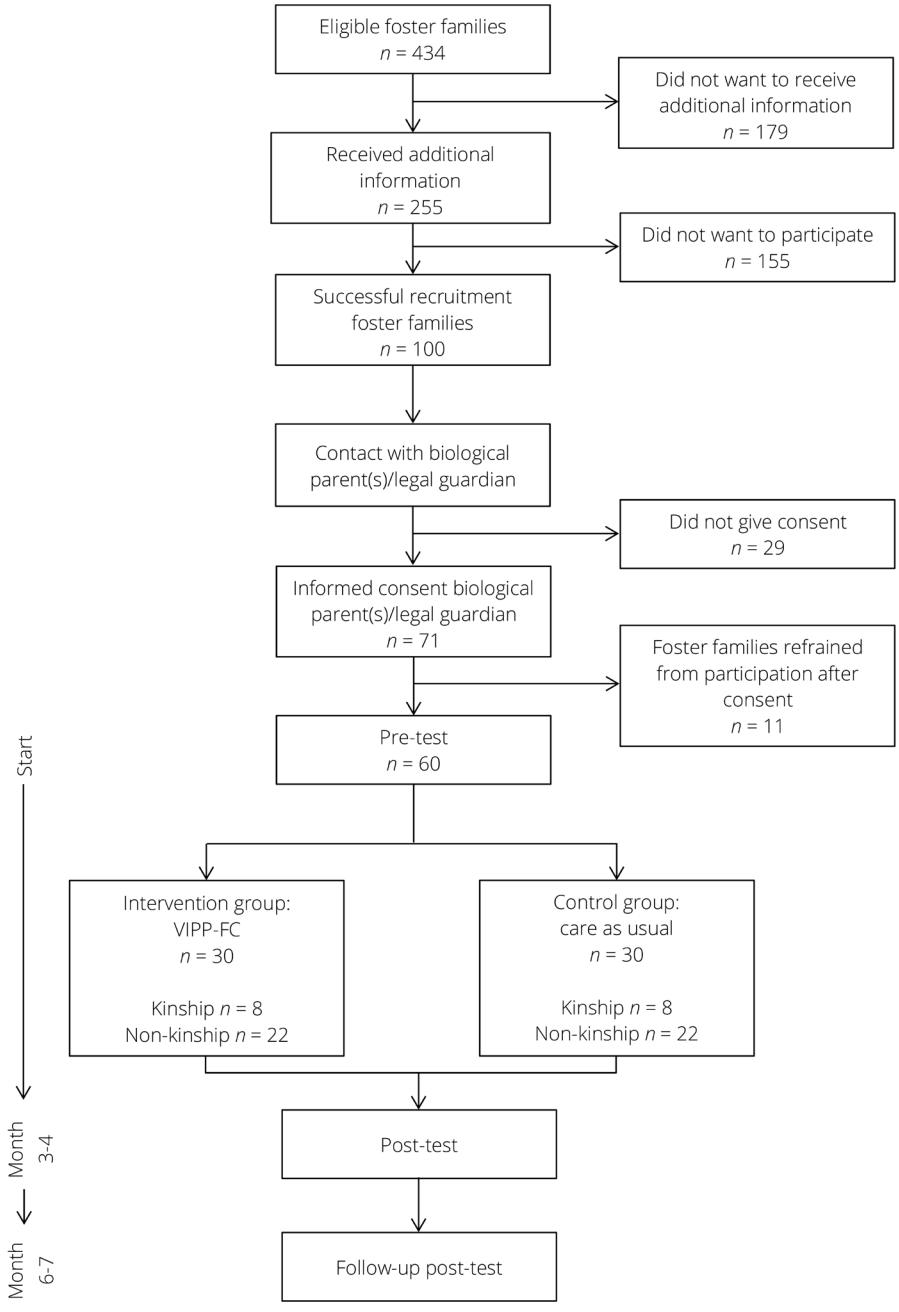


Figure 1. *Flow diagram of study procedure.*

Sample Size and Power

Recent meta-analytic results of twelve studies using an RCT-design investigating the effects of VIPP-SD on increased caregiver sensitivity showed a combined effect size of d = 0.47 and a combined effect size of d = 0.26 for reduced problem behavior in the children (Juffer et al., 2017a, 2017b). To test the effectiveness of VIPP-FC on foster parents' sensitivity and sensitive discipline with a repeated measures design with α = 0.05 and a study sample of 60 foster families the statistical power is adequate (0.86; repeated measures ANOVA within-between interaction, G*Power 3.1.9.2).

Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC)

Theoretical background. VIPP-FC is an adaptation of VIPP-SD with specific components to use in foster families. VIPP-SD is based on attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969) and coercion theory (Patterson, 1982).

Attachment theory states that every child develops an attachment relationship with their primary caregiver. This caregiver provides a secure base from which the child can explore the world, and is also a safe haven where the child can return to in times of need. The quality of the attachment relationship depends on the caregiver's availability and on how he/she responds to signals of the child. In VIPP-SD parents are supported to show more sensitive responsive behavior toward their child by observing and interpreting the child's signals accurately and respond to these signals promptly and adequately (Ainsworth et al., 1978).

Patterson's coercion theory is based on the social learning theory of Bandura (1977) and states that children's externalizing behavior is reinforced and enlarged when the child reacts to the caregiver's rules and demands with negative behavior, and thus forces the caregiver to adjust his/her rules and demands, while the caregiver concedes and lowers his/her rules and demands (Patterson, 1982). The child 'learns' that this strategy of using negative behavior works and will use it again in the future. The absence of the reinforcement of desired (positive) behavior combined with inconsistent disciplining contribute to the development of externalizing behavior (e.g., aggression and hyperactivity) of the child. The opposite of inconsistent disciplining is sensitive disciplining and induction: to offer warmth, support, and responsivity (Ainsworth et al., 1978), and to set rules and boundaries in a sensitive manner, to prohibit negative behavior, and explain why something is not allowed (i.e. induction; Hoffman, 1984) at the same time. Negative and inconsistent limit-setting can be considered as being not adequately attuned to the child's behavior and thus as insensitive caregiving. Both attachment theory and coercion theory emphasize that insensitive caregiving can contribute to problem behavior in children. Increasing parental sensitivity can, on the other hand, prevent or decrease children's problem behavior.

Structure and training. The intervention consists of six home visits: The first four sessions are biweekly and there is an interval of approximately three weeks between sessions four and five and sessions five and six. During each home visit, the participating foster parent (primary caregiver) and child are filmed during daily situations for ten to thirty minutes, such as playing, mealtime or reading a book together. The foster parent is asked to behave and respond to the child as they would normally do and the intervener does not intervene during filming. After filming, the intervener gives personal video feedback on the interactions between foster parent and child of the previous home visit, with a focus on positive interactions and sensitive discipline. This video feedback is prepared by the intervener during the interval between two home visits. During the discussion, the intervener acknowledges the foster parent as an expert of the foster child and foster parent and intervener also talk about general child development, sensitive disciplining strategies, and specific behaviors often seen in foster children (i.e., indiscriminate friendliness). Apart from general information about parenting and child development, the first four sessions have different specific themes regarding sensitivity and sensitive discipline. The last two sessions are booster sessions, during which all themes are repeated.

The interveners are foster care professionals working at one of the participating foster care organizations or researchers involved in the research project. All interveners have completed an extensive training in VIPP-SD and VIPP-FC, using a manual which contains the description of each session's structure, themes, tips, and exercises. In order to gain intervention fidelity, every intervener fills out a logbook for each home visit in which the details of the visit are described. Supervision is given to the interveners during the preparation of at least three home visits to obtain intervention fidelity.

VIPP-SD themes for parental sensitivity. During the first home visit, the intervener shows the difference between exploration (i.e., playing) and attachment behavior (i.e., contact seeking) of the child, and explains the different parental responses these behaviors require. The second home visit focuses on 'speaking for the child' which promotes the accurate observation of (subtle) child signals by articulating the child's facial and other non-verbal expressions on video. Explaining the importance of prompt and adequate responses to child signals by means of a so-called sensitivity chain is discussed and shown during the third home visit. During the fourth home visit, the intervener shows and encourages parental affective attuning to positive and negative emotions of the child.

VIPP-SD themes for sensitive discipline. Inductive discipline and distraction are the sensitive discipline strategies that are discussed during the first home visit. Both can be used as responses to difficult behavior or conflict situations. Using inductive discipline, i.e., explaining why something is commanded or forbidden, aims to promote empathy in the child by explaining other people's interest and perspective. During the second home

visit, the intervener discusses the importance of the use of positive reinforcement by praising the child for positive, desirable behavior while ignoring the child's attempts to get attention for negative, unwanted behavior. The third home visit focuses on the use of a sensitive time-out. This type of time-out can be used to prevent temper tantrums to escalate and to make the situation bearable for the foster parent. The last sensitive discipline theme is empathy for the child, combined with consistent use of disciplining strategies and clear boundaries.

VIPP-FC additional themes. The first additional theme targets the improvement of stress regulation. To address this theme, in each home visit an extra situation is added during which foster parent and child are asked to play a (singing) game with physical contact while being filmed by the intervener. During video feedback the intervener discusses the importance of sensitive physical contact for stress regulation and helps the foster parent to recognize and to sensitively respond to the child's signals during these situations. To encourage foster parents to have more daily positive physical contact, they receive a booklet with different types of physical interaction games.

The second theme supports foster parents in how to respond in a sensitive manner to missing or subtle behavioral signals. During video feedback the intervener discusses how possibly disturbed behavior of foster children can be understood and why it is important to adequately respond to these behaviors. During video feedback the intervener helps foster parents to recognize missing or subtle signals and shows them how they can reinforce the child's (subtle) signals to express attachment behaviors.

Dummy Intervention

Foster families in the control group receive a dummy intervention of six telephone calls to ensure that the number of contact moments with interveners is the same for the intervention and the control group. The research assistant performing the telephone calls follows a protocolled semi-structured interview. During the calls, foster parents are invited to talk about topics regarding the general development of their foster child (e.g., playing alone and with other children, sleeping behavior, eating behavior, etc.), but no specific information or advice about typical or atypical child development or parenting is given.

Primary Outcome Measures

Parental sensitivity. Parental sensitivity is observed during two free play episodes, one with and one without toys. During the free play episode with toys the foster parents and children are given several toys to play with for five minutes. During the free play episodes without toys no toys are given and foster parents are instructed to play together with their child for five minutes. They can decide for themselves what to do during this episode.

Parental sensitivity is coded using slightly adapted Ainsworth scales for *sensitivity* and *non-interference* (Ainsworth, Bell, & Strayton, 1974; Mesman, 2017) to be able to use the scales for the interaction of parents with older children (instead of infants). Sensitivity is defined as observing and interpreting the signals of the child accurately and responding to these signals promptly and adequately (Ainsworth et al., 1978). Sensitivity is scored on a nine point scale, ranging from 'highly insensitive' with rare or absent sensitive responses to 'highly sensitive' with the parent responding sensitively to the child's signals almost continuously throughout the episode. Non-interference is defined as the child being able and allowed to take the lead in the interaction. Non-interference is scored on a nine point scale, ranging from 'highly interfering' with the parent unnecessarily interfering with the child's behavior and intentions almost throughout the whole episode to 'not at all interfering' with the child leading the interaction.

Parental disciplining. Parental disciplining is observed during a Don't Touch task and a Clean Up task. During the Don't Touch task the foster parents are given a bag of attractive toys that make sounds, are colorful and/or can be used interactively. They are instructed to take the toys out of the bag, put them in front of the children, and to refrain their children from touching the toys. After one minute, the children can play with the least attractive toy (i.e., a stuffed animal rabbit). After another minute, the children can play with all the toys. During the Clean Up task the foster parents and children are given several bags and boxes and are asked to clean up the toys they played with during the free play with toys episode (used for coding parental sensitivity) described above. The task is finished if all the toys are put away. The researcher ends the episode if the toys are not completely cleaned up yet after five minutes.

Parental disciplining is coded using three scales: *harsh physical discipline, verbal overreactive discipline* (Joosen, Mesman, Bakerman-Kranenburg, & Van IJzendoorn, 2012; Verschueren, Dossche, Marcoen, Mahieu, & Bakermans-Kranenburg, 2006), and the Erickson scale for *supportive presence* (Egeland, Erickson, Clemenhagen-Moon, Hiester, & Korfmacher, 1990; Erickson, Sroufe, & Egeland, 1985). Harsh discipline is defined as using unnecessary force to get the child to clean up or to prevent the child from touching a toy when he/she is not allowed to do so. Physical force that is used to reinforce a command or prohibition is also coded as harsh discipline. Examples are slapping, pulling the child's arm, forcefully taking away toys from the child. The physical impact on the child of the harsh action should be noticeable, e.g., movement of body, and/or shock/discomfort is expressed (non)verbally. Harsh discipline is scored on a five point scale, ranging from no physical harsh acts to predominantly physical harsh acts during the episode, with at least one act of physical punishment. Verbal overreactive discipline is defined as verbally expressing irritation and anger towards the child. Tone of voice is coded here, not the content of the verbal statements. Examples are yelling, screaming, and an impatient, irritated, unkind and/or angry tone. Verbal overreactive discipline is scored on a five point scale, ranging from no verbal overreactivity to predominantly verbal overreactivity

with the parent expressing his/her irritation and/or anger almost continuously throughout the episode. Both harsh discipline and verbal overreactive discipline are reverse coded so that a higher score indicates more sensitive discipline skills. Supportive presence is defined as verbally of nonverbally expressing positive regard and emotional support. Examples are reassuring the child when he/she finds the task difficult, and moving closer to the child to give him/her a physical sense of support. Supportive presence is scored on a seven point scale, ranging from the parent completely failing to be supportive to the child because the parent does not show interest in how the child behaves and performs the task, to the parent offering positive reinforcement and emotional support throughout the whole episode.

Attitudes of foster parents towards parenting. The foster parents' *attitudes toward sensitivity and sensitive discipline* are assessed using a questionnaire regarding their attitudes towards parenting (Questionnaire Attitudes towards Parenting; Bakermans-Kranenburg & Van IJzendoorn, 2003). Foster parents are asked to rate 43 statements about their attitudes on a five point Likert scale ranging from totally disagree to totally agree (e.g., "In my opinion, I should praise my child at least once every day").

Secondary Outcome Measures

Quality of the attachment relationship. Attachment security and disorganization are assessed using the Strange Situation Procedure (SSP; Ainsworth et al., 1978). The MacArthur Preschool Attachment Classification System (PACS) is used to categorize the foster children in one of four attachment classifications, i.e., *secure, insecure avoidant, insecure ambivalent, or insecure disorganized* (Cassidy, Marvin, & the MacArthur Working Group on Attachment, 1992).

Behavioral and emotional problems. The children's *behavioral and emotional problems* are assessed using the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000; Koot, Van den Oord, Verhulst, & Boomsma, 1997) and the Assessment Checklist for Preschoolers (ACP-Short Form; Tarren-Sweeney, 2007, 2014; Tarren-Sweeney & Hazell, 2005), both filled out by the foster parent.

Indiscriminate friendliness. *Indiscriminate friendliness*, being child behavior defined as being friendly and compliant towards all adults including strangers (Tizard, 1977; Tizard & Rees, 1975), is assessed with the Indiscriminate Friendliness Questionnaire (IFQ; Chisholm, Carter, Ames, & Morison, 1995) filled out by the foster parent and with an observation using the Stranger at the Door procedure (SatD; Zeanah, Smyke, & Koga, 2005). To gain more insight in the severity of indiscriminate friendliness we developed a more elaborate coding system for the SatD than Zeanah et al. (2005). In addition to coding whether or not a foster child is willing to leave with a stranger, we also code if the child hesitates and/or displays social referencing (e.g., seeking proximity) towards the foster parent when invited to leave with a stranger.

Neurobiological and other parameters. *Salivary alpha-amylase (sAA)* production, a proxy of autonomic nervous system (re)activity, of foster parents and children is measured during the laboratory visit (three times: before and directly after the SSP, and 30 minutes after the SSP had ended).

Diurnal *cortisol* levels of foster parents and children are measured in saliva collected at home (four times: immediately after waking up, 30 minutes after waking up, between 1 and 3 pm, and between 5 and 6 pm). A hair sample is also collected to obtain a measure of the *cortisol* production of the last months. Hair grows approximately 1 cm per month, which makes it possible to determine fluctuation in cortisol production over the past few months. During the home visit of each assessment (i.e., pre- post-, and follow-up post-test), a strand of about 100 hairs of both foster parents and children is collected from the middle of the back of the head (Groeneveld et al., 2013) and stored in a dark filing cabinet.

Oxytocin production of foster parents and children is measured in saliva collected before and after a computer task that elicits physical interaction between foster parent and child (Wismer Fries, Ziegler, Kurian, Jacoris, & Pollak, 2005) during the laboratory visit of the pre-, post-, and follow-up post-test.

Possible confounders. Possible confounders regarding foster family and child characteristics, such as type of foster care placement (kinship vs. non-kinship), duration of placement, family composition, age, sex, ethnicity, social economic status (SES), and support and interventions received since the foster care placement are measured with a questionnaire.

DISCUSSION

Children in foster care are a vulnerable population. They are more likely to show an insecure attachment than children in biological families (Van den Dries et al., 2009), which can contribute to behavior problems and psychopathology later in life (Fearon et al., 2010; Groh et al., 2012; Sroufe et al., 2005). There is increasing evidence that sensitive and responsive parenting is helpful for children with early life stress such as the stress foster children have experienced (e.g., Newton et al., 2000).

Several randomized controlled trials have been conducted in the USA to meet the need for parental sensitivity-focused, evidence-based prevention and intervention programs for this high-risk population. Examples of effective interventions for foster care are Attachment and Biobehavioral Catch-up (ABC; Dozier et al., 2006), Multidimensional Treatment Foster Care for Preschoolers (MTFC-P; Fisher et al., 2007), Parent-Child Interaction Therapy (PCIT;

Merksy, Topitzes, Janczewski, & McNeil, 2015; Mersky, Topitzes, Grant-Savela, Brondino, & McNeil, 2016), Promoting First Relationships (PFR; Nelson & Spieker, 2013; Spieker, Oxford, Kelly, Nelson, & Fleming, 2012), and Parent Management Training-Oregon Model (PMTO; Akin, Byers, Lloyd, & McDonald, 2015). However, little is known about the effectiveness of these or comparable prevention and intervention programs in the Netherlands. MTFC-P, for example, did not result in the same improvements in a Dutch foster care population as in the US (Jonkman et al., 2017). Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) is one of the few evidence based intervention programs in The Netherlands in other populations than foster care (Juffer et al., 2017a, 2017b; Nederlands Jeugdinstituut, 2017). In order to meet the need for evidence-based intervention programs in the Dutch foster care system, the current study aims to provide insight into the effectiveness of an adaptation of the VIPP-SD for foster care. VIPP-FC is a short intervention, with only six intervention home-visits over a period of three to four months.

There are several vulnerabilities regarding the study design. First, because informed consent of both foster parents as well as biological parents with legal authority or the legal guardian was needed, it took some time before all forms for informed consent were signed. Subsequently, the study itself takes approximately six to seven months to complete per foster family. During this time period many things can change. For example, visitation arrangements with the biological parent might change, which can cause stress in the child and the foster parents. Therefore the researchers are as flexible and as adaptive as possible by, for example, meeting the families at their houses at any day or time in order to complete the assessments. Additionally, the researchers invest in a good working alliance with the foster care professionals throughout the different organizations.

A strength of this study is the close collaboration with different foster care organizations. The VIPP-FC training for foster care professionals was offered to all participating organizations in this study. A total of 88 foster care and health care professionals throughout The Netherlands were trained in this intervention. In case the results will show that VIPP-FC is effective in increasing foster parent's sensitivity and sensitive discipline, organizations can immediately continue the implementation of this new intervention as a component of their care to foster families.

In conclusion, foster children are vulnerable for developing behavioral and emotional problems, which can contribute to the development of insecure attachment bonds with their foster parents and placement breakdown. In this study VIPP-FC aims to increase foster parents' sensitivity and, use of sensitive discipline strategies towards their foster child and to have a positive effect on foster parents' attitudes towards parenting. If VIPP-FC is effective, it will be made available for broad-scale implementation in (clinical) practice in the Netherlands.



Chapter 5

Positive parenting in foster care: Testing the effectiveness of a video-feedback intervention program on foster parents' behavior and attitudes

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ABSTRACT

The current randomized controlled trial examined the effectiveness of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC) on parenting behavior and attitudes in foster parents (*N* = 60, 31 to 61 years, 83% female). The intervention group (*n* = 30) received VIPP-FC, consisting of six sessions. During the first four sessions, a specific theme from Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; e.g., attachment vs. exploration behavior), and an additional foster care theme (e.g., subtle or missing attachment signals) are discussed. Each theme is discussed during the consecutive sessions and the last two sessions are booster sessions during which all themes are discussed. The control group (*n* = 30) received a dummy intervention consisting of six telephone calls about general child developmental topics. The Ainsworth Scales for sensitivity and non-interference, the Erickson scale for supportive presence, and the Questionnaire Attitudes towards Parenting were used to measure parental sensitivity, sensitive discipline, and attitudes towards parenting, respectively. The intervention and control group did not differ on demographic characteristics or outcome variables at pretest. Multilevel analyses based on the intent-to-treat principle yielded no evidence that VIPP-FC was more effective in improving foster parents' sensitive parenting behavior or eliciting more positive attitudes compared to the control condition. We suggest that the outcomes in this study may be explained by a possible selection bias, which may have resulted in a ceiling effect. Future research might include foster families that experience more severe challenges (i.e., elevated levels of child behavior problems) or indicate a need for help and support.

INTRODUCTION

The large majority of children in foster care have had adverse experiences such as abuse and/or neglect in their birth families (Greeson et al., 2011). A foster care placement also means that children are being separated from their birth parents and thus from their attachment figures (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). Because of the adverse experiences before placement foster children may find it hard to trust new adults in their life and form a secure attachment relationship with their foster parents. Foster parents, on the other hand, may struggle to take care of children who have experienced such early life adversities and may therefore benefit from parenting support, such as intervention programs.

Previous meta-analytic research showed that foster children and their caregivers are more likely to form an insecurely disorganized attachment relationship compared to children and their parents in biological families (Van den Dries et al., 2009; Vasileva & Petermann, 2018). Parental sensitivity plays an important role in the development of secure attachment relationships (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). Moreover, children with limited experiences of sensitive parenting are more vulnerable to stress, i.e., they have higher levels of cortisol as a response to a stressful event, and they have trouble with developing self-regulatory abilities (Doom & Gunnar, 2015). An insecure (disorganized) attachment relationship and a dysregulated stress system may partially contribute to the development or perseverance of behavior problems (Koss & Gunnar, 2018), which may increase the risk of placement breakdown in foster care (Konijn et al., 2019; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Vanderfaeillie, Goemans, Damen, Van Holen, & Pijnenburg, 2017). A high number of placement breakdowns, in turn, adds to the risk of developing psychological, behavioral, and emotional problems later in life (Newton, Litrownik, & Landsverk, 2000). This vicious cycle jeopardizes every next foster care placement and should be prevented.

Improved sensitive parenting may prevent or decrease the risk of developing an insecure (disorganized) attachment. Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC) is a parenting intervention aimed at increasing sensitive parenting and the use of sensitive discipline strategies of foster parents, and to prevent child emotional and behavioral problems (Schoemaker et al., 2018). The intervention is based on attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969) and coercion theory (Patterson, 1982). VIPP-FC is a recent adaptation of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008). VIPP-SD can be used in families with 0 to 6-year old children and has been demonstrated to be effective in improving sensitive parenting and positive child

outcomes in several populations (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2017a, 2017b), but the effectiveness of VIPP-FC has not been examined yet. This paper describes the effectiveness of VIPP-FC on parental sensitivity, parental sensitive discipline, and attitudes towards parenting of (kinship and non-kinship) foster parents in the Netherlands.

Parental sensitivity plays an important role in the development of attachment relationships. Sensitive caregivers observe and interpret their children's signals correctly and they subsequently respond to those signals in an adequate and prompt manner (Ainsworth et al., 1978). Children whose caregivers respond sensitively in times of need (for example, during stressful situations) are more likely to form a secure attachment relationship with those caregivers, whereas children whose parents respond insensitively (i.e., indifferently, inconsistently, or in a frightening way) are more likely to develop an insecure (disorganized) attachment relationship with their caregivers (Ainsworth et al., 1978; Main & Hesse, 1990). An insecure (disorganized) attachment increases the risk of problems with children's adaptive and resilient development (Groh et al., 2014; Sroufe, Egeland, Carlson, & Collins, 2005), and children with an insecure (disorganized) attachment are at higher risk for developing behavior problems and psychopathology later in life (Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010; Groh, Roisman, Van IJzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999).

Foster children often do not have experiences with a sensitive birth parent and meta-analytic research showed that they are indeed more often insecurely disorganized attached compared to children in biological families (Van den Dries et al., 2009; Vasileva & Petermann, 2018). Because of the lack of experiences with a sensitive caregiver who they can trust to help them regulate their emotions and behaviors, foster children may not seek help and comfort when they are in distress despite their need for help and comfort. For foster children to trust their foster parents and to feel secure within their foster family, it is important that foster parents are not only aware of clear behavioral signals of the child but also of behavior that one would expect but is missing or shown only subtly. For example, if foster parents offer comfort in situations when foster children have physically hurt themselves but are not expressing their pain, they show the foster children that they are trustworthy, that it is safe for children to show their needs and that these needs will be met. Comfort can also be offered in the form of positive physical contact (e.g., cuddle), with which foster children often have limited or no experiences. Positive physical contact can support an affinitive bond between child and caregiver through increased oxytocin levels, can also decrease cortisol levels and therefore helps regulating stress in both children and adults (Field, 2010). Such sensitive responses of foster parents can help children change their expectation patterns of the world and people around them (Bakermans-Kranenburg et al., 2003).

To decrease behavior problems in children it is not only important to respond sensitively to children's behavioral signals, but also to sensitively set limits and rules. According to Patterson's coercion theory, inconsistent parental disciplining and the absence of positive reinforcement of desired behavior of children are related to the development or persistence of externalizing behavior problems (Patterson, 1982). If children show negative behavior as a response to parental commands or requests and caregivers give in and withdraw their command or request, the children's undesirable behavior is reinforced and will be repeated in the future. Research showed that foster parents use more negative discipline and are more inconsistent in disciplining if children show externalizing behavior problems (Vanderfaeillie, Van Holen, Trogh, & Andries, 2012). Because foster children often show behavior problems, supporting foster parents to increase their sensitive disciplining may help reduce difficult child behavior.

In addition to the parenting behavior they show, caregivers have certain parenting attitudes or ideas or preconceptions about desirable parenting behavior (Orme & Combs-Orme, 2014). A number of studies have shown a significant relation between parenting attitudes and parenting behavior (e.g., Kiang, Moreno, & Robinson, 2004), although some studies did not find this association (e.g., Van Zeijl et al., 2006). Foster care studies did confirm that foster parents' attitudes are related to parenting behavior (Geary, 2007; Gillis-Arnold, Jasper Crase, Stockdale, & Shelly, 1998; Jones Harden, Meisch, Vick, & Pandohie-Johnson, 2008). Research is thus not consistent and parenting attitudes and parenting behavior, i.e., sensitivity and sensitive discipline, may be different parental constructs that should be examined separately. The current study distinguishes between attitudes towards sensitivity and attitudes towards sensitive discipline.

Because foster children are at risk of developing an insecure (disorganized) attachment relationship, behavior problems, and a dysregulated stress system, and because foster parents may (consequently) experience high levels of parenting stress, it is important to develop and implement evidence-based intervention programs for foster care. Several parenting interventions have been developed and examined in foster care. Examples of attachment-based interventions are Attachment and Biobehavioral Catch-up (ABC: Dozier et al., 2006) and Promoting First Relationships (PFR: Spieker, Oxford, Kelly, Nelson, & Fleming, 2012). Both ABC and PFR aim to improve sensitive parenting and child outcomes with the use of video feedback (i.e., filming caregiver-child interactions and reviewing the video-tape with the caregiver afterwards). Meta-analytic results have shown that parenting interventions that use video feedback can help caregivers to recognize and respond to their child's behavioral signals adequately (Bakermans-Kranenburg et al., 2003). Research showed that ABC is effective in improving parental sensitivity (Bick & Dozier, 2013), in reducing parental stress (Sprang, 2009), avoidant attachment behaviors (Dozier et al., 2009), and behavior problems

displayed by foster children (Dozier et al., 2006; Lind, Raby, Caron, Roben, & Dozier, 2017; Sprang, 2009), and in normalizing diurnal cortisol slopes in foster children (Dozier et al., 2006). Effectiveness studies of PFR showed positive effects on parental sensitivity, parenting knowledge, and attachment security (Pasalich, Fleming, Oxford, Zheng, & Spieker, 2016; Spieker et al., 2012).

In the current study, a parenting intervention with a strong evidence base in increasing sensitive parenting and sensitive discipline (i.e., Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer et al., 2008, 2017a, 2017b) was adapted to use in foster care (VIPP-FC; Schoemaker et al., 2018). The original VIPP-SD program consists of six home visits: The first four home visits address a specific theme regarding sensitive parenting (e.g., attachment vs. exploration behavior) and sensitive discipline (e.g., positive reinforcement), and during the last two home visits (i.e., the booster sessions) all themes are repeated. To meet the specific needs of foster parents and children, two themes were added to the original VIPP-SD program: first, the importance of sensitive responding to missing or subtle behavioral signals to improve attachment security, and second, the importance of positive physical contact to improve stress regulation.

Current Study

The current study aimed to examine the effectiveness of VIPP-FC on parenting behavior and attitudes of foster parents using a randomized controlled trial (RCT). The study specifically hypothesized that VIPP-FC would increase foster parents' sensitive parenting, sensitive discipline, and that VIPP-FC would elicit more positive attitudes towards sensitive parenting.

Kinship and non-kinship foster care may be differently associated with parenting behavior and attitudes. It is, however, unclear whether kinship or non-kinship foster parents benefit most from parenting interventions because most effectiveness studies do not report effects of intervention programs for kinship and non-kinship foster families separately (Schoemaker et al., 2019). To ensure equal distribution of kinship and non-kinship foster families among the intervention and control group in the current study, randomization was stratified by type of care. This may, however, cause a potential crossover nesting problem by type of foster care. As type of foster care may influence the multilevel estimates per condition, any significant interaction effect of time*condition may be caused by kinship or non-kinship foster care instead of by condition over time. Possible crossover nesting problems were therefore additionally examined by controlling for type of foster care (kinship vs. non-kinship).

METHODS

Participants

Foster families with a foster child between 1 and 6 years of age were eligible for participation, because both the sensitive parenting and sensitive discipline themes of VIPP-SD can be used when children are one year or older (Juffer et al., 2008). In order to complete the RCT in as many foster families as possible and to diminish the attrition rate due to external factors such as reunification of the child with the birth parent(s), the expected duration of the placement had to be at least six months and part-time and short-term crisis placements were thus excluded from the study. Children with severe physical disabilities, diagnosed intellectual disability (IQ < 70) and/or diagnosed autism spectrum disorder were also excluded. These children may need specific intervention methods in addition to video feedback to improve positive caregiver-child interactions (e.g., Poslawsky et al., 2014). Twins placed in the same foster family could also not participate, because based on the original VIPP-SD program only one foster parent-child dyad per family could participate in the current study. If multiple foster children within the same foster family were eligible for participation, the most recently placed child was included or, if the children were concurrently placed, the oldest child within our age range was included in the study. The most recently placed child was expected to be less likely to have already developed a secure attachment relationship and thus could profit from enhanced sensitive parenting, and the oldest child was expected to be more likely to display behavior problems than a(ny) younger child(ren) and the foster parents could profit from support for these problems.

Foster families were recruited through nine Dutch foster care organizations, and through announcements on Facebook, in a Dutch foster care magazine, and announcements distributed among several foster care network groups. In order to ensure blindness to study condition (intervention or control group), eligible and interested foster families were told that this study aimed to investigate various treatments to support foster parents. A total of 434 foster families were eligible for participation (Figure 1) of which the large majority (85%) indicated that they were not interested in participation because they were currently receiving extra support (e.g., another parenting intervention) in addition to care-as-usual or that they just completed an intensive period of receiving extra support. A study protocol describing the detailed recruitment procedure has been published (Schoemaker et al., 2018).

The sample consisted of 60 foster families of which the primary caregiver (M_{age} = 45.43, SD_{age} = 7.42, range: 31-61 years; 83% female) participated together with one foster child (M_{age} = 3.63, SD_{age} = 1.35, range: 1-6 years; 45% boys), who had been living with the current family for a mean period of 27.56 months (*SD* = 15.98, range: 5 to 63 months). The foster families consisted of one to four foster children (*M* = 1.74, *SD* = 0.83) and zero to five birth children (*M*

= 1.87, *SD* = 1.39). The majority were non-kinship foster families (73%). Of all foster families 18 (30%) had received extra help since the foster care placement, of which 44% was parenting support. A previously performed power analysis showed that statistical power is adequate (0.86; G*Power 3.1.9.2) to test the effectiveness of VIPP-FC on parental sensitivity and sensitive discipline with a study sample of 60 foster families and a repeated measures design with α = 0.05 (Schoemaker et al., 2018).

Before the pretest, both foster parents and either the birth parents with legal custody (in case of a voluntary foster care placement; Bastiaensen & Kramer, 2011) or the legal guardian of the children signed an informed consent form. The study was approved by the Medical Ethics Committee of the Maasstad Hospital in Rotterdam, The Netherlands (NL39376.101.13) and the trial was registered in the Netherlands Trial Register (NTR; Trial ID: NTR3899).

Procedure

To examine the effectiveness of VIPP-FC an RCT was conducted (Schoemaker et al., 2018) which consisted of three measurements: a pretest before the intervention, a posttest one week after the intervention, and a post-posttest three months after the posttest. All measurements consisted of a home visit and a visit to the laboratory during which several observations and questionnaires were administered. A flow diagram of the study procedure (including recruitment of foster families and the study design) is presented in Figure 1.

Randomization stratified by kinship or non-kinship foster care was performed after the pretest using a computer-generated blocked sequence with a block size of 10 families. From the 60 foster families with informed consent of both foster parents and the birth parents/legal guardian of the child, five foster parents stopped participating after randomization because they felt the study was too time-consuming (n = 3), because they just completed another intervention and the child expressed that he did not want to have another “filming lady” coming over (n = 1), or because the foster parent had cancelled several posttest appointments and eventually did not respond to phone calls or email anymore (n = 1). After the first posttest, four more foster parents decided to stop participating in the study, because they were too busy (n = 2), because the child was in the reunification process (n = 1), or because the foster parent was severely ill and had to start an intensive treatment (n = 1). Following the intent-to-treat principle, missing data of these nine foster care dyads were imputed using multiple imputation and included in the data analyses (White, Carpenter, & Horton, 2012; also see section 2.5).

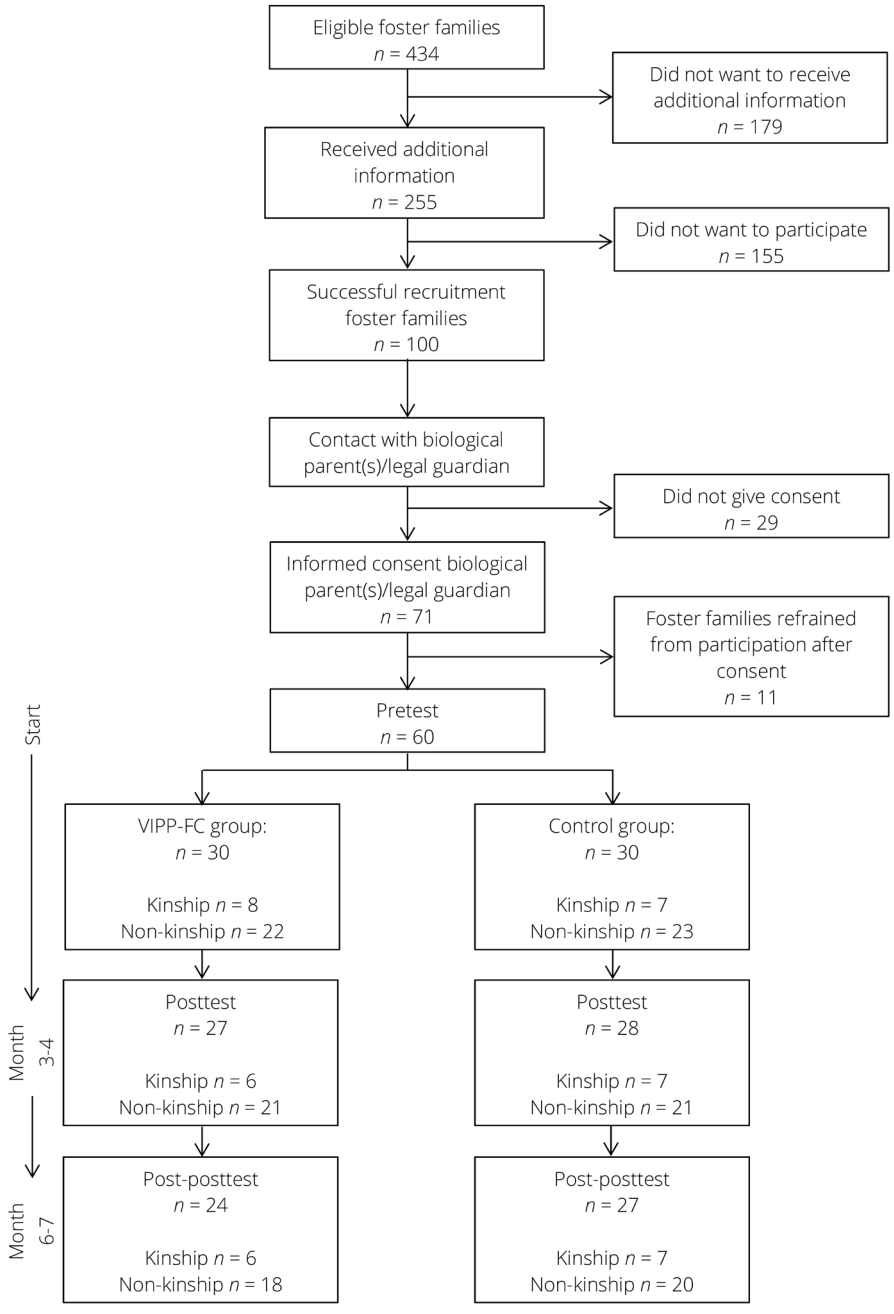


Figure 1. *Flow diagram of study procedure.*

Intervention

VIPP-FC. VIPP-FC consists of six intervention home visits with a biweekly interval between the first four home visits and an interval of about three to four weeks between the last two home visits. The total duration of the intervention is three to four months. During the intervals between home visits the intervener prepared written feedback on the videotaped interactions of foster parent and child during real-life situations, which were recorded during the former home visit for 10 to 30 minutes. Examples of recorded situations: foster parent and foster child interacting during a mealtime, playing together, and cleaning up toys. Each home visit started with filming after which the intervener provided the previously prepared video feedback to the foster parent (while the child was asleep or playing alone): showing the recorded interactions of the previous home visit and adding comments to crucial moments or to episodes of interest. The focus of the video feedback was on reinforcing and stimulating positive interactions and sensitive discipline, using specific themes per home visit.

The first four home visits focused on a specific theme regarding sensitive parenting (e.g., attachment vs. exploration behavior), sensitive discipline (e.g., understanding and distraction), and foster care (e.g., subtle or missing signals). The last two home visits were booster sessions during which all themes were repeated. All situations and themes were standardized to ensure program fidelity. An overview of the themes per session is presented in Table 1. A detailed description of VIPP-FC can be found in Schoemaker et al. (2018).

All interveners followed the mandatory 4-day VIPP-SD training and an additional VIPP-FC training of one day. After the training they conducted a first VIPP-FC case under supervision of a qualified VIPP-SD supervisor or trainer and received a certificate and were registered in the VIPP Training and Research Centre's database after successful completion of both the training and the first case (Leiden University, 2018; Tavistock and Portman NHS Foundation Trust, 2019a, 2019b). A total of nine interveners conducted VIPP-FC in the current study. Intervision meetings were organized and led by a qualified VIPP-SD trainer.

Control condition. The foster parents in the control group received a dummy intervention that consisted of six telephone calls (i.e., Euser et al., 2016; Werner, Vermeer, Linting, & Van IJzendoorn, 2018). The interval between calls was similar to the interval between VIPP-FC intervention home visits. The calls followed a protocolled semi-structured interview during which the foster parent was invited to talk about general developmental topics (e.g., eating behavior, sleeping behavior, playing with peers, etc.), but no specific information or advice about (a)typical child development was given by the research assistant.

Table 1. *Themes in the VIPP-FC program.*

Session	Sensitive Parenting	Sensitive Discipline	Foster Care
1	Exploration versus attachment behavior	Inductive discipline and distraction	Subtle or missing behavioral signals
2	'Speaking for the child'	Positive reinforcement	Showing affection and indiscriminate friendliness
3	Sensitivity chain	Sensitive time-out	Importance of warm physical contact
4	Sharing emotions	Empathy for the child	Seeking help (by foster child)
5	Booster session	Booster session	Booster session
6	Booster session	Booster session	Booster session

Measurement Instruments

Parental sensitivity. Parental sensitivity was observed during two free play episodes (with and without toys) and during a structured play episode that were not part of the VIPP-FC intervention. During the free play episode with toys the research assistant gave the foster parents and children several toys and they were instructed to play together for five minutes. During the free play episode without toys the foster parents and children could decide for themselves what they wanted to do for five minutes (except playing with toys). During the structured play episode the foster parents and children completed a task together, e.g., build a tower of cups (2-year-olds) or do a jigsaw puzzle (5-year-olds) that was intended to be slightly too difficult for the children (according to their age), and the foster parents were instructed to help the children in the same way they normally would do. All episodes were videotaped to enable coding parental sensitivity at another moment later in time.

Parental sensitivity was independently coded by coders not involved in the intervention of that specific family, using the slightly adapted Ainsworth Scales for *sensitivity* and *non-interference* (Ainsworth, Bell, & Strayton, 1974; Mesman, 2017). *Sensitivity* was defined as observing and interpreting the signals of the child accurately and responding to these signals promptly and adequately (Ainsworth et al., 1978), and was scored on a 9-point scale, ranging from (1) 'highly insensitive' with rare or absent sensitive responses to (9) 'highly sensitive' with the parent responding sensitively to the child's signals almost continuously throughout the episode. *Non-interference* was defined as the child being allowed to take the lead in the interaction and was scored on a 9-point scale, ranging from (1) 'highly interfering' with the parent unnecessarily interfering with the child's behavior and intentions almost throughout the whole episode to (9) 'not at all interfering'. Total *sensitivity* and *non-interference* scores were calculated by averaging the scores on the three episodes per scale. Coders were trained by an expert to work with the coding scales. Fifteen videos were double coded by four coders (among which

the first author) with good average interrater reliability per coder pair on *sensitivity* (ICC = 0.83, range: 0.76 to 0.91) and on *non-interference* (ICC = 0.81, range: 0.77 to 0.85). *Sensitivity* and *non-interference* were highly correlated ($r = .82$, $p < .001$; Table 4). An overall sensitivity score was computed by averaging the scores of the two coding scales on the three episodes with a higher score indicating more parental sensitivity. Cronbach's alphas at pretest, posttest, and post-posttest were .81, .74, and .76, respectively.

Parental sensitive discipline. Parental sensitive discipline was observed during a Don't Touch task and a Clean Up task that were not part of the VIPP-FC intervention. During the Don't Touch task the foster parents were asked to unpack a bag of attractive toys provided by the researcher (e.g., toys that made sounds, were colorful and/or could be used interactively), put the toys in front of their foster child, and to refrain their foster child from touching the toys. After one minute, the children could play with the most unattractive toy (i.e., a stuffed animal rabbit), and after another minute, the task was over and the children could play with all the toys. During the Clean Up task the foster parents and children were asked to clean up the toys they just played with during the free play episode described above. This task was completed when all the toys were put away, or after five minutes if not all toys were cleaned up yet. Again, both episodes were videotaped to be able to code parental sensitive discipline at another moment later in time.

Parental dysfunctional (insensitive) discipline was independently coded by coders not involved in the intervention of that specific family, with a *physical discipline* scale, a *harsh physical discipline* scale, a *lax discipline* scale, and a *verbal overreactive discipline* scale (Joosen, Mesman, Bakermans-Kranenburg, & Van IJzendoorn, 2012; Verschueren, Dossche, Marcoen, Mahieu, & Bakermans-Kranenburg, 2006), and parental sensitive discipline was coded with the Erickson scale for *supportive presence* (Egeland, Erickson, Clemenhagen-Moon, Hiester, & Korfmacher, 1990; Erickson, Sroufe, & Egeland, 1985). Because the majority of the foster parents did not show dysfunctional disciplining behaviors, only the *supportive presence* scale was used in statistical analyses. *Supportive presence* was defined as verbally of nonverbally expressing positive regard and emotional support in a discipline context. For example, reassuring the child when they find the task difficult, and moving closer to the child to give them a physical sense of support. Supportive presence was scored on a 7-point scale, ranging from (1) the parent did not show interest in how the child behaves and performed the task, to (7) the parent offering positive reinforcement and emotional support throughout the whole episode. The scores on the two episodes were averaged with higher scores indicating more sensitive discipline. Cronbach's alphas at pretest, posttest, and post-posttest were .50, .84, and .82, respectively. Coders were trained by an expert to work with the coding scales. Fifteen videos were double coded by six coders. The average interrater reliability per pair of coders was good (ICC = 0.76, range: 0.69 to 0.91).

Attitudes towards parenting. Foster parents' *attitudes towards sensitivity and sensitive discipline* were measured with a questionnaire regarding their attitudes towards parenting (Questionnaire Attitudes towards Parenting; Bakermans-Kranenburg & Van IJzendoorn, 2003; Van Zeijl et al., 2006). Foster parents rated 19 statements: nine statements regarding attitudes towards sensitivity (e.g., "In my opinion, I should praise my child at least once every day") and ten statements regarding attitudes towards sensitive discipline (e.g., "If very young children do something that is not allowed, it's pointless to give an explanation" (reverse coded)). The statements were rated on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree. Attitudes towards sensitivity and attitudes towards sensitive discipline were not correlated (r = -.03, p = .81; Table 4) and therefore considered as two separate constructs. Two scale scores were computed with a higher average score indicating more sensitive attitudes. Cronbach's alphas at pretest, posttest, and post-posttest for attitudes towards sensitivity were .58, .73, and .59 and for attitudes towards sensitive discipline .23, .43, and .51, respectively. Because of the low Cronbach's alphas for attitudes towards sensitive discipline, only the scale scores for attitudes towards sensitivity were used for data analyses.

Data Analyses

All demographic and outcome variables were normally distributed. Outliers were defined as $-3.29 < z > 3.29$ (Tabachnick & Fidell, 2012). No outliers were identified.

Multilevel analyses were performed to examine the main effects of time (pretest vs. posttest vs. post-posttest), condition (VIPP-FC vs. control), and the interaction effects of time*condition on parental sensitivity, parental sensitive discipline, and attitudes towards parenting while controlling for the number of foster and birth children and whether foster parents have had received extra support in the period before they participated in the study (yes vs. no). Potential crossover nesting problems due to the presence of both kinship and non-kinship foster families in the intervention and control group (i.e., type of foster care may influence the estimates per condition) were additionally taken into account by controlling for type of foster care. R version 3.5.1 (R Core Team, 2018) on a Dell XPS 9370 with an i7 8550U processor overclocked at 2.0Ghz, with 16GB of RAM was used. The multilevel analyses were based on the intent-to-treat principle (White et al., 2012), thus data of the total sample (N = 60) were used. Repeated measures over time (level 1) were nested within foster families (level 2), who were nested within type of foster care (kinship vs. non-kinship; level 3). Fully conditional multilevel imputations were performed, for which four methods were used conjunctively: the 'MI' function in the Amelia package (Honaker, King, & Blackwell, 2011), with the 'mice' function from the mice package (Van Buuren & Groothuis-Oudshoorn, 2011), and the 'panImpute' and 'jomoImpute' functions from the mitml package (Grund, Robitzsch, & Lüdtke, 2016) to assess robustness of the imputed datasets as well as access the full range of analysis options. The final maximum number of iterations was set to 10 and a fixed starting seed was set for reproducibility. Pooling

of results on 100 imputation sets was performed using the 'summary' function from mitml and miceadds, as well as using the 'summary' and 'modelRandEffStats' functions from the merTools package (Knowles, Frederick, & Whitworth, 2018).

As series of multilevel models were estimated, incrementally comparing nested models through a likelihood ratio test using the 'anova' function from mitml and merTools (which yielded equivalent results; Browne & Rasbash, 2004; Raudensbush & Bryk, 2002). The main effects of time (pretest vs. posttest vs. post-posttest), condition (VIPP-FC vs. control), and the interaction effects of time*condition on parental sensitivity, parental sensitive discipline, and attitudes towards parenting of the models with the best fit are reported in this paper (i.e., the models that include number of foster and birth children and extra support provided to the foster parents before study participation as covariates). Because parental sensitivity and sensitive discipline were measured in different situations (e.g., parental sensitivity during free play with and without toys), exploratory analyses were performed to examine intervention effects on parenting behavior in these different situations separately. Descriptive analyses showed that foster parents had rather high scores on parental sensitivity, sensitive discipline, and attitudes towards parenting. Median splits were used to select foster parents with the lowest scores on parental sensitivity, sensitive discipline, and attitudes towards parenting. Subsequent exploratory analyses were performed to investigate the intervention effects for these foster parents. Model comparisons and effect estimates were evaluated at 5% alpha level, using the 'lmerTest' function in merTools.

RESULTS

Descriptive Statistics and Correlation Analyses

VIPP-FC versus control group. Descriptive statistics are presented in Table 2. The intervention and control group did not significantly differ on demographic characteristics or outcome variables at pretest.

Kinship versus non-kinship foster families. In the total group, no statistically significant differences between kinship and non-kinship foster families on demographic or outcome variables were found at pretest with one exception. Kinship foster parents were on average older (M = 51.04, SD = 7.47, range: 31 to 58 years) than non-kinship foster parents (M = 43.84, SD = 6.60, range: 32 to 61 years); $t(52) = -3.41$, $p = .001$.

Within the intervention group, again, kinship foster parents were on average older (M = 54.50, SD = 3.08, range: 49 to 58 years) than non-kinship foster parents (M = 43.62, SD = 6.22: range: 35 to 61 years; $t(25) = -4.10$, $p < .001$). Kinship families additionally showed less sensitive

discipline than non-kinship families at pretest (*M* = 4.47, *SD* = 0.60 vs. *M* = 5.24, *SD* = 0.85, respectively; *t*(28) = 2.34, *p* = .026). No other statistically significant differences in demographic characteristics or outcome variables were found for kinship and non-kinship foster families that received the VIPP-FC intervention. Within the control condition, there were no statistically significant differences between kinship and non-kinship families.

Correlation analyses. Bivariate correlations between demographic and outcome variables at pretest are presented in Table 3. Placement duration was significantly longer when children were older (*r* = .32, *p* = .013). Furthermore, foster parents showed more sensitive discipline during the pretest when the child had been living with the foster family for a longer period of time (*r* = .26, *p* = .049).

Table 4 displays the correlations between the outcome variables at pre-, post-, and post-posttest. Correlations between the same construct over time were all statistically significant with one exception. The pretest assessment of parental sensitive discipline was not correlated with the post-post assessment (*r* = .25, *p* = .08). Correlations between the outcome variables within one time point were also statistically significant with some exceptions. First, parental sensitivity and parental sensitive discipline were not statistically significantly correlated at post-posttest (*r* = .15, *p* = .89). Second, no statistically significant associations were found between parental sensitivity and attitudes towards sensitivity or between parental sensitive discipline and attitudes towards sensitivity at pretest (*r* = -.01, *p* = .96, *r* = .01, *p* = .92, respectively), posttest (*r* = .12, *p* = .41, *r* = .11, *p* = .48, respectively) or post-posttest (*r* = .07, *p* = .65, *r* = -.02, *p* = .92, respectively).

Multilevel Analyses

Parental sensitivity. No significant main effects for time or condition were found (*ES* = 0.34, *SE* = 0.21, *p* = .10, 95% CI: -0.06 to 0.74 and *ES* = 0.93, *SE* = 0.66, *p* = .16, 95% CI: -0.36 to 2.23, respectively), indicating that the sensitivity scores over time (pre- vs. vs. post- vs. post-posttest) and between conditions (intervention vs. control group) did not yield statistically different results. In addition, no significant interaction effect of time*condition (*ES* = -0.19, *SE* = 0.29, *p* = .51, 95% CI: -0.76 to 0.38) on parental sensitivity was found (Table 5), indicating that the change over time on parental sensitivity was not statistically different for the intervention and control group. The model examining whether the results were influenced by crossover nesting of type of foster care (kinship vs. non-kinship foster care) did not yield a statistically significant main effect for type of foster care (*ES* = -0.50, *SE* = 0.33, *p* = .13, 95% CI: -1.15 to 0.15) nor a significant interaction effect of time*condition (*ES* = -0.19, *SE* = 0.29, *p* = .51, 95% CI: -0.76 to 0.38).Thus, in the current study VIPP-FC did not significantly increase parental sensitivity in foster parents compared to the control group and no crossover nesting problem for type of foster care was revealed that could explain this non-significant intervention effect.

Table 2. *Descriptive statistics of the intervention and control group at pretest.*

	VIPP-FC group		
	Total (n = 30)	Kinship (n = 8)	Non-kinship (n = 22)
	M (SD)[a]	M (SD)[a]	M (SD)[a]
	Pretest (n = 60)		
Child characteristics			
Age (years)	3.60 (1.45)	2.63 (1.60)	3.95 (1.25)
Gender (% boys)	46.7	50.0	45.5
Placement duration (months)	29.20 (16.41)	22.63 (12.56)	31.59 (17.23)
Foster parent characteristics			
Age (years)	46.04 (7.27)	54.50 (3.08)	43.62 (6.22)**
Gender (% male)	16.7	12.5	18.2
Highest education level completed (%)			
Primary	6.7	12.5	4.5
Secondary	46.7	37.5	50.0
Higher	36.7	25.0	40.9
Current working situation (%)			
Full-time	10.0	0.0	13.6
Part-time	46.7	50.0	45.5
Unemployed	26.7	25.0	27.3
Extra help received (% yes)	33.3	12.5	40.9
Foster family characteristics			
Foster children in family	1.59 (0.75)	1.33 (0.82)	1.67 (0.73)
Biological children in family	2.00 (1.30)	2.33 (1.51)	1.90 (1.26)
Outcome variables			
Parental sensitivity	7.27 (0.99)	7.29 (1.06)	7.27 (0.99)
Sensitive discipline	5.03 (0.86)	4.47 (0.60)	5.24 (0.85)**
Attitudes towards sensitivity	3.86 (0.51)	4.09 (0.26)	3.80 (0.55)
	Posttest (n = 55)		
Outcome variables			
Parental sensitivity	7.45 (0.76)	7.11 (0.54)	7.55 (0.79)
Sensitive discipline	4.91 (1.30)	3.46 (1.02)	5.32 (1.07)
Attitudes towards sensitivity	3.76 (0.73)	3.99 (0.89)	3.68 (0.68)
	Post-posttest (n = 51)		
Outcome variables			
Parental sensitivity	7.60 (1.01)	7.03 (0.81)	7.80 (1.02)
Sensitive discipline	5.28 (1.15)	5.17 (1.02)	5.32 (1.21)
Attitudes towards sensitivity	3.84 (0.52)	3.94 (0.66)	3.79 (0.48)

[a] unless otherwise indicated

** $p < .01$, to indicate differences between kinship and non-kinship foster care

	Control group		
	Total (*n* = 30)	Kinship (*n* = 7)	Non-kinship (*n* = 23)
	M (*SD*)[a]	*M* (*SD*)[a]	*M* (*SD*)[a]
	3.67 (1.27)	4.14 (1.35)	3.52 (1.24)
	43.3	14.3	52.2
	25.86 (15.63)	23.14 (17.87)	26.73 (15.21)
	44.81 (7.67)	48.20 (10.04)	44.05 (7.10)
	16.7	14.3	17.4
	10.0	28.6	4.3
	43.3	42.9	43.5
	36.6	0.0	47.8
	16.7	28.6	13.0
	40.0	28.6	43.5
	23.3	0.0	30.4
	26.7	42.9	21.7
	1.89 (0.89)	1.80 (1.30)	1.91 (0.81)
	1.73 (1.49)	2.20 (1.79)	1.62 (1.43)
	6.71 (1.27)	6.33 (1.09)	6.83 (1.32)
	4.93 (1.30)	4.71 (1.29)	4.99 (1.32)
	3.68 (0.48)	3.58 (0.55)	3.70 (0.48)
	7.02 (1.16)	7.10 (1.35)	6.99 (1.14)
	4.43 (1.26)	4.38 (1.13)	4.44 (1.32)
	3.58 (0.43)	3.69 (0.28)	3.55 (0.47)
	7.38 (0.93)	7.38 (0.64)	7.38 (1.01)
	4.66 (1.42)	5.29 (1.76)	4.48 (1.30)
	3.64 (0.41)	3.69 (0.52)	3.63 (0.40)

Table 3. *Pearson correlations between demographic and outcome variables at pretest.*

	1.	2.	3.	4.	5.
Child characteristics					
1. Gender[a]					
2. Age	.25				
3. Placement duration	.10	.32*			
Foster parent characteristics					
4. Gender[a]	-.05	-.09	-.12		
5. Age	.25	.02	.16	.04	
Outcome variables – Pretest[b]					
6. Parental sensitivity	-.06	-.25	.20	.10	-.04
7. Sensitive discipline	-.05	-.03	.26*	.14	-.22
8. Attitudes towards sensitivity	-.15	-.21	-.18	.03	-.15

[a] 0 = male, 1 = female, [b] correlations between outcome variables at pretest are presented in Table 4
* $p < .05$, ** $p < .01$

Table 4. *Pearson correlations of outcome variables at pre-, post-, and post-posttest.*

	1.	2.	3.	4.	5.	6.	7.	8.
Pretest								
1. Parental sensitivity								
2. Sensitive discipline	.43**							
3. Attitudes towards sensitivity	-.01	.01						
Posttest								
4. Parental sensitivity	.62**	.18	.04					
5. Sensitive discipline	.38**	.61**	-.06	.42**				
6. Attitudes towards sensitivity	.20	.19	.42**	.12	.11			
Post-posttest								
7. Parental sensitivity	.30*	.28*	.14	.37**	.39**	.11		
8. Sensitive discipline	.19	.25	.00	.40**	.60**	.16	.15	
9. Attitudes towards sensitivity	-.03	-.07	.60**	.02	-.02	.82**	.07	-.02

* $p < .05$, ** $p < .01$

Sensitive discipline. No significant main effects for time or condition (*ES* = -0.11, *SE* = 0.13, $p = .40$, 95% CI: -0.37 to 0.15 and *ES* = -0.02, *SE* = 0.42, $p = .96$, 95% CI: -0.85 to 0.81, respectively), nor a significant interaction effect of time*condition (*ES* = 0.21, *SE* = 0.19, $p = .25$, 95% CI: -0.15 to 0.57) on parental sensitive discipline were found (Table 5). The sensitive discipline scores over time (pre- vs. post- vs. post-posttest) and between conditions (intervention vs. control group) were not statistically different. The intervention and control group also did not statistically differ in change

over time on parental sensitive discipline. The crossover nesting model for type of foster care yielded a main effect for type of foster care (*ES* = -0.55, *SE* = 0.28, *p* = .044, 95% CI: -1.09 to -0.01), suggesting that kinship and non-kinship foster parents within the intervention and control groups statistically differed from each other on sensitive disciplining behavior. However, the main effects for time and condition, and the interaction effect remained the same (main effect for time: *ES* = -0.11, *SE* = 0.13, *p* = .40, 95% CI: -0.37 to 0.15, main effect for condition: *ES* = -0.01, *SE* = 0.41, *p* = .98, 95% CI: -0.81 to 0.79, interaction effect time*condition: *ES* = 0.21, *SE* = 0.19, *p* = .25, 95% CI: -0.15 to 0.57), indicating that the crossover nesting problem of type of foster care did not explain the statistically non-significant interaction effect of the first model. VIPP-FC thus did not significantly improve parental sensitive discipline in foster parents compared to the dummy intervention.

Attitudes towards parenting. No significant main effects for time or intervention versus control condition (*ES* = -0.04, *SE* = 0.12, *p* = .72, 95% CI: -0.27 to 0.19 and *ES* = 0.22, *SE* = 0.18, *p* = .23, 95% CI: -0.14 to 0.58, respectively), nor a significant interaction effect of time*condition (*ES* = -0.02, *SE* = 0.09, *p* = .83, 95% CI: -0.18 to 0.15) on attitudes towards sensitivity were found (Table 5). The attitudes towards parenting did not yield statistically different results over time (pre- vs. post- vs. post-posttest) or between conditions (intervention vs. control group). The change over time on attitudes towards sensitivity was also not statistically different for the intervention and control group. These results remained the same after controlling for crossover nesting of type of foster care and no statistically significant main effect for type of foster care was found (*ES* = 0.15, *SE* = 0.11, *p* = .19, 95% CI: -0.07 to 0.37). Within the intervention or control group, kinship and non-kinship foster parents did not statistically differ from each other in attitudes towards sensitivity. Thus, foster parents' attitudes towards sensitive parenting did not become more positive improve after completing VIPP-FC compared to the control group and no crossover nesting problem for type of foster care was revealed that could explain this statistically non-significant interaction effect between time and condition of the first model.

Exploratory Analyses

Parenting behavior in different situations. Separate multilevel analyses on the sensitivity scores of the three different observational episodes did not result in statistically significant main or interaction effects for play with toys or play without toys. For structured play a statistically significant main effect for time was found (*ES* = 0.49, *SE* = 0.13, *p* < .001, 95% CI: 0.23 to 0.74) and the main effect for condition and the interaction effect were marginally non-significant (main effect for condition: *ES* = 0.94, *SE* = 0.48, *p* = .050, 95% CI: 0.00 to 1.88, interaction effect time*condition: *ES* = -0.36, *SE* = 0.19, *p* = .054, 95% CI: -0.72 to 0.01). Parental sensitivity in the structured play episode increased over time and the foster parents in the control group seemed to improve more in parental sensitivity over time than the foster parents in the intervention group during the structured play episode. Examining the Don't Touch and Clean Up task separately yielded statistically non-significant results for parental sensitive discipline.

Table 5. *Multilevel analyses with main and interaction effects for time and condition (VIPP-FC vs. control) for parental sensitivity, sensitive discipline, and attitudes towards sensitivity.*

		ES	*SE*	*p*	*95% CI*
Parental sensitivity	(Intercept)	6.98	0.82	<.001	5.37 to 8.59
	Time	0.34	0.21	.10	-0.06 to 0.74
	Condition	0.93	0.66	.16	-0.36 to 2.23
	Time*condition	-0.19	0.29	.51	-0.76 to 0.38
Sensitive discipline	(Intercept)	5.66	0.66	<.001	4.38 to 6.95
	Time	-0.11	0.13	.40	-0.37 to 0.15
	Condition	-0.02	0.42	.96	-0.85 to 0.81
	Time*condition	0.21	0.19	.25	-0.15 to 0.57
Attitudes towards sensitivity	(Intercept)	4.06	0.31	<.001	3.45 to 4.67
	Time	-0.04	0.12	.72	-0.27 to 0.19
	Condition	0.22	0.18	.23	-0.14 to 0.58
	Time*condition	-0.02	0.09	.83	-0.18 to 0.15

Foster parents with least sensitive parenting behavior and attitudes at pretest. Because the total sample showed a rather high overall parental sensitivity score at pretest (*M* = 6.99, *SD* = 1.16, range: 3.75 to 9), a median split was performed but neither statistically significant main effects for time or condition nor a significant interaction effect were found for the foster parents with the lowest overall sensitivity scores (Supplementary Table 1). Multilevel analyses with the foster parents with the lowest parental sensitive discipline overall scores and with the most insensitive attitudes towards parenting after median split also did not result in statistically significant main or interaction effects (Supplementary Table 1).

DISCUSSION

Foster parents may benefit from parenting support, such as intervention programs, that helps them with the struggles that may arise when taking care of children who often show challenging behavior due to adverse early life experiences. The current study examined the effectiveness of VIPP-FC on sensitivity, sensitive discipline and attitudes of foster parents. It was hypothesized that VIPP-FC would increase foster parents' parental sensitivity, sensitive discipline, and attitudes towards parenting. However, in the current study, the intervention group did not show improvements in parental sensitivity, sensitive discipline, or more sensitive attitudes towards parenting after receiving VIPP-FC compared to the control group. Effects remained the same after controlling for crossover nesting of type of foster care (kinship vs. non-kinship foster care).

Previous meta-analytic research has shown that parenting interventions are effective in improving parenting behavior and attitudes of foster parents (Schoemaker et al., 2019). However, the foster parents in the current study showed generally high scores on parental sensitivity, sensitive discipline, and attitudes towards parenting at pretest, leaving little room for improvement. In addition to this possible ceiling effect in parental outcomes, there may also be a selection bias: the foster families who would benefit most from a parenting intervention may not have been included in the study sample. The majority of foster families that chose not to participate in the current study stated that they did not have time to participate, because they were too busy with other (parenting) intervention programs at that moment, or because they just completed an extra (parenting) support trajectory and were not willing to start another intensive period. These non-participants may have included a group of foster families who face the most severe parenting challenges that potentially could have been reduced with VIPP-FC by improving their parenting behavior and attitudes.

The current study contained several limitations. First, there was limited room for improvement in the foster families' functioning; the participating foster families seemed to function relatively well, likely due to a selection bias. As a result, a ceiling effect may have occurred that may explain why we did not find evidence for the effectiveness of VIPP-FC on foster parents' sensitivity, sensitive discipline, and attitudes. Second, the observation scale of sensitive discipline at pretest and the questionnaire subscale sensitive attitudes at pre- and post-posttest had moderate Cronbach's alphas, indicating that the scale scores of sensitive discipline and sensitive attitudes were moderately reliable at these measurement points.

A recent study examined the effect of VIPP-FC/A (VIPP-FC adapted to adoption: VIPP-FC/A) on parental sensitivity of adoptive parents of post-institutionalized children (Barone, Barone, Dellagiulia, & Lionetti, 2018). Similar to foster parents, parents of late-adopted children may struggle to take care of children who are at risk of developing insecure attachment relationships and behavior problems due to early life adversities such as neglect and institutionalization. Adoptive parents may thus also benefit from intervention programs that help them to overcome these parenting challenges. Results showed that VIPP-FC/A was effective in increasing sensitive parenting behavior in adoptive families (Barone, Barone, et al., 2018). Improved maternal sensitivity of adoptive parents in the intervention group contributed to improved emotional availability and decreased behavior problems of the adopted children, especially if the children's temperament was characterized by high scores on negative affect (Barone, Ozturk, & Lionetti, 2018). Children with negative affective traits experience more difficulties with emotional regulation and behavioral inhibition (Doom & Gunnar, 2015). These regulatory difficulties may lead to (more severe) parenting challenges for new caregivers if these children are placed out of home. A meta-analysis of parenting interventions for foster and adoptive families showed that the overall positive effect on parental sensitivity was

indeed larger for studies that specifically recruited families that took care of children who displayed high levels of behavior problems compared to studies that did not specifically include such an at-risk sample (Schoemaker et al., 2019). Overall, these studies suggest that future research should focus on foster families that experience more severe challenges and who may therefore be in need of help and support. Examining the effectiveness of VIPP-FC in an at-risk group may result in improved parenting behavior and attitudes after receiving the intervention program compared to the control group.

We did not find evidence for a crossover nesting problem for type of foster care. Thus, type of foster care (kinship or non-kinship foster care) did not seem to influence the multilevel estimates per condition and therefore type of foster care could not explain the non-significant intervention effects of VIPP-FC. Our study did not have enough power to examine the moderating role of type of placement (kinship vs non-kinship placements). This would be an important direction for future research. In case of an out-of-home placement, kinship care is generally preferred to non-kinship care (Ehrle & Geen, 2002; Winokur, Holtan, & Batchelder, 2018). Placing children with kin means that usually children do not have to adjust substantially to new caregivers and a new environment, because kinship foster parents often originate from the same community or family network as their birth parents (Peters, 2005). However, because kinship foster parents often share the same (socioeconomic) environment as birth parents, placing children in kinship foster care may imply placing them in at-risk care. The most common reason for out-of-home placement of children is maltreatment (Winokur et al., 2018) and the intergenerational transmission of parenting and maltreatment has been studied extensively (Madigan et al., 2019; Mileva-Seitz, Bakermans-Kranenburg, & Van IJzendoorn, 2016). Foster care research revealed that kinship foster parents generally show less sensitive behavior (i.e., emotional support) towards their foster children (Geary, 2007) and have less positive attitudes towards parenting than non-kinship foster parents (Gebel, 1996; Jones Harden, Clyman, Kriebel, & Lyons, 2004). Moreover, insensitive (disciplinary) behavior and negative parenting attitudes are associated with risk factors related to lower socioeconomic status, such as lower education and lower family income, more often seen in kinship foster families than in non-kinship foster families (Bøe et al., 2014; Ehrle & Geen, 2002; Farmer, 2009; Mennen & Tricket, 2011; Pelchat, Bisson, Bois, & Saucier, 2003; Vittrup & Holden, 2010). Kinship foster parents' parenting behavior and attitudes may thus have more room for improvement and they may therefore benefit more from intervention programs than non-kinship foster parents. However, research revealed that foster children in non-kinship care showed more behavior problems, psychopathology, and had a higher risk of breakdown than children placed with kin (Konijn et al., 2019; Winokur et al., 2018; Xu & Bright, 2018). Non-kinship foster parents may therefore need more help and support to deal with child behavior problems to subsequently prevent placement breakdown than kinship foster parents. Unfortunately, most effectiveness studies do not report effects of intervention programs for kinship and

non-kinship foster families separately, and the moderating effect of type of foster care could therefore not be examined in a recent meta-analysis (Schoemaker et al., 2019). More research is needed to examine the specific and potentially different effects of parenting interventions for kinship and non-kinship foster parents.

In the Netherlands the screening and preparation of kinship and non-kinship foster parents is slightly different. Kinship foster parents' parenting capabilities are screened and the child's safety within the foster parents' home is investigated before placement (Vereniging van Nederlandse Gemeenten, 2016). Aspiring non-kinship foster parents are screened and prepared for the foster care placement with the STAP (Collaboration, Team spirit, Aspiring Foster parents [Samenwerking, Teamgeest, Aspirant Pleegouders]; De Baat, 2014) or a comparable training. The STAP training focusses on the development of knowledge, attitudes, and skills needed to raise a child with adverse early life experiences (De Baat, 2014). Kinship foster parents are also prepared with the STAP or a comparable training. However, because children will almost immediately be placed with kinship foster parents if the screening was positive it is not always possible to complete the whole training (Jeugdzorg Nederland, 2013). At the beginning of the foster care placement kinship and non-kinship foster parents may differ in parenting knowledge, attitudes, and skills. It may thus be that foster parents (either kinship or non-kinship) that need extra support, require intervention programs that are specified to their individual needs.

Conclusion

The current study investigated the effectiveness of VIPP-FC on parental sensitivity, parental sensitive discipline, and attitudes towards parenting in foster parents. Sensitive parenting plays an important role in child development, e.g., the development of secure attachment relationships and prevention or reduction of child behavior problems. Our study did not find evidence for the effectiveness of VIPP-FC in improving foster parents' sensitive parenting behavior and attitudes. In addition, results did not change when type of foster care (kinship vs. non-kinship) was taken into account. We suggest that these findings may be explained by a possible selection bias and a subsequent ceiling effect. Thus, future intervention studies might include at-risk samples and examine factors (i.e., foster family characteristics) that may contribute to the effectiveness of parenting interventions.

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Supplementary Table 1. *Exploratory analyses with main and interaction effects for time and condition (VIPP-FC vs. control) per situation and for the foster parents with the lowest overall scores for parental sensitivity, sensitive discipline, and attitudes towards parenting (n = 30).*

		ES	*SE*	*p*	*95% CI*
Parental sensitivity					
Play with toys	(Intercept)	6.81	0.74	.24	5.37 to 8.25
	Time	0.33	0.18	.07	-0.03 to 0.68
	Condition	0.90	0.60	.14	-0.28 to 2.08
	Time*condition	-0.18	0.25	.49	-0.67 to 0.32
Play without toys	(Intercept)	8.28	5.29	.12	-2.10 to 18.67
	Time	0.00	1.30	1.00	-2.55 to 2.54
	Condition	2.01	4.10	.62	-6.02 to 10.03
	Time*condition	0.06	1.83	.97	-3.52 to 3.65
Structured play	(Intercept)	6.84	0.73	<.001	5.41 to 8.27
	Time	0.49	0.13	<.001	0.23 to 0.74
	Condition	0.94	0.48	.05	0.00 to 1.88
	Time*condition	-0.36	0.19	.05	-0.72 to 0.01
Lowest overall score	(Intercept)	7.24	0.86	<.001	5.56 to 8.91
	Time	0.29	0.22	.20	-0.15 to 0.72
	Condition	0.81	0.72	.26	-0.59 to 2.21
	Time*condition	-0.11	0.32	.72	-0.73 to 0.51
Sensitive discipline					
Don't Touch	(Intercept)	5.54	0.77	<.001	4.03 to 7.04
	Time	-0.19	0.17	.25	-0.52 to 0.14
	Condition	-0.03	0.51	.95	-1.04 to 0.98
	Time*condition	0.19	0.24	.43	-0.28 to 0.66
Clean Up	(Intercept)	5.77	0.69	<.001	4.42 to 7.12
	Time	-0.05	0.15	.77	-0.34 to 0.25
	Condition	-0.05	0.49	.92	-1.02 to 0.91
	Time*condition	0.24	0.21	.26	-0.18 to 0.65
Lowest overall score	(Intercept)	5.83	0.66	<.001	4.54 to 7.12
	Time	-0.14	0.14	.33	-0.42 to 0.14
	Condition	0.03	0.45	.94	-0.84 to 0.91
	Time*condition	0.22	0.20	.27	-0.17 to 0.62
Attitudes towards sensitivity					
Lowest overall score	(Intercept)	3.67	0.45	<.001	2.78 to 4.56
	Time	0.05	0.12	.66	-0.18 to 0.29
	Condition	-0.21	0.27	.44	-0.74 to 0.32
	Time*condition	0.12	0.11	.26	-0.09 to 0.33



Chapter 6

Indiscriminate friendliness in foster children: Associations with attachment security, foster parents' sensitivity, and child inhibitory control

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ABSTRACT

Indiscriminate friendliness (IF) is atypical behavior often seen in postinstitutionalized and foster children. The current study examined the associations of children's attachment security, parental sensitivity, and child inhibitory control with reported and observed IF in 60 family-reared, never-institutionalized foster children. IF was measured with a parent-report questionnaire (Indiscriminate Friendliness Questionnaire) and an observational measure (adapted version of the Stranger at the Door procedure; Bucharest Early Intervention Project). Attachment security and inhibitory control were related to reported IF (i.e., a secure attachment and poor inhibitory control were associated with higher levels of IF), but parental sensitivity was not. No associations were found between observed IF and attachment security, parental sensitivity, or inhibitory control. Thus, foster children with a secure attachment relationship may be more prone to socially interact with others including strangers, whereas better inhibitory control may serve as a buffer against IF but these results were found for reported IF only. More research is needed to gain more knowledge about different measures, other possible correlates, and underlying mechanisms of IF.

INTRODUCTION

Indiscriminate friendliness (IF), also known as disinhibited social behavior, is typically seen in children adopted from institutions and in foster care (Bakermans-Kranenburg et al., 2011; Love, Minnis, & O'Connor, 2015; Van den Dries, Juffer, Van IJzendoorn, Bakermans-Kranenburg, & Alink, 2012). IF, like other types of social behavior, may be (partly) explained from attachment theory (specifically the role played by parental sensitivity in the etiology of attachment relationships). Individual child characteristics, such as child temperament, may additionally be associated with IF. More specifically, behavioral inhibition was shown to be related with IF (Doom & Gunnar, 2015). The current study aimed to investigate the associations of children's attachment security, parental sensitivity, and inhibitory control as a temperamental trait, with IF in foster children. The following hypothesis will be tested: Attachment security, parental sensitivity, and inhibitory control are directly and independently related to IF. Pre-test data of a randomized controlled trial (RCT) to test the effectiveness of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC; Schoemaker et al., 2018) were used for this study.

Indiscriminate Friendliness

Indiscriminate friendliness (IF) is defined as "behavior that is affectionate and friendly toward all adults (including strangers) without the fear or caution characteristic of normal children" (Chisholm, 1998, p. 1094). This kind of behavior is included in the diagnostic criteria of Disinhibited Social Engagement Disorder (DSED) of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013). For a DSED diagnosis it is required that at least two of the following behaviors are exhibited by the child: "reduced or absent reticence in approaching and interacting with unfamiliar adults, overly familiar verbal or physical behavior, diminished or absent checking back with adult caregiver after venturing away (in unfamiliar settings), and willingness to go off with strangers with little or no hesitation" (American Psychiatric Association, 2013, pp. 265-266). These socially disinhibited behaviors are a result of insufficient care, e.g., neglect or institutional care (American Psychiatric Association, 2013; Lyons-Ruth, Bureau, Riley, & Atlas-Corbett, 2009; Pears, Bruce, Fisher, & Kim, 2010; Zeanah, Smyke, Koga, & Carlson, 2005), which may explain why IF is not uncommon in foster children.

Studying IF is relevant as research shows that IF underlies the development of behavior problems (e.g., aggressive and hyperactive behaviors; Lyons-Ruth et al., 2009; Pears et al., 2010) and internalizing and externalizing behavior problems increase the risk of foster placement breakdown (Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). Breakdown should be avoided, because the experience of multiple placements is in turn related to the development of emotional and behavior problems later in life (Newton, Litrownik, & Landsverk,

2000). In addition to adverse early life experiences, there may be parenting and child factors that are associated with IF. In order to better understand and eventually reduce IF it is important to examine these correlates of IF in foster children.

Attachment Theory

The development of IF may be partly explained from attachment theory. Early adverse experiences, such as abuse, neglect, and separation from an attachment figure, may result in difficulties with trusting new adults in foster children's life (Greeson et al., 2011; Schuengel, Oosterman, & Sterkenburg, 2009). Based on the interactions with primary caregivers, children develop an internal working model consisting of expectations about the world around them (Bowlby, 1969). The relationships children have with their primary caregivers thus serve as a blueprint for social relationships with others. Due to experiences of inconsistent and nonresponsive care, foster children may on the one hand mistrust others, because they have learned that no one is looking after them and they therefore feel that they can only rely on themselves. These children often display inhibited social behavior (e.g., they do not seek or respond to comfort when they are distressed) towards others and this kind of behavior is also included in the DSM-5, as a symptom of Reactive Attachment Disorder (RAD; American Psychiatric Association, 2013). On the other hand, foster children may be more prone to approach any adult who is willing to positively respond and pay attention to them, because they have no preferred attachment figure (usually the primary caregiver(s)). Approaching as many people as possible may increase their chances of being taken care of and they may therefore trust all adults including strangers (Bakermans-Kranenburg et al., 2011; Pears et al., 2010). These children show high levels of indiscriminate behavior which is, as described before, a symptom of DSED. Symptoms of both RAD and of DSED are prevalent in foster children (Cappelletty, Brown, & Shumate, 2005; Kliewer-Neumann et al., 2018; Minde, 2003; Minnis, Marwick, Arthur, & McLaughlin, 2006).

A longitudinal study in (post)institutionalized children participating in the Bucharest Early Intervention Project (BEIP) has revealed that postinstitutionalized foster children showed lower levels of IF at 54 months of age compared to children who remained in institutions (Gleason et al., 2014). BEIP results additionally showed that attachment security serves as a mediator in the relation between caregiving quality and IF (McGoron et al., 2012). Caregiving quality (e.g., parental sensitivity) at 30 months of age predicted attachment security at 42 months (i.e., secure attachment relationships were more common if caregiving quality was higher), which in turn predicted lower levels of IF at 54 months of age. Other studies show that higher rates of attachment security are not directly associated with a decrease in IF in postinstitutionalized nor in (former) foster children (Bakermans-Kranenburg et al., 2011; Love et al., 2015; Pears et al., 2010; Van den Dries et al., 2012; Zeanah, Smyke, Koga, et al., 2005). Children displaying (symptoms of) attachment disorders can simultaneously show secure attachment behaviors

(Bakermans-Kranenburg et al., 2011; Minnis et al., 2006; Rutter et al., 2007). Foster children with experiences of inconsistent and nonresponsive care before placement, can thus develop a secure attachment relationship with their new caregivers despite showing high levels of IF. Thus, there seems to be a theoretical relation between attachment and IF, but empirical findings have been inconsistent so far.

Parental sensitivity. Within attachment theory, parental sensitivity is an important predictor of attachment security (Ainsworth, Bell, & Strayton, 1974; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). Parental sensitivity consists of two elements: first, correct observations and interpretations of children's signals, and second, adequate and prompt responses to those signals (Ainsworth et al., 1978). Sensitive care increases the likelihood of a secure attachment relationship, whereas insensitive care, characterized by indifferent, inconsistent, or frightening responses to children's signals, is related to insecure attachment relationships (Ainsworth et al., 1978; Main & Hesse, 1990).

It is expected that new caregivers, such as foster parents, generally show higher levels of sensitive behavior than the foster children's biological parents and that the quality of caregiving after placement is therefore better compared to caregiving quality before placement. Improved caregiving environment is related to reduced attachment disorder symptoms, such as IF, in postinstitutionalized and foster children (M. Bruce et al., 2019; Zeanah, Humphreys, Fox, & Nelson, 2017). Specifically parental sensitivity seems to be predictive of a decrease in IF (Dobrova-Krol, Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2010; Love et al., 2015). Nevertheless, other studies suggest that IF is relatively persistent over time despite improved caregiving quality (Guyon-Harris, Humphreys, Fox, Nelson, & Zeanah, 2018; Lawler, Koss, Doyle, & Gunnar, 2016; Scheper et al., 2019; Smyke et al., 2012).

Inhibitory Control

In addition to attachment security and parental sensitivity, individual child characteristics may also be associated with IF. Disinhibited social behavior that characterizes IF seems to be related to child temperament. One specific temperamental trait that can induce disinhibited behavior is inhibitory control. Inhibitory control refers to the ability to regulate the inhibition of attentional or behavioral responses, and includes emotional reactivity as well as self-regulatory capacities that are part of the broader temperamental construct of effortful control (Rothbart, 2007). Children with high scores on effortful control show more behavioral inhibition than children with low scores (Doom & Gunnar, 2015). Because inhibitory control develops after early infancy (Rothbart, 1989), it may be of special interest in foster care studies. Research shows that inhibitory control is indeed related to IF in internationally adopted and foster children; children with poorer inhibitory control showed higher levels of IF (J. Bruce, Tarullo, & Gunnar, 2009; Pears et al., 2010).

Current Study

The current study aimed to investigate if IF is associated with attachment security, parental sensitivity, and inhibitory control. Whereas previous research most often used parent-reports of IF, observational measures of IF may provide valuable, i.e., more objective, information about the occurrence of IF in foster children. The Stranger at the Door procedure of the BEIP (Zeanah, Smyke, & Koga, 2005) is suggested to be a valuable observational measurement of IF (Bakermans-Kranenburg et al., 2011). Both a parent-report questionnaire and an observational measure were used in the current study to test the associations of the three correlates with IF in two separate models. To our knowledge, the current study is the first to examine children's attachment security, parental sensitivity, and inhibitory control as independent correlates of both reported and observed IF in family-reared, never-institutionalized foster children.

Based on previous research it was hypothesized that attachment security, parental sensitivity, and inhibitory control are related to IF (Love et al., 2015; McGoron et al., 2012; Pears et al., 2010): A secure attachment relationship, higher levels of parental sensitivity, and higher levels of inhibitory control will be related to lower levels of IF. Drawing on results from the BEIP (Gleason et al., 2014; Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010), child age may be an important covariate that should be taken into account when examining the relation between attachment security and IF.

METHODS

Participants

The current sample consisted of 60 foster parents and children. The mean age of the children was 3.63 years (*SD* = 1.35, range: 1 to 6) and 45% were boys. For more than half of the children (57%) the current placement was their first foster care placement, for 28% it was their second placement, and for 5% it was their third placement (for 6 children this information was unknown). The majority of the participating foster parents were female (83%) and foster parents were on average 45.43 years old (*SD* = 7.42, range: 31 to 61). Most foster parents did not have previous experience with foster care placements: only four foster parents (7%) had had two or more foster children placed in their homes before the current placement. The foster families had on average 1.74 foster children (*SD* = 0.83, range: 1 to 4). 73% of the children were placed with a non-kinship foster family and the children had on average been living with the current family for 27.78 months (*SD* = 14.82, range: 5 to 64). Descriptive statistics are presented in Table 1.

Table 1. *Descriptive statistics of the total study sample.*

	Total sample (*n* = 60) *M* (*SD*)[a]
Child characteristics	
Age (years)	3.63 (1.35)
Gender (% boys)	45
Placement duration (months)	27.56 (15.98)
First foster care placement (% yes)	57
Foster parent characteristics	
Age (years)	45.43 (7.42)
Gender (% male)	16.7
Highest education level completed (%)	
Primary	8
Secondary	45
Higher	37
Current working situation (%)	
Unemployed	25
Part-time	43
Full-time	13
First foster care placement (% yes)	57
Foster family characteristics	
Type of foster family (% non-kinship)	73.3
Foster children in family	1.74 (0.83)
Biological children in family	1.87 (1.39)
Outcome and predictor variables	
Reported indiscriminate friendliness	1.56 (1.59)
Observed indiscriminate friendliness	1.88 (1.06)
Did not leave with stranger (%)	15
Left after 2nd invitation and with hesitation and/or social referencing (%)	17
Left after 1st invitation with hesitation and/or social referencing (%)	33
Left immediately after 1st invitation (%)	35
Attachment security (%)	
Secure	60
Insecure avoidant	25
Insecure ambivalent	7
Insecure disorganized	8
Parental sensitivity	6.99 (1.16)
Inhibitory control[b]	4.50 (0.97)

[a] unless other indicated, [b] composite mean score of ECBQ and CBQ

Procedure

The current study used pretest data of a randomized controlled trial (RCT) to test the effectiveness of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC; Schoemaker et al., 2018). Recruitment of foster families was done through nine Dutch foster care organizations. Announcements of the study were additionally published on Facebook and in a Dutch foster care magazine, and were distributed among network groups for foster parents to also recruit foster families not involved with one of the nine participating foster care organizations. All foster parents and biological parents with legal custody or the legal guardian of the children signed an informed consent form. Sixty of a total of 434 eligible foster parents were enrolled in the study (response rate of 14%). The main reason for non-participation was that the study was too time-consuming; Foster families were either too busy with extra support programs (e.g., parenting interventions) or just completed an extra support program and were not willing to commit to the study. The primary caregiver (i.e., the foster parent that spend the most time with the child) participated together with one foster child. If there was more than one foster child living with the foster family, the most recently placed child was included, or in case of sibling placement, the oldest child between 1 and 6 years was included. A detailed study protocol describing the procedure for recruitment (e.g., inclusion and exclusion criteria) has been previously published (Schoemaker et al., 2018). Only data collected at the pretest of the RCT were used in the current study. The pretest consisted of a home visit and a visit to the laboratory during which several measurements (observations and questionnaires) were conducted. Ethical approval for the study was granted by the Medical Ethics Committee of the Maasstad Hospital in Rotterdam The Netherlands (NL39376.101.13).

Measures

Indiscriminate friendliness. Two instruments were used to measure reported and observed IF: the Indiscriminate Friendliness Questionnaire (Chisholm, Carter, Ames, & Morison, 1995) and The Stranger at the Door Procedure (Zeanah, Smyke, & Koga, 2005), respectively.

Reported indiscriminate friendliness. Foster parents reported on IF using the Indiscriminate Friendliness Questionnaire (IFQ; Chisholm et al., 1995). The IFQ consists of five items regarding the behavior of children when interacting with unfamiliar adults (i.e., strangers). Each item has four answer options of which one indicated IF. For example for the question “What does your child do if he/she meets a new adult?”, the answer “My child approaches the new adult; he/she talks, he/she shows toys, he/she wants to sit on new adult’s lap” indicates IF (scored as 1), whereas the answers “He/she has not met new adults (yet)”, “He/she sees where the wind blows and observes”, and “He/she is upset around new adults” do not (scored as 0; Chisholm et al., 1995). A sum score of the 5 items was calculated with a higher score indicating higher levels of IF. Internal consistency was fair (Cronbach’s alpha α = .76).

Observed indiscriminate friendliness. An adapted Stranger at the Door (SatD) procedure (Zeanah, Smyke, & Koga, 2005) was performed to observe IF of the child in a laboratory setting (instead of in the home environment as in Zeanah, Smyke, and Koga (2005)). Prior to the procedure the foster parent was informed that a female research assistant (i.e., a stranger) would knock on and open the door to ask the child if he/she wanted to come along because she wanted to show him/her something (Gleason et al., 2011; Gleason et al., 2014). The foster parent was instructed to not show any reaction (verbally or non-verbally) during the procedure, for example if the child asked if it was okay to leave with the stranger. If the child did not respond within 10 seconds, the stranger asked if the child wanted to go for a walk together with her and said that they would return to the room afterwards. If the child left with the stranger (after the first or second invitation), they walked a short distance together along the corridor before returning to the foster parent.

The original coding system developed by Zeanah, Smyke, and Koga (2005) coded whether or not the child left with the stranger. To obtain more variance in the measurement of IF, we developed a more elaborate coding system. In addition to coding whether or not a child was willing to leave with a stranger (Gleason et al., 2011; Gleason et al., 2014; Zeanah, Smyke, & Koga, 2005), we also coded whether the child hesitated and/or displayed social referencing, for example when the child sought proximity to the foster parent. A 4-point scale was used with a higher score indicating higher levels of indiscriminate behavior (0 = child did not leave with the stranger, 1 = child left with the stranger after the second invitation, 2 = child left with the stranger after the first invitation with hesitation and/or social referencing, and 3 = child left with the stranger immediately after the first invitation). All SatD procedures were coded using this coding system by the first author and ten videos were double coded by one other coder. Interrater reliability was good (ICC = 0.93, 95% CI: 0.74 to 0.98).

Attachment security. Attachment security and disorganization were observed with the Strange Situation Procedure (Ainsworth et al., 1978). To categorize the foster children in one of four attachment classifications (i.e., secure, insecure avoidant, insecure ambivalent, or insecure disorganized) the MacArthur Preschool Attachment Classification System (PACS; Cassidy, Marvin, & the MacArthur Working Group on Attachment, unpublished) was used. For data analysis purposes these classifications were categorized in secure (PACS secure classification) or insecure attachment (PACS insecure avoidant, insecure ambivalent, and insecure disorganized classifications). Fifteen videos were double coded by two Dutch speaking coders (authors RS and EvE) with 67% agreement (Cohen's kappa κ = .34).

Parental sensitivity. Parental sensitivity was observed during three videotaped play episodes: with toys, without toys, and structured play. During the free play episode with toys the foster parents and children were instructed to play together for five minutes with toys provided

by the research assistant. During the free play episode without toys the foster parents and children were asked to play together for five minutes and they could decide for themselves what they wanted to do. Toys were not available during this episode. During the structured play episode the foster parents and children had five minutes to work on a task together that was intended to be a little bit too difficult based on the child's age (e.g., build a tower of cups (2-year-olds) or putting a Jigsaw puzzle together (5-year-olds).

The Ainsworth Scales for *sensitivity* and *non-interference* were used to code parental sensitivity (Ainsworth et al., 1974; Mesman, 2017). The original Ainsworth Scales were developed to observe maternal behavior toward infants (Ainsworth et al., 1974) and small textual changes were made to enable use of the scales to observe behaviors of other caregivers toward older children (Mesman, 2017). *Sensitivity* was defined as observing and interpreting the signals of the child accurately and responding to these signals promptly and adequately (Ainsworth et al., 1978). *Non-interference* was defined as the child being able and allowed to take the lead in the interaction with the foster parent. A 9-point scale was used to code both sensitivity and non-interference with a low score indicating highly insensitive or interfering behavior (i.e., 1 = rare or absent sensitive responses, or the foster parent unnecessarily interferes with the child's behavior and intentions almost throughout the whole episode) and a high score indicating highly sensitive or non-interfering behavior (i.e., 9 = the foster parent responds sensitively to the child's signals almost continuously throughout the episode, or the child can and is allowed to lead during the whole interaction).

Fifteen videos were double coded by five coders with good average interrater reliabilities on *sensitivity* (ICC = 0.86, range: 0.77 to 0.92) and *non-interference* (ICC = 0.85, range: 0.77 to 0.94). The separate *sensitivity* and *non-interference* scales were highly correlated (r = .82, p < .001). A total parental sensitivity score was computed by averaging the scores of the *sensitivity* and *non-interference* scales on the three play episodes. A higher score indicated more parental sensitivity (Cronbach's alpha α = .81).

Inhibitory control. The child temperament dimension *inhibitory control* was measured with the Early Childhood Behavior Questionnaire (ECBQ; Putnam, Gartstein, & Rothbart, 2006) or the Children's Behavior Questionnaire (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001) which were filled out by the foster parent. The ECBQ measures temperament in 1.5 to 3-year-old children and the CBQ in 3 to 7-year-old children on three broad scales: Extraversion/ Surgency, Negative affectivity, and Effortful control. As a subscale of the Effortful control scale, *inhibitory control* is defined as "the capacity to plan future action and to suppress inappropriate responses" (Rothbart, 2007, p. 208). Inhibitory control is measured with 12 ECBQ items and 13 CBQ items, e.g., "When told 'no', how often did your child stop the forbidden activity?" (ECBQ) and "During daily activities, how often was your child able to follow your instructions?"

(CBQ). Foster parents indicated to which extent their child had shown the behavior in the last six months. All items were scored on a 7-point Likert scale ranging from never (1) to always (7), with an extra "does not apply" option which was not considered in the mean scale scores. Composite mean scores of the ECBQ and CBQ were used as a measure of *inhibitory control*, with a higher score indicating better inhibitory control. For inhibitory control internal consistency was fair to good (Cronbach's alpha's α = .93 and α = .73 for the ECBQ and CBQ, respectively).

Data Analyses

Complete questionnaire data of 54 foster parent-child dyads (90%) was available for data analysis. Missing data included records of child (i.e., number of previous placements), foster parent (i.e., age, highest education level completed, current working situation, number of previous placements), and family characteristics (i.e., number of foster and/or biological children), and of reported IF, and inhibitory control for six dyads. Placement duration and the number of biological children of the foster parent were missing for one additional foster family (2%). The observational data of IF, attachment security, and parental sensitivity were complete. Little's MCAR test revealed that missing values were missing at random (χ^2 (25) = 22,57, p = .60). Multiple imputation with the Markov Chain Monte Carlo method and predictive mean matching (PMM) as a model for numeric variables was used to estimate 50 imputed datasets with a maximum of 50 iterations for the missing data. All variables were normally distributed and contained no outliers.

Bivariate correlation coefficients were calculated. Child age was significantly correlated with placement duration (r = .32, p = .01; Table 2). Because of the relatively small sample size, including both child age and placement duration as covariates could have caused a power problem (VanVoorhis & Morgan, 2007). Two stepwise hierarchical multiple regression analyses were performed to statistically predict reported and observed IF, with child age as control variable entered in step one, and predictor variables attachment security, parental sensitivity, and inhibitory control entered in step two. To compare the results with the models using child age as a covariate, multiple regression analyses were also performed using placement duration as covariate.

Finally, pooled results from the 50 imputed datasets were compared with results from complete cases analyses. IBM SPSS Statistics for Windows, version 25.0 (IBM Corp., 2017) was used for all analyses. The mixed model macro of Van Ginkel (2019) was used to obtain pooled F-tests for the regression analyses. No pooling method to calculate beta's and R^2 is available in SPSS. Standardized coefficients and effect sizes of all imputed datasets were therefore averaged to get an indication of the pooled beta's and R^2 of the regression models (Van Ginkel, 2019).

Table 2. *Pearson correlations of demographic, predictor, and outcome variables.*

	1.	2.	3.	4.	5.
Child characteristics					
1. Age					
2. Gender[a]	.25				
3. Placement duration	.32*	.10			
4. First foster care placement[b]	.10	-.11	.15		
Foster parent characteristics					
5. Age	.04	.26	.14	.17	
6. Gender[a]	-.09	-.05	-.12	-.05	-.04
7. First foster care placement[b]	-.16	.11	-.06	.24	.05
Foster family characteristics					
8. Type of foster family[c]	-.09	.17	-.12	.17	.44**
Predictor and outcome variables					
9. Reported IF	-.02	-.09	-.13	-.29*	-.18
10. Observed IF	.31*	.19	.06	.09	.07
11. Attachment security[d]	-.30*	-.06	.03	.21	-.03
12. Parental sensitivity[e]	-.25	-.06	.20	-.03	-.03
13. Inhibitory control[f]	.21	.25	.37**	.20	.08

Note. Correlations pooled from 50 imputed datasets.

[a] 0 = male, 1 = female, [b] 0 = no, 1 = yes [c] 0 = non-kinship foster care, 1 = kinship foster care, [d] 0 = insecure, 1 = secure, [e] mean score of Ainsworth Scales for sensitivity and non-interference, [f] composite mean score of ECBQ and CBQ

* $p < .05$, ** $p < .01$

RESULTS

Descriptive Statistics

Descriptive statistics of the outcome and predictor variables are presented in Table 1. The children had an average score of 1.88 (*SD* = 1.06, range: 0 to 3) on the SatD and of 1.56 (*SD* = 1.59, range: 0 to 5) on the IFQ. More than half of the children had a secure attachment relationship with their foster parent (60%). The average score of inhibitory control was 4.50 (*SD* = 0.97, range: 2.18 to 6.31). Overall, foster parents showed sensitive behavior during the interaction with their children (*M* = 6.99, *SD* = 1.16, range: 3.75 to 9.00).

Bivariate Correlation Analyses

Bivariate correlations between demographic, outcome, and predictor variables are presented in Table 2. Older children had higher levels of observed IF (r = .31, p = .02) and were more likely to be insecurely attached (r = -.30, p = .02) than younger children. Children who lived

	6.	7.	8.	9.	10.	11.	12.
	.15						
	.07	.21					
	-.01	.09	.11				
	-.14	-.12	-.01	.17			
	-.09	.26	.11	-.03	.25		
	.10	.04	-.18	-.17	.07	.02	
	-.02	-.15	.23	.14	-.29*	-.07	-.01

longer with the foster family had higher levels of inhibitory control (r = .37, p = .01). Foster parent characteristics were not correlated with any child demographic, outcome or predictor variable, but older foster parents were more likely to be kinship foster parents (r = .44, p = .002).

Higher levels of reported IF were significantly associated with less inhibitory control (r = -.29, p = .04). Observed IF was not correlated with reported IF (r = .17, p = .21) or any of the predictor variables. Attachment security was not significantly associated with reported or observed IF, nor with any of the other predictor variables. No significant correlation was found between parental sensitivity and any other demographic, outcome, or predictor variable.

Multiple Regression Analyses

Two hierarchical multiple regression analyses were performed to examine if attachment security, parental sensitivity, and inhibitory control are predictive of reported and observed IF, respectively, while controlling for child age.

Reported indiscriminate friendliness. Regression coefficients based on the imputed data for reported IF measured with the IFQ are presented in Table 3. Significant main effects were found for attachment security (β = 0.27, p = .05) and inhibitory control (β = -0.30, p = .03), but not for parental sensitivity (β = 0.10, p = .47; R^2 = .17, F (4, 52) = 2.32, p = .07). Opposite to what we expected, foster parents in securely attached dyads reported somewhat higher levels of IF than foster parents of insecurely attached dyads (secure: M = 1.85, SD = 1.68 vs. insecure: M = 1.10, SD = 1.34). Conform expectations, children with less inhibitory control showed higher levels of IF as reported by their foster parents than children with more inhibitory control.

Observed indiscriminate friendliness. Regression coefficients based on the imputed data for observed IF during the SatD procedure are presented in Table 3. No main effects were found for attachment security, parental sensitivity, or inhibitory control (R^2 = .12, F (4, 53) = 1.79, p = .14). Attachment security, parental sensitivity, and inhibitory control were not related to observed IF.

Table 3. *Regression coefficients for reported and observed IF.*

	Step 1					Step 2				
	B	*SE*	*β*	*p*	R^2	*B*	*SE*	*β*	*p*	R^2
					Reported IF					
(Intercept)	1.68	0.61		.01	.00	1.74	1.84		.34	.17
Child age	-0.03	0.16	-0.02	.86		0.17	0.16	0.14	.30	
Attachment security[a]						0.86	0.44	0.27	.05	
Parental sensitivity[b]						0.14	0.19	0.10	.47	
Inhibitory control[c]						-0.50	0.23	-0.30	.03	
					Observed IF					
(Intercept)	0.99	0.38		.01	.10	1.22	1.20		.31	.12
Child age	0.25	0.10	0.15	.01		0.23	0.11	0.29	.04	
Attachment security[a]						0.14	0.29	0.07	.62	
Parental sensitivity[b]						-0.09	0.12	-0.10	.44	
Inhibitory control[c]						0.09	0.15	0.08	.55	

Note. Regression coefficients pooled from 50 imputed datasets, with child age as control variable.
[a] SSP classification with 0 = insecure, 1 = secure, [b] mean score of Ainsworth Scales for sensitivity and non-interference, [c] composite mean score of ECBQ and CBQ

Sensitivity Analyses

Comparing the pooled results from the imputed datasets with placement duration instead of child age as a covariate resulted in somewhat different results. Attachment security and inhibitory control were no longer significant statistical predictors of reported IF (attachment

security: β = 0.23, p = .09, and inhibitory control: β = 0.07, p = .61; R^2 = .14, F (4, 51) = 1.84, p = .14). The main effect for parental sensitivity remained insignificant (β = -0.25, p = .10). For observed IF, results were similar to the results with child age as a covariate showing no significant associations (attachment security: β = -0.01, p = .92, parental sensitivity: β = -0.17, p = .20, and inhibitory control: β = 0.10, p = .47; R^2 = .50, F (4, 52) = 0.60, p = .67).

Compared to the pooled results, the complete case analyses for the bivariate correlations and multiple regression analyses showed similar results (Supplementary Tables 1 & 2). Also no differences were found for the complete case analyses with placement duration as a covariate instead of child age.

DISCUSSION

Due to adverse experiences early in life, foster children often show indiscriminately friendly (IF) behavior towards strangers. Environmental and individual child factors may, however, decrease IF over time in children at risk of IF. The current study examined associations of (reported and observed) IF with children's attachment security, parental sensitivity, and inhibitory control. It was hypothesized that all correlates would be directly related with IF (i.e., insecure attachment relationship, lower levels of parental sensitivity, and more inhibitory control are associated with higher levels of IF). For reported IF, foster parents whose attachment relationships with their children were classified as secure reported higher levels of IF and children with better inhibitory control displayed lower levels of IF according to their foster parents. Parental sensitivity was not related to reported IF. Importantly, the results regarding reported IF were not very robust, because attachment security and inhibitory control were no longer related to reported IF when placement duration was used as a covariate instead of child age. The expected associations between attachment security, parental sensitivity, and inhibitory control with observed IF were not found. Thus, securely attached dyads and children with less inhibitory control showed higher levels of IF according to their foster parents, but not according to objective observations of IF.

Attachment Security

Contrary to our hypothesis, attachment security was not related to observed IF. Unexpectedly, attachment security was related to reported IF with foster parents of securely attached dyads reporting higher levels of IF than foster parents of insecurely attached dyads. During a stable and secure placement, foster children learn that they can rely on others to help them when needed and that adults can be responsive to their needs, which may result in exploration behavior expressed as socially friendly behavior towards others including strangers. It is important to note that reported IF scores were quite low, even in the securely attached group.

Scores in the current sample were also lower than those for (post)institutionalized children in a study that also used the IFQ as a measure of IF (Chisholm et al., 1995): On average the foster parents in the current sample reported IF at least 1 point lower (on a 5-point scale) than caregivers of (post)institutionalized children in Chisholm's study. It is possible that the scores in our sample reflect normative socially friendly behaviors. Looking at item level, there were no differences between securely and insecurely attached dyads on the item that most clearly reflects indiscriminate friendliness ("Would your foster child want to leave with an adult he/she just met?"; both groups 21%). The biggest difference between the two groups was found for the question "How friendly is your foster child towards new adults?", which foster parents of children with a secure attachment answered more often with the IF-answer (i.e., "My foster child is very friendly, interacts freely with everyone") than foster parents of children with an insecure attachment (63% vs. 38%, respectively).

It is also possible that socially friendly behavior influences attachment security. Children who display socially friendly behavior towards adults in general may experience no or very few difficulties in social interactions and they may therefore find it easier to develop a secure attachment relationship with their foster parents, compared to children who show less socially friendly behavior. This may explain why foster parents of securely attached children reported higher levels of IF compared to foster parents of insecurely attached children in the current study. With reported IF a trait in the children was measured indicating a tendency towards socially friendly behavior in relationships with adults. This trait may have facilitated the children's adaptation in developing a secure relationship with a caregiver in a safe caregiving environment. However, similar IF outside a safe caregiving environment could pose risks to the children's healthy adaptation.

Parental Sensitivity

The results of the current study did not show a significant association between parental sensitivity and reported or observed IF. In general, the foster parents in the current sample showed high levels of sensitivity, with little variation in sensitivity scores which makes it more difficult to find main effects for parental sensitivity in statistical analyses. Zeanah et al. (2017) reported reduced symptoms of attachment disorders (i.e., both RAD and DSED) in postinstitutionalized children after improved caregiving quality because of placement in foster care. Love et al. (2015) reviewed four studies that reported on the association between caregiving quality and IF of which one study used a normative sample (Minnis et al., 2007) and three studies used an adoption population (Garvin, Tarullo, Van Ryzin, & Gunnar, 2012; Rutter et al., 2007; Van den Dries et al., 2012). Even though the adverse history of postinstitutionalized foster and adopted children shows similarities with family-reared, never-institutionalized foster children, examinations of the relation between improved caregiving quality after placement in the latter group are scarce. M. Bruce et al. (2019) did describe reduced attachment disorder

symptoms after children had been placed in a foster family, but these results were limited to inhibited social behavior characterizing RAD and did not include symptoms of DSED. Moreover, of these studies only Van den Dries et al (2012) and Garvin et al. (2012) used the Emotional Availability Scales (Biringen, Robinson, & Emde, 1998) as an instrument to specifically measure parental sensitivity, whereas the other studies presumed that the adoption or foster placement in itself indicated an improvement in caregiving quality (M. Bruce et al., 2019; Rutter et al., 2007; Zeanah et al., 2017). Rutter et al. (2007), however, did not find an association between caregiving environment after adoption and reduced IF. Thus, more research to clarify the relation between parental sensitivity and IF in family-reared, never-institutionalized foster children is needed.

Inhibitory Control

As hypothesized, inhibitory control was directly related to reported IF: Foster parents whose children showed better inhibitory control reported less IF. This result is consistent with previous research stating that children with high scores on inhibitory control are more successful in inhibiting their behavioral responses and display lower levels of IF than children with low scores (J. Bruce et al., 2009; Doom & Gunnar, 2015; Pears et al., 2010). However contrary to our hypotheses, inhibitory control was not directly related to observed IF.

A possible explanation is the implementation of the adapted SatD procedure in the current study, which may have compromised the observations of IF. In the BEIP, the procedure was conducted at home (Zeanah, Smyke, & Koga, 2005), whereas we conducted the SatD in a laboratory. In an unfamiliar laboratory setting it is not unexpected to come across strangers, which may have influenced the motivation of the foster children to come along with the stranger when asked to. Another explanation may be that more than half of the children in the current sample had not experienced a previous foster care placement and all children had been living with the current family for more than two years. Previous literature showed that foster children with experiences of stable placements characterized by responsive care (e.g., sensitive parenting) have better self-regulation and thus better inhibitory control (Bakermans-Kranenburg et al., 2011; Pears et al., 2010). We can thus cautiously conclude that the foster children in the current sample experienced relatively stable placements. This may also be displayed by high levels of parental sensitivity and high percentage of secure attachment relationships which positively influenced social development (Groh, Fearon, Van IJzendoorn, Bakermans-Kranenburg, & Roisman, 2017) and therefore resulted in higher levels of reported IF in the current sample.

Limitations

In the current study reported IF and observed IF were not related, indicating that the SatD and the IFQ may measure different indiscriminate friendly behaviors in foster children. As stated before, whereas the original SatD was conducted at home (Gleason et al., 2011; Gleason et al., 2014), the SatD in the current study was part of a larger sequence of observational measurements during a visit to a laboratory (Schoemaker et al., 2018). In this laboratory setting foster children may have been more expectant of strangers and therefore more willing to go with the stranger than in their home environment.

The IFQ may be a more robust measurement to measure IF than the SatD. However, the IFQ only consists of five items and the questions and answer options may not be as discriminate as preferred to measure IF in foster children. One question directly asks foster parents if their child would be willing to leave with an adult that he/she has just met (Chisholm et al., 1995). This question was positively answered for IF by approximately one fifth of the foster parents. The other questions may provide more room for interpretation, considering that (similar to adoptive parents) foster parents may not necessarily view social behaviors towards others as problematic (Chisholm, 1998). Foster parents are not asked to indicate how often or in which situations their children show this behavior. This may be informative in order to be able to examine variations in IF, dependent on frequency and situation. Additionally, the attachment codings showed moderate reliability between coders.

In addition to children's attachment security, parental sensitivity, and inhibitory control, there may be other correlates that were not examined in the current study. For example, the reasons for out-of-home placement were unknown and it was thus not possible to examine the direct and possible indirect relation with IF. Because IF is presumed to be a result of neglectful care (American Psychiatric Association, 2013; Pears et al., 2010), it could be expected that children with experiences of neglect before being placed in foster care would benefit most from parental sensitivity after placement and therefore would show lower levels of IF compared to children with experiences of abuse. Moreover, because the current study only used pre-test data, all predictors were concurrently measured and causal relations between attachment security, parental sensitivity, inhibitory control, and IF were therefore not examined.

Conclusion and Future Directions

The current study examined associations of (reported and observed) IF with attachment security, parental sensitivity, and inhibitory control. Significant associations of attachment security and inhibitory control with reported IF were found. Children with a secure attachment relationship may be more prone to display socially friendly behaviors towards others including strangers, but this may not necessarily indicate IF considering the limited range of reported IF behaviors in our sample. In addition, we found that better inhibitory control was related to less reported IF. However, attachment security and inhibitory control were not related to observed IF. Parental sensitivity was not related to reported nor observed IF.

Individual child characteristics other than inhibitory control may play a (moderating) role in the development and persistence of IF and differences in measures of IF should also be taken into account. Future studies should focus on the development of more robust measures of IF in order to examine possible correlates of IF and to understand the mechanisms underlying the development of IF.

Supplementary Table 1. *Pearson correlations of demographic, predictor, and outcome variables (complete case data).*

	1.	2.	3.	4.	5.
Child characteristics					
1. Age					
2. Gender[a]	.25				
3. Placement duration	.32*	.10			
4. First foster care placement[b]	.07	-.10	.15		
Foster parent characteristics					
5. Age	.02	.25	.16	.21	
6. Gender[a]	-.09	-.05	-.12	-.03	-.04
7. First foster care placement[b]	-.20	.11	-.06	.29*	.07
Foster family characteristics					
8. Type of foster family[c]	-.09	.17	-.12	.19	.45**
Predictor and outcome variables					
9. Reported IF	-.02	-.09	-.15	-.30*	-.20
10. Observed IF	.31*	.19	.06	.06	.07
11. Attachment security[d]	-.30*	-.06	.03	.25	-.01
12. Parental sensitivity[e]	-.25	-.06	.20	.01	-.04
13. Inhibitory control[f]	.19	.26	.41**	.20	.08

Note. Correlations calculated with data of complete cases.

[a] 0 = male, 1 = female, [b] 0 = no, 1 = yes [c] 0 = non-kinship foster care, 1 = kinship foster care, [d] 0 = insecure, 1 = secure, [e] mean score of Ainsworth Scales for sensitivity and non-interference, [f] composite mean score of ECBQ and CBQ

* $p < .05$, ** $p < .01$

	6.	7.	8.	9.	10.	11.	12.
	.17						
	.07	.29*					
	.03	.13	.09				
	-.14	-.15	-.01	.16			
	-.09	.32*	.11	-.03	.23		
	.10	.04	-.18	-.17	.08	.02	
	-.02	-.22	.20	.14	-.32*	-.06	.01

Supplementary Table 2. *Regression coefficients for reported and observed IF (complete case data).*

	Step 1					Step 2				
	B	*SE*	*β*	*p*	R^2	*B*	*SE*	*β*	*p*	R^2
Reported IF										
(Intercept)	1.63	0.60		.01	.00	1.88	1.80		.30	.17
Child age	-0.02	0.16	-0.02	.89		0.16	0.16	0.14	.32	
Attachment security[a]						0.81	0.44	0.25	.07	
Parental sensitivity[b]						0.15	0.19	0.11	.41	
Inhibitory control[c]						-0.55	0.22	-0.34	.01	
Observed IF										
(Intercept)	0.90	0.37		.02	.13	1.31	1.20		.29	.15
Child age	0.27	0.10	0.36	.01		0.24	0.11	0.32	.03	
Attachment security[a]						-0.01	0.29	-0.01	.97	
Parental sensitivity[b]						-0.10	0.12	-0.11	.44	
Inhibitory control[c]						0.09	0.15	0.08	.54	

Note. Regression coefficients based on data from complete cases, with child age as control variable. [a] SSP classification with 0 = insecure, 1 = secure, [b] mean score of Ainsworth Scales for sensitivity and non-interference, [c] composite mean score of ECBQ and CBQ



Chapter 7

General discussion

This dissertation aimed to contribute to the quality of foster care addressing three main objectives: The first objective was to investigate if existing parenting interventions are effective in supporting/improving parenting and child outcomes in foster care using a meta-analytic approach (Chapter 2). The second objective was to study the effectiveness of an adapted version of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) for foster care, i.e., VIPP-FC. The implementation of VIPP-SD in different types of families and in childcare settings was first reviewed, with special attention to VIPP-FC (Chapter 3). Subsequently, the study protocol of the randomized controlled trial (RCT) investigating the effectiveness of VIPP-FC was described (Chapter 4). In addition, the results of this RCT regarding the effectiveness of VIPP-FC on parenting behavior and attitudes were presented (Chapter 5). The third objective was to examine correlates of indiscriminate friendliness (IF) displayed by foster children. To answer this question, the relations of attachment security, parental sensitivity, and child inhibitory control with IF were examined using data collected during the pretest of the VIPP-FC RCT (Chapter 6). In the current chapter, the main findings are described and discussed. Implications for clinical practice and recommendations for future research are additionally provided.

EFFECTIVENESS OF PARENTING INTERVENTIONS FOR FOSTER CARE

Over the years several parenting interventions have been developed to support foster parents to overcome challenges they often face while taking care of children with an adverse early life history. In Chapter 2, a series of eight meta-analyses are described that examined the effectiveness of existing intervention programs for foster care and/or the related field of adoption on four parent outcomes (i.e., sensitive parenting, dysfunctional discipline, knowledge and attitudes, and parenting stress), three child outcomes (i.e., attachment security, behavior problems, and diurnal cortisol levels), and placement disruption.

Intervention Effects on Parent Outcomes

Our meta-analyses showed small to large overall effect sizes for parent outcomes, indicating that parenting interventions are effective in improving sensitive parenting and parenting knowledge and attitudes, and reducing dysfunctional discipline and parenting stress of foster and adoptive parents. We also showed that foster parents benefited more from these programs than adoptive parents: Foster parents showed larger improvements in sensitive parenting and larger reductions in parenting stress after completion of a parenting intervention compared to adoptive parents. Adoption is permanent, whereas

foster care generally is not (Triseliotis, 2002). Foster parents may experience more stress, because it may be unclear how long the child will live in their home. Foster parents may therefore have more room for improvement with regards to sensitive parenting and parenting stress compared to adoptive parents.

Larger improvements in sensitive parenting were also found in parents who took care of children who displayed high levels of behavior problems compared to parents who took care of children without severe behavior problems. Parents of children with high levels of behavior problems may experience the upbringing of their foster or adopted children as challenging and parenting interventions may help them to overcome these challenges. A study with adoptive parents (that was published after our meta-analysis) showed that VIPP-FC/A (VIPP-SD adapted to use in foster care and adoption) is effective in enhancing parental sensitivity (Barone, Barone, Dellagiulia, & Lionetti, 2018), which in turn contributed to reduced child behavior problems in the intervention group. This mediation effect was explicitly apparent if the children's temperament was characterized by high levels of negative affect (Barone, Ozturk, & Lionetti, 2018). New caregivers of out-of-home placed children with negative affective temperamental traits may experience more severe parenting challenges, because these children also experience more regulatory difficulties (i.e., more difficulties with emotional and behavioral inhibition; Doom & Gunnar, 2015). These studies thus suggest that foster families that experience more severe challenges (e.g., due to low sensitivity and/or due to high levels of child behavior problems) may benefit the most from parenting intervention programs that aim to support them to overcome their parenting struggles.

Our effectiveness study in foster care did not show positive effects of VIPP-FC on foster parents' sensitivity, sensitive discipline, or attitudes towards parenting (Chapter 5). There may have been a selection bias with the foster families who would have benefitted from VIPP-FC the most not included in the study sample, which may have resulted in a ceiling effect. At pretest, foster parents already displayed high levels of sensitive behavior and attitudes, leaving little room for improvement. Previous effectiveness studies have examined the effect of VIPP-SD on parental sensitivity and significant improvements have been found (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2017a, 2017b). Meta-analytic results showed that VIPP-SD is effective in enhancing parental sensitivity (Juffer et al., 2017b). One study specifically included first-time mothers with low parental sensitivity (i.e., below a cutoff of 5) as measured with the Ainsworth Sensitivity Scale (Ainsworth, Bell, & Strayton, 1974; Kalinauskiene et al., 2009). The VIPP program without sensitive discipline themes was used in this study which focusses solely on providing support to enhance sensitivity and is usually used in families with infants. Results showed that maternal sensitivity improved after receiving VIPP compared to the control group (Kalinauskiene et al., 2009). It is thus important that effectiveness studies include populations who are in need of an intervention. It may therefore be useful to include foster families with

low levels of parental sensitivity in future effectiveness studies, because they can improve the most and these families need support to improve their sensitive parenting which may be beneficial for their foster children's secure attachment relationships.

Moreover, our meta-analytic review showed that if the parenting intervention was delivered in groups (with additional individual sessions) larger improvements in sensitive parenting were found compared to parenting interventions with only individual sessions. VIPP-FC consists of only individual sessions (e.g., Chapter 4) and may benefit from a combination of individual and group sessions in which foster parents can meet up and share experiences. Meta-regression analyses also revealed that for sensitive parenting more intervention sessions (up to 12) generated stronger effects. This falls within the range of the optimal number of intervention sessions found in a meta-analysis of Bakermans-Kranenburg, Van IJzendoorn, and Juffer (2003), which showed that parenting interventions with 16 sessions or less were more effective in increasing parental sensitivity than interventions with more than 16 sessions. For dysfunctional discipline and parenting stress, intervention programs with a lower number of sessions were more effective than programs with a higher number of sessions (up to 12 and up to 36 sessions, respectively). Due to the small subset of studies available for moderator analyses we were not able to distinguish between intervention programs with 16 sessions or less and more than 16 sessions as Bakermans-Kranenburg et al. (2003) did. But our meta-analytic results seem to suggest that "less is more" is also true for reducing dysfunctional discipline and parenting stress in foster care.

Lastly, our meta-analyses showed that intervention programs were more effective in improving sensitive parenting, and reducing dysfunctional discipline and parenting stress for parents of older children compared to parents of younger children (child age ranged from 0 to 10 years for sensitive parenting, from 2 to 5 years for dysfunctional discipline, and from 0 to 17 years for parenting stress). Older children are more likely to have experienced more adversities before the current placement (e.g., longer period of unresponsive care and/or higher number of previous placements), which puts them at risk of placement breakdown (Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). As a consequence, they may display more severe behavior problems which is more challenging for their current foster parents. These parents may therefore benefit most from parenting interventions. Our VIPP-FC effectiveness study included foster families with children between 1 and 6 years old and if multiple children within the same foster family were eligible for inclusion, the oldest child participated in the study because we expected that these children would display behavior problems more often than younger children (Chapters 4 and 5). Even though child age was not related to parental sensitivity, sensitive discipline, or attitudes towards parenting at pretest in our study (Chapter 5), child age in our RCT did fall within the age ranges of the individual studies that were included in our meta-analysis for sensitive parenting and dysfunctional discipline. Our meta-

analytic results substantiate our decision to include foster parents with the oldest eligible foster children (instead of younger children when more than one foster child had the right age in their family) because they may especially profit from extra support to handle the behavior problems that older children are more likely to display.

Intervention Effects on Child Outcomes

For child outcomes, our meta-analyses showed that parenting interventions in general seem to be effective in decreasing child behavior problems, but not in improving attachment security or normalizing diurnal cortisol levels. No significant differences were revealed by moderator analyses, except for the number of intervention sessions: Behavior problems displayed by foster and adopted children decreased more after more sessions. Because the intervention programs that were included in the meta-analyses specifically focused on supporting foster and/or adoptive parents and not on child outcomes, it has been argued that indirect effects of parenting interventions on child outcomes may be delayed. Unfortunately, long-term follow-up studies are scarce and therefore the effects of parenting interventions on child outcomes over time remain unknown.

Child outcomes for VIPP-FC in foster care have not been examined in this dissertation. The mediation effect of parental sensitivity on child behavior problems and the moderation effect of child temperament, as found in Barone, Barone, et al. (2018) and Barone, Ozturk, et al. (2018), are therefore yet unknown.

Intervention Effects on Placement Disruption

Lastly, intervention programs included in the meta-analysis were not effective in reducing placement disruption. Studies have shown that the risk of placement disruption is higher if foster children show high levels of behavior problems and smaller if they have a secure attachment relationship with their foster parents (Oosterman et al., 2007). Reductions in placement disruption due to parenting interventions may thus be indirect and this takes time. Unfortunately, longitudinal intervention studies examining effects on placement disruption are very rare: Only one study (Bondy, 1997) measured placement disruption one year after intervention completion in adoptive families, whereas the majority of the studies examined placement disruption six months after baseline. Bondy (1997) did not find a significant difference between the intervention and control group at one year follow-up, indicating that placement disruptions had occurred equally in the intervention and control group one year after intervention completion.

CORRELATES OF INDISCRIMINATE FRIENDLINESS

Foster children often display indiscriminate friendliness (IF; Bakermans-Kranenburg et al., 2011; Love, Minnis, & O'Connor, 2015; Van den Dries, Juffer, Van IJzendoorn, Bakermans-Kranenburg, & Alink, 2012). However, our meta-analytic review showed that IF was not a specific child outcome on which intervention programs for foster care focus on (Chapter 2). In addition, previous research of predictors and correlates of IF has mainly focused on (post) institutionalized children (e.g., Bruce et al., 2019; Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010; Zeanah, Humphreys, Fox, & Nelson, 2017) and only a few studies have been conducted with family-reared, never-institutionalized foster children (e.g., Love et al., 2015; Pears, Bruce, Fisher, & Kim, 2010). We therefore examined correlates (i.e., attachment security, parental sensitivity, and child inhibitory control) of IF displayed by foster children (Chapter 6). Results showed that attachment security and inhibitory control were significantly positively related to reported IF but not to observed IF. Parental sensitivity was not related to neither reported nor observed IF.

Reported and observed IF were not related in our study. The setting in which the assessments were conducted and the instruments themselves may possibly explain our results. Because we used the Stranger at the Door (SatD) procedure in a laboratory setting instead of at home like in the Bucharest Early Intervention Project (BEIP; Gleason et al., 2011; Gleason et al., 2014), children may have been more prepared to come across strangers and therefore more willing to leave with the stranger when asked to do so. The Indiscriminate Friendliness Questionnaire (IFQ) may be a more robust instrument to measure IF than the SatD, because this parent-report questionnaire asks foster parents how their children generally behave when interacting with unfamiliar adults. The questions and answer options, however, seem to leave room for interpretation. Only one out of five items asks foster parents if their child is willing to leave with an adult he/she just met (Chisholm, Carter, Ames, & Morison, 1995). The other four items may be too generally formulated, and may therefore leave room for interpretation. The children in our sample had relatively low levels of IF (represented by low average scores of reported IF) compared to (post)institutionalized children (Chisholm et al., 1995). Furthermore, the IFQ may not differentiate enough between situations in which IF is displayed by the children and more normative situations not indicating IF. Also, the IFQ does not take frequency of IF into account.

The Disturbances of Attachment Interview (DAI; Smyke & Zeanah, 1999) is another caregiver-reported instrument that can be used to measure IF. This semi-structured interview consists of 12 items of which five items assess inhibited attachment behavior and three items assess Disinhibited Social Engagement Disorder (DSED also known as IF). A semi-structured interview may be a better way to measure IF, because the interviewer has the opportunity to ask additional questions or ask for example if the interpretation of foster parents is not entirely clear. In a longitudinal study examining the course of IF in clinically referred children with emotional and behavior problems,

reported IF as measured with the DAI at baseline and leaving with the stranger during the SatD four years later were not related (Scheper et al., 2019). Another study showed that children with a diagnosis of DSED according to the DAI did not automatically receive a clinical diagnosis of DSED according to the Diagnostic and Statistical Manual of mental disorders (DSM-5; American Psychiatric Association, 2013; Giltaij, Sterkenburg, & Schuengel, 2017).

Even though a combination of an observational and caregiver-report measure of IF is recommended (Bakermans-Kranenburg et al., 2011), observational (e.g., SatD) and caregiver-report measures (e.g., IFQ or DAI) seem to measure different socially friendly behaviors that may not be considered problematic. High levels of IF as measured with these instruments do not necessarily indicate eligibility for a clinical diagnosis of DSED according to the DSM-5. It should also be noted that the studies by Scheper et al. (2019) and Giltaij et al. (2017), as well as our study used a correlational study design and causal relations between attachment security, parental sensitivity, inhibitory control, and IF were therefore not examined. Including IF as a child outcome in future intervention studies makes it possible to examine if (enhanced) parenting can influence the development or persistence of IF in foster children.

RECOMMENDATIONS FOR FUTURE RESEARCH

Effective Elements of Intervention Programs

Even though our meta-analytic review revealed that parenting interventions are effective in improving sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, and reducing parenting stress of foster and adoptive parents, we did not examine which intervention program elements are effective in improving parent and child outcomes, and in preventing placement breakdown in foster families with specific characteristics. Foster families, however, may differ from each other and a parenting intervention that works for one family may not yield the same results in another family. It is important to know who (e.g., kinship caregivers) benefit most from parenting interventions and what intervention characteristic (i.e., which specific intervention element) is most effective.

Based on our recommendations from our meta-analysis, we aimed to examine the moderating role of type of foster care (kinship vs. non-kinship care) but unfortunately the VIPP-FC effectiveness study lacked sufficient power for this aim. We did control for crossover nesting of type of care and did not find evidence that the non-significant interventions effects could be explained by a crossover nesting problem for type of foster care. Research to date has revealed inconsistent results regarding the effectiveness of intervention programs in kinship and non-kinship foster families. Type of foster care is often not considered as a potential moderator, nor are results reported separately for kinship and non-kinship foster families.

Even within each type of foster care there may be different groups. It is not uncommon for grandparents to step up as an alternative caregiver if their grandchildren have to be placed out-of-home (Bunch, Eastman, & Griffin, 2008; Pleegzorg Nederland, 2019). Grandparents may, however, show different parenting behaviors and have different attitudes towards parenting than other kinship caregivers. Few studies examined the effectiveness of intervention programs specifically developed for (custodial) grandparents, and reviews have shown positive effects on parenting outcomes (Kirby, 2015; Sherr, Roberts, Hothi, & Balchin, 2018).

In addition, foster families that experience more severe challenges in the upbringing of children with a history of adversities should be specifically included in intervention studies. As argued before, these families may benefit the most from parenting intervention programs that aim to support them to overcome their parenting struggles. It is, however, important to examine what their specific challenges are because these challenges require different interventions (Kirby, 2015). Some foster parents may experience high levels of parenting stress due to financial difficulties, where others may especially experience difficulties with dealing with challenging child behavior. Previous research also suggests that younger foster children and their families are in less need of extra support because in general younger children experience fewer mental health problems (Tarren-Sweeney, 2008). For these families mild support may already be very helpful, whereas families with older children may need more intensive support. Future studies should therefore take into account individual differences between foster families and examine the effectiveness of intervention elements.

Distillation and Matching Model. As a suggestion, the Distillation and Matching Model (DMM) of Chorpita, Daleiden, and Weisz (2005) is an example of an approach that could be used to examine which specific program elements are effective for which specific families. This approach has since been used in several studies (e.g., Amand, Bard, & Silovsky, 2008; Becker et al., 2015; Boustani et al., 2015; Chorpita & Daleiden, 2009). DMM can be seen as a data mining approach that has been adapted to clinical research (Chorpita, Becker, & Daleiden, 2007; Chorpita et al., 2005). The model describes two basic methods, i.e., distillation and matching. *Distillation* involves the conceptualization of interventions as composites of individual elements rather than as single components, in order to enable subsequent empirical grouping. With *matching* relevant factors, such as family characteristics, for selecting a specific intervention are summarized. Ultimately, after following the six steps of knowledge discovery and data mining (Brodley, Lane, & Stough, 1999), DMM results in a decision tree to match clients or families to treatments. At each final node in the tree practice elements profiles are provided. These practice elements profiles represent a group of empirically determined intervention elements that suit best with the characteristics of clients (e.g., kinship foster parents). The decision tree can thus help researchers or practitioners with matching child, parents, or family characteristics to intervention programs (based on the practice elements profiles).

Common components analysis. The Common Components Analysis (CCA) proposed by Morgan, Davis, Richardson, and Perkins (2018) is another example of an approach to examine effective intervention program elements that is based on the DMM of Chorpita et al. (2005). CCA evaluates and identifies which common components are effective in improving desired outcomes in clients. Examples of common components are content (i.e., what the program teaches or provides to clients) and delivery components (i.e., how the program is delivered and which methods are used). Knowledge about the effectiveness of common components can be used when (adaptations of) intervention programs are developed or when existing programs without an empirical-base are reviewed to determine if the most effective components related to the desired outcomes have been incorporated in the intervention.

Long-term Effects of Parenting Interventions

Longitudinal studies examining the effects of parenting interventions over a longer period of time are scarce. Our meta-analytic review showed positive effects on several parent outcomes, but it is unclear whether these improvements lasted over longer periods of time. Of the included 53 individual studies, 19 studies reported results on (at least) one follow-up measurement with a relatively short interval (approximately 6 months) between the postintervention and the follow-up measurements. Moreover, the interval between pre- and postintervention measurements was also short with an average of 4 months, which may have been too little time to have resulted in positive effects on child outcomes and placement disruption. Researchers of intervention programs should aim for longitudinal intervention studies in the future.

VIPP-FC Specific Recommendations

Two specific recommendations for future effectiveness studies of VIPP-FC can be made. First, because child outcomes and neurobiological parameters of stress regulation were secondary outcome measures, the effectiveness of VIPP-FC on these outcomes have not been examined yet. These results may provide insight into the question if and how VIPP-FC can enhance attachment security, reduce or prevent child behavior problems (including IF), and improve stress regulation in both foster parents and children.

Second, our sample consisted of foster parents who seemed to function relatively well because they showed high levels of sensitive parenting behavior at pretest. They may therefore not experience a lot of parenting challenges and this may have resulted in not finding evidence that VIPP-FC is effective in improving parental sensitivity, sensitive discipline, and attitudes towards parenting. Studies that include foster families with at-risk caregivers (e.g., foster parents displaying high levels of insensitive parenting behavior) or at-risk children (e.g., children who display high levels of behavior problems, including IF) would therefore be valuable to be able to draw conclusions regarding VIPP-

FC effectiveness. Studies on IF should additionally focus on developing more robust instruments to measure IF to be able to examine possible correlates and underlying mechanisms of IF. With this knowledge, parenting interventions that specifically focus on IF of foster children can be developed and the causal effect of parenting on IF can be examined. In VIPP-FC, IF is a foster care specific theme that is discussed from the third home visit on (see Table 1 of Chapter 5). VIPP-FC is, as far as we know, the first parenting intervention to address IF and we plan to investigate the effectiveness of VIPP-FC on IF as a specific child outcome.

IMPLICATIONS FOR CLINICAL PRACTICE IN THE NETHERLANDS

Overall, our meta-analysis revealed that parenting interventions for foster care are effective in enhancing parenting behavior, knowledge and attitudes, and reducing stress in foster parents. Dutch clinicians should however keep in mind that the majority of the studies included in our meta-analysis were conducted in the USA. Health care (in general) and foster care (in specific) in the USA are different than in the Netherlands. Intervention programs that have been found to be effective in the USA may therefore not show similar effects when investigated in the Netherlands. If we want to know which parenting interventions are effective in the Dutch foster care population and for which specific foster families, more intervention studies should be conducted in the Netherlands.

It is plausible that Dutch foster parents may need less extra help and support during the foster care placement compared to foster parents from the USA, because they were sufficiently prepared by their foster care organization before placement. To screen and prepare aspiring foster parents for the placement of a child with an adverse early life history, the STAP (Collaboration, Team spirit, Aspiring Foster parents [Samenwerking, Teamgeest, Aspirant Pleegouders]; De Baat, 2014) or a comparable training is used in The Netherlands. The Dutch STAP training is based on the Model Approach to Partnership in Parenting (MAPP) from the United States and focusses on developing knowledge, attitudes, and skills needed to take care of a child with an adverse early life history (De Baat, 2014; Lee & Holland, 1991). This may have resulted in the relatively high levels of parental sensitivity in our VIPP-FC effectiveness study. To our knowledge, only one (somewhat outdated) study evaluated the implementation and effectiveness of the STAP training in the Netherlands (Bruil, Mesman Schultz, & Van der Veldt, 1992). Results showed small but positive effects of STAP in preparing aspiring foster parents for a foster care placement with improvements in parenting behavior and attitudes, and in the quality of contact between foster parents and foster care professionals.

A recent case file study in The Netherlands and Flanders showed that the main reasons for placement breakdown were parenting problems and child behavior problems (Vanderfaeillie, Goemans, Damen, Van Holen, & Pijnenburg, 2017). Qualitative research also showed that foster parents themselves state that they need (extra) support with the behavior problems of the foster child and how they can help the child with the transition to the new family (Berrick & Skivenes, 2012; Hebert & Kulkin, 2018). Both quantitative and qualitative studies have additionally shown that, according to foster parents, the preparation and guidance of foster families should focus on how foster parents can match their parenting behavior with the specific developmental needs of the child (Berrick & Skivenes, 2012; Hebert & Kulkin, 2018; Murray, Tarren-Sweeney, & France, 2011) and how they can obtain sufficient emotional and social support from their own social network (e.g., peer foster parents and foster care professionals; Crum, 2010; Hebert & Kulkin, 2018; Murray et al., 2011). Thus, even though the STAP training may have prepared the foster parents of the current study sufficiently enough for the foster care placement, other studies showed that foster parents overall indicate that they often need support to help them raise their foster children.

The burden of care is generally high for foster families and effective intervention programs are thus needed to reduce this burden to subsequently prevent placement breakdown. For the majority of foster families, the Dutch STAP training may be sufficient to address the most common challenges in foster care, i.e., knowledge, attitudes, and (parenting) skills, that are needed when taking care of a child with an adverse early life history. However, a smaller group of foster parents may be in need of more individualized help, specified to their specific situation. To help foster families in the Netherlands in the best way possible, more Dutch intervention studies are needed that examine the effectiveness of parenting interventions (often developed in the USA) in general and preferably investigate effective intervention elements in order to match intervention programs to the specific needs of foster families based on individual child, parent, or family characteristics. This is however not possible without the cooperation of foster care organizations. A close collaboration between policy makers, foster care professionals, and researchers is needed to develop and examine intervention programs.

GENERAL CONCLUSION

Research in this dissertation showed that foster families can benefit from parenting interventions that aim to support them to overcome the challenges they often face while taking care of children with an adverse early life history, but intervention programs are not effective for all foster families. Most interventions studies have been conducted in the USA and Dutch results are not always similar to the results from the USA, but may not be directly comparable due to differences in the foster care system. The effectiveness of parenting interventions should therefore be examined in the Netherlands if we want to offer the most effective help to Dutch foster families.

Contrary to our expectations, no evidence for the effectiveness of the adapted VIPP-SD program, i.e., VIPP-FC, regarding parenting behavior and attitudes have been found. Foster families may, however, have different individual needs from extra support such as VIPP-FC that can help them overcome the difficulties they may experience when raising foster children. Further research is needed to investigate which specific intervention elements are effective in supporting foster families with specific challenges or characteristics. Knowledge about effective intervention elements is useful when practitioners need to match parenting interventions to individual foster families.

Regarding one of the possible challenges, IF, more robust measures of indiscriminate friendliness need to be developed in order to investigate possible correlates and underlying mechanisms of indiscriminate friendliness. IF seems to be an underexposed child outcome in intervention programs. If more is known about correlates and underlying mechanisms of IF, intervention programs can be developed that specifically target this potentially problematic behavior.



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Summary in Dutch

Nederlandse samenvatting

Zoals vermeld in het Internationale Verdrag inzake de Rechten van het Kind van de Verenigde Naties is pleegzorg – net als andere vormen van gezinsopvoeding zoals adoptie – wenselijk wanneer een kind (tijdelijk) niet bij de biologische ouders kan wonen. Pleegkinderen hebben naast een scheiding van hun biologische ouders vaak te maken gehad met andere negatieve vroege ervaringen, zoals verwaarlozing of mishandeling, voordat zij in een pleeggezin geplaatst worden. Deze vroege ervaringen kunnen de ontwikkeling van kinderen negatief beïnvloeden, wat weer kan resulteren in emotionele en gedragsproblemen. Een veilige gehechtheidsrelatie met de pleegouders kan de ontwikkeling van deze problemen voorkomen of verminderen. Negatieve vroege ervaringen kunnen er echter voor zorgen dat pleegkinderen het lastig vinden om nieuwe volwassenen in hun leven te vertrouwen, wat de ontwikkeling van een veilige gehechtheidsrelatie met pleegouders kan bemoeilijken. Pleegouders kunnen bovendien problemen ondervinden tijdens het opvoeden van een kind met problemen en een achtergrond van negatieve vroege ervaringen. Zij hebben mogelijk baat bij opvoedondersteuning, zoals interventieprogramma's, om hen te helpen bij de zorg voor hun pleegkind.

Het onderzoek beschreven in dit proefschrift had als doel bij te dragen aan de kwaliteit van pleegzorg uitgaande van drie doelstellingen. Ten eerste is nagegaan of bestaande (inter)nationale opvoedinterventies effectief zijn in het bevorderen dan wel verbeteren van ouderschap- en kinduitkomsten in pleegzorg en adoptiegezinnen. Ten tweede is de effectiviteit onderzocht van een aangepaste versie van het in Nederland ontwikkelde interventieprogramma Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) voor pleegzorg, oftewel VIPP-Foster Care (VIPP-FC). En ten derde is onderzocht welke factoren samenhangen met ongeremd sociaal gedrag (in de praktijk ook wel allemansvriendjesgedrag genoemd) bij pleegkinderen.

Effectiviteit van Bestaande Interventieprogramma's voor Pleegzorg

De effectiviteit van interventieprogramma's voor pleeg- en adoptiegezinnen is met een meta-analytische benadering onderzocht in *Hoofdstuk 2*. De bevindingen van verschillende individuele studies zijn samengenomen en geanalyseerd in acht afzonderlijke meta-analyses. De resultaten laten zien dat interventies effectief zijn in het bevorderen van sensitiviteit en opvoedkennis en -attituden en in het verminderen van dysfunctioneel disciplineren en opvoedstress bij pleeg- en adoptieouders. De resultaten laten ook zien dat interventieprogramma's effectief zijn in het verminderen van gedragsproblemen bij pleeg- en adoptiekinderen, maar niet in het bevorderen van een veilige gehechtheidsrelatie en in het normaliseren van de niveaus van het stresshormoon cortisol gedurende de dag. Ook waren de interventies niet effectief in het verminderen van *breakdown* (voortijdig afgebroken plaatsing). Omdat de interventies op de pleeg- of adoptieouders waren gericht,

zijn de effecten van interventieprogramma's op kinduitkomsten en *breakdown* indirect en kan het meer tijd kosten voordat effecten op gehechtheid, cortisol en *breakdown* worden waargenomen. Helaas zijn longitudinale interventiestudies schaars, waardoor de effecten van opvoedinterventies op kinduitkomsten en *breakdown* over tijd nog niet duidelijk zijn.

Effectiviteit van Video-feedback Intervention program to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC)

In *Hoofdstuk 3* is het gebruik van VIPP-SD in verschillende doelgroepen beschreven. VIPP-SD is gebaseerd op de gehechtheids- en sociaal lerentheorie en kan ingezet worden bij opvoeders met kinderen van 1 tot 6 jaar oud. De effectiviteit van VIPP-SD is aangetoond in verschillende populaties (zowel ouders als kinderen met een risico op problemen) met positieve effecten op sensitief ouderschap en kinduitkomsten. Dit hoofdstuk gaat nader in op de ontwikkelde module waarmee VIPP-SD gebruikt kan worden in pleegzorg, VIPP-FC. Het studieprotocol voor de *randomized controlled trial* (RCT; gerandomiseerd onderzoek met een controlegroep) waarmee de effectiviteit van deze aangepaste module werd getoetst, is beschreven in *Hoofdstuk 4*. VIPP-FC bestaat, net als VIPP-SD, uit zes huisbezoeken waarin video-feedback wordt gegeven door een ondersteuner. De eerste vier bezoeken zijn steeds gericht op een specifiek thema omtrent sensitiviteit (bijvoorbeeld exploratie- en gehechtheidsgedrag van het kind), sensitief disciplineren (bijvoorbeeld bekrachtigen van gewenst gedrag van het kind) en pleegzorg (bijvoorbeeld ontbrekende of subtiele gedragssignalen van het kind), waarbij de pleegzorgthema's zijn toegevoegd aan het bestaande VIPP-SD programma. De laatste twee bezoeken zijn zogenaamde booster-sessies, waarin alle thema's herhaald worden.

In totaal zijn 60 pleeggezinnen geïncludeerd in de RCT, waarvan 30 toegewezen zijn aan de interventiegroep die VIPP-FC hebben ontvangen en 30 aan de controlegroep die een dummy-interventie hebben ontvangen. De dummy-interventie bestond uit zes telefoongesprekken waarin de algemene ontwikkeling van het kind werd besproken. Gegevens over verschillende ouder- en kinduitkomsten zijn verzameld, waarvan de ouderuitkomsten sensitiviteit, disciplineren en opvoedattituden de primaire uitkomstmaten waren. In *Hoofdstuk 5* is de effectiviteit van VIPP-FC op deze ouderuitkomsten beschreven. De resultaten laten geen evidentie zien voor onze hypothese dat VIPP-FC effectiever is in het bevorderen van sensitiviteit, disciplineren en opvoedattituden dan de dummy-interventie. Een mogelijke verklaring hiervoor zou kunnen zijn dat er sprake is geweest van een selectiebias (het systematisch selecteren van pleeggezinnen waarbij, in dit geval, de interventie weinig effect zal hebben): al bij de voormeting laten de deelnemende pleeggezinnen namelijk een relatief hoge mate van sensitief opvoedgedrag en -attituden zien. Hierdoor is mogelijk een plafondeffect opgetreden, dat wil zeggen dat de pleegouders bij de voormeting al zodanig hoog scoorden op sensitiviteit, disciplineren en opvoedattituden dat er weinig ruimte voor verbetering was. Het kan dus zijn dat de pleeggezinnen die de meeste uitdagingen en/

of problemen in de opvoeding ervaren (bijvoorbeeld bij veel gedragsproblemen bij het kind) en die daarom het meest zouden profiteren van VIPP-FC niet in de huidige studie zijn geïncludeerd.

Samenhangende Factoren van Ongeremd Sociaal Gedrag

In *Hoofdstuk 6* worden de bevindingen beschreven van een correlationeel onderzoek naar de relaties tussen ongeremd sociaal gedrag, gehechtheid, ouderlijke sensitiviteit en inhibitiecontrole van het kind. Ongeremd sociaal gedrag is atypisch gedrag dat vaak wordt gezien bij kinderen die in een kindertehuis verbleven en bij pleegkinderen. Dit gedrag is op twee manieren gemeten: met een vragenlijst (Indiscriminate Friendliness Questionnaire) ingevuld door pleegouders en met een observatie door middel van de Stranger at the Door procedure. Gehechtheid en inhibitiecontrole waren significant gerelateerd aan gerapporteerd ongeremd sociaal gedrag; een veilige gehechtheid en slechtere inhibitiecontrole waren geassocieerd met een hogere mate van ongeremd sociaal gedrag. Ouderlijke sensitiviteit was niet gerelateerd aan gerapporteerd ongeremd sociaal gedrag en er zijn ook geen statistisch significante associaties gevonden tussen gehechtheid, sensitiviteit en inhibitiecontrole met geobserveerd ongeremd sociaal gedrag. Pleegkinderen met een veilige gehechtheid lijken dus vaker sociale interacties met anderen (waaronder vreemden) aan te gaan, terwijl een betere inhibitiecontrole juist samengaat met minder ongeremd sociaal gedrag. Opgemerkt moet worden dat deze resultaten alleen gevonden zijn voor ongeremd sociaal gedrag gerapporteerd door pleegouders en niet voor ongeremd sociaal gedrag geobserveerd door onafhankelijke onderzoekers. Meer onderzoek is nodig om kennis op te doen over de validiteit van de verschillende meetinstrumenten om ongeremd sociaal gedrag in kaart te brengen, en andere mogelijke factoren en onderliggende mechanismen van dit gedrag.

Aanbevelingen voor Toekomstig Onderzoek

Het is belangrijk om te weten welke pleeggezinnen (bijvoorbeeld netwerkpleeggezinnen) het meest profiteren van opvoedinterventies en welke specifieke interventie-elementen het meest effectief zijn. Pleeggezinnen kunnen van elkaar verschillen en een interventie die effectief is voor het ene gezin hoeft niet dezelfde resultaten op te leveren in een ander gezin. Het *Distillation and Matching Model* (DMM) en een *Common Components Analysis* (CCA) kunnen gebruikt worden om te onderzoeken welke interventie-elementen het meest effectief zijn. Bij DMM groepeert men interventieprogramma's op basis van empirische bevindingen die vervolgens gekoppeld kunnen worden aan relevante factoren zoals individuele eigenschappen van gezinnen, terwijl men bij CCA gemeenschappelijke componenten van interventieprogramma's identificeert en evalueert die effectief zijn in het behalen van de gewenste resultaten.

Zoals eerder beschreven, zijn langetermijneffecten van interventieprogramma's schaars. De individuele studies die met een meta-analytische benadering zijn geanalyseerd in *Hoofdstuk 2* hadden gemiddeld een interval van 4 maanden tussen de voormeting (voorafgaand aan de interventie) en de nameting (na afloop van de interventie). Daarnaast werden in 19 van de in totaal 53 studies resultaten gerapporteerd op ten minste één vervolgmeting na de nameting. Deze vervolgmeting vond gemiddeld 6 maanden na de nameting plaats. Er was dus misschien te weinig tijd om positieve effecten op kinduitkomsten en *breakdown* te kunnen waarnemen en toekomstige longitudinale interventiestudies zijn daarom nodig om langetermijneffecten te onderzoeken.

Tot slot kunnen er twee specifieke aanbevelingen voor toekomstige effectiviteitsstudies naar VIPP-FC worden gedaan. Ten eerste lijken de pleeggezinnen uit het huidige effectiviteitsonderzoek al bij de voormeting relatief goed te functioneren wat er mogelijk toe heeft geleid dat VIPP-FC niet effectief was in het bevorderen van sensitief opvoedgedrag en -attituden. Toekomstig onderzoek waarbij pleeggezinnen met een verhoogd risico op problemen worden geïncludeerd – zoals pleegouders die insensitief opvoedgedrag vertonen of kinderen met een hoge mate van gedragsproblemen – zou waardevol zijn om conclusies over de effectiviteit van VIPP-FC te kunnen trekken. Ten tweede is tot nu toe alleen de effectiviteit van VIPP-FC op de ouderuitkomsten onderzocht waarvan de resultaten zijn beschreven in *Hoofdstuk 5*. De effectiviteit van VIPP-FC op de secundaire kinduitkomsten en neurobiologische parameters voor stressregulatie is nog onbekend, maar gegevens over gehechtheid, gedragsproblemen, ongeremd sociaal gedrag en stressregulatie zijn reeds verzameld en zullen in de toekomst geanalyseerd worden. De resultaten van deze analyses kunnen de vraag beantwoorden of VIPP-FC effectief is in het bevorderen van een veilige gehechtheidsrelatie tussen pleegouders en kinderen, in het voorkomen of verminderen van gedragsproblemen en ongeremd sociaal gedrag bij pleegkinderen en in het verbeteren van de stressregulatie bij zowel pleegouders als -kinderen. Omdat de pleegouders uit de huidige studie al een relatief hoge mate van sensitief opvoedgedrag en sensitieve opvoedattituden laten zien, was er voor VIPP-FC ondersteuners tijdens de huisbezoeken wellicht meer ruimte om te focussen op de specifieke pleegzorgthema's. Als gevolg daarvan zou VIPP-FC, ondanks de niet gevonden interventie-effecten op de primaire ouderuitkomsten, mogelijk wel positieve effecten op de secundaire uitkomsten kunnen laten zien.

Conclusie

Het onderzoek beschreven in dit proefschrift laat zien dat pleegouders kunnen profiteren van opvoedinterventies die erop gericht zijn hen te ondersteunen bij de regelmatig voorkomende uitdagingen in de opvoeding van kinderen met negatieve vroege ervaringen. Interventieprogramma's zijn echter niet in alle gevallen en niet voor alle pleegouders effectief. De meeste interventiestudies zijn uitgevoerd in de Verenigde Staten (VS) en Nederlandse

resultaten zijn niet altijd consistent met de resultaten uit de VS. De resultaten uit de VS en Nederland zijn mogelijk ook niet vergelijkbaar vanwege verschillen in de organisatie van pleegzorg in deze landen. Als we effectieve hulp willen aanbieden aan Nederlandse pleeggezinnen, zou de effectiviteit van opvoedinterventies vaker ook in Nederland onderzocht moeten worden. In tegenstelling tot onze verwachtingen is er geen bewijs gevonden voor de effectiviteit van VIPP-FC op opvoedgedrag en attituden van pleegouders. Pleeggezinnen hebben mogelijk echter verschillende individuele behoeftes wat betreft extra opvoedondersteuning om hen te helpen bij de moeilijkheden die zij kunnen ervaren in de opvoeding van pleegkinderen. Toekomstig onderzoek is nodig om te onderzoeken welke specifieke interventie-elementen effectief zijn in het ondersteunen van pleeggezinnen met specifieke uitdagingen en/of eigenschappen. Kennis over effectieve interventie-elementen is nuttig zodat pleegzorgprofessionals opvoedinterventies kunnen matchen aan individuele pleeggezinnen.



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Curriculum vitae

Nikita Schoemaker was born on June 1st 1986 in Voorburg, the Netherlands. She completed her secondary education in 2005 at Mondriaan Stadscollege voor Educatie in The Hague. The same year she continued her education at Utrecht University and obtained a bachelor degree in Psychology in 2009. In 2010 she started with the master Psychology (with a specialization in Clinical Neuropsychology) at Leiden University. As part of her master Nikita wrote her master thesis with the magnetic resonance imaging (MRI) pilot study of the Generation R study at the Erasmus MC-Sophia Children's hospital in Rotterdam, and subsequently completed a clinical internship at De Bascule and obtained a clinical qualification for psychodiagnostic assessments (Basisaantekening Psychodiagnostiek). During her clinical internship, Nikita worked as a research coordinator for Generation R and helped to acquire research funding from the Sophia Foundation for Scientific Research. After obtaining her Master's degree in 2011, Nikita continued to work as a research coordinator for Generation R and started to work as a researcher on the neurobiological research project on emerging autism spectrum disorder in May 2012. Unfortunately, she could not obtain her PhD degree at Erasmus MC-Sophia due to insufficient financial resources and Nikita started working as a PhD candidate at the Institute of Education and Child Studies at Leiden University in September 2013 on a collaborative study of Leiden University and the Yulius Academy. This study focused on the effectiveness of parenting interventions for foster care in general and specifically the effectiveness of an adaptation of Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) for use in foster care, also known as VIPP-FC. Results of this research project are described in this thesis.

During her PhD project, Nikita was certified as a VIPP-SD supervisor and trainer, and trained almost 70 foster care professionals to use VIPP-FC. She was additionally working as a thesis and internship supervisor, and as a lecturer of several bachelor and master courses at the Institute of Education and Child Studies at Leiden University. From April 2019 on Nikita works as a postdoctoral researcher in the function of secretary of the Scientific Research Committee of Youz and from November 2019 on as a lecturer at the department of Psychology, Education, and Child Studies at Erasmus University Rotterdam.

List of publications and presentations



Wentholt, W. G. M., **Schoemaker, N. K.**, Rippe, R. C. A., Vermeer, H. J., Juffer, F., & Alink, L. R. A. (2020). *Stress regulation in foster care: Testing the effectiveness of VIPP-FC on neurobiological parameters.* Manuscript in preparation.

Schoemaker, N. K., Vermeer, H. J., Juffer, F., Spies, R., Van Ee, E., Maras, A., & Alink, L. R. A. (2020). *Indiscriminate friendliness in foster children: Associations with attachment security, foster parents' sensitivity, and child inhibitory control.* Manuscript submitted for publication.

Schoemaker, N. K., Juffer, F., Rippe, R. C. A., Vermeer, H. J., Stoltenborgh, M., Maras, A., & Alink, L. R. A. (2020). Positive parenting in foster care: Testing the effectiveness of a video-feedback intervention program on foster parents' behavior and attitudes. *Children and Youth Services Review, 110,* 1-11. doi:10.1016/j.childyouth.2020.104779

Schoemaker, N. K., Juffer, F., Rippe, R. C. A., Vermeer, H. J., Stoltenborgh, M., Maras, A., & Alink, L. R. A. (2019, July). *Positive parenting in foster care: Effects of a video-feedback intervention program on foster parents' behavior and attitudes.* Presentation at the Intervention Attachment Conference, Vancouver, Canada.

Schoemaker, N. K., Wentholt, W. G. M., Goemans, A., Vermeer, H. J., Juffer, F., & Alink, L. R. A. (2019). A meta-analytic review of parenting interventions in foster care and adoption. *Development and Psychopathology,* 1-24. doi:10.1017/S0954579419000798

Schoemaker, N. K., Jagersma, G., Stoltenborgh, M., Maras, A., Vermeer, H. J., Juffer, F., & Alink, L. R. A. (2018). The effectiveness of Video-feedback Intervention to promote Positive Parenting for Foster Care (VIPP-FC): Study protocol for a randomized controlled trial. *BMC Psychology, 6,* 1-11. doi:10.1186/s40359-018-0246-z

Schoemaker, N. K., Alink, L. R. A., Juffer, F., & Vermeer, H. J. (2017, July). *Indiscriminate friendliness and behavior problems in Dutch foster children.* Poster presented at the International Attachment Conference, London, United Kingdom.

Schoemaker, N. K. (2016, October). *Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care (VIPP-FC).* Presentation at the Consense P symposium, Rotterdam, The Netherlands.

Schoemaker, N. K. (2016, June). *Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD).* Poster presented at the Inspiratiedag Kinderen in Opvang, Driebergen-Zeist, The Netherlands.

Schoemaker, N. K., Alink, L. R. A., Juffer, F., & Vermeer, H. J. (2015, May). Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline in Foster Care: VIPP-FC – A pilot study. In H. Sachse (Chair), *Psychosocial aspects of abuse and neglect.* European Conference of Child Abuse and Neglect, Amsterdam, The Netherlands.

Schoemaker, N. K. (2015). De promovendus. *De pedagoog, 16(3),* 24 – 27.

Schoemaker, N. K., Alink, L. R. A., & Juffer, F. (2014, October). *VIPP-Foster Care.* Workshop at the Mini-conferentie Expertisecentrum Pleegzorg, Utrecht, The Netherlands.

Juffer, F., Stoltenborgh, M., **Schoemaker, N. K.**, Marijs, L. P., & Alink, L. R. A. (2014, September). *Attachment-based intervention for foster families: A pilot study with VIPP-SD.* Presentation at the European Scientific Association on Residential & Family Care for Children and Adolescents, Copenhagen, Denmark.

Schoemaker, N. K., & Juffer, F. (2014, June). *VIPP-Foster Care.* Workshop at the International Conference on Child Development in School & Community Settings, Rotterdam, The Netherlands.