



**Universidade do Minho**  
Escola de Psicologia

**Mother-child interactions in the context of socioeconomic disadvantage:  
Predictors and the effectiveness of an attachment-based intervention program**

Mariana Andrade de Sottomayor Negrão Novo

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Tese de Doutoramento em Psicologia  
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Trabalho efetuado sob a orientação da  
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e da  
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setembro de 2013

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Título da Tese

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DE ACORDO COM A LEGISLAÇÃO EM VIGOR, NÃO É PERMITIDA A REPRODUÇÃO DE QUALQUER PARTE DESTA TESE.

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# **MOTHER-CHILD INTERACTIONS IN THE CONTEXT OF SOCIOECONOMIC DISADVANTAGE: PREDICTORS AND THE EFFECTIVENESS OF AN ATTACHMENT-BASED INTERVENTION PROGRAM**

## **Abstract**

Attachment theory strongly contributes to parenting science by evidencing the major influence of parental care on child developmental trajectories. Research also describes parenting as being determined by multiple influences, amongst which we can find parents' personal characteristics and contextual features of the environment. Parents in socioeconomic disadvantage are reported to experience an accumulation of risk factors and to be more vulnerable in terms of parental functioning, with negative impact on their children's development. In face of this deleterious scenario, evidence-based interventions to support at risk socioeconomically disadvantaged families are crucial. The present doctoral dissertation integrates two separate studies, focused on parenting in socioeconomically disadvantaged mothers and their young aged children, relying on solid observational measures. The first study investigates determinants of maternal behaviors in play and discipline interaction contexts. Results point to the relevance of maternal attachment representation in defining mother-child interactions, detailing that: a more dismissing attachment representation relates to higher structuring; a more preoccupied state of mind relates to lower sensitivity and structuring; a more secure attachment representation relates to more psychologically controlling discipline tactics, putting in evidence the relevance of sociocultural framework within which parenting takes place. The second study presents the implementation and effectiveness evaluation of the Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) through a randomized controlled trial. The VIPP-SD is an early intervention attachment-based program aimed at improving parental sensitivity and adequate discipline strategies. The VIPP-SD proved to be effective in enhancing positive mother-child interactions and positive family relations in a severely deprived context. More in detail, VIPP-SD positively impacted perceived family cohesion, as well as observed maternal intrusiveness, child responsiveness and involvement, assembling VIPP-SD as an effective parenting program with socio-economically deprived families who struggle with



multiple stress factors. Research findings and conclusions are discussed regarding clinical implications for intervening in the context of socio-economic disadvantage.

# INTERAÇÃO MÃE-CRIANÇA EM FAMÍLIAS EM RISCO SOCIOECONÓMICO: PREDITORES E EFICÁCIA DE UM PROGRAMA DE INTERVENÇÃO BASEADO NA TEORIA DA VINCULAÇÃO.

## Resumo

A teoria da vinculação é fundamental para a investigação no âmbito da parentalidade, na medida em que salienta a influência da qualidade da prestação de cuidados nas trajetórias de desenvolvimento infantil. A investigação tem mostrado a parentalidade como sendo determinada por múltiplos fatores, entre os quais se inscrevem as características pessoais dos pais e os aspetos contextuais. Os pais em situação de risco socioeconómico experienciam uma acumulação de fatores de *stress* que tornam mais vulnerável o seu funcionamento parental, afetando negativamente o desenvolvimento dos seus filhos. Face a este cenário problemático, torna-se evidente a pertinência de intervenções empiricamente validadas que respondam às necessidades de famílias em risco socioeconómico. A presente dissertação de doutoramento integra dois estudos focados na parentalidade em circunstância de risco socioeconómico, envolve mães e crianças pequenas e recorre a medidas observacionais. O primeiro estudo examina os determinantes do comportamento interativo materno em contexto de jogo e de disciplina. Os resultados indicam a relevância da representação da vinculação, evidenciando que a representação mais desligada está relacionada com maiores níveis de estruturação; a representação mais preocupada associa-se a menores níveis de sensibilidade e estruturação; a representação mais segura relaciona-se com maiores níveis de controlo psicológico como estratégia disciplinar, remetendo para a importância de considerar o contexto sociocultural em que a interação ocorre. O segundo estudo apresenta a implementação e avaliação de eficácia do programa *Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD*, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) através de um ensaio clínico randomizado. O VIPP-SD é um programa de intervenção baseado na teoria da vinculação que tem como objetivo a promoção da sensibilidade parental e de estratégias de disciplina positiva. O VIPP-SD provou ser eficaz na melhoria da qualidade da interação mãe-criança e da qualidade das relações familiares em famílias em risco socioeconómico. Mais especificamente, o VIPP-SD demonstrou ter um impacto positivo na coesão familiar

percebida, assim como na intrusividade materna, na responsividade e envolvimento da criança, avaliados através de medidas observacionais. Assim, o VIPP-SD assume-se como um programa de intervenção parental eficaz em famílias socioeconomicamente desfavorecidas imersas num contexto de multi-desafio. Os resultados são discutidos salientando as implicações clínicas para a intervenção no contexto de risco socioeconómico.

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## **ABBREVIATION LIST**

**AAI** - Adult Attachment Interview

**ABC** - Attachment and Bio-behavioral Catch Up

**COS** - Circle of Security

**EAS** - Emotional Availability Scales

**RCT** - Randomized Controlled Trial

**SES** - Socioeconomic Status

**VIPP-SD** - Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline

## **CHAPTER 1    GENERAL INTRODUCTION**



*“If a community values its children it must cherish their parents”*

Bowlby, 1951, p. 84

## **Framework and Relevance**

Attachment theory is a central framework to understand the fundamental role of relations along the life span, starting with the elemental bond between a child and their primary caregiver (Cassidy & Shaver, 2008). The progress and quality of this relationship will imprint developmental strengths or vulnerabilities - particularly on social and emotional domains of child development - that set paths for subsequent life trajectories (Sroufe, Egeland, Carlson, & Collins, 2005). Thus, attachment theory is an inescapable perspective in the study of parenting and its impact on healthy child development.

Here we also recognize that beyond parenting relation to child outcomes, parents themselves and their parenting task is worthy of consideration. In fact, the parenting role is viewed as a major life task that contributes to the resolution of the dilemma of *generativity vs. stagnation* and fosters self-reorganization, hence being a vital component of the adult self (Bornstein, 2002; Demick, 2002; Erikson, 1982).

Both previous arguments defend a societal investment into *research* focused on parenting – namely in examining the conditions under which this parent-child bond evolves with quality, granting the best developmental outcomes to children; and into *policies* aimed to contribute to parenting quality and also to facilitate interventions that support parents when they face stressors and difficulties. In fact, the Convention on the Rights of the Child shares the tenets of the central role of family in healthy child development, adding the need for the state to intervene and help whenever necessary, namely through support programs, so that parents can fully exercise their functions (UNICEF, 1989, art.27).

Impoverished families are frequently amongst the ones in need of external intervention and support in order to strengthen their parenting competences. Research informs us about the ecological stress these families undergo, and about the detrimental repercussions of economic hardship on child development and on parenting (Conger &

Donnellan, 2007). Within this scenario the last Eurostat report on childhood poverty must be viewed with concern as it notifies that, in 2011, 28.6% of Portuguese children were at risk of poverty or social exclusion (Eurostat, 2013). Given the circumstances of economic recession that began in 2008, has recently escalated and is still going on, it is conceivable that at the present time the number of children at the threshold of poverty is even bigger, entailing the escalation of the vicious cycle of heightened propensity to parenting stress, marital and parental malfunctioning and negative developmental consequences to children (Conger & Donnellan, 2007).

This thesis addresses precisely the question of the quality of parental care and the effectiveness of support provided to socioeconomically disadvantaged families. It is funded in attachment theory and research, collecting also insights of research on parenting quality and parenting under economic strains. The main goal of this work is to expand the comprehension of these subjects in order to enlighten practice on the arena of parenting intervention in socioeconomic risk. The first aim of this research is to enhance the knowledge of parenting under economic hardship and in line, the first paper of this doctoral dissertation refers to the determinants of maternal behavior, both in play and discipline contexts, analyzing the contribution of maternal personal characteristics but also contextual factors within this context of economic deprivation. Even of greater importance is to rehearse and examine forms of supporting these vulnerable families in their task of parenting. Empirically validated models of intervention are a key stone of quality of intervention, necessary to improve parent competence and child developmental outcomes. Concordantly, the second aim of this dissertation, reflected on the second paper here presented, refers to the implementation and evaluation of the *Video-Feedback Intervention to Promote Positive Parenting and Sensitive Discipline* (VIPP-SD, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) regarding the quality of parent child-interaction.

## **Parenting and Risk**

Parents are the micro-level environment of a child's life, what ascribes them a fundamental influence in child's development, long corroborated by research (Bornstein, 2002). In fact, a long line of research assembles the important contribution of parenting attitudes and practices on child social, emotional, cognitive development (Kotchick &

Forehand, 2002; Luster & Okagaki, 2005; Maccoby, 2000; O'Connor, 2002; Parke, 2004) and as a result, quality of parenting has been a popular research topic in the last decades (Teti & Candelaria, 2002). Definitions of good parenting partly depend on the theoretical perspective they are rooted in. Assuming the attachment perspective, within which this study is embedded, we could equate good parenting to sensitive parenting, in other words, the ability to be attentive to the child in order to perceive her signals, to correctly interpreting them and to respond to them promptly and appropriately (Ainsworth et al., 1978). Definitions of adequate parenting vary also with child's age, as parent behavior must always be referred to specific demands in line with the development of the growing child (Bornstein, 2002). Though every developmental stage has its specificities, it is commonly agreed that toddlerhood is a particular demanding period for parenting because autonomy and independence as well as impulse control and emotion regulation are part of the child's developmental tasks that put parents to the test (Edwards & Liu, 2002). These main developmental tasks underline the importance of two seemingly competing parenting behaviors: the need to exert guidance and limit setting and also to be supportive and responsive in order to foster child's self-regulation (Edwards & Liu, 2002; Maccoby & Martin, 1983; Smith, 2010). This early childhood years appear also to be a time of particular great plasticity, during which environmental contributions are more likely to have an enduring influence (Maccoby, 2000). Finally, although parenting can be characterized by general parenting competence, some studies draw attention to the fact that parenting behaviors can be divided in different dimensions and that these dimensions, even though related, relay on different schema and feelings, having particular origins and determinants (e.g. Leekers, 2010; Leerkes, et al. 2012; Smith, 2010). Keeping this in mind, a more complete picture of parenting might demand to observe and intervene in different domains and contexts of parenting, may there be low in stress and evolve around mother-child reciprocity; or potentially more stressful, targeting the dimension of discipline and control to respond to competing parent-child demands.

The complexity of the parenting role is acknowledged in models of parenting that recognize the multiple influences to it. Belsky's model (1984) employs a transactional multi-level approach that regards the contributions of parent, child, and contextual characteristics in the shaping of parenting behaviors. This process model reflects on the role

of parents' personality and well-being – formed partially through developmental history – considering it as the crucial element for parental functioning. Child's characteristics, with a special focus devoted to temperament, are also viewed as affecting parenting, although playing a minor role in the equation. Finally, the ecology where parenting takes place, encompassing factors such as the marital relationship, social networks and employment are conceived as contextual sources of stress or support and also contributors to the parenting style exhibited by parents. In the last decades many studies uncovered a variety of proximal and distal influences that play the role of risk or protective factor in relation to parenting behavior (e.g. Biringen, Brown, Donaldson, Green, Krcmarik, & Lovas, 2000; Erel & Burman, 1995; Prinzie, Stams, Dekovic, Reijntjes, Belsky, 2009; Vondra, Sysko, & Belsky, 2005). For the purpose of this dissertation we will focus mainly on the role of attachment representation as personal determinant of parenting and on economic hardship as a more distal contextual determinant, because these will be topics of interest for the empirical work.

Early experiences in the family of origin affect maternal behavior. This is evident from research among human but also shared and backed up by animal literature (e.g. Macri, Mason, & Wurbel, 2004). Regarding human maternal behavior, two research traditions explain this influence: one that is based on social learning with observation and reinforcement as main mechanisms, and another based on attachment theory and the role of attachment representations (Cruz, 2005). The concept of attachment representation builds on the notion of internal working models of relationship proposed by Bowlby (1969/1982) and points to the idea that attachment related experiences are updated and reworked through development, converging into expectations for the self and others, that exert influence in the interpretation and action in social interactions (Bretherton & Munholland, 1999; Main, Kaplan, & Cassidy, 1985). The development of the Adult Attachment Interview (AAI, George, Kaplan, & Main, 1985) corresponds to a move from behavioral to representational approach to measurement of attachment, and is considered the golden standard of attachment assessment in adulthood, being at the center of substantial investigation. A recent meta-analysis, signaling the completion of 10.000 AAI's (Bakermans-Kranenburg & Van IJzendoorn, 2009), shows a distribution of 58% Secure-autonomous, 23% Dismissing and 19% Preoccupied individuals in non-clinical samples,

and a significantly different distribution in at risk, low-SES samples: 41% Secure-autonomous, 42% Dismissing, 17% Preoccupied. In these populations the unresolved category is also strongly overrepresented (32%).

The development of this methodology of attachment assessment triggered a research burst on attachment intergenerationality. The intergenerational transmission model proposed by Van IJzendoorn (1995) explains how parents' own childhood experiences forge internal working models of attachment that influence their parenting qualities, which in turn are predictive of the quality of the attachment relationship with their own children. Attachment research cumulates evidence of the fit of this model (see De Wolff & Van IJzendoorn, 1997; Van IJzendoorn, 1995 for meta-analyses). Consistent relation between attachment representations and parenting quality are found (De Wolff & Van IJzendoorn, 1997; Van IJzendoorn, 1995). For instance, a study conducted with a diverse sample of preschool children and their mothers, used hierarchical multiple regressions to predict emotional availability qualities from the AAI and reported that 17% of variance in sensitivity was explained by AAI classification, as well as 14% of structuring (Biringen, et al., 2000). This study, like others, indicates that mothers with secure representations are more likely to be sensitive interactive partners to their children (Biringen, et al., 2000; Oyen, Landy, & Hilburn-Cobb, 2000). Reversely insecurity of attachment is linked to the display of a less optimal parenting. However, distinguishing among types of insecurity and its parenting correlates is also important although more demanding because of sample size and attachment representation distribution. A few studies refer to these differences: (a) Crowell & Feldman (1988) studied two clinical samples and one comparison sample of preschool children. They report less support and helpful behaviors from insecure than secure mothers and add that preoccupied mothers engage in a confuse and controlling style of instructions while dismissing counterparties adopted a directive or controlling style; (b) Adam, Gunnar and Tanaka's (2004) study of middle class mothers and their two year old children pointed out to the association between preoccupied adult attachment and an angry and intrusive parenting style (when compared to dismissing attachment); (c) adopting a dimensional approach Whipple, Bernier and Mageau (2011) also report the dismissing strategy to be negatively correlated with sensitivity and preoccupied/unresolved to be negatively correlated with autonomy support.

The link between attachment representation and parent sensitivity and emotional support is well established, yet it seems that this important personal feature has been rarely studied in relation to other dimensions of parenting such as disciplinary situations. To our knowledge, only Verschueren, Dossche, Mercoen, Mahieu, and Bakermans-Krenenburg directly addressed this issue in 2006 and found a relation between insecurity and increased over-reactivity and psychological control alongside with less warmth and responsiveness to child's feelings. What can be considered a precursor study of that subject was held by Bus and Van IJzendoorn (1992), where maternal secure attachment representations were related to fewer maternal attempts to discipline their child to focus on a reading task after the child showed disinterest. In sum, attachment representations seem a fairly studied determinant of the emotional support dimension of parenting, with security functioning as a protective factor and insecurity posing some risks; however its relation to the disciplinary task is still more unclear.

Nevertheless the major role of attachment representations on the transmission model of attachment proposed by Van IJzendoorn (1995), a *transmission gap* is also currently assumed, showing that parenting behaviors explain some of the association but fail to be the principal factor linking internal working models to child attachment (Berlin, 2005). This relatively modest role of parenting behaviors in this transmission path enabled a more ecological view, which recognizes the context in which this transmission model takes place, drawing attention to contextual factors that ebbed parenting (Berlin, 2005; Van IJzendoorn, 1995).

Parenting does not occur in a vacuum and therefore can only be properly understood when engaging in a holistic level of analysis that considers their transaction over time with other multiple ecological aspects (Bronfenbrenner & Cornell, 1986; Cummings, Davies, Campbell, 2000; Kotchick & Forehand, 2002; Taylor, Spencer, & Baldwin, 2000). In fact, the broader context of self and family development has been increasingly recognized as a crucial piece to the understanding of what determines parent behaviors, and research devotes attention to environmental factors that compose the parenting ecology (Belsky, et al., 1995, Cowan & Cowan, 2009; George & Solomon, 1999). Living in a circumstance of economic hardship or poverty is a major contextual liability that posits specific challenges to individuals as well as families, making them more vulnerable. In fact, when we look to

the literature description of parenting and development in low-SES families the general picture demonstrates multiple risk factors and a predominant scenario of diminished parenting quality and hampered child development (Daly, 2007; Rafferty & Griffin, 2010; Slack, Holl, McDaniel, Yoo, Bolger, 2004; Yeung, Liever, & Brooks-Gunn, 2002). Studies have linked poverty with increased risk for child social-emotional and behavior problems, cognitive and school achievement impairments (Barret, 2003; Evans, 2004; Magnunson & Duncan, 2002). The meta-analyses of Cyr, Euser, Bakermans-Kranenburg and Van IJzendoorn (2010) shows the powerful impact of contextual factors on attachment development noting that the accumulation of five socioeconomic risks is related to a significantly higher proportion of disorganized children, appearing to have a similar destructive impact in child's attachment organization as maltreatment, and an even more destructive impact in attachment security than maltreatment. State of the art research also discusses the "biological residue" of childhood poverty (Miller & Chen, 2013) arguing that social and physical *pollutants* associated with poverty can result in a pro-inflammatory phenotype that sets a path for repercussions of poverty in later life health. Grounded in empirical studies (Chen, Miller, Kobor, & Cole, 2011 as cited in Miller & Chen, 2013; Miller & Chen, 2010 as cited in Miller & Chen, 2013) parental nurturance is suggested as a buffer against biological effects of poverty.

Parallel, low-SES<sup>1</sup> parents, when compared to higher class counterparties, are associated with more dysfunctional parenting behaviors. Results tend to disfavor low-SES mothers in the adequateness, involvement and sensitivity with their child (NICDH, 1999; Novais & Sá Lemos, 2003) and show that these mothers exhibit heightened negative emotionality, less stimulation of children, less responsiveness to child's needs as well as lower levels of involvement of the children towards them (Evans, 2004; Little & Carter, 2005; Magnunson & Duncan, 2002; McLoyd, 1990; Stack et al., 2012). Studies conducted

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<sup>1</sup> A note should be made to the fact that the concept of SES has been diversely defined and operationalized acting sometimes as a confounder. SES is commonly defined as a conjunction of three indicators: income, education and occupational status, each criteria informing of a specific type of capital owned by the family (economic, human and social capital respectively). However literature refers to SES by each of these variables or composites of them indiscriminately. In conjunction with the high correlation amongst all these three variables, this contributes to the obscure the separate effects of income, education and occupational status and to the entanglement and confusion sometimes pointed to the concept of SES. (Bradley, & Corwin, 2002; Taylor, Spencer, & Baldwin, 2000).

in Portugal also show that low-SES mothers are less adequate in their interaction with children than their high SES counterparts (Sá Lemos, 1997). Regarding discipline behavior, low SES is generally correlated with greater use of authoritarian and punitive parenting style, increased resource to power assertive techniques such as physical punishment, and less positive discipline strategies (Cruz, 2005; Evans, 2004; McLoyd, 1990; Magnuson & Duncan, 2002; Pinderhughes, Bates, Zelli, Dodge, & Petit, 2000). Investigators have suggested that these discipline strategies are parent-centered, and aimed at obtaining short-term compliance, whereas higher SES classes are driven for different discipline intentions (McLoyd & Wilson, 1992). In the same line, harsh parenting has been frequently paired to low-SES discipline practices, receiving thoughtful attention because of its well-documented negative developmental consequences and because such practices are placed at a continuum of parenting behavior, encapsulating the risk of evolving to maltreatment (Fontes, 2005; Gershoff, 2002). Correlational studies have shown evidence of personal and contextual variables that interfere with the display of this coercive discipline: low SES, low education, poverty, family dysfunction, young maternal age, psychopathology, maternal delinquent behavior, alcohol use, abuse during infancy and immigrant status (Barkin, Scheindlin, Ip, Richardson, & Finch, 2007; Bert, Guner, & Lanzi, 2009; Jansen et al., 2012; Kim, Pears, Fisher, Connelly & Landsverk, 2010). Several of these studies however - particularly the ones that were statistically more sophisticated - lack comparable strictness of measures, relying often merely on self-report data of parenting.

Poverty effect on parenting has been recognized as a distal influence: by impinging an array of contextual stressors it erects multiple contextual and personal barriers to parents resulting in lesser quality parenting practices<sup>2</sup> (Daly, 2007; Katz, Corlyon, La Placa, &

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<sup>2</sup> Through the years, many denominations have been suggested to classify families characterized by multiple problems and stressors, sufficiently persistent and severe to hamper a good enough family functioning and a competent parenting exercise, and to elicit an undesired but chronic relationship with social services. Traditional perspectives talk about *multi-problem families* (Scott, 1959), a concept tainted with partiality as it only underlies their weaknesses and deficits, what can act as a self-fulfilling prophecy that votes family's members to living up to the entanglement of problems that they are classified with and not to consider the possibility of change (Madsen, 2007; Walsh, 2002;). Another common designation is *multi-assisted families*, a terminology that emphasizes the relation between families and social welfare, described as chronic and dependent type. It illustrates the multi-professional approach, intended to support family in the variety of their problems, however potentially reinforcing the chaos of family functioning because of its frequent lack of articulation and competing goals (Coletti & Linares, 1997). More recently the concept of *multi-stressed families* has been proposed (Alarcão, 2000; Madsen 2007; Summers, McMann & Fuger, 1997) referring to the same reality of families, however



Hunter, 2007; Kotchick, & Forehand, 2002). In fact families experiencing economic deprivation are frequently characterized by young maternal age, low maternal education, single parenthood, maternal alcohol or drug abuse, and domestic violence, which have all been consistently shown to be significant risk factors for child abuse and neglect and problematic child development (Berger, 2004; Li, Godinet, & Arnsberger, 2011; Pears & Capaldi, 2001; Sameroff, 2000; Sidebotham & Heron, 2006). Also circumstances as poor housing, poor nutrition, violent neighborhoods, lack of marital or social support generally shared by these families are said to generate patterns of low self-esteem, low expectations, heightened stress that also interfere with individual and parental functioning (Erel & Burman, 1995; Evans, 2004; Russel, Harris, & Gockel, 2008). In other words, the social and physical environment of families living in poverty is substantially characterized by risk factors to healthy life and development, and this confluence of physical and psychosocial risks has been pointed as essential element to understand the sequelae of poverty into individuals (Evans, 2004).

Yet, a static look to these different contextual aspects that compose low-SES ecology does not help to understand the mechanism through which they are chained and affect parenting. There is the need to appeal to models that underscore dynamic and multiple influences amongst variables (Bronfenbrenner & Cornell 1986; Cicchetti, & Toth, 1997; Cummings et al., 2000). In this sense, an element that has repeatedly been accounted for the relations of SES, parenting and child development is stress (Conger & Donnellan, 2007; McLoyd, 1990). Stress is in fact a stable and corrosive element of living under economic strains, related to the unpredictability and uncontrollability of the environments of low-SES families, and puts them at risk for helplessness, negative emotional states and relations (Bradley & Corwyn, 2002; Evans, 2004; McLoyd, 1990). We refer to the Family Stress Model of Economic Hardship (Conger & Donnellan, 2007), which elucidates how these different variables can come together and how the economic aspects of SES may influence child-rearing practices and the adjustment of children through the pressure on the

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illuminating the role of external factors that constitute risks and liabilities that are pervasive and exert pressure over the family, and that can be considered predisposing or precipitant factors of the lower developmental results that they show. We assume the adoption of this more contemporary view, what is also important because it does not narrow down the definition of these families to their weaknesses, but makes room also to uncover niches of competence and coping skills used by families in the face of stressors, what has crucial implication to clinical practice.

lives of their parents (Conger, et al., 1992; Conger, et al., 2002; Mistry, Vandewater, Huston, & McLoyd, 2002; Solantaus, Leinonen, & Punamaki, 2004; Yeung, et al., 2002). According to the model, disruptions of parenting are not the direct cause of poverty, but are related to it by a chain of events that undergoes the impact of economic pressures and low family income on parental distress and depression, which in turn disturbs marital relations and subsequently parenting practices - the immediate cause of negative child outcomes. Studies in diverse samples in terms of culture (e.g., USA, Mexican), age ranges (childhood to adolescence), diversifying boy/girl, rural/urban families remarkably concur in the replication of the relations proposed by the Family Stress Model: economic pressure as predictor of parental behavioral and emotional maladjustment; parental distress as a predictor of interparental conflict and of higher parental rejection and lower nurturance towards children (Conger et al., 1992; Conger et al., 2002; Mistry, et al., 2002; Solantaus, et al., 2004; Yeung, et al., 2002). When we focus specifically on low-income and poverty samples like the Early Head Start, this theory is also corroborated: family conflict, parental distress and maternal young age, lower education and history of public assistance become predictors of negative parenting behaviors and less stimulation of child (Rafferty & Griffin, 2010).

Family Stress Model puts in evidence the entanglement of several circumstances that constitute risk factors for parents and children living in poverty. This can be conceptualized in parallel with the cumulative risk perspective that suggests that above and beyond the type of risk factor is the number of risk factors that is particularly predictive of child adjustment problems (Appleyard, Egeland, Van Dulmen, & Sroufe, 2005; Evans, 2004; Morales & Guerra, 2006; Rutter, 1979; Sameroff, 2000), what relates to the reality of these families under considerable socioeconomic strains. There is no consensus of whether cumulative risk effects operate through a linear (e.g. Sameroff, 2000), or threshold effect (e.g. Rutter, 1979) but early infancy appears to be a period of particular vulnerability for risk accumulation (Appleyard et al., 2005). Of additional concern is that these vicious circles of disadvantage, created by the accumulation of risk factors that is difficult to disrupt, set of an intergenerational risk pathway, by which children of less competent parents are more likely to show inadequate parenting themselves in the future (Conger, Belsky, & Capaldi, 2009; Egeland, Jacobvitz, & Sroufe, 1988).

Of course this causal chain is not inescapable and a reference should be made to resilience models, and to the fact that the same stressors and difficult circumstances do not affect all families in the same detrimental manner. The resilience literature highlights the notion of individuals' and families' ability to endure and positive adapt even in the context of adversity (Luthar, Cicchetti, Becker, 2000; Walsh, 2002). The resilience concept has evolved from a perspective of an individual trait to the interplay of protective and stressful factors developing over time, underscoring the role of individual and family strengths and resources, fostering a helpful framework for clinical practice (Walsh, 2002). Interestingly amongst this line of research, studies of resilient individuals observe the influence of caring relationships with adults when they were children (Walsh, 1996), which reinforces the argument of this dissertation in which parental involvement is conceptualized as a main protective factor for healthy child development in deprived circumstances.

Considering this picture that shows that in the context of deprivation, ecological but also personal risk factors are more probable to accumulate, early intervention is of paramount importance, in order to strengthen parenting as a protective factor against the risks experienced by families and to promote more adjusted developmental trajectories. However, amongst many other obstacles related ultimately to the motivation and cooperation of families, intervention in socially deprived scenarios also lacks empirically based programs that have proven its efficacy in operating relevant changes (Daly, 2007).

### **Attachment-based Interventions**

Considering that adequate parental care has been consistently related to favorable child developmental outcomes (e.g. Bornstein, 2002), programs aimed to enhance parenting in early childhood have been viewed as a tool for improving children developmental trajectories (Olds, Sadler, & Kitzman, 2007). Attachment theory provides a solid and meaningful framework for early childhood parenting intervention because of (a) its formulation of the vital importance of the child-caregiver bond (Bowlby, 1969/ 1982), (b) the consistent findings about the significance of a secure attachment to several outcomes essentially on social-emotional variables but also other domains of child development (e.g., Belsky, 2005; Sroufe, Egeland, Carlson, & Collins, 2005), (c) the important role of

sensitive caregiving in the formation of this secure attachments and also other socio-emotional skills (e.g., Bakermans-Kranenburg, Van IJzendoorn, & Juffer 2003; De Wolff & Van IJzendoorn, 1997; Kochanska, 2002). For about 20 years attachment research has devoted to the creation and efficacy testing of several intervention programs (see Bakermans-Kranenburg et al., 2003; Bakermans-Kranenburg, Van IJzendoorn & Juffer, 2005; Egeland, Weinfield, Bosquet, & Cheng, 2000 for meta-analyses) which constitutes a major step in the attachment field as it translates valuable theory and research findings into clinical and police relevant guidelines (O'Connor & Nielsen, 2005).

Three major therapeutic tasks have been considered inherent to interventions intended to enhance early attachments: to target parents' internal working models, to target parenting behaviors, and for the intervener to provide a secure base to the parent (Berlin & Cassidy, 2001). The last requirement is a process condition shared by most of the programs, as we are able to deduce from the common goal of building a supportive alliance with the mother/caregiver. The two other tasks represent different intervention goals which have been controversial and are at the heart of one of the main discussions around attachment based interventions, alongside with the question about intervention's intensity and dosage. Within this subject, a first meta-analysis by Egeland and colleagues (2000) reviewed 15 interventions and proposed the early start of the interventions, the longer course and broad and comprehensive aims as quality criterion for the interventions, based on the findings that these characteristics were shared by most effective programs in changing attachment related behaviors. This "more is better" stance has been seriously challenged since the work of Bakermans-Kranenburg and her colleagues in 2003. This meta-analyses of 29 studies argued that short-term (< 16 sessions), behaviorally focused interventions (on sensitivity rather than working models) starting later (>6 months of childbirth) stood out as the most effective interventions in enhancing secure attachments. Since this work, the "less is more" position has collected empirical evidence even for multi-problem, high risk families (e.g. Bernard, Dozier, Bick, Lewis-Morrarty, Lindhiem, & Carlson, 2012; Moss, Dubois-Comtois, Cyr, Tarabulsy, St-Laurent, & Bernier, 2011). As research proved the devastating impact of a disorganized attachment pattern (Carlson, 1998; Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010), an important goal has been to investigate which program features contribute to the

decrease of attachment disorganization. Bearing in mind this specific aim, characteristics like a behavioral focus (sensitivity) and a later start remain associated with larger effects, along with a manualized approach and a children risk status (opposed to parent risk status). Although all of these conditions were associated with larger effects on children organization it should be noted that the overall effect size of the analyzed interventions was not significant (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2005).

Overall, research seems to support the dominance of more focused and brief interventions in the promotion of attachment quality, which constitutes good news from a policy perspective, given the cost effective imperative when applying such programs to real-world interventions.

The question of an intervention's duration is not the only debate regarding attachment-based interventions. This is indeed a multifaceted area and programs within this framework are heterogeneous in their nature, varying in the population they target, the goals they pursue, the methodologies they apply and also the rigor of their efficacy testing. Firstly, most studies report that attachment based interventions are being applied in samples where some kind of risk or installed clinical problem is present (Greenberg, 2005), but the type of risk/problem is diverse: low or high risk, related to the child (e.g. adoptive status) or to the parent (e.g. adolescent parenthood). Secondly, attachment theory has been recognized both as a part of more broadband interventions (e.g., Nurse-Family Partnership, Olds, 2005; *Minding the Baby*, Slade, Sadler & Mayes, 2005), used as a grid for less structured interventions (e.g., BEIP foster care team, Zeanah & Smyke, 2005), or as a major inspiration to manualized programs (e.g. VIPP, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008b). Thirdly, whereas some programs use a group format (e.g. Circle of Security, Hoffman, Marvin, Cooper, & Powell, 2006) others choose a dyadic and home visiting format (e. g. ABC, Dozier et al., 2009; VIPP, Juffer et al., 2008b). Lastly, programs draw on a variety of strategies such as reflective dialogue, modeling from the intervener, booklets, in-vivo feedback, video-feedback, etc. The video-feedback method has gained relevance because this technique showed positive effects on parenting behaviors and attitudes in families with young children (see Fukkink, 2008 for a meta-analysis). In fact, a video-feedback approach facilitates parental observation of child as well as their own behavior; enables the focus on specific (and sometimes fleeting) behaviors; serves as a

mirror to parents. It helps to identify (in)adequate interactions eliciting parents' reasoning and dialogue about dyadic interaction, allowing contingent reinforcement or discussion of alternative behavior by the intervener (Fukkink, 2008; Juffer et al., 2008a; McDonough, 2004).

In face of this heterogeneity it is important to distinguish between attachment-based interventions and some other interventions that recognize some attachment model inspiration but are neither sufficiently theoretically grounded, nor subjected to rigorous evaluation procedures or are not evidence-based (Greenberg, 2005). Below we review some solid attachment-based interventions, in alphabetical order, selected taking into account the solid attachment background and the frequency of use in at-risk samples. The VIPP-SD presentation will be more detailed as this will be the central piece of this dissertation.

The *Attachment and Bio Behavioral Catch Up* (ABC, Dozier, Lindheim, & Ackerman, 2005) intervention encompasses 10 home-based, individual sessions that build around 3 components considered critical bearing in mind the needs of foster families, to whom this program was initially intended to: (a) help mothers to re-interpret infant's signals and act in nurturing, therapeutic ways even in the absence of cues from the infant; (b) help dismissing and unresolved caregivers over-ride their automatic response, and act in a nurturing and sensitive ways that can help the child organizing herself; (c) provide environments that allow children to develop better bio-behavioral regulation through following the child's lead in play, touching and holding the child, allow expressions of negative emotions. A fourth component that aimed at the reduction of threatening behavior among parents was considered in earlier descriptions of the program (e.g. Dozier, et al., 2005), however it is not mentioned in most recent papers (e.g. Bick, Dozier & Moore, 2012). Regarding strategies, ABC makes mostly use of discussions of recent incidents, video-feedback, and in-vivo feedback. This program has been primarily applied to foster parents and RCT designs report positive outcomes such as less child avoidance, decrease of reported behavioral problems, more normative cortisol production patterns associated to the experience of the program (Dozier et al., 2009; Dozier, et al., 2006; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008). Its use has been extended to other samples with favorable results: among parents at high risk for maltreatment, an RCT showed a significant impact in

lowering disorganized attachment and increasing secure attachment (Bernard, Dozier, Bick, Lewis-Morrarty, Lindhiem & Carlson, 2012).

The *Circle of Security* (COS, Hoffman, Marvin, Cooper, & Powell, 2006) is also deeply rooted in attachment theory and it is especially intended to impact parents of preschoolers. It presents a longer protocol (20 sessions) and it is group-based although it asserts a tailoring to each dyad attachment-caregiving patterns. The aims of the COS program are to (a) increase sensitivity and appropriate responsiveness to child's signals, (b) increase ability to reflect on self and child behavior, (c) increase ability to reflect own life trajectory and its impacts on caregiving patterns. The development of empathy, reflective functioning and observational skills that underlie these aims is accomplished through the interpretation of videoclips, brainstorming and discussion within the group, reflective dialog with the therapist, specific exercises/group-dynamics and also a psycho-educational component of interpreting child's needs. (Cooper, et al., 2005; Hoffman, et al., 2006). Although this particular program focuses the importance of the pre- and post-enrolment assessments, and of its ample dissemination, no publications to our knowledge report impact of the program following a robust assessment of efficacy.

The *Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline* (VIPP-SD, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008b) is a short term intervention program that relies on video-feedback technique to enhance parental sensitivity and positive discipline strategies. VIPP-SD is a manualized intervention, however is also tailored to specific characteristic of the dyad and their interaction - the initial mother-child interaction profile enables the adjustment of intervention content to each specific dyad, within the boundaries of the protocol. Program components relate to parents' ability to notice, interpret and react sensitively to child's bids; to share emotions with child, to assert positive disciplinary practices as distraction, induction, positive reinforcement, sensitive time-out or understanding. The VIPP-SD working method is gradual, first it focuses on relationship building, by centering on child behavior and emphasizing positive interaction moments in the video feedback; then work evolves to an active improving of parenting behaviors in most vulnerable arenas of parenting competence and finally the last two sessions (booster) are aimed at reviewing most important messages in order to strengthen intervention effectiveness. It should also be stressed that in line with

ecological models, the program recommends that father's participation is included in the two final sessions in order to generalize to other family members the recent-acquired skills. Also bearing in mind the extension of the intervention, families receive a booklet resuming main aspects regarding positive discipline strategies and parental sensitive behavior discussed and worked on during intervention.

VIPP-SD is an evidence-based intervention, and several randomized clinical trials have already proven its efficacy in a variety of samples including insecure mothers with temperamentally reactive infants, mothers with eating disorders, adoptive families, pre-term child suffering from dermatitis, children at risk of externalization problems (Juffer et al., 2008b). Amongst the reported benefits of the VIPP-SD for parents we emphasize the increase in favorable attitudes towards sensitivity and sensitive discipline, and of actual sensitive behavior as well as positive discipline strategies and the decrease of mother's intrusive behaviors and depression symptoms (Bakermans-Kranenburg, Breddels-van Baardewijk, Juffer, Velderman, & Van IJzendoorn, 2008; Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2008a; Velderman, Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2008; Wooley, Hertzmann, & Stein, 2008). Even though the efficacy of the VIPP-SD has been shown in some risk samples, both in terms of parent or child problems, no study to date has reported on the effectiveness of the VIPP-SD in samples experiencing high levels of socioeconomic disadvantage. The program methodology, however, has characteristics that can be considered suitable to the work with these impoverished families who struggle with multiple stress factors.

First, the VIPP-SD targets two core dimensions: *sensitivity* and *positive discipline*, central aspects of childrearing in early childhood and established vulnerable aspects of parent-child dyadic behavior in high-risk, impoverished families as previously addressed. Moreover these contents are worked on with a behavioral focus, directly targeting parent-child interactions, which is more effective in enhancing the quality of parental behavior (Bakermans-Kranenburg et al., 2003). Second, VIPP-SD uses video - a powerful observational tool to the intervener but also to the parent, that proves valuable in demonstrating child's signals (behaviors and emotions) as well as in showing the (in)adequacy of parental responses, because as Steele, Murphy, and Steele (2010) notice, "seeing is believing" (p.71). This methodology relies on the impact of images, which seems



to be a helpful approach when aiming to develop the awareness of the child as a separate self and the parent as decisive agent in child development in low-SES samples that some have suggested been associated with lower levels of cognitive competence (NICHD, 2005). Also the video-feedback methodology of the VIPP-SD is non-prescriptive in nature, allowing intervener *and* parent the role of observing and interpreting child's signals and explicitly recognizing the role of the parent as expert in their child (Juffer, et al., 2008a). This stance, contrary to the expert approach that these families are used to in the context of multi-assistance (with a history of prescriptions and impositions by professionals from various institutions) facilitates the development of a trusting and collaborative relationship between intervener and parent. This alliance is always important to any kind of intervention but maybe especially critical to deprived families as this relationship may serve as a source of support to decrease parenting stress and to promote the openness to address child's emotions and behaviors in families characterized by a weak support network (Dozier, Higley, Albus, & Nutter, 2002; Tarabulsky et al., 2008). Another characteristic of the VIPP-SD relevant to the work with deprived families is the positive focus that the program entails: interveners reinforce positive mother-child interactions and effective parenting strategies in a pleasant atmosphere, and explicitly involve mothers as experts on their own child. This committed search and recognition of what works best in dyadic behavior (Juffer, et al., 2008b) can be an important trait when working with this powerless families. In fact, qualitative research documents that poor parents daily struggle with the multiple stresses of their lives results in fatigue, depressed affect, low sense of self efficacy and loss of hope (Russel, Harris, & Gockel, 2008). This can be combated by this strength-driven approach where parents are led to recognize also their competencies, resulting in an empowerment of the parent as a person. Finally, the home-based delivery of the protocol seems appropriate for the work with deprived samples for several reasons. For a start it can be a factor of retention in the program, because the long distances and unfavorable schedules of many initiatives are invoked as a reason for drop out particularly in families of scarce resources (Sanders, Prior, & Ralph, 2009; Spoth & Redmond, 2002). Also home visits provide a more naturalistic setting for the promotion of caregiving quality. Economically deprived families struggle usually with multiple stress factors and are characterized by chaos, making more complex to be sensitive in the home environment where competing demands arise.

Therefore the training of sensitivity in natural context appears to be advantageous (Tarabulsky et al., 2008). All of these arguments considered, VIPP-SD presents itself as an interesting feat to these family's needs, and it is reasonable to expect the enhancement of parent-child interactive qualities following the accomplishment of the program.

## **The Present Study**

The context of poverty and severe socioeconomic disadvantage is clearly a harmful context for parenting and child development. An entanglement of factors hampers parents' ability to provide favorable parenting and thus, socio-economic disadvantage groups are frequently characterized by less sensitive and more coercive parent-child interactions. In response to this scenario, the development and efficacy testing of interventions aimed at augmenting parental competence is crucial to enable parenting to act as a protective factor in the face of the many socioeconomic risks these families undergo, and ultimately to enhance families' well-being and adjustment.

In line with empirical evidence, the goal of the present doctoral dissertation is to answer two main research questions:

1. *Within a group of socioeconomically disadvantaged mothers, do attachment representations, family risk and daily stress predict maternal interactive behaviors in play and discipline contexts?*

2. *Is the attachment-based program Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline effective in improving mother-child interactive behavior and family relations in a group of socioeconomically disadvantaged mothers and their young children?*

The first goal of this doctoral dissertation, addressed in the first paper subsequently presented entitled ***Maternal Attachment Representation in Relation to Parenting Behavior in Play and Discipline Contexts*** (Chapter 2), is to characterize parenting behaviors of these multi-stressed families in two distinct contexts: play and discipline. Furthermore, we want to investigate the determinant factors in explaining parental behaviors in those diverse interaction contexts. Within this framework we will pay

particular attention to maternal attachment representation, as attachment theory is one of the main paradigms inspiring this dissertation and because the link between parents' attachment state of mind and actual parenting behavior is documented by research (e.g. Van IJzendoorn, 1995). We will also consider some contextual factors, like family risk and daily stress, because of the adversity of the context surrounding the socioeconomically deprived families that constitute our sample. This study's innovation lies in investigating attachment representations in relation to maternal discipline practices which has rarely been done. This approach is important because, within early childhood, limit setting and discipline strategies are also important aspects of daily parent-child interactions, and can add to the body of knowledge on attachment representations in relation to sensitive and emotionally supportive parenting behaviors.

The second aim of this dissertation, addressed in the second paper subsequently presented entitled *Enhancing Positive Parent-Child Interactions and Family Functioning in Deprived Families: A Randomized Control Trial* (Chapter 3) - refers to the implementation and effectiveness evaluation of an early intervention attachment-based program – Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD). VIPP-SD aims at improving parental sensitivity and adequate discipline strategies in order to enhance child's quality of attachment and preventing and reducing conduct problems. Within the larger project in which this dissertation is embedded, other domains of VIPP-SD effectiveness will be analyzed. This paper focuses on one of the main targets of the VIPP-SD: mother-child emotional interactive qualities, as well as in family relations. Although the VIPP-SD has been proven an effective intervention for several groups of (risk) samples, this work adds to the existing literature by being the first to test the effectiveness of the VIPP-SD in a sample experiencing high levels of socioeconomic deprivation using a randomized control design.

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**CHAPTER 2    EMPIRICAL STUDY 1**

## **Maternal Attachment Representation in Relation to Parenting Behavior in Play and Discipline Contexts**

### **Abstract**

Maternal attachment representations have been investigated in relation to sensitivity and emotional support, but rarely in relation to other important areas of daily parent-child interactions in early childhood, like limit setting and discipline strategies. The current study investigates maternal attachment representations in relation to parenting behaviors in free play as well as in discipline settings with a Portuguese high-risk and severely economically disadvantaged sample of mothers of 1- to 4-year-old children. Standardized observational measures of parenting are used, as well as a dimensional approach to the Adult Attachment Interview. The results showed that a more dismissing attachment representation was related to a relationship-avoiding interaction style characterized by higher structuring. A more preoccupied state of mind was related to a more self-centered interaction style characterized by lower sensitivity and structuring. A more secure attachment representation was related to more psychologically controlling discipline tactics. These findings highlight the relevance of maternal attachment states of mind in understanding parenting practices in several domains, and are discussed in relation to the possible relevance of sociocultural factors in explaining their associations.

*Keywords:* Parenting, Young Children, Economic Disadvantage, Attachment Representation, Discipline, Play

Adult attachment representation refers to the way in which individuals process attachment-related information, and reflects their cumulative experience with attachment experiences throughout development (Bretherton & Munholland, 1999). These representations constitute interpretative filters that influence an individual's views and expectations of the self and others (Bretherton & Munholland, 1999; Main, Kaplan, & Cassidy, 1985). Several studies have shown that secure and resolved attachment representations in parents predict more sensitive and emotionally supportive parenting behaviors (e.g. Coppola, Vaughn, Cassiba, & Costantini, 2006; Pederson, Gleason, Moran, & Bento, 1998; Ward, & Carlson, 1995). However, within early childhood, limit setting and discipline strategies are also important aspects of daily parent-child interactions (Edwards & Liu, 2002; Kochanska, Murray, & Harlan, 2000). Further, early insensitive parenting and maladaptive discipline practices are related and share cognitive mechanisms associated to the interpretation of child behaviors (Joosen, Mesman, Bakermans-Kranenburg, & Van IJzendoorn, 2012). Yet, parental attachment representations have rarely been investigated in relation to their discipline practices. In the current study we test the hypothesis that parental attachment representations predict parenting behaviors in free play as well as in discipline settings.

The ability of each individual to organize and integrate attachment-related childhood memories above and beyond the content of early relationships is often measured using the Adult Attachment Interview (George, Kaplan & Main, 1985). Coding of the participant's answers yields one of the following classifications: (a) *secure-autonomous* if they value relationships, are open to reflect on them and acknowledge both their contributions and the ones of others to them; (b) *dismissing* if they minimize the importance of relationships, are reluctant to remember early experiences, show an (defensive) idealized perspective of relations, and insist on the affirmation of independence; (c) *preoccupied* if early relational events and its misunderstandings are overvalued and individuals seem not to be able to distance themselves from long past events appearing confused and overwhelmed; (d) *unresolved* if, together with any of the prior patterns, individuals show disorganization when discussing experiences of loss and trauma (Bretherton & Munholland, 1999). Attachment representation has been extensively investigated as part of the intergenerational transmission model proposed by Van

IJzendoorn (1995). The model describes how, throughout development, internal working models of attachment - based on a parent's own childhood experiences - influence their parenting qualities, which in turn are predictive of the quality of the attachment relationship with their own children. There is mounting evidence for this model as shown by Van IJzendoorn's (1995) and De Wolff and Van IJzendoorn's (1997) meta-analysis, as well as later studies (e.g., Tarabulsky, et al., 2005). Studies indicate that mothers with secure attachment representations are more likely to be sensitive interactive partners to their children (e.g., Biringen et al., 2000, Pedersen, Gleasen, Moran, & Bento, 1998). Similarly, associations between security of parental attachment representation and higher emotional availability, support and helpful behaviors when interacting with children have been reported (Aviezer, Sagi, Joels, & Ziv, 1999; Cassiba, Van IJzendoorn, & Coppola, 2011; Crowell & Feldman, 1988). Not many studies have examined the distinct insecure attachment state of mind classifications in relation to parenting, often because of restrictions of the sample size and attachment representation distribution. The studies that did examine this have shown that preoccupied mothers engage in a confuse and controlling style of instructions as well as an angry and intrusive parenting style, whereas dismissing mothers adopt a directive or controlling style and are significantly less sensitive compared to autonomous and preoccupied mothers (Adam, Gunnar, & Tanaka, 2004; Crowell & Feldman, 1988; Pederson et al., 1998). The use of a dimensional instead of a categorical approach can be helpful in this respect. Although categorical coding has been considered the golden standard in the field, the dimensional approach is being increasingly considered both because it has methodological advantages (i.e., no small subgroups), and because it can be argued that variability in states of mind can be better captured in terms of degree than categories (Roisman, Fraley, & Belsky, 2007; Whipple, Bernier, & Mageau, 2011). Recent studies indeed suggest that this continuous approach is useful, uncovering differences that would go unnoticed if using a categorical approach (Whipple, et al., 2011). For example, one study showed that the dismissing dimension of the AAI was negatively related to maternal sensitivity (Whipple, et al., 2011), a result that the categorical approach in the same study did not expose.

In contrast to the considerable number of publications linking attachment representation to parental sensitivity and emotional support, it seems that representation of

attachment has not been sufficiently studied in relation to other dimensions of parenting such as disciplinary situations. Unlike play tasks or routine activities that are typically non-distressing, discipline contexts have the potential to elicit parent-child conflicts. These are especially relevant during the toddler years when conflict between the child's sense of autonomy and the parent's socialization pressures towards the modeling of desirable behaviors typically lead to challenging interactions (Edwards & Liu, 2002). In addition, these contexts are not only potentially stressful for the child who needs to comply with unwanted demands, but also for the parent who may experience frustration in the face of child oppositional behavior (e.g., Granic & Patterson, 2006). As increased stress levels may intensify the differences in functioning between individuals with secure and insecure attachment representations (Adam, et al., 2004), it may be that parental discipline behaviors is also influenced by attachment representation. Another line of evidence connecting attachment representations to parental discipline strategies is represented by research finding links between parental sensitivity and discipline behavior. A recent longitudinal study by Joosen, et al., 2012 showed that lower levels of maternal sensitivity at three months was predictive of higher levels harsh parenting in the second year of life, mediated by low maternal sensitivity at six months. Other studies have also documented a relation between intrusiveness and harsh parenting (e.g., Lyons-Ruth, Connell, Zohl, & Stahl, 1987). These findings suggest a connection between the parent's ability to adequately respond to a child's cues and strategies to regulate child behavior in discipline situations. Thus, discipline behaviors may also be examined as a possible outcome of parental attachment representations. However, to our knowledge, there are only two studies that address the connection between attachment representation and discipline to some extent. In the first study maternal secure attachment representations were related to fewer troublesome mother-child interactions in a reading task, as indicated by fewer maternal attempts to discipline their child to focus on the reading task after the child showed disinterest (Bus & Van IJzendoorn, 1992). The second study showed a relation between maternal insecure attachment representations and higher over-reactivity and psychological control in a discipline situation, as well as less warmth and responsiveness to the child's feelings (Verschueren, Dossche, Mercoen, Mahieu, & Bakermans-Kranenburg, 2006). Physical and verbal overreactivity as well as psychological control have also been labeled

as representing coercive parenting (Patterson, 1982), referring to parenting behaviors aimed at obtaining child compliance through force and negative control. Thus, it appears that insecure attachment representations may lead to coercive discipline patterns.

Finally, considering that the study of parenting is inseparable of its ecology (Belsky, 1984; Bronfenbrenner & Cornell, 1986), and especially taking into account that economic disadvantage puts considerable constraints to parenting (e.g. Evans, 2004; Li, Godinet, & Arnsberger, 2011; Pears & Capaldi, 2001; Sameroff, 2000; Sidebotham & Heron, 2006) it is important also to consider whether contextual variables like level of risk or stress play a role in the shaping of parental behaviors within a high risk group. Plea for this consideration are twofold. First, the Family Stress Model (Conger & Donnellan, 2007) clearly describes that economic pressures associated with low family income originate parental emotional and behavioral problems, which in turn negatively influence marital relations and threaten parenting quality and child development. Second, the documented *transmission gap* (Van IJzendoorn, 1995) that refers to the modest mediating role of maternal sensitivity in the relation of attachment state of mind and infant security, and leaves room for other factors to explain that covariance. Contextual factors such as socioeconomic status (SES), parental mental health, marital quality, and social support can impact the transmission of attachment by influencing more proximal processes in child-parent interaction (Adam, Gunnar, & Tanaka, 2004; Atkinson, et al., 2000; Berlin, 2005, Biringen, et al., 2000; Cassiba, Van IJzendoorn, & Coppola, 2011; Van IJzendoorn, & Bakermans-Kranenburg, 1996) and should therefore also be considered in the study of maternal attachment representations and parenting behaviors.

In the current study we examine maternal attachment representations in relation to maternal behavior in play contexts (low stress) and discipline contexts (high stress) in a sample of high-risk, economically deprived mothers of 1- to 4-year old children. In addition, we check the role of salient family context factors, including daily stress and family risk. We expect that more secure maternal attachment representation will be predictive of more sensitive parenting and less coercion (i.e. harsh discipline and psychological control) in both play and discipline settings. More dismissing representations are expected to be associated with less sensitive parenting, but with more structuring

behaviors, reflecting a more task-oriented parenting style as a result of relational detachment. We also expect that a more preoccupied representation will relate to a less sensitive and more intrusive style of parenting as a result of more unpredictable emotional states. Following the Family Stress Model we hypothesize that contextual factors like family risk and stress will predict less supportive parenting behavior in play and more coercive strategies in discipline settings.

## **Method**

### **Participants**

The participants were drawn from a wider intervention study on the efficacy of the Video-Feedback Intervention to promote Positive Parenting and Sensitive Discipline in a low income sample. Participants were recruited through contacts with health and social work agencies, for concerns about the quality of the child's caregiving environment (for details of the selection procedure and larger sample, see Negrão, Pereira, Soares & Mesman, in press). For the current paper, we used data of the pretest assessment of the intervention study. All mothers who completed all measures of interest were considered for the present paper, regardless of their participation in later assessments. The sample consisted of 37 mothers and their children: 56.8% were boys and the majority of the children had siblings (81.1%). The mean age of the children was 28.19 months ( $SD = 10.32$ ; range = 12–48) and the mean ages of mothers 29.78 years ( $SD = 6.04$ ; range = 20–46). The families were from disadvantaged backgrounds: maternal educational level was low (64.9% did not complete Portuguese mandatory educational level, i.e., 9 school years), 67.6% for mothers were unemployed, most families received welfare assistance (75.7%), and the rate of single-parent families was relatively high (24.3%). Participants were assessed in their own homes, because of difficulties in families' mobility and in order to increase retention in the study. First mothers filled in of a set of questionnaires, in a second session mother and child were videotaped during the completion of several tasks (1 hour), and finally the AAI was administered in a separate session.

## Measures

**Maternal Interactive Behavior in Play.** Maternal parenting behavior was assessed in a 10-min free play episode, with toys provided by the researchers, in which the mother was instructed to interact with her child as she would normally do. Videotapes were coded with the 4th Edition of the *Emotional Availability Scales* (EAS; Biringen, 2008). The EA scales contain four parental scales describing different aspects of parental interactive behavior: a) *Sensitivity* refers to the parent's ability to be emotionally connected with the child, as shown by positive affect, accurate perceptions and appropriate responsiveness, as well as conflict negotiation; b) *Structuring* refers to the parent's attempts to appropriately and effectively structure and scaffold the child's environment and play, as well as setting appropriate limits; c) *Nonintrusiveness* refers the parent's ability to follow child's lead and to wait for optimal breaks to enter interaction; d) *Nonhostility* measures covert and overt hostility, indicating the parent's ability to interact without impatience, threatening or frightening behaviors. Each scale consists of 7 subscales, two with score ranges of 1-7 and five with score ranges of 1-3 (total potential score range for each scale 7-29, which then translates to a 1-7-point scale according to a standardized table). A team of raters coded the mother scales. The average intraclass correlation (single rater, absolute agreement) for intercoder reliability for all separate pairs of three coders on the mother variables was .87 (range = .72-.95;  $n = 7$ ).

**Maternal Interactive Behavior in Discipline.** Maternal discipline was measured in a don't-touch task where mothers were asked to prevent the child from touching a set of toys during 2 minutes. For the next 2 minutes, the child was allowed to play only with the least attractive toy (a simple stuffed animal). Standardized procedures for coding the discipline rating scales were used to measure different aspects of discipline (adapted from Verschueren, Dossche, Marcoen, Mahieu, & Bakermans-Kranenburg, 2006), including harsh discipline, psychological control and supportive presence. *Harsh discipline* consisted of a composite of a physical and verbal scale (average of these to 1-5-point scales), reflecting the extent to which mother's behavior showed unnecessary physical force, and the degree of irritation and anger displayed in her tone of voice. *Psychological control* (scale 1-5 points) reflected the intensity and frequency of mother displays of the following



behaviors: inducing child's guilt, disregarding the child's feelings, withholding affection, and inconsistent emotional behavior. *Supportive presence* was measured using the scale devised by Erickson, Sroufe, and Egeland (1985) and reflects the emotional scaffolding provided by mother, acknowledging and encouraging the child's accomplishments on the task and providing appropriate support when the child needs it (scale 1 to 7 points). The average intraclass correlation (single rater, absolute agreement) for intercoder reliability (for all separate pairs of four coders) was .80 (range = .70–.91;  $n = 24$ ).

**Maternal Attachment Representation.** Participants responded to the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985), a semi-structured interview regarding the participants' developmental history with their attachment figures. The interview includes general questions about the participants' relationship with their attachment figures, specific questions regarding critical attachment experiences (problems, illnesses, separations, rejections, losses, and traumatic events), and questions about the relationship with their own children in the present and in the future. All AAIs were recorded, transcribed and then coded with the AAI Q-sort (Kobak, 1993). This method, based on Main and Goldwyn's (1984/1998) original classification system, emphasizes the relation between affect regulation and attachment patterns, by examining the use of deactivating and hyperactivating emotional strategies. This Q-sort consists of 100 items coded from extremely uncharacteristic (1) to extremely characteristic (9) into a forced, bell-shaped distribution. The AAIs were Q-sorted by 11 trained judges, all of them having reliability with Kobak's sorts of the main attachment patterns and strategies. Each interview was scored by 2 independent judges, and inter-rater reliability was assessed using Spearman-Brown prophecy formula. A third judge was used if inter-rater reliability did not reach .65. Each interview score was then correlated with the prototypical scores of secure, preoccupied and dismissing attachment patterns. The average final composite sorts inter-rater reliability score was .76 (range, .65 to .92).

**Family Psychosocial Risk.** Staff members of health and social work agencies were asked to fill in the Portuguese short version of the Family Risks and Strengths Profile (Rodríguez, Camacho, Rodrigo, Martín, & Máiquez, 2006; PRF, Pereira, Negrão, Soares, Almeida, & Machado, 2009) for each referred family. The PRF was used as a screening

tool for the intervention study. Mothers were included if at least one out of the 23 risk items related to *quality of family relations* or *quality of parenting* was present (e.g. negligence regarding child's health/emotional/cognitive needs; lack of limit setting; coercive discipline practices; lack of parental flexibility/self-control; marital violence). In addition, it was used as a measure of cumulative risk, as it includes 62 items about family exposure to risk factors in 7 risk clusters - economic conditions, housing conditions, mother and father risk status, family relations quality, parenting quality, pregnancy, child problems - and 1 protective cluster - social support system.

**Family Daily Stress.** Mothers filled in the Portuguese Version of the *Daily Hassles Questionnaire* (Negrão, Pereira, & Soares, 2010, based on Kanner, Coyne, Schaffer, & Lazarus, 1981). The questionnaire includes 43 items measuring stressors related to daily life of the individual and specifically to the exercise of parenthood. All items are rated on a 5-point scale (0 = *no hassle* to 4 = *big hassle*). And the internal consistency score (Cronbach's alpha) for the total scale was .87.

## Results

Descriptive statistics on all variables are reported in Table 1A. One outlier was found in the discipline variables (harsh discipline). Recommendations by Keppel and Wickens (2004) were followed and the outlier (with a  $|z| > 3.29$ ) was included in the dataset after winsorizing it by bringing closer to the rest of the distribution (Tabachnik & Fidell, 2001) after which it was no longer an outlier. Analyses of the distributions of the other variables indicate that assumptions for normal distributions were met for parametric statistical treatment.

Table 1A. Descriptive Statistics for Maternal Interactive Behavior in Play and Discipline, Attachment Representation, Family Psychosocial Risk and Family Daily Stress

Variable	M	SD
	N = 37	
Maternal Interactive Behavior in Play		
Sensitivity	4.42	1.29
Structuring	4.54	1.28
Nonintrusivness	4.36	1.39
Nonhostility	4.88	1.20
Maternal Interactive Behavior in Discipline		
Harsh Discipline	2.74	1.22
Psychological Control	1.66	0.93
Supportive Presence	3.81	1.31
Attachment Representation		
Secure	-.14	.46
Dismissing	.17	.36
Preoccupied	.08	.40
Family Psychosocial Risk	11.43	6.56
Family Daily Stress	47.28	19.35

Table 2A reports correlations between all variables. Increased security scores on the AAI were related to higher levels of psychological control in the discipline settings, whereas higher preoccupied scores are related to lower psychological control in the discipline tasks, and less sensitivity and structuring in play. Finally higher levels of dismissing representations are linked to higher levels of structuring during play. Increased levels of sensitivity and structuring during play were related to more supportive behaviors in the discipline tasks. The contextual variables were not related to the quality of parenting behavior, but an association was found between higher dismissing scores and higher levels of daily stress.

Linear regression analyses were conducted to examine unique predictors of maternal structuring because it showed multiple significant associations with the AAI dimensions. We applied a bootstrapping procedure because of the small sample size (Efron,

1986). For maternal structuring both dismissing representation scores,  $t(34) = 3.67, p < .01$ , and preoccupied representation scores,  $t(34) = -3.93, p < .01$  remained significant predictors ( $R^2 \text{ adj} = .36$ ). Psychological control also showed multiple significant associations with the AAI dimensions (secure and preoccupied representations). However the high correlation between these two dimensions ( $r = -.93, p < .001$ ) did not allow for multiple regression analysis.

Table 2A. Correlations Among all Variables of Interest

	1	2	3	4	5	6	7	8	9	10	11	12
Attachment Representation												
1. Secure	--	-.63**	-.93**	-.29	-.29	.28	.17	.21	.01	-.11	.50**	.14
2. Dismissing		--	.33*	.05	.36*	.11	.34*	.01	.21	.22	-.29	.20
3. Preoccupied			--	.28	.20	-.43**	-.39*	-.31	-.13	.00	-.47**	-.28
4. Family Psychosocial Risk				--	.04	-.17	-.21	-.14	-.14	.09	-.12	-.02
5. Family Daily Stress					--	-.09	-.10	-.26	-.07	.30	-.27	.06
Maternal Interactive Behavior												
Play												
6. Sensitivity						--	.77**	.76**	.74**	.01	.24	.42**
7. Structuring							--	.54**	-.67**	.03	.21	.57**
8. Nonintrusivness								--	.71**	.25	.11	.12
9. Nonhostility									--	-.29	-.03	.25
Discipline												
10. Harsh Discipline										--	.29	.00
11. Psychological Control											--	.02
12. Supportive Presence												--

\* p < .05

\*\* p < .001

## **Discussion**

The current investigation extends the relevance of the attachment framework to the study of parental behaviors beyond the sphere of sensitivity and emotional support, and into discipline behavior. Our study of parenting behaviors in a Portuguese high-risk, severally economically disadvantaged sample of mothers of 1- to 4-year-old children showed that a more secure maternal attachment state of mind relates to a higher display of psychological control in discipline interactions, and that more dismissing representations are associated with a higher structuring ability during play. Finally more preoccupied representations are linked to less sensitivity and structuring in play and less psychological control during discipline.

The results showed that parental structuring within a play task is predicted both by a dismissing state of mind (positive influence) and a preoccupied state of mind (negative influence), which is in line with previous research on AAI classifications in relation to maternal structuring (Biringen, et al., 2000). First, avoidant/dismissing strategies are characterized by a devaluation of the importance of relationships and a parallel investment in exploration as a way of maintaining external focus and avoiding uncomfortable interactions with others. This pattern is recognizable throughout development in the over-exploratory tendency of avoidant children, as well as in the greater involvement with work – seen as the adult exploration context – of dismissing individuals (Hazan & Shaver, 1990; Main 1996). Underlying these findings is the dominance of task orientation over relationship orientation, similar to what we have found in the heightened focus on structuring activities in parent-child play, a strategy also centered on the functional side of the interaction, possibly to divert from more emotional components. Second, a preoccupied state of mind is characterized by confusion, entanglement, and incoherence (Main, 1996), and as such is contrary to the ability to provide appropriate and successful guidance attuned to the needs of the child. This is also seen in the negative association between a more preoccupied state of mind and lower sensitivity in play found in this study, indicating possibly a self-centered pattern of interaction that distracts more preoccupied mothers from the recognition of the child's signals and needs, resulting in a lower quality of interaction regarding sensitive and structuring behavior.

The finding that psychological control in a discipline setting is positively correlated with security and negatively related to preoccupied state of mind is intriguing. In line with the findings of Verschueren and coworkers (2006), we predicted the opposite, namely that security would be related to lower levels of coercive discipline strategies. To explain these unexpected findings, we may consider the role of the social and cultural context of parenting practices (Darling & Steinberg, 1993; Gungor, 2008; Gungor & Bornstein, 2010; Kagitçibasi, 2007). With respect to psychological control, it has been noted that although it is evaluated negatively in the United States, cross-cultural studies show that it occurs quite frequently and is an acceptable mean of regulating young children's behavior in some countries (Olsen et al., 2002). This may also be relevant to the Portuguese context. Until recently, Portuguese society endorsed an authoritarian power-based view of parenting, shared both by family and school, which valued foremost parental power position (Wall, 2010). In the last decades society has been changing with respect to views of parenting, but there is evidence that this change has occurred much less strongly in disadvantaged families (Seabra, 2002). The same study observed low-SES families' eagerness to compel children to meet societal expectations and simultaneously to not punish the child too severely, thus avoiding corporal punishment as a reaction to their own negative childhood memories of such practices. This can be described as a movement from control to seduction in relation with the child (Kellerhals & Montandon, 1991). It is possible that moving away from physical punishment, in combination with a strong wish to foster conformation to rules, has led to more verbal forms of control, including the more negatively laden psychological control. Indeed some statements like "be a good girl, mum loves you if you behave", or "don't do that, or mum will be very sad because of you" are very common in Portugal and were indeed coded often in our study. These statements, although relatively mild, represent forms of psychological control because they make maternal love dependent on child behavior and make use of guilt induction. But they also can be viewed as targeting children's socialization in limits and moral, and a method of alerting the child to the consequences of behavior on others. It may be that, during early childhood and in a risk context, secure attachment representation relates to a parenting style that socializes children in the dominant norms.

There are several reasons to suggest that psychological control fits the cultural framework in Portugal. Psychological control has been conceptualized both as a pressure for relatedness, physical and emotional proximity, i.e., dependency-oriented psychological control, and for meeting parental achievement demands, i.e., achievement-oriented psychological control (Soenens, Vansteenkiste, & Luyten, 2010). In Portugal, like in other southern Europe countries, interdependence and subordination to group goals are vastly valued, especially in low socioeconomic status, which would fit with psychological control being a socially accepted practice aimed at the socialization of manners and social harmony, resembling what is described for the Turkish culture (Gungor, 2008; Gungor & Bornstein, 2010). In addition dependency-oriented psychological control tends to occur more frequently when parents perceive threats to the relationship (Soenens, et al., 2010), which is consistent with the discipline context used in the current study in which the parent's and child's opposing wishes can be interpreted as threatening by the parents. It should be noticed that we are not assuming that the child will be immune to the potentially negative consequences of psychological control, but the specific cultural frameworks can eventually lend adaptive significance to its display. This is consistent with other studies showing that within certain socio-cultural contexts, parental practices generally labeled as negative can either relate to less adverse outcomes (Deater-Deckard & Dodge, 1997; Lansford et al., 2005) or even to positive effects (Bronstein, 1994; Crockenberg & Litman, 1990).

In the context of this study, attachment representation showed to be noteworthy in the prediction of parenting, whereas environmental characteristics were not related to parenting. This may be due to the homogeneity of the sample, with all families experiencing a high level of risk and deprivation. Although the contextual variables do show significant variation between participants, different levels of risk within a deprivation context may not be salient enough to predict parenting.

Strengths of the current study include a detailed look into the role of insecure representations in predicting parenting behavior. Also the analysis of different parenting contexts, play and discipline, the use of observational measures and the unique sample in terms of the level of deprivation are strong points of this study. However, we also



acknowledge several limitations to our study. First, the small sample size may have limited the statistical power to detect significant relations among variables. Therefore, further research on attachment representations and discipline practices in the context of severe socioeconomic disadvantage with a larger number of dyads is needed. Second, the Q-sort coding system for the AAI does not allow for the coding of unresolved attachment representations whereas this category would be of particular interest given the high risk level of our sample. Third, although psychological control showed strong relations with maternal attachment states of mind, the occurrence of this aspect of parenting was low (on average between a coding of 1 *No psychological control* and a coding of 2 *Barely any psychological control: the behaviors occur only once or a few times in mild form*). As mentioned, most occurrences of psychological control were rather mild. Longer observation times may tap into more frequent and more severe psychological control. In addition, more research into the meaning and correlates of psychological control in specific sociocultural contexts is needed to fully understand our results.

In conclusion this study points to the relevance of examining maternal representations of attachment when studying parental behavior, not only in traditional arenas like sensitivity and emotional support but also in discipline strategies. It also draws attention to the relevance of using a continuous approach to the AAI, especially when working with small samples, as it can reveal important differences between types of insecurity. We found that a more dismissing attachment strategy was related to a relationship-avoiding interaction style characterized by higher structuring, and a more preoccupied state of mind to a more self-centered interaction style characterized by lower sensitivity and structuring. Our finding that psychologically controlling discipline tactics are associated with a more secure attachment representation and a less preoccupied pattern was surprising, but may be due to the specific sociocultural context of this Portuguese sample from deprived economic backgrounds. Briefly, these findings show the importance of maternal attachment states of mind in understanding parenting practices in several domains, and point to the potential relevance of sociocultural factors in explaining the nature of these associations.

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## **CHAPTER 3 EMPIRICAL STUDY 2**

## **Enhancing Positive Parent-Child Interactions and Family Functioning in Deprived Families: A Randomized Control Trial**

### **Abstract**

This study tested the attachment-based intervention program Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD) in a randomized controlled trial, with highly deprived families with toddlers, screened for professional's concerns about the child's caregiving environment. The VIPP-SD is an evidence-based intervention, but has not yet been tested in the context of poverty. At the pretest and posttest, mother-child interactions were observed at home, and mothers reported on family functioning. The VIPP-SD proved to be effective in enhancing positive parent-child interactions and positive family relations in a severely deprived context. Results are discussed in terms of implications for support services provided to such deprived families in order to reduce intergenerational risk transmission.

*Keywords:* Attachment, Intervention, Parenting, Economic Deprivation, Parent-child Interaction, Family Functioning

Deprived high-risk circumstances often hamper parents' ability to provide optimal parenting (e.g. Evans, 2004). An important aspect of parenting is sensitivity which refers to a parent's ability to perceive child signals, interpret them correctly, and respond to them promptly and appropriately (Ainsworth, Blehar, Waters, & Wall, 1978). Sensitivity has been linked to several positive child outcomes (De Wolff & Van IJzendoorn, 1997; Eisenberg et al., 2001; Kochanska, 2002; Tamis-Lemonda, Bornstein, & Baumwell, 2001), and there is substantial evidence that parenting intervention programs can be effective in enhancing parental sensitivity (see Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003 for a meta-analysis). Specifically, the Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD, Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008b) has been found effective in improving parental sensitivity and child development in a variety of samples, (Bakermans-Kranenburg, Breddels-van Baardewijk, Juffer, Velderman, & Van IJzendoorn, 2008; Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2008a; Wooley, Hertzmann, & Stein, 2008). However, although some of the samples were high-risk, the effectiveness of the VIPP-SD has not yet been examined in samples experiencing high levels of socioeconomic deprivation. In the current study we examine the effects of the VIPP-SD on maternal and child behaviors in a sample of severely disadvantaged families using a randomized control design.

### **Parenting Interventions Based on the Attachment Framework**

Attachment theory describes infants' biologically predisposed propensity to build attachments with one or more caregivers (Bowlby, 1969/ 1982). Mary Ainsworth added to Bowlby's conceptualization of the processes relevant to attachment formation by conducting extensive field observations of mother-infant interactions in Uganda (Ainsworth, 1967). These observations led to the formulation of the sensitivity construct which encompasses three main components: (1) being attentive to the child in order to perceive his signals, (2) correctly interpreting the child's signals (3) responding to them promptly and appropriately (Ainsworth et al., 1978). Sensitivity implies that the parent is capable of perceiving the child as a separate and unique person and that she can assume the child's perspective, interpreting behaviors and needs from the child's point of view (Ainsworth et al., 1978).

Empirical research throughout the years has established sensitivity as one of the most well documented determinants of attachment security (Bakermans-Kranenburg, et al., 2003; De Wolff & van IJzendoorn, 1997). Security of attachment is in turn known to positively impact children's current and future individual socio-emotional functioning (Sroufe, Egeland, Carlson, & Collins, 2005), whereas insecure and particularly disorganized attachment patterns are related to deleterious effects on development (Belsky, 2005; Carlson, 1998; Cassidy, 1988; Sroufe et al., 2005; Steele & Steele, 2005). In effect, the importance of sensitivity goes beyond attachment to other positive developmental outcomes. There is ample empirical evidences that maternal sensitivity is also related to important areas of child development such as self-regulation (e.g., Eisenberg et al., 2001; Leerkes, Blankson & O'Brien, 2009), social functioning (e.g., Kochanska, 2002), and cognitive competence (e.g., Tamis-Lemonda et al., 2001).

The strong empirical evidence about the importance of parental sensitivity for positive child development has contributed to the development of intervention programs rooted within the attachment framework. In the last decades, attachment research has focused on creating and examining the effectiveness of early intervention programs (e.g., Dozier et al., 2009; Hoffman, Marvin, Cooper, & Powell, 2006; Juffer et al., 2008b). Programs vary in their approaches in terms of goal pursued (changing parents' working models of attachment *vs.* changing parenting behavior), format (group programs *vs.* individual home visits), and length (long and comprehensive interventions *vs.* interventions with focused aims). Meta-analytic evidence shows that programs aiming to enhance early attachments are most effective when they focus on the behavioral level of parenting, and when they are relatively short in duration (Bakermans-Kranenburg et al., 2003). Behaviorally focused attachment-based programs aim at teaching parents to be more aware of child signals and to provide them with strategies for appropriate and prompt responding in the context of reinforcing the parental function as secure base from which children can explore and then return to feel safe and protected. To reach these goals some intervention programs adopt a video-based methodology that has been proven effective when intervening with families of young children (Fukkik, 2008). The video-feedback facilitates parental observation of child behavior as well as their own behavior, and the recognition of (in)adequate interactions. This observation elicits parents' reasoning and dialogue about dyadic

behavior and allows for contingent reinforcement and feedback and discussion of alternative behavior by the intervenor (Juffer et al., 2008b; McDonough, 2004).

One of the behaviorally focused attachment-based intervention programs using video-feedback is the Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPPSD, Juffer et al., 2008b), which has been proven to be effective in several randomized controlled trials. Previous studies have established it as a valid brief intervention approach, capable of influencing mother-child interaction in a multitude of countries and samples including adoptive families (Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2008), children at risk for externalizing problems (Mesman et al., 2008), children with dermatitis (Cassiba et al., 2008), insecurely attached mothers (Bakermans-Kranenburg et al., 2008), and mothers with eating disorders (Wooley, Hertzmann, & Stein, 2008). Although some of the samples were high-risk in terms of parental or child problems, no study has yet reported on the effectiveness of the VIPPSD in samples experiencing high levels of socioeconomic deprivation.

### **Parenting in Deprived, High Risk Samples**

Parenting toddlers can be challenging for all parents, but for those who live in deprived high-risk contexts, this is even more demanding because factors such as economic adversity, impaired social support, increased life stress, and fragile relationships threaten the quality of parenting (Evans, 2004). In fact, dyadic interaction among high-risk, impoverished families has been characterized by heightened hostility, negative emotionality and coercion in mothers, as well as lower levels of involvement of the children towards them (e.g., Little & Carter, 2005; Moss et al., 1998; Stack et al., 2012)

From an ecological framework, that asserts that child development can be understood within the context of multiple levels of embedded systems (Bronfenbrenner, 1979), it is clear that distal variables like socioeconomic status (SES) can influence childrearing and child development. The Family Stress Model (Conger & Donnellan, 2007) was formulated based on empirical studies throughout the years and elucidates how the economic aspects of SES may influence family members, child-rearing practices, and the adjustment of children (Conger et al., 1992; Conger et al., 2002; Mistry, Vandewater, Huston, & McLoyd, 2002; Solantaus, Leinonen, & Punamaki, 2004; Yeung, Linver, & Brooks-Gunn, 2002). According to the model, economic

pressures associated with low family income gives rise to parental emotional and behavioral problems that in turn negatively influence marital relations and parenting, ultimately leading to negative child outcomes. Studies focusing specifically on low-income and poverty samples corroborate this thesis as they confirm the role of perceived material hardship and infrequent employment as predictors of child neglect (Slack, Holl, McDaniel, Yoo, & Bolger, 2004) and of family conflict and parental distress as predictors of negative parenting behaviors and less stimulation of child (Rafferty & Griffin, 2010). In addition, there is evidence that when they become adults, children of less competent parents are more likely to show inadequate parenting themselves, thus perpetuating the intergenerational high-risk pathway (Conger, Belsky, & Capaldi, 2009; Egeland, Jacobvitz, & Sroufe, 1988; Stack, Serbin, Enns, Ruttle, & Barrieau, 2010).

Children growing up in deprived contexts are also exposed to multiple stressors that are more pervasive, accumulate over time, and relate to low parenting quality and child maltreatment than those growing up in more privileged contexts (Li, Godinet, & Arnsberger, 2011; Sidebotham & Heron, 2006). Family characteristics that are more common in families experiencing poverty include young maternal age, low maternal education, single parenthood, maternal alcohol or drug abuse, and domestic violence, which have all been consistently shown to be significant risk factors for child abuse and neglect and problematic child development (Berger, 2004; Li et al., 2011; Pears & Capaldi, 2001; Sameroff, 2000; Sidebotham & Heron, 2006). It has also been suggested that it is not the type of risk factor but the number of risk factors that is particularly predictive of child adjustment problems (Appleyard, Egeland, Van Dulmen, & Sroufe, 2005; Evans, 2004; Morales & Guerra, 2006; Rutter, 1979; Sameroff, 2000), and families under considerable socioeconomic strains are characterized by multiple stressors.

Considering the cumulative pathways of risk among deprived families and the consequent danger for child development, the clinical and societal relevance of early intervention in these contexts are clear. However these families are hard to reach and therefore not studied very often in empirical research. In addition, high attrition rates are a consistent concern of parent intervention research in high-risk samples (Armbruster & Fallon, 1994; Friars & Mellor, 2009; Kazdin, Mazurick, & Bass, 1993; Spoth & Redmond, 1995). Engagement and retention are difficult to achieve due to resistance

and mistrust on the part of the families, who are accustomed to dealing with many professionals and are sometimes tired of the multitude of people visiting their homes, and often afraid of losing power over their lives, or even custody of their children. These families are also frequently overwhelmed with concerns about meeting primary needs (e.g., food and housing), preventing them from recognizing the importance of the social-emotional needs of their children, which undermines their caregiving abilities. Unfortunately, although these disadvantaged families represent a very important population in terms of the need to receive help, they also often do not receive such support, which constitutes a major obstacle to the effective use of resources in mental health promotion.

### **Current Study**

Low-income families are usually assisted in terms of material conditions needed for every-day life (e.g., social housing, subsidy). However this assistance is often ineffective in terms of raising family households above the poverty line, and generally ignores intervening on social-emotional factors also entangled with these families' needs (e.g., assistance for parenting). In Portugal, social service professionals have the challenge of assisting impoverished families without having the tools to address their underlying problems. Portugal as yet does not have an established system of using empirically validated programs to enhance parenting competence and child development. In the current study we test the effectiveness of the VIPP-SD in an economically deprived sample of Portuguese mothers and their 1- to 4-year-old children using a randomized control design. We hypothesize that VIPP-SD will increase positive maternal and child behavior and enhance family functioning in these severely disadvantaged families.

## **Method**

### **Participants**

Participants were recruited through contacts with several health and social work agencies, working mostly with low income families, in the Northern region of Portugal. Staff members of these agencies were asked to fill in a Portuguese short version of the Family Risks and Strengths Profile (Rodríguez, Camacho, Rodrigo, Martín, & Máiquez, 2006; PRF, Pereira, Negrão, Soares, Almeida, & Machado, 2009) for families with 1- to



4-year-old children in the case of concerns about the quality of the child's caregiving environment. The PRF includes 62 items about family exposure to risk factors in 7 risk clusters (economic conditions, housing conditions, mother and father risk status, family relations quality, parenting quality, pregnancy, child problems) and 1 protective cluster (social support system). Families were eligible for this study if at least one out of the 23 risk items related to *quality of family relations* or *quality of parenting* was present (e.g. negligence regarding child's health/emotional/cognitive needs; lack of limit setting; coercive discipline practices; lack of parental flexibility/self-control; marital violence).

To ensure a homogeneous sample, only Portuguese children living with their biological mother as the primary caregiver were eligible for the intervention study. Ethnical minorities and severe medical conditions for both mother and child were excluded, as well as families receiving formal parenting training. The application of these criteria resulted in the exclusion of 24 cases, leaving a target sample of 132 mothers and their 1- to 4-years-old children, that showed an average of 10.81 ( $SD = 5.72$ ) risk items on the PRF total score and an average of 4.85 ( $SD = 3.69$ ) risk items on the two eligibility clusters of the PRF. Out of these 132 dyads, 5 were not reachable and 35 declined to participate immediately at first telephone contact. Ninety-two mothers (70%) agreed to participate in the study. However, during the study there was also a considerable attrition rate - 37 mothers discontinued during before pre-test completion: seven mothers from the experimental group (four mothers immediately after the first intervention session) and four from the control group discontinued participation. In line with other high-risk sample studies, the reasons for dropping out are related to: (a) mothers' general disinterest; (b) obstruction against mother and child participation from other family members; (c) increased stress levels (e.g., state fund cut-off, need to return to work, severe clinical conditions or psychopathological symptoms of other family members); and (d) family crisis (e.g., divorce/separation, involvement in Child Protection Services, incarceration).

The final sample for the intervention study consisted of 44 children and their mothers. In the sample, 52.3% of children were boys and the majority of the children had siblings (81.8%). The mean age of the children at the pretest was 28.80 months ( $SD = 10.53$ ; range = 12–48) and the mean ages of mothers and fathers were 29.89 ( $SD = 6.15$ ; range = 18–46) and 33.14 years ( $SD = 7.30$ ; range = 22–53), respectively. Socio-demographics also confirm the highly deprived and high risk nature of this sample:

family educational level was low (70.4% of mothers and 86.4% of fathers did not complete Portuguese mandatory educational level, i.e., 9 school years), a high percentage of parents were unemployed (70.5% for mothers and 50% for fathers), most families were benefiting from welfare assistance (79.5% of families). There were no significant differences between all the targeted families who discontinued from the study ( $n = 88$ ) and the ones that remained ( $n = 44$ ) regarding child age and gender, maternal age and educational level, presence of siblings, family status and welfare assistance, total number of risk indicators' and total number of risk indicators' in the two eligibility clusters criteria (all  $p$ -values  $> .21$ ).

For the current study, only those families from whom complete data were available on all variables of interest were included, which resulted in the exclusion of 1 family, leaving a sample of 43 dyads. Mean age of the children at the pretest was 29.07 months ( $SD = 10.49$ ; range = 12–48). Mean age of the mothers at the pretest was 29.98 years ( $SD = 6.19$ ; range = 18–46).

This study was approved by the Portuguese Data Protection Authority (Comissão Nacional de Protecção de Dados - CNPD), a Portuguese independent organization that supervises the respect and commitment to the human rights established by the Constitution and the law in the area of personal data protection.

## **Procedure**

Participants were assessed at baseline in two pretest sessions that occurred at their own homes, because of difficulties in families' mobility and in order to increase retention in the study. First session started with the clarification of research procedures, the signing of informed consent form and mothers were also asked to fill in a set of questionnaires. Second session consisted in videotaping several tasks, completed by both mother and child (1 hour). The pretest sessions were planned within two weeks of each other.

After pretest conclusion, families were randomly assigned to either intervention group ( $n = 22$ ) or control group ( $n = 22$ ), based on a computer-generated list, stratified by child's age group, gender and temperament (considering Portuguese clinical cutoff scores of difficult temperament for the *Infant Characteristics Questionnaire* (ICQ;

Bates, Freeland, Loundsbury, 1979; Portuguese version: Carneiro et al., in press; Veríssimo & Dias, 2012).

Families in the intervention group received six home visits, and, parallel in timing, families in the control group received six telephone calls. Approximately 1 month after the last home visit/telephone call, families from both groups completed the posttest which included the same procedures and assessments as the pretest. Mean age of the children at the posttest was 35.27 months ( $SD = 10.70$  range = 18–54).

### **The Intervention Program**

The mothers in the experimental group received the Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD, Juffer, et al., 2008). The VIPP-SD is a short term intervention program that relies on video-feedback technique to enhance parental sensitivity and positive discipline strategies. The intervention was implemented through standardized protocols of six home visits. For all visits, the protocol defines themes, tips, and exercises for mother and child; however the initial mother-child interaction profile (derived from the videotaping captured at pretest) enables the tailoring of intervention content to each specific dyad, within the boundaries of the protocol.

The VIPP-SD working method is divided into three steps: (a) Sessions 1 and 2 main goals are building a relationship with the mother, focusing in child behavior and emphasizing positive interaction moments in the video-feedback; (b) Sessions 3 and 4 actively work on improving parenting behaviors by showing the mother moments when her parenting strategies work and to what other situations she could apply these strategies; and (c) Sessions 5 and 6 (booster) aim to review all feedback and information from the previous intervention sessions in order to strengthen intervention effectiveness. Within each session, a first moment of mother and child interaction video-taping took place, followed by feedback of videos taped in the previous session (to prevent filming mother-child interaction immediately after giving the video feedback). This feedback was prepared in advance by the intervener that selected specific moments of the film to comment on each of the sessions' main issues. Interveners reinforced positive mother-child interactions and effective parenting strategies in a pleasant atmosphere, and explicitly involved mothers as experts on their own child, inviting them to comment on the child's behavior.

The first four intervention sessions were scheduled at two-week intervals and examined the following specific contents: (1) difference between attachment and exploration behavior, distraction and induction as disciplinary strategies; (2) “speaking for the child” as a method of promoting mother's perceptions of child cues and communication, positive reinforcement as a disciplinary strategy; (3) “chain of sensitivity” as a way of describing the sensitivity cycle: child signal - mother recognition - mother interpretation - mother response - child response, sensitive time-out as a disciplinary strategy; (4) importance of sharing emotions, empathy and understanding of the child as disciplinary strategies. The last two sessions (booster) were scheduled 1 month apart and reviewed most important tips for each family. For these booster sessions, fathers were also invited to participate, in order to generalize to other family members the recent-acquired skills, however only two of them agreed to participate. At the end of the last session, all mothers received a booklet resuming main aspects discussed during intervention. The VIPP-SD intervention program was delivered by a group of four interveners, all female, extensively trained in the intervention protocol and with a Master’s degree in Psychology.

### **Control Condition**

Parallel to the intervention group, the mothers in the control group received six phone calls at the same time intervals as the VIPP-SD sessions occurred. Each phone session evolved around a standard topic regarding child development (language, play, sleep, feeding, relations, and for the last phone call an overview of all previous topics). Within each topic questions were posed to mothers, who were encouraged to talk about the development of their own child, but no tips or advices were provided from the researcher. Whenever mothers asked for any specific advice or information they were encouraged to consult their regular practitioners and/or their health service agency. Respecting the ethical principles in which psychological scientific research is founded, when the mothers in the control condition ended their participation in the study, they were invited to participate in a parenting intervention program provided by interns of the Master in Psychology of the Portuguese Catholic University Clinic, supervised by the resident psychologists there.

## Measures

**Mother-child Interaction.** Maternal parenting behavior and child behavior towards mother was assessed at home, in a 10-min unstructured free play episode with toys provided by the researchers, and in a 5-min problem-solving task in which the mother was instructed to assist her child as she would normally do. Interactions were coded with the 4th Edition of the *Emotional Availability Scales* (EAS; Biringen, 2008). The EA scales contain four parental scales (Sensitivity, Structuring, Nonintrusiveness and Nonhostility) and two child scales (Child Responsiveness and Child Involvement), each consisting of 7 subscales, two with score ranges of 1-7 and five with score ranges of 1-3 (total potential score range for each scale 7-29, which then translates to a 1-7-point scale according to a standardized table). *Sensitivity* refers to the parent's ability to be emotionally connected with the child, as shown by positive affect, accurate perceptions and appropriate responsiveness, as well as conflict negotiation. *Structuring* refers to the parent's attempts to appropriately and effectively structure and scaffold the child's environment and play, as well as setting appropriate limits. *Nonintrusiveness* refers the parent's ability to follow child's lead and to wait for optimal breaks to enter interaction. *Nonhostility* measures covert and overt hostility, indicating the parent's ability to interact without impatience, threatening or frightening behaviors. *Child Responsiveness* assesses the degree to which the child responds to parental bids and expressions, by showing positive affect and organized behaviors. *Child involvement* indicates the extent to which the child invites and engages the parent in to play, without evidence of negative or overinvolving behaviors.

A team of raters, unaware of experimental condition and other data concerning the participants, independently coded the mother and child scales. All coders were blind to experimental status and pre- and post-test were coded independently. The average intraclass correlation (single rater, absolute agreement) for intercoder reliability for all separate pairs of three coders on the mother variables was .87 (range = .72-.95;  $n = 7$ ) and for all separate pairs of three coders on the child variables was .89 (range = .81-.99;  $n = 7$ ). For this study each scale was averaged across the two tasks.

**Family Relations.** Quality of family relations was measured using the *Relation* dimension of the *Family Environment Scale* (FES, Moos & Moos, 1986) filled in by mothers. This dimension includes three subscales: cohesion, expressiveness and

conflict. *Cohesion* evaluates the support and involvement that family members perceive from each other; *Expressiveness* measures the extent to which family members are encouraged to express their feelings, and *Conflict* refers to the degree that open expression of anger and disagreement characterizes family dynamics. Each of the three scales encompasses nine items that are rated in a 6-point Likert scale. The conflict subscale was recoded so that higher ratings indicate better family functioning. Cronbach's alphas for cohesion subscale were .84 for the pretest and .83 for the posttest; regarding expressiveness .71 for the pretest.63 for the posttest; and finally conflict .67 for the pretest and .53 for the posttest.

## **Results**

### **Preliminary Analyses**

We found no outliers in any of the pretest and posttest variables of interest (i.e., six EA scales, and three FES scales). Random assignment to the control and intervention groups was checked by conducting t-tests and chi-square tests for demographic and pretest variables of interest. There were no differences between the control and intervention groups regarding maternal age or education, child age or gender, and family structure ( $ps$  .07 to .66), nor for any of the pretest variables ( $ps$  .19 to .81).

Correlations between the pretest parenting variables were computed and revealed high intercorrelations for the four EA parent scales ( $rs$  .52 - .77), the two EA child scales ( $r = .92$ ) and for the three FES scales ( $rs$  .72 - .77) as presented in Table 1B.

Table 1B. Correlations Among all Variables of Interest.

Variable	1	2	3	4	5	6	7	8	9
<b>EAS</b>									
1. Sensitivity	--	.72**	.78**	.69**	.47**	.42**	-.07	-.09	-.08
2. Structuring		--	.62**	.56**	.41**	.36**	-.07	-.15	-.19
3. Nonintrusivness			--	.57**	.47**	.38**	-.23	-.21	-.24
4. Nonhostility				--	.19	.09	-.23	-.19	-.26
5. Child Responsiveness					--	.92**	-.01	-.14	-.08
6. Child Involvement						--	.05	-.10	-.01
<b>FES</b>									
7. Cohesion							--	.77**	.75**
8. Expressivness								--	.72**
9. Conflict									--

Therefore, we conducted Principal Component Analyses for the EAS at pretest that revealed two clear components: parenting (loadings .78 - .88), and child behavior (loadings .94 and .97), explaining 83% of the variance. The same analysis was conducted for the pretest FES, revealing a single underlying component (loadings .90 to .92), explaining 83% of the variance. Based on these analyses we created three new variables: Positive Parenting (averaging the four EA parenting scales), Positive Child Behavior (averaging the two EA child scales), and Family Relational Functioning (summing the three FES scales). Descriptive statistics for the separate scales and composite variables are presented in Table 2B.

### Intervention Effectiveness

Of the demographic variables only maternal education was related to positive parenting, at pretest,  $r(44) = .32$   $p < .05$ , and posttest  $r(44) = .33$   $p < .05$ . Consequently, maternal education was used as covariate in the analyses to establish intervention effectiveness. We conducted a Repeated Measures MANOVA with experimental condition as a between-subjects factor and time as a within-subject factor (with maternal education as covariate). The Condition x Time interaction was significant,  $F(3, 38) = 5.68$ ,  $p < .01$ , partial  $\eta^2 = .31$ . Univariate tests showed significant effects on positive

parenting, positive child behavior, and family relational functioning. On all three variables, dyads in the intervention group showed better functioning from pretest to posttest, whereas dyads in the control group showed no improvement, or even signs of worsening. Having established overall significant intervention effects on the composite variables, we conducted a series of post-hoc tests for each of the separate scales (see Table 2B). For the EAS, the Condition x Time interaction was significant for maternal nonintrusiveness scale as well as child responsiveness and child involvement. For the FES, the Condition x Time interaction was significant only for the cohesion subscale.



Table 2B. Descriptives and Group Differences for All Variables of Interest.

	Control group		Intervention group		Group x Time differences	
	<i>n</i> = 21		<i>n</i> = 22			
	<i>M</i> ( <i>SD</i> )		<i>M</i> ( <i>SD</i> )		<i>F</i>	partial $\eta^2$
Pre	Post	Pre	Post			
EAS Positive Parenting	4.77 (.96)	4.60 (.92)	4.41 (.99)	4.85 (.98)	5.29*	.14
Sensitivity	4.60 (.96)	4.45 (1.02)	4.42 (1.20)	4.74 (1.19)	2.40	.06
Structuring	4.77 (1.06)	4.65 (1.02)	4.30 (1.25)	4.63 (1.30)	1.72	.04
Nonintrusiveness	4.50 (1.33)	4.02 (.98)	3.92 (1.07)	4.59 (1.10)	14.97**	.28
Nonhostility	5.20 (1.02)	5.25 (1.08)	5.01 (1.19)	5.44 (1.89)	1.26	.03
EAS Positive Child Behavior	4.51 (1.33)	4.41 (1.44)	4.22 (1.39)	5.02 (1.00)	7.85*	.16
Responsiveness	4.65 (1.27)	4.55 (1.44)	4.33 (1.40)	5.19 (1.03)	8.38*	.17
Involvement	4.36 (1.44)	4.27 (1.47)	4.11 (1.43)	4.85 (1.03)	5.77*	.12
FES Family Relational	41.11 (6.65)	38.75 (7.85)	39.65 (6.57)	41.08 (5.05)	5.57*	.12
Cohesion	42.71 (8.44)	38.05(10.11)	40.32 (8.44)	43.72 (7.60)	10.46*	.20
Expressiveness	41.24 (5.58)	40.48 (8.10)	39.82 (5.56)	39.64 (6.38)	0.09	.00
Conflict	39.38 (7.32)	37.71 (7.90)	38.82 (8.12)	39.86 (4.10)	2.01	.05

\**p* <.05 \*\**p* <.001

## Discussion

Our study provides evidence for the effectiveness of the attachment-based VIPP-SD parenting intervention in enhancing positive parent-child interactions, and positive family relations in a sample of deprived families. The VIPP-SD program has previously been found effective in families with at-risk children or at-risk parents (Bakermans-Kranenburg et al., 2008; Cassiba et al., 2008; Juffer et al., 2008; Mesman et al., 2008; Wooley et al., 2008). The present study adds to this body of literature by showing that the VIPP-SD is also effective in economically deprived families who struggle with multiple stress factors such as economic hardship, unemployment, and family chaos, and by establishing the feasibility of video-feedback as an intervention method in these severely disadvantaged families.

The VIPP-SD proved to be effective in enhancing the overall quality of the interaction style between mothers and their children. Analyzing the different qualities of interaction we identified a significant improvement in maternal nonintrusiveness, child responsiveness and involvement but effects on maternal sensitivity, structuring and nonhostility failed to reach significance. Although changes in sensitivity, structuring and nonhostility did not reach the significance levels, they were all in the expected direction, with higher post-test scores than pre-test scores in the experimental group. At the same time, for the control group changes in sensitivity and structuring were in the opposite direction, i.e., they decreased from pre- to post-test, suggesting that mother and child interactive qualities in these domains may actually decline in disadvantaged families as time goes by if no support is provided. Congruently, this same pattern was found for the self-report measure of family functioning, also suggesting a decrease of deprived families' capacity to communicate, to avoid conflict and to be cohesive, in the time course and in the absence of support. This is likely to be due to the chronic and corrosive impact of multiple stressors and risks present in these families' daily lives in conjunction with the growing demands of parenting a developing child (Bornstein, 2002; Conger & Donnellan 2007; Evans, 2004). This pattern highlights the importance of early parenting intervention programs in these families to stop the downward spiral of negative parent-child interactions.

The VIPP-SD resulted in a significant decrease in intrusiveness. This means that mothers learned to be less over-stimulating, to interfere less with the child's initiatives

and to encourage age-appropriate autonomy. This significant improvement reflects an important aspect of the VIPP-SD: from the first session onwards the distinction between attachment and exploration behaviors and the correspondent adequate parent responses are emphasized. In addition, the third session includes a specific activity where mother is asked to follow her child by responding only when the child takes the initiative to invite her into play. This task was designed to practice nonintrusive interactions, and to discuss its merits when reviewing the videotape together with the mother. The literature shows that maternal intrusiveness is not only associated with insecure attachment, but also with disorganized attachment (Swanson, Beckwith, & Howard, 2000; Ziv, Aviezer, Sagi, & Koren-Karie, 2000). The decrease in maternal intrusiveness resulting from the VIPP-SD is therefore of particular importance and may have salient consequences for children's attachment quality. In addition, it has been shown that maternal intrusiveness is a precursor of harsh parenting (Joosen, Mesman, Bakermans-Kranenburg, & Van IJzendoorn, 2012). Less sensitive and more intrusive interactions when infants are 3 months old predicted lower sensitivity and higher intrusiveness at 6 months which in turn predicted a more frequent use of harsh discipline at the age of 2 years. In light of these findings the decrease in intrusiveness that resulted from the VIPP-SD intervention suggests that this short-term behaviorally focused intervention is capable of diverting mother-child interactive behavior from a path of coercive and maltreating behaviors, potentially contributing to breaking an abuse cycle often present in deprived high-risk families.

Interestingly the VIPP-SD also proved to be effective in the enhancement of positive child behavior, which is likely to reflect the improvements in parent behavior, leading to a more harmonious dyadic interaction. It has been proposed that children can experience intrusiveness as a stress factor that interferes with self-regulation (Tronick, 1989), and fosters feelings of incompetence that in turn reduce child involvement (Kahen, Katz, & Goffman, 1994 as cited in Ispa et al., 2004). Thus, the decrease in maternal intrusiveness is likely to have sparked an improvement in the child's interactive qualities.

The VIPP-SD also resulted in an improvement of mother's perceptions of their family relations. Ecological models emphasize the role of the social context in which parent-child relationship exists, specifically proximal contexts such as family and marital relationship (Belsky, 1984; Bronfenbrenner, 1979). Several studies confirm the

interrelationship of marital functioning and parenting (Belsky & Fearon, 2004; Corwyn & Bradley, 1999; Durrett, Magnuson, Kalil, & Ziol-Guest, 1986). Thus, it is understandable that an intervention targeting parenting - a salient and potentially stressful task for the family - should indeed result in improvements in family functioning as well.

Our findings should also be viewed from a process perspective: it is vital to reflect on the elements that could have been decisive in producing the results attained. In our perception, the video-feedback method was a central component in the success of this program. The use of video allows for a heightened conscience of the child's emotions and signals and of the impact of the mother's behavior on the child (Juffer et al., 2008b; Fukkink, 2008; McDonough, 2004). In this sense it is the focus on child's behavior and its interpretation, sensitively guided by the intervener, which leads parents to understand the effects of their actions on child's behavior. This non-prescriptive approach allows the intervener to forge a "collaborative approach" with parents, contrary to the expert approach that these families are used to in the context of multi-assistance (Madsen, 2007). This collaborative approach enables the development of a trusting relationship that we believe is a very important aspect of the VIPP-SD and especially relevant to deprived families with a history of 'being told what to do' by professionals from various institutions. A methodological approach based on video is also valuable with this type of sample because images are often more powerful than words and enable stronger reinforcement of positive interactions. Also, both parent and intervener have a continuous tool of evaluation where progress is easily and immediately noted. Finally, the home-based rather than clinic-based experience was also an important feature for the success of the program, not only to encourage retention and involvement of families but also to ensure the promotion of the caregiving quality in the families' natural environment. These considerations are not only consistent with our own observations, but are also congruent with the literature on crucial components of attachment-based interventions in maltreating families (Tarabulsky, et al. 2008).

Strengths of the present study include the randomized control pretest-posttest design, the use of standardized observational measures, and the unique sample in terms of the level of deprivation. There are also some limitations, namely the small sample size that may have limited the statistical power to detect significant changes in some specific areas of parenting. As previously mentioned all observational and self-report

data evolved in the expected direction, and might have reached significance in a larger sample. The number of participants was rather low because of the special nature of the sample. At first we faced some difficulties with the recruitment of these families, in part due to the work overload of the agencies, and also due to resistance of the families to embrace the intervention study. Second, and in line with other studies with high-risk samples (Armbruster & Fallon, 1994; Friars & Mellor, 2009; Kazdin, Mazurick, & Bass, 1993; Spoth & Redmond, 1995), this study also experienced a considerable attrition rate. However, only 24.1% of families of the experimental group gave up participation during the experimental stage, which is not as high as reported by other studies working with high-risk samples, especially if we bear in mind that the method for evaluating retention in intervention generally allows parents to miss some sessions, which is not the case of the VIPP-SD where all mother completed all sessions. We speculate that the VIPP-SD elements of using video-feedback, the collaborative and strength-driven approach, and the tailoring to each specific dyad may have led to a relatively low dropout once the intervention process started.

In line with the difficulties to involve families, it should also be noted that only 2 of the 44 fathers attended at least one of the VIPP-SD booster sessions for which they were all invited. This is a very small rate of participation when compared to prior studies that report attendance of 52% of fathers (Stolk et al., 2008). This low paternal participation rate is likely to reflect the self-withdrawal of fathers from childrearing responsibilities that seems to be common in these low-SES, high risk families (Carlson & Magnuson, 2011). However it should also be noted that meta-analytic findings report that father's presence is not necessarily helpful as far as mother's improvement is concerned (Bakermans-Kranenburg et al., 2003). Considering that very problematic marital relations are likely to occur in deprived samples like ours, it may even be that working almost exclusively with mothers enhanced the program's impact. The focus on mothers gave the interveners the opportunity to build a positive relationship with the mothers without the interference of potential interparental disagreement and arguing.

Future research with bigger samples is required to clarify whether the program can also be effective in the enhancement of other dimensions of mother-child interaction in high-risk dyads. The relatively low internal consistency of the cohesion scale also calls for a replication of the study with a larger sample. Also further studies should collect longer-term follow-up data to investigate whether intervention effects are

retained over the course of time in family contexts characterized by heightened stress. Finally research should also focus on deepening the understanding of the processes and components of the VIPP-SD program that contribute the most to its efficacy.

In conclusion, the current study proves that the VIPP-SD can be a valuable program for the enhancement of positive parent-child interactions in severely disadvantaged families struggling with many problems. Effects were found for a self-report measure of family functioning and, more importantly, on observations of both parental and child behavior, supporting the importance of the dyadic focus of this intervention program. Given that parenting quality is a major mediator between poverty and maladaptive child development (Conger & Donnellan, 2007; McLeod & Shanahan, 1993; McLoyd, 1990), this study shows that the VIPP-SD can contribute to the strengthening of resilience to the impact of economically disadvantaged environments and provides an evidence-based approach to supporting such deprived families.

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## **CHAPTER 4    GENERAL DISCUSSION**

We will now discuss the findings presented in this doctoral dissertation from a broader perspective. We will first address the main questions and results reported in the first paper, regarding the identified determinants of parenting behavior in play and discipline contexts. Afterwards, we will attend to the findings of the second paper, concerning the effectiveness of the VIPP-SD in a sample of disadvantaged mothers and their young children. Finally, some remarks will be made regarding the research project as a whole, its strengths, limitations, and clinical implications as they should be taken into consideration when interpreting the results presented and when designing future investigation around the same topics.

### **The Determinants of Parenting**

The first paper raised the question of the contribution of maternal and contextual variables in the shaping of parenting behaviors both in play and discipline contexts. Specifically maternal attachment representations, maternal stress and family risk were analyzed and the relevance of state of mind in the determination of parenting became clear whereas the role of ecological variables within this high risk context could not be proven. Although in line with multi-determined parenting models (e.g. Belsky, 1984) we predicted contextual variables to interfere with the quality of parenting, the lack of significant findings might be due to the fact that the families in the current sample homogeneously experience a high level of risk and deprivation. We remind that our sample is characterized by low educational levels both for mothers and fathers, unemployment, welfare assistance and also maternal life trajectories marked by trauma, loss and abuse. Even though there was significant variation between participants, there may have been a threshold effect on the relation between cumulative risk and individual adjustment (Rutter et al., 1979), and it seems that different levels of risk within this sample were not salient enough to predict differences in parenting qualities. Looking from a different angle, the paper accounted for the relevance of attachment state of mind influence on parental behaviors. This is in line with the premise generally assumed by models of parenting behavior (Abidin, 1992; Belsky, 1984) related to the superiority of maternal variables when compared to other determinants of parenting. Because attachment representations are constructed based on developmental history and constitute interpretative filters that model the view of self and others (Bretherton & Munholland, 1999), it is clear that these factors would influence behavior within

relationships, particularly parent-child interaction within which they were initially learned from the previous generation.

Another important contribution of the first paper is that it enlarges the scope of attachment research analyzing attachment representation in relation to discipline behaviors. Security of attachment representation was positively related to psychologically controlling behaviors during discipline. Although this was a considerably counter-intuitive finding that needs replication, it exposed relations between attachment representations and parental disciplinary behaviors, supporting the expansion of this line of research.

Special attention should be devoted to this finding that security of attachment representation is related to psychological control - a coercive behavior (Patterson, 1982), that refers to forceful and negative manipulation behaviors meant to achieve child compliance (Barber, 1996). To better interpret this specific result we must acknowledge data gathered by research in relation to (negative) discipline at a young age and in a risk context. First we should take into consideration that the frequency of negative discipline practices increases during toddlerhood (e.g. Socolar, Savage & Evans, 2007), mirroring an augmented need for control elicited by developmental changes in toddlerhood, as children start to display more misbehavior in the “terrible twos” (Verhoeven, Junker, Aken, Dekovic, & Aken, 2007). Second, the pattern of increased psychological control use amongst low-SES families should be noted (Barber, 1996; Mason, Couce, Gonzalez, & Hiraga, 1996), which was also confirmed by a recent Portuguese study that reports a larger use of coercive discipline practices, including psychological control, amongst low-SES Portuguese mothers when compared to their wealthier counterparts (Coelho, 2011).

Having framed some key findings about the use of negative discipline at an early age and in a risk context, we account for plausible explanations for the increased use of psychological control techniques displayed by more secure mothers, what leads to consider the cultural idiosyncrasies of Portuguese culture in general, as well as low-SES Portuguese groups in particular. Education ideals in the Portuguese society have been in permanent evolution through last decades echoing advances in the political arena. Until recently, as an inheritance of a not so distant totalitarian regime that endured for 41 years and ceased in 1974, Portuguese society valued foremost parental power position



and an authoritarian power-based conception of parenting prevailed (Wall, 2010). Also in Portugal, like in other southern European countries, there is a culture of relatedness; hence interdependence and subordination to group goals are appreciated. Both of these aspects of the Portuguese culture seem to fit with psychological control being a socially accepted practice aimed at the socialization of manners and social harmony, somewhat similar to what is described for the Turkish culture (Gungor, 2008; Gungor & Bornstein, 2010). Indeed cross-cultural studies document that parental discipline behavior can better be understood within the cultural context and that effects of discipline practices depend upon the context within which they occur (Olson, et al., 2002). For instance a study comparing multiple countries (China, India, Italy, Kenya, Philippines, and Thailand) examined the normativeness of physical discipline and found that it moderates the link between mothers' use of physical discipline and children's adjustment (Lansford, et al., 2005). More specifically, higher normativeness decreased the strength of the relation between physical discipline and child negative outcomes. With respect to psychological control, although the majority of empirical work documents its negative effects on child development (e.g. Barber, 2002), there is also some evidence for a different pattern of relations. Mexican daughters of psychologically controlling parents score higher on assertive self-expression (Bronstein, 1994), and in two-year-olds the use of negatively controlling strategies by parents is associated with more self-assertive behaviors (Crockenberg & Litman, 1990). These findings have been explained by pointing out that in a cultural frame where paternal control is highly valued, psychological control when compared to more direct and punitive control strategies, may leave more room for child's behavioral affirmations (Bronstein, 1994). In this light, we can apply to psychological control what Deater-Deckard and Dodge (1997) showed regarding physical discipline: when it is culturally normative it will be expressed alongside warm and positive parenting and therefore viewed as normal by both parent and child, thus reducing the negative impact in terms of child outcomes. Conversely, when the cultural framework does not assume such practices as a common and acceptable mean of controlling child misbehavior, it is more likely that it can indicate loss of control, be interpreted by children as rejection, amplifying its negative impact. It should be noted however that we are far from defending an extreme position of cultural relativism. The moderation by culture is only comprehensible within certain limits, above which the effects of negative parenting practices would become evident in all children regardless of the cultural background. This is proposed by Lansford, et al.

(2005) and supported by their study in which physical discipline was significantly related to more adverse outcomes regardless of its perceived normativeness, albeit in different magnitudes.

In the last decade Portugal has been experiencing accentuated social transformations related to the decrease of family size, decrease of marriage as a context to establish a family, increase of cohabitation before (or instead of) marriage, increase of single parent and remarried families, decreased fertility rate (OFPF, 2011). In our perspective all these social transformations converge and impact a progressive transition with respect to family relations and to views and values associated with parenting, from conformity to autonomy (OFPF, 2011). However this evolution is not identical for all groups and we argue that low-SES parents are more resistant to such transformations. In fact it is important to recognize that when talking about discipline attitudes and practices, beyond differences between cultures, there is also much within-culture variability (Lansford, et al., 2005) and social class is recognized as a determinant of family relations and values (Aboim & Wall, 2002). Studies report that low-SES parents elect conformity as a preferred educational value, in contrast to their higher-educated counterparts who give more importance to self-determination (Kohn, 1977). Also, low-SES parents target foremost social integration of their children, valuing conformity to norm, and being less tolerant to behaviors that cross the norm (Newson & Newson, 1963; Seabra, 2002). Specifically in Portugal, sociological studies note that Portuguese disadvantaged families tend to be more enmeshed, to value authority, accommodation and stability (Aboim & Wall, 2002; Seabra, 2002), being possibly more prone to maintain traditional views of parenting. Furthermore, parenting that accentuates parental control, and high parental expectations for obedience and respect for authority has been found to be particularly adaptive for children growing up in impoverished or dangerous neighborhoods, because children's obedience to parental restrictions helps them to be protected from environmental hazards (Baldwin, Baldwin, & Cole, 1990; Kotchick, & Forehand, 2002). The importance attributed to values like obedience, politeness, submission to rules by low-SES families might also set a scenario for the approval of psychological control as a socializing behavior, especially considering that during toddlerhood and the early pre-school years, children are at a peak of their testing of limits and norms and also of learning about limits and morals. Considering risk and adversity that characterize particular life circumstances for these families, we can also

question ourselves if this psychological control may constitute an adaptive resource of parents of *toddlers* in circumstances of risk and heightened chaos and unpredictability.

We have also to consider that the present study uses an observational measure to recognize psychologically controlling behaviors within the interactions between mothers and their young children. Our methodology and aims contrast with the trends of studying psychological control, mainly confined to adolescence and self report method of evaluating it (Barber, & Harmon, 2002). So, the discrepancy in terms of methodology should be considered when comparing our findings to studies based on self- and other reports. In addition, the observation method used in the present inquiry may need further refinements in terms of its cultural sensitivity or even age appropriateness. In fact, regarding this issue of age appropriateness it is relevant to consider that, from the second year of life onwards, parents prefer verbal strategies to show disapproval of child behavior (Smentana, 1997). Particularly verbal strategies targeting the consequences for others have been proven more effective to regulate behavior (Hoffman, 1970; Kuczynski, 1982). The consideration of the normativeness of this other-oriented reasoning to handle misbehavior with children in this age range, in articulation with the cultural framework of these low SES Portuguese families, complicates the task of distinguishing psychological control from usual moral socialization behavior, moreover if we consider the mildness of most comments here coded as psychological control (e. g. “be a good girl, mum loves you if you behave”, “don’t do that, or mum will be very sad because of you”)

Another point to consider is the adverse childhood experiences of the mothers who participated in this study, generally marked by trauma, loss and abuse, as reflected in the narratives of their AAI. In this light, the fact the Q-sort method for AAI coding does not score unresolved attachment, is a major limitation that can obscure a more complete picture of attachment representations relation to parenting behaviors. A recent meta-analysis (Bakermans-Kranenburg & Van IJzendoorn, 2009) reports a very high prevalence of unresolved attachment among high-risk populations (32%). Hence, it is our belief that a more fine-grained method of AAI coding would uncover many unresolved classifications. Furthermore, there is clear evidence for a relation between unresolved state of mind and anomalous parenting (see Madigan, et al., 2006 for a meta-analysis). In this context of an adverse and turbulent developmental history, and of the chaotic environments that most of the mothers in our study also experienced in their

own childhoods, we have reasons to presume an incidence of unresolved classification, which we can also suppose to be entangled in the origin of the psychologically controlling parental behaviors.

Research questions raised in this first paper address relevant issues for the field of parenting and attachment research as they contribute to the characterization of parenting processes in high-risk families, which can lead to a better tailoring of interventions to the specific need of these parents. Following the cumulating evidences of the impact of secure attachment in healthy child development (Eisenberg et al., 2001; Kochanska, 2002; Leerkes, Blankson & O'Brien, 2009; Sroufe, Egeland, Carlson, & Collins, 2005; Tamis-Lemonda, Bornstein, & Baumwell, 2001), and of the interference of negative parental behavior in child attachment formation (Bakermans-Kranenburg, et al., 2003; De Wolff & van IJzendoorn, 1997), attachment-based interventions aimed at promoting positive parenting and enhancing attachment security and organization have multiplied in the last decades. However, a good fit of intervention aims to parents' characteristics and needs is crucial to amplify their efficacy. Therefore, the identification of a caregiver's strengths and needs based on multiple indicators can enhance the ability to tailor intervention programs to specific parental profiles (Whipple, Bernier, & Mageau, 2011). Attachment representation can be one of these useful indicators and in this sense this paper contributes to the research and practice of parenting intervention as it was able to reveal relations between attachment state of mind and specific aspects of parenting, which can be used for the design and/or implementation of interventions. In fact, there are programs that use (parts of) the AAI as an element of the initial assessment in order to develop individualized and highly focused goals and plans for the intervention (Cooper, Hoffman, Powell, & Marvin, 2005). Previous research has already proven attachment representations to be a factor of consideration when investigating what works best for each cluster of individuals under diverse circumstances (Roth, & Fonagy, 2005). Indeed, several studies demonstrated a moderating effect of attachment styles in intervention use and effects (Bick, Dozier, Moore, 2012; Heinicke et al., 2006), what also occurs specifically in economically deprived risk samples (Cassidy, Woodhouse, Sherman, Stupica, & Jejeuz, 2011; Duggan, Cassidy, Berlin, Burrel, & Tandon, 2009).

## **VIPP-SD Effectiveness**

In the second paper the effectiveness of the VIPP-SD - a short term, attachment based intervention program, that relies on video-feedback technique to enhance parental sensitivity and positive discipline strategies - was tested in a randomized control design involving Portuguese economically deprived mothers and their 1- to 4-year-old children. This study resulted in a validation of this intervention to these high risk circumstances, as VIPP-SD proved to be capable of promoting positive mother-child interactions and positive family relations, and therefore of altering early risk caregiving ecologies.

A first salient result of this study is that mother and child interactive qualities seem to decline in disadvantaged families over time when no support is provided. The same pattern was found for self-reported family functioning. This finding highlights the value of early parenting intervention programs in these contexts, even if only to stop the deterioration parental competence and the quality of the broader family environment. The positive and meaningful results found for the VIPP-SD also support the importance of such efforts. The VIPP-SD's ability to increase positive parenting behavior in general and maternal intrusiveness in particular is of major importance. Associations of maternal intrusiveness and unfavorable child outcomes like insecure or disorganized attachment (Swanson, Beckwith, & Howard, 2000; Ziv, Aviezer, Sagi, & Koren-Karie, 2000) suggests that this decrease of intrusiveness effected by the VIPP-SD may have salient consequences for children's attachment quality, which is known to be diminished in high risk dyads (Cyr, Euser, Bakermans-Kranenburg, & van IJzendoorn, 2010). The credit to the effectiveness of VIPP-SD in promoting nonintrusiveness is also recognized when considering two research outcomes. First, maternal intrusiveness is a precursor of harsh parenting (Joosen, Mesman, Bakermans-Kranenburg, & Van IJzendoorn, 2012). This lends consistency to the effectiveness of the VIPP-SD in severe risk circumstances because the decrease in intrusiveness found in our study is consistent with the decrease of harsh discipline practices within this same sample reported elsewhere (Pereira, Negrão, Soares, & Mesman, submitted paper). Second, maternal intrusiveness has been found to relate to past maltreatment experiences (Moehler, Poustka, & Biringen, 2007). A parental history of abuse is a strong precursor of maltreatment with an estimated rate of 50% to 75% of parents with a history of abuse maltreating their children (Leifer, Kilbane, Jacobsen, & Grossman, 2004; Oliver, 1993),

and as suggested elsewhere (Moehler, et al. 2007), intrusive behavior can be a discrete alteration in interactive behavior that can be a sign of developing maltreatment behavior. Given that intrusiveness can be an antecedent of maltreatment and also the ability of the program to positively influence both intrusiveness and harsh discipline practices, VIPP-SD can be viewed as a short-term behaviorally-focused intervention capable of diverting mother-child interactive behavior from a path of invasive and coercive behaviors, potentially contributing to breaking an abuse cycle often present in deprived high-risk families.

We should not lose sight of the fact that, beyond the VIPP-SD's capacity to alter parental behavior, this study pointed to a dyadic progression in the interactive pattern because children's responsiveness and involvement with mothers also increased, possibly as a domino effect originating in parental changes. This can perhaps be a confirmatory sign of the significance and impact of parental behavior changes and an extension of the VIPP-SD's effectiveness to improving child behavior, the ultimate target of all parenting interventions.

We should also devote some attention to the parental behaviors that were not changed by the intervention, although all evolved in a positive direction. No intervention effects were found on maternal sensitivity, structuring and nonhostility. Regarding sensitivity, although it constitutes a separate scale from nonintrusiveness in terms of EAS coding system, it can still be argued that the ability to recognize exploration bids from the child and act congruently without interference is a main ingredient of sensitivity as defined by Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978), and consequently the improvements in nonintrusiveness can be viewed as a promising first step in terms of the enhancement of sensitivity. Looking at structuring or hostility, it does not seem so odd that no significant improvements were produced in these specific domains because they are not a direct focus of the VIPP-SD. It can certainly be argued that the enhancement of positive discipline techniques involves a certain degree of decrease of hostility towards the child, and also a development in the ability to structure and child's environment and set limits. But maybe this part of the intervention is too confined to the discipline arena, and not transferable to other domains of interaction. Therefore, a more broad-spectrum approach is probably necessary to work specifically on nonhostility and structuring with highly disadvantaged populations. Particularizing in the case of nonhostility, there was no clear

pattern of change in either intervention or control groups. Research has shown that hostile interactions are characteristic of poverty samples, and that psychological stress related to economic deprivation and hardship contributes to parental displays of negative affect, low levels of involvement and greater use of overreactive and harsh discipline (Clément, & Chamberland, 2009; Dopke, & Milner, 2000; McCurdy, 2005; Milner, 2003, 1993; Pinderhughes et al., 2000; Respler-Herman, Mowder, Yasik, & Shamah, 2012; Ricketts, & Anderson, 2008). However our baseline data of nonhostility were surprisingly not as low as one would expect considering the literature, with all scores being in the “good enough care” zone. This can partially explain the lack of significant changes in a domain where, from a general perspective, mothers were more adequate from the beginning. However we can also consider the possibility that this apparent inconsistency between our data and the literature can be related to some methodological issues, as the tasks from which the interaction data were derived were relatively low on stress. Particularly regarding the coding of nonhostility, which is often displayed in defiant/stressful situations, it may be that more stress inducing tasks (e.g. prohibition and discipline tasks) would provide a different picture regarding the amount of hostility in mother-child interactions, and this question should be addressed in future research.

The VIPP-SD also resulted in an improvement of mothers’ perceptions of their family relations. This is in line with findings from other early intervention studies (e.g. Lees, & Ronan, 2008), and confirms the relatedness of parenting and the social context within which it takes place (Belsky, 1984; Broffenbrenner & Cornell, 1986). Within the social context an emphasis on proximal contexts such as family and marital relationship is due, and several studies confirm the interrelationship of marital functioning and parenting quality (Belsky & Fearon, 2004; Corwyn & Brandley, 1999; Durrett, Richards, Otaki, Pennebaker, & Nyquist, 1986). In light of these synergies operating inside the family it is plausible that a systematic work on the improvement of competence of such a major family task as parenting can also result in (the perception of) better family relations. A deeper analysis shows that the perception of change was particularly related to family cohesion, maybe because VIPP-SD sessions, with the attention devoted to daily tasks and the detailed observations of behavior from video, enhances the sense of bonding, belonging and pride between parent and child resulting in a higher perception of involvement within the family.

It is also appropriate to analyze the VIPP-SD ingredients that may be at the base for explaining the efficacy results in more detail, and to meet this goal we will appeal to observations and clinical insights assembled during data collection. This can be a relevant exercise providing information to test for in future process research, but above all, this inspection can provide interesting practical and clinical insights to inform evidence based practice in real-world settings.

Most effective interventions with high-risk families devote attention to interactive processes between parents and their children (Kaminski, Valle, Filene, & Boyle, 2008; Olds, Sadler, & Kitzman 2007; Tarabulsky et al, 2008). VIPP-SD's main focus is on current and naturalistic interactions between parent and child and its working method requires parents to practice new skills with their children during program sessions. This assisted practice, not only facilitates the translation of knowledge into practical skills but also enables contingent reinforcement of parents' mastery of this skills. This methodology has been meta-analytically related to larger effects on parenting programs aiming at enhancing behavior of 0- to 7-year old children (Kaminski, et al., 2008), and indeed we think it is especially suitable for our sample.

Video-feedback is a way to intervene in maladaptive parenting interactions, that has also been meta-analytically labeled as an effective means of intervention for parents of young children (Fukkink, 2008), and also highly recommended to be included in interventions for maltreating families (Tarabulsky et al., 2008). Video recordings enable parents to watch themselves from a distance, which elicits reflection about individual actions. Thinking specifically of our low-SES risk families this might be particularly valuable for several reasons. First, it enables a non-prescriptive relationship: in a certain sense it is the children and the video that gives feedback to the mother teaching her what works best, rather than the intervener only, which can be very effective for multi-assisted families tired of injunctions and limitations from services (Madsen, 2007). Second, it can counterbalance the mainly verbal nature of therapy, which can be particularly relevant as verbal codes are generally weakly shared between low-SES families and services (Madsen, 2007). Third, it can be successful in centering attention of parents in interaction (Fukkink, 2008), constituting a more practical and visual mean of working on several issues, particularly suitable for a sample that has been suggested to be less cognitively competent (NICHD, 2005). Finally, it works as a continuous evaluation tool allowing the mother to recognize her evolution, giving her further



incentive to continue the intervention protocol and believing and perceiving the (immediate) changes in her interactions with her child.

Home visitation is another ingredient recommended for intervention with maltreating families (Tarabulsky et al., 2008) that is shared by VIPP-SD and can make the difference with these at-risk families, many of them one step away from maltreatment. Families are more likely to be fully involved in a program that develops in a setting that is already familiar to them and where the sharing of power, control and status is more balanced when compared with a clinical setting, unfamiliar and many times threatening to them (Ammerman et al, 2006; Madsen, 2007). In addition, it takes advantage of a more naturalistic setting where mother can practice her interactive qualities in the real context of stressors and competing demands (Ammerman et al, 2006). Further, the household also calls for a less formal setting, which fits with the positive and collaborative nature of the VIPP-SD and can facilitate the development of a close and trusting relation between intervener and mother: the intervener is less seen as an intruder that will lecture parent on how to behave and educate children and more like a collaborator who works together with mother supporting her in the discovery of what works best with her child, which is certainly especially meaningful for socially isolated mothers (Madsen, 2007). Although group interventions can be suitable for high risk populations (Abreu-Lima et al, 2010) because they also foster the construction of a social support network, the individualized character of VIPP-SD, possibly intensifies intervention as all attentions, comments, and activities are devoted to that particular dyad.

Finally, the findings of this study should also be complemented with attention to the work of Pereira, et al., (submitted paper) that analyzed the effectiveness of the VIPP-SD in the same sample but specifically focusing on harsh discipline practices. The VIPP-SD proved to be effective in decreasing maternal harsh discipline with mothers who experience high levels of parenting stress at intake, which speaks for the program's capacity of improving parenting in families that are most at risk for harsh and potentially maltreating child-parent interactions. The results here reported, in articulation with these results of Pereira, et al. (submitted paper), argue firmly to the defense of a *less is more* perspective of intervention (Bakermans-Kranenburg, et al., 2003) even in risk circumstances. Hence, our study contributes to one of the major debates in the field of attachment based intervention (Bakermans-Kranenburg et al.,

2003; Egeland, Weinfield, Bosquet, & Cheng, 2000), and joins a few more already defending a behaviorally-focused and brief intervention approach even for multi-stressed, high-risk families (Bernard, et al., 2012; Moss, et al., 2011). This can have major clinical implications because the effectiveness of short-term interventions are good news in terms of cost effectiveness, a main criterion for funding interventions and therefore for transposing intervention programs from research into real-world settings. In fact, the VIPP-SD's efficacy may be partly due to characteristics such as its short duration and detailed manual, which makes it suitable for a place among the services provided to disadvantage families and support the feasibility of its deliverance on a large-scale basis. Naturally, taking into account the complexity and multidimensionality of the problems these families face (e.g. individual psychopathology, difficulties in meeting primary needs), we advocate for the inclusion of empirically validated parenting programs like the VIPP-SD in a wider and more eclectic support service to such deprived families (that responds also to dimensions as unemployment, inadequate food and housing, marital difficulties, etc.), that can contribute to a more sustained and well fitted support of this population.

However enthusiasm should be tempered based on what constitutes a major limitation of the present study - the lack of a follow up evaluation. Recent meta-analytic evidence point to a heightened difficulty of disadvantaged families to maintain treatment gains (Leijten, Raaijmakers, de Castro, & Matthys, 2013), when the intervener is no longer available but cumulative contextual stresses continue to exert pressure. Therefore future studies should examine the capacity of the program to induce long lasting effects. Also, the alert of the trouble of high risk families in prolonging intervention gains in conjunction with the margin for improvement in specific parenting dimensions (as sensitivity, structuring, nonhostility), can lead us to consider including some long term follow up sessions (in addition to the booster already planned by VIPP-SD). This procedure is described to produce increased and enduring gains for high-risk groups (Bundy, McWhirter, & McWhirter, 2011; Tolan, Gorman-Smith, Henry, & Schoeny, 2009).

Articulating the content of both papers presented by this dissertation we should also be attentive to the possible inferences from our first study concerning the determinants of parenting to the tailoring of interventions as the VIPP-SD, presented in the second paper. Bearing in mind our results, that showed that a more dismissing

representations was associated with a higher structuring ability during play, we could argue that more dismissing mothers could benefit from a heightened focus on emotions to counterbalance the more functional interaction style that seems to characterize their parenting behaviors. Thinking specifically about the VIPP-SD, the 4<sup>th</sup> session can be of particular relevance once its aims evolve around the sharing of feelings: to have pleasure in the body contact, to show understanding for children positive or negative emotional states, to share a warm and joyful interactions (Juffer, Bakermans-Kranenburg, van IJzendoorn, 2008). This could be a session in which the intervener could devote particular attention when working with dismissing mothers making sure also to return to these contents in the booster sessions. Contrastingly, in view of the inclination of more preoccupied mothers towards a self-centered pattern that deviates them from a sensitive and structured interaction, they can possibly benefit from a strengthening of central contents of sensitivity of sessions two and three, i.e., “speaking for the child” and “sensitivity chain”. Indeed the speaking for the child technique is expressly intended to show the perspective of the child and the sensitivity chain aims to itemize the different parts of the sensitivity construct - observing, interpreting and reacting promptly and appropriately – in order for parents to recognize its value in the interaction with their children (Juffer, et al., 2008). It is reasonable to expect that an intensification of these techniques, strengthening also what is a general guideline of the VIPP-SD, that is to encourage mother to join the intervener in these exercises, could lead to better intervention outcomes for more preoccupied mothers. These hypotheses can be hereafter addressed by investigation.

Of course when we are talking about the VIPP-SD, the concern of tailoring intervention to mother specific needs is already addressed by the mother-child interaction profile (Juffer, et al., 2008). Many of these facets of maternal behavior that are related to her representation of attachment are surely captured in this first analysis of mother-child behavior and therefore are already being taken into account. However, beyond the contribution of this interaction profile, the AAI could probably add a wider identification of interaction styles, resulting in helpful recommendations to a more adjusted delivery of the intervention protocol.

## **Participation and Attrition**

Engagement and attrition is an important topic to address in parenting intervention studies, because high drop-out rates are generally common in this line of research with at-risk families, undermining programs efficacy and constraining mental health services (Friars, & Mellor, 2009; Spoth, Goldberg, & Redmond, 1999). Hence, we would like to discuss this study's attrition rates, in order to clarify possible reasons and identify potential solutions. This aspect can be examined in two steps. First, attrition rates considering the investigation process as a whole (i.e., screening, pretest, posttest, home visiting), and second, attrition rates exclusively for the intervention program. In order to properly discuss this topic we must first mention characteristics of multi-stressed families in high-risk settings, which the literature describes as uncooperative, resistant to external intervention, and difficult to study due to these obstacles (e.g. Collety & Linares, 1997). Another important feature to consider is that this particular research project was heavily demanding for the families: it encompassed from 4 to 10 visits of approximately 2 hours each, families would have to agree to let us visit their homes and also to be video-taped while interacting with their children, and pre- and post-test assessments were challenging not just because of the observation duration, but also because of the quantity of self-report measures to be filled in by the mothers who are generally not quick readers. In light of these considerations, it is understandable that a considerable attrition rate was experienced in this study, similar to those in other studies with high-risk samples (Armbruster & Fallon, 1994; Friars & Mellor, 2009; Kazdin, Mazurick, & Bass, 1993; Spoth & Redmond, 1995). In fact, high attrition rates are a consistent concern of parent intervention research in at risk samples. Low socioeconomic status, single parent status, young maternal age, high levels of stressful life events, child and adult social-emotional maladjustment, public assistance, are among the factors that are associated with early drop-out rates (Armbruster, & Fallon, 1994; Friars & Mellor, 2009; Kazdin, Holland, & Crowley, 1997; Kazdin, Mazurick, & Bass, 1993; Spoth, Goldberg, & Redmond, 1999). Most of these factors were also characteristic of our high-risk, economically disadvantaged sample, and resulted in a dropout rate of nearly 60% when disengagement throughout the whole study is considered (Negrão, Pereira, Soares & Mesman, 2012). It is also important to note that 32.3% of eligible families refused to participate in the study immediately at first contact, which seems to be in line with the previously mentioned resistance and

mistrust by these families (Colleti & Linares, 1997). Another substantial percentage (23.3%) discontinued their participation during or directly after pre-test. This can possibly be due to the excessive demands of the assessment, especially taking into account the distinctiveness of this sample, but it can also indicate a certain disinterest. Mothers do not assume the disinterest at first but passively show their uninvolvedness by rejecting phone calls, systematically postponing appointments or refusing to answer the door, which leads to study abandonment. Additionally, it has also been shown that dropout families in this research project have children with higher scores of negative adaptation, mothers with more anxiety and hostility symptoms and increased father risk factors (Negrão, Pereira, Soares & Mesman, 2012). This data speak of the worrying evidence that, even within the most vulnerable fringe of the population, families that most need help are not being fully supported, provoking a vicious circle similar to the Mathew Effect: those who fare relatively well engage in interventions and benefit from them, whereas those who are in a more disadvantaged position (higher risk) do not benefit from intervention efforts because they do not enroll or drop out early. In fact, attrition rates represent a major obstacle to parenting interventions and constitute a waste of resources in mental health promotion, compromising its efficacy (Ammerman et al, 2006; Axford, Lehtonen, Kaoukji, Tobin, & Berry, 2012). Indeed, this study's data collection procedures were characterized by resistance and mistrust of the families, accustomed to deal with many professionals and sometimes tired of the multi-assistance, many times afraid of losing power over their lives. Families were also frequently overwhelmed with concurrent needs (money for food, rent...) preventing them from recognizing the importance of the needs of their children, and therefore undermining the engagement in the study. Data collection also made clear that some external variables like unsatisfactory relationships with previous welfare professionals, or subvention cuts also played a big role in family engagement. In light of our experience, and those of others who work with similar populations (e.g. Ammerman et al., 2006; Madsen, 2007), we emphasize the need to firmly establish a close, respectful, empathic and culturally sensitive relation with the parent, to attune to their needs and also to act with temperance when designing research projects. However further systematic analysis of these factors is needed to understand what hampers intervention efforts with these disadvantaged families and consequently to develop evidence-based guidelines on how to better access and engage multi-stressed families.

If we restrict our analyses to intervention drop-outs (i.e., experimental group families that gave up participation during the experimental stage), the dropout rate narrows to 24.1%, which is not as high as reported by other studies working with high-risk samples (e.g. Snow, Frey, & Kern, 2002), especially if we bear in mind that the method for evaluating retention in intervention generally allows parents to miss some sessions, which is not the case of the VIPP-SD where all mother completed all sessions. These observations support the adequateness of the VIPP to risk circumstances. An analysis of VIPP-SD components that might have been decisive for its efficacy have been discussed above. Now, we would like to stress what we envisage as the VIPP-SD components mainly responsible for engagement and retention. Strategies that are established as related to parents' engagement and retention in parenting programs include the relationship built with parents, making the programs accessible, and addressing parents' concerns (Axford, et al., 2012; Pearson, & Thurston, 2006; Spoth, & Redmond, 2000). These aspects can be of special importance in risk circumstances. Considering that socioeconomically disadvantaged parents experience less social support, the collaborative and strength-driven approach fostered by VIPP-SD that enables the development of a trusting relationship between intervener and mother, can be a good fit for such circumstances. Also risk families experience practical barriers like lack of money to transports and childcare, which can make harder to participate in programs, which are perceived as less accessible. The home based protocol, which took the intervention to each family natural environment, and did not ask also for this extra trouble of mobility, could have been a fundamental feature that suited the characteristics of these families. Finally taking into account that socio-economically deprived parents are frequently burden with multiple competing concerns, we speculate that the tailoring of the intervention to each specific dyads interaction style and needs was also a fundamental element to retention because parents felt like their specific issues were being considered and answered. Also the use of video-feedback, an evidence-based effective technique to intervene with parents of young children (Fukkink, 2008) that make more visible the reinforcement of positive interactions, may have led to a relatively low dropout once the intervention process started.

## **Study Strengths and Limitations**

We would also like to highlight some strengths and limitations of this study. As strengths we underscore the distinctiveness of our sample, which represents a highly vulnerable group, both from societal and psychological points of view. Socio-demographics illustrate the low educational level both for mothers and fathers, and a vast predominance of unemployment and welfare assistance among parents. Furthermore, impressions of these mothers' life trajectories as accessed in the AAI show frequent experiences of trauma, loss and abuse. The difficulties in studying such high-risk groups are documented in the literature and although this was a complex study that faced several obstructions (mainly in participants' engagement as previously discussed), the level of deprivation of the sample is not very common and therefore a parenting intervention study in such circumstances is valuable to our research field.

Apart from the sample we would also like to emphasize methodological strengths. The Randomized Control Trial design has been proposed as the desirable "industry standard" of program evaluation in the attachment field (Berlin, 2005, p.23), and it is considered the research design of choice for evaluating treatment efficacy (Del Boca & Darkes, 2007). This methodology is characterized by precision and rigor based on the random assignment of families to a treatment and a no-treatment group, which enables between-group equivalence, allowing investigators to attribute differential outcomes solely to the experimental manipulation of treatment (Del Boca & Darkes, 2007). In this study, the validity of the RCT is also complemented by the use of observational measures that, although time-consuming (both for participants and for the coding teams), allowed us to capture real interactions, the authentic display of (lack of) mother-child interactive qualities. This is important as it is a much more objective way to assess parent-child interactions than those based merely on self-reports. Although self-reports are obviously valuable in providing information's regarding subjective experiences and have predictive validity for children developmental outcomes (Verhoeven et al., 2007), they are also vulnerable to processes like social desirability (O'Connor, 2002), and a lack of insight into one's own parenting qualities.

This study also has several limitations that should be considered as they hamper the generalization of the findings and call for a replication study. We would like to start by referring to the small sample size, which may hinder statistical power to detect significant results. The small sample was due to difficulties with the recruitment of

participants from the agencies, because professionals were overloaded with cases and with little time for considering tasks other than their prescribed work responsibilities. In addition, the resistance of families to undergo the study, already discussed when debating the dropout rates played an important role in the final sample size. In this light, future research with a bigger sample is needed to replicate and expand these findings. Another significant limitation is that no follow-up data is available to examine the permanence of intervention effects through time and also to uncover possible sleeper effects. Future replications of this study with this same type of sample should include follow-ups with longer time intervals to examine whether enduring effects are attained. The present research also did not account sufficiently for process variables that should be considered in order to fully explain intervention outcomes (Stolk, et al., 2008). For example, this study is homogeneous in terms of treatment dose (as all mothers completed all 6 VIPP-SD sessions), but for instance the “quality” dosage, that is the extent to which mothers were genuinely engaged and valued each home visits or the extent to which they practiced each competence learned from the program could be evaluated in the future. We also speculate about the role of the relationship established between the intervener and the mother, here taken as a process facilitator, and elsewhere proven as a predictor of change in positive parenting following an intervention process (Stolk, et al., 2008). A measure of intervener-mother alliance (i.e., the quality of their relationship throughout the intervention process) to be completed both by intervener and mother could therefore enable a more rigorous examination of whether or not this variable is related to treatment effects. Furthermore, several variables of this study were measured through self-report questionnaires, which is specifically problematic in a sample of low-educated mothers who are not avid readers and may have troubles understanding and answering questions properly.

Despite its limitations, this study contributes both to research and clinical practice in the areas of the quality of parental care under economic strains and the effectiveness of support provided to families. At the conclusion of this work we would like to accentuate the contribution of this study to clinical practice, particularly in the Portuguese social services context.

In the field of improving the early child-caregiver relationship, evidence-based practice is of paramount importance (Rubin, 2012). In fact, recommendations exist for all parenting interventions to be theoretically grounded, strictly tested in their efficacy



and proven to be deliverable in a cost-effective and ample way (Berlin, Ziv, Amaya-Jackson, & Greenberg, 2005). Evidence-based programs include the advantage of have previously been tested in rigorous RCT or quasi experimental designs with sustainable positive impacts in the dimensions they target, as a result, services who adopt them know that there is a high likelihood for them to generate the goals they pursue. This is also important from an economic point of view, as they offer added guarantees for the investment to pay off in terms of results attainment (Del Boca & Darkes, 2007). Although these seem reasonable requirements, Portuguese children's services systems do not have much of a tradition of endorsing evidence-based practices, maybe because some confusion persists among policy makers on the existence, definition and standards for evidence-based programs as well as their readiness to dissemination (Axford, Elliot, & Little, 2012). It is important however to change this state of affairs because, in one hand, parenting is a very sensitive area where one cannot risk to provide negative or ineffective support, and on the other hand, because for vulnerable families who deal frequently with services, negative experiences can cause serious harm and heightened resistance to services (Daly, 2007; Madsen, 2007). This study therefore contributes to this field, because it has identified a reliable evidence-based program for promoting positive parenting and child development, a concern recently shared by Europe as a whole (Axford, et al, 2012), and also by Portugal in particular (Abreu-Lima et al., 2010). Specifically this study showed evidence of the effectiveness of the VIPP-SD in enhancing parent-child interactions and family functioning in economically disadvantaged families, one of the most vulnerable groups described by literature at the verge of stress, dysfunctional marital and parental interactions and negative child developmental outcomes (Conger & Donnellan, 2007). Also from a clinical standpoint, the ability of VIPP-SD to produce significant changes in parenting behaviors and family dynamics in such conditions can be envisaged as a relevant input to alter the intergenerational high-risk pathway (Conger, Belsky, & Capaldi, 2009; Egeland, Jacobvitz, & Sroufe, 1988; Stack, Serbin, Enns, Ruttle, & Barrieau, 2010). Thus, ultimately, this study confirms the investment that should be made in parenting intervention in vulnerable socioeconomic contexts, so that despite the high risk distal environment these families are embedded, a low risk proximal environment can be produced, strengthening families' resilience.

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