A Fresh Start From Arrested Motherhood: A Randomized Trial of Parent Training for Mothers Being Released From Incarceration

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Een nieuwe start vanuit staande gehouden moederschap:
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voor (ex-)gedetineerde moeders
(met een samenvatting in het Nederlands)

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Chapter 1

General introduction

"It runs in the blood" is a phrase often used to refer to characteristics which seem to be transmitted from generation to generation. This saying might hold for delinquency with regard to children of incarcerated mothers, since they are considered one of the most at risk populations for later delinquency (Lipsey & Derzon, 1998). Transmission of delinquency from delinquent mothers to their children appears to be at least as strong as transmission from delinquent fathers to their children (Bijleveld & Wijkman, 2009). However, not all children of delinquent mothers will become criminals, and importantly, their mother's delinquency is usually not the only risk that these children face (Dallaire, 2007). Several risk factors have been identified, such as the experience of stressful and traumatic events, many home and school displacements (Dallaire, 2007), economic strain (Phillips, Erkanli, Keeler, Costello, & Angold, 2006), and cognitive deficits (Poehlmann, 2005a). This accumulation of risk factors across domains, rather than a single specific factor, is important in the determination of adverse child outcomes (e.g., Sameroff & Seifer, 1993). Moreover, this accumulation of risk factors makes it difficult to disentangle processes that account for the increased risk among children of incarcerated mothers.

The complexity of these children's lives is reflected in the complexity of social service systems, policies, and academic disciplines involved in mothers entering incarceration, and the children for whom these mothers take care. For example, research on children of incarcerated mothers has been conducted from disciplines like criminology, sociology, social work, nursing, psychiatry, law, public policy, family studies, social psychology, clinical psychology, and developmental psychology (Poehlmann & Eddy, 2010). An important result of not having a disciplinary "home" is that researchers have tended to work in isolation, and that integration of findings across disciplines has been rare (Poehlmann & Eddy, 2010).

Children of incarcerated parents are being called "the hidden victims of imprisonment" (Cunningham & Baker, 2003). These children are literally hidden because the exact number of children affected by parental incarceration is not known for the Netherlands, and several other countries (e.g., Murray & Farrington, 2008a), and can therefore only be roughly estimated. Furthermore, these children are relatively hidden for policymakers and practitioners, as a consequence of the aforementioned scattered literature (Poehlmann & Eddy, 2010). Moreover, these children are being called victims because parental incarceration is associated with adverse outcomes for children.

However, it should not be assumed that parental incarceration by itself *causes* these adverse outcomes. First, if children of incarcerated parents show relatively many problems,

this might also be caused by factors associated with parental criminality or disadvantaged circumstances before parental incarceration. Second, not all children of incarcerated parents will face adverse outcomes. That is, some children will show resilience, because of existing promotive and protective factors. Promotive factors are variables that are related to positive outcomes for all children, regardless of the child's level of risk. Protective factors are factors that are associated with decreased risk in at-risk populations, but not in low risk populations. Moreover, separation of a parent by incarceration might actually be beneficial for some children, if this separation means removal of a negligent, abusive and/or antisocial influence from their lives (Hagan & Dinovitzer, 1999; Jaffee, Moffitt, Caspi, & Taylor, 2003; Wildeman, 2010). The aim of this dissertation was to examine problems faced by families affected by maternal incarceration, and to examine effectiveness of intervention for this population.

Child outcomes

Parental incarceration has, in general, been associated with adverse child outcomes, including antisocial behavior. A recent meta-analytical review (Murray, Farrington, & Sekol, 2012) shows that parental incarceration predicts increased risk for children's antisocial behavior. In studies which controlled for parental criminality or children's antisocial behavior before parental incarceration, about 10% increased risk for antisocial behavior among children affected by parental incarceration alone was found, compared with peers separated from parents for other reasons. Several moderators, including which parent (father and/or mother) was incarcerated, child's sex, and child's age, were investigated in this meta-analysis. However, no significant moderator effects for the association between parental incarceration and children's antisocial behavior were found.

Even though an increased risk for antisocial behavior is widely recognized, there is some debate as to whether parental incarceration is also associated with other adverse child outcomes. Although prior reviews (Dallaire, 2007; Murray & Farrington, 2008a; Murray, Farrington, Sekol, & Olsen, 2009) and individual studies (e.g., Murray & Farrington, 2008b; Wakefield & Wildeman, 2011) suggest that parental incarceration is associated with several types of adverse child outcomes, the aforementioned meta-analytical review suggests that the increased risk may be specific for the association between parental incarceration and children's antisocial behavior. Parental incarceration was not associated with mental health problems (i.e., internalizing problems, such as anxiety and depression, and general mental disorder), drug use, or poor educational performance (Murray et al., 2012).

Difficulties related to incarceration

Families may face numerous difficulties when parents are incarcerated. These difficulties might contribute to adverse outcomes for children. Murray, Farrington, and Sekol (2012) distinguish several sources of difficulties that children can experience during parental incarceration, including arrest and court, explanations about whereabouts, caregiving arrangements, contact and visiting, social stigma, and the parent's return to the family.

Arrest and court

Before actual parental incarceration, children may witness arrest of their parent and have to deal with uncertainties about trial outcomes. Since mothers are more likely than fathers to be the primary caregiver of their children, children of incarcerated mothers may be exposed to arrest relatively often, compared with children of incarcerated fathers (Dallaire & Wilson, 2010). Kampfner (1995) reported that as much as 70% of the children in her sample witnessed their mother's arrest. Moreover, these children retained vivid memories of arrest years later. These vivid memories underscore that the context of parental arrest, including a chaotic scene, may be particularly frightening for children; more so than the actual arrest (Dallaire & Wilson, 2010). Children who witness parent's criminal activity, arrest, and sentencing are more likely to show maladjustment in emotional regulation skills, to perform worse on a receptive vocabulary test, and to exhibit more anxious/depressed behaviors than children affected by parental incarceration who did not witness such events (Dallaire & Wilson, 2010). Likewise, within a child welfare population, witnessing the arrest of a household member was predictive of elevated posttraumatic symptoms. However, children who had seen arrests differed from the remainder of the child welfare population in important other ways. They were also more likely to have witnessed a broader range of violence in their homes, to have had greater exposure to non-violent crimes, and to be living in families having difficulty meeting children's basic needs (Phillips & Zhao, 2010).

Explanation about whereabouts

Often, children are not given honest and developmentally sensitive explanations about the whereabouts of their incarcerated parent (Murray et al., 2012). Many children have few details about the whereabouts of their incarcerated parents and wish they knew more. For some children, current caregivers refuse to provide this information (Bocknek, Sanderson, & Britner, 2009). Poehlmann (2005c) reported that half of the caregivers gave

simple, honest explanations to children about the mother's incarceration ("Your mom is in jail" [p. 687]), and 7% used developmental explanations ("Your mama did something naughty and now she is in a really big time out" [p. 687]). However, 20% of caregivers gave distorted explanations to children (e.g., mother is in college, at the hospital, or on vacation), and 15% never said anything to the child about the mother's incarceration. The other caregivers (8%) told children about the mother's situation in a manner that included many frightening details (e.g., mother's involvement with guns, knives or blood). Children were slightly more likely to hold positive representations of caregivers when a simple, honest explanation about the mother's incarceration was provided (Poehlmann & Eddy, 2010), and children who demonstrated a greater understanding of their incarcerated relative's whereabouts seemed more comfortable during interviews (Bocknek et al., 2009).

Caregiving arrangements

When mothers are primary caregivers before incarceration, their incarceration encompasses changes in caregiving arrangements. Most mothers consider factors associated with quality or stability of care in their choice about their child's placement (Poehlmann, Shlafer, Maes, & Hanneman, 2008). In the United States, usually grandparents take care of children when mothers are incarcerated (Hanlon, Carswell, & Rose, 2007). However, the social and economic consequences of the assumption of caregiving responsibilities may take a heavy toll on grandparents (Hanlon et al., 2007) and other surrogate caregivers. Hence, stability of care may come into play, because of this burden. Indeed, Poehlmann (2008) reported unstable living arrangements following mother's imprisonment for 34% of children affected by maternal incarceration. Children were more likely to live in stable placements when mothers were able to choose the child's caregiver, when the child was living with the father, and when the mother-caregiver relationship was more positive (Poehlmann et al., 2008).

Apparently contrary results were reported regarding caregiving arrangements for children of Dutch incarcerated mothers. About one-third of children resided at an official foster home, about one-fifth lived with their father, a further one-fifth stayed with other family members or the informal network of friends and relatives, and only 13 percent lived with their grandparents (Hissel, Bijleveld, & Kruttschnitt, 2011). However, 40 percent of children in this study were already living apart from their mother prior to her incarceration. That is, it remains unclear whether caregiving arrangements in the Netherlands are the same as in the United States for mothers who were primary caregivers before incarceration.

Contact and visiting

Maintaining contact during mother's incarceration is one of the most frequently mentioned problems (Hissel et al., 2011). The frequency with which children visit their mothers varies highly between incarcerated mothers, with some mothers not receiving any contact from their children (Hissel et al., 2011; Poehlmann, 2005b). Visiting may be hampered by a number of factors. For example, visits may be unfeasible because of logistical problems (too far, no transportation; Braam, Mak, & Tan, 2007; Hairston, 1991; Hissel et al., 2011), visiting hours during school hours (Braam et al., 2007; Hissel et al., 2011), and children's responses to visiting procedures (Braam et al., 2007; Hairston, 1991; Hissel et al., 2011). Likewise, telephone contact may be hampered by few possibilities for mothers to use a telephone, apart from school hours (Braam et al., 2007; Hissel et al., 2011). Indeed, children visit their mothers more frequently when they live closer to the prison, when mothers experienced fewer preincarceration sociodemographic risk factors, and when the mother-caregiver relationship is more positive (Poehlmann et al., 2008). Children have more telephone contact with their incarcerated mothers when mothers have fewer children and when mother-caregiver relationships are more positive (Poehlmann et al., 2008).

Irrespective of the amount of contact and frequency of visiting, there is some debate about the benefits of contact and visiting. A review (Poehlmann, Dallaire, Loper, & Shear, 2010) revealed that, in general, child contact is beneficial for incarcerated parents. However, the literature regarding child outcomes of contact and visiting yields somewhat mixed findings. In general, positive child outcomes were found when visits occurred as part of an intervention, whereas negative child outcomes were found when visits occurred in the absence of intervention. Mail contact seems to be beneficial irrespective of intervention.

Social stigma

Prisoners and their children are vulnerable to multiple types of social exclusion, including social stigma (Murray, Janson, & Farrington, 2007). To avoid stigmatization, families with an incarcerated parent sometimes choose to conceal the parent's incarceration (Phillips & Gates, 2011). Indeed, the level at which children felt secrecy to be required of them is related to the level of secrecy they practice and the stigma they feel surrounding their mother's situation (Amlund-Hagen & Myers, 2003). Interestingly, part of children's stigmatization may be related to teachers' expectations. In particular, girls with an incarcerated mother may be vulnerable to teacher stigmatization. That is, teachers randomly assigned to a

scenario in which they were told that a female student was new in their class because the child's mother was incarcerated, rated the hypothetical child as less competent than hypothetical female students separated from their mothers for other reasons (Dallaire, Ciccone, & Wilson, 2010). The stigma children perceive about their situation is negatively related to social support and positively related to externalizing problems (Amlund-Hagen & Myers, 2003).

Return to the family

Difficulties will not vanish upon mother's return home. For example, Arditti and Few (2006) suggest that incarceration, irrespective of the duration, is likely associated with shifts in family configuration following mother's release by increasing the likelihood of divorce as well as decreasing the likelihood that mothers will reside with the father of at least one of their biological children. Such structural and residential shifts put mothers, who have difficulties finding gainful employment after incarceration, at even more economic risk. Hence, social support, particularly by family members, is important in helping mothers to get on their feet.

Principal mechanisms

At least as important as knowledge about child outcomes for children affected by parental incarceration, and difficulties these families face, is knowledge about the mechanisms by which parental incarceration affects children. There are four key theories which explain why these circumstances may affect children (e.g., Hagan & Dinovitzer, 1999; Murray & Farrington, 2008a)

First, trauma theory suggests that parental incarceration causes adverse child outcomes due to the trauma of being separated from the parent and disruption of the attachment relation. That is, if a parent resided with and cared for a child prior to incarceration and was his/her primary attachment figure, incarceration separates the child from his/her "safe haven" and "secure base". Trauma theory suggests that such a separation is likely to be traumatic and to have lasting negative effects (Makariev & Shaver, 2010).

Second, strain theory (Agnew, 1992) suggests that parental imprisonment results in economic deprivation and other negative life events (including strained child care). These strains may cause an increase in children's antisocial behaviors (Murray, 2010). However, strain theory may also lead to opposite predictions: in some cases parental imprisonment may serve as a source of relief from difficulties associated with the

incarcerated parent. Since both may be the case, effects of parental imprisonment might be cancelled in the aggregation of extra strains and relief of strains (Hagan & Dinovitzer, 1999).

Third, labeling theory (stigma theory) suggests that, as aforementioned, children may experience social stigma and harassments following parental incarceration, which might increase the likelihood that children develop a delinquent identity and will be convicted themselves (Murray, 2010). Furthermore, the possibility of a bias by officials against children of incarcerated parents, which makes them more likely than other children to be charged or convicted for crimes, has also been suggested (Murray & Farrington, 2008a).

Fourth, social learning theory suggests that parental incarceration might affect children through modeling and/or through reduced quality of care and parenting. The likelihood that children will show antisocial behavior might be increased by imitation of parental antisocial behavior. Awareness of their parent's criminality because of incarceration may contribute to this imitating behavior (Murray & Farrington, 2008a). The likelihood that children will show antisocial behavior might also be increased by reduced parenting quality. Since these families and caregivers face emotional and financial difficulties, the quality of care may be reduced, and children may be exposed to suboptimal parenting behaviors.

Parenting

Although parenting is most explicitly reflected in social learning theory, parenting behaviors are also associated with the three other key theories. First, as mentioned regarding social learning theory, parenting behaviors of (formerly) incarcerated mothers take place in a context full of strains, as reflected in strain theory. These strains may draw mother's attention in this way that they go to the detriment of parenting behaviors. Second, mother-child separation and disruption of attachment, as reflected in trauma theory, are in fact interruptions of the mother-child relationship and usual routines within this relationship; the trauma of being separated from the primary caregiver. Third, perceived stigma (labeling) theory may also have direct consequences for parenting behaviors. For instance, mothers may be less involved in their children's school and extracurricular activities, because of shame and fear for accusations. Hence, parenting is interconnected with all four major explanations of the relationship between parental incarceration and adverse child outcomes. Therefore, suboptimal parenting may be an important mediator of adverse child outcomes in children affected by parental incarceration.

Suboptimal parenting behaviors may occur before, during, and after parental incarceration. Moreover, empirical evidence suggests that parenting may play an important role in the intergenerational transmission of delinquency and antisocial behavior. Parenting dimensions like monitoring, psychological control, and negative aspects of support (neglect, hostility and rejection) predict delinquency (Hoeve et al., 2009), whereas parenting behaviors, in turn, also show evidence of continuity across generations (Bailey, Hill, Oesterle, & Hawkins, 2009; Capaldi, Pears, Patterson, & Owen, 2003; Conger, Neppl, Kim, & Scaramella, 2003; Hops, Davis, Leve, & Sheeber, 2003; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003).

Unfortunately, only few studies have directly examined parenting behaviors of incarcerated parents. Murray and Farrington (2005) reported that youth in families with a history of parental incarceration were more likely to receive poor supervision or poor paternal attitudes (cruel, passive, neglectful attitudes, and harsh/erratic discipline) than children from families without a history of parental incarceration and parent-child separation. Kjellstrand and Eddy (2011b) found that the use of inconsistent and inappropriate discipline was greater in families with a history of parental incarceration than in families without a history of incarceration. No such differences were found in the areas of monitoring, praise, involvement, and the overall quality of the parent-child relationship. Moreover, there is some evidence that parenting behaviors partially mediate the relationship between parental incarceration and youth antisocial behaviors. This relationship was found to be mediated through a complex set of pathways involving social disadvantage, poor parental health, and ineffective parenting, which explained up to 60% of the variation in adolescents' antisocial behaviors (Kjellstrand & Eddy, 2011a).

Intervention

In the general population, interventions aimed at parenting techniques have proven most effective in decreasing children's antisocial behaviors (McCart, Priester, Davies, & Azen, 2006). That is, we know that parenting behaviors play an important role in the development and maintenance of antisocial behavior, and that it is possible to improve these parenting behaviors. Hence, parenting behaviors are changeable and may form a target for preventive intervention. Possibly, behavioral parent training may be helpful in the high-risk population of incarcerated mothers. Indeed, behavioral parent training has been found to improve parenting behaviors and child problems in high-risk populations. For example, an enhanced version of the Incredible Years parent training (Webster-

Stratton, 2001) yielded significant effects on negative parenting, parental stimulation for learning, and preschoolers' social competence with peers in the high-risk population of families with adjudicated youths (Brotman et al., 2005).

Hence, parenting may play a key role in the development of antisocial behavior in children affected by maternal incarceration and evidence-based parent training programs exist, and might be helpful in this population. However, an evidence-based parent training should be tailored to these mothers' and family's needs. In this dissertation, we examined the effectiveness of an enhanced version of the Incredible Years parent training for incarcerated and formerly incarcerated mothers.

Aims and outline of this dissertation

Main aim of this dissertation was to evaluate effects of the Incredible Years parent training, enhanced with home visits, for 2 to 10 year-old children of incarcerated and formerly incarcerated mothers, by means of a randomized controlled trial. To this end, we first required insight into the population of (formerly) incarcerated mothers and their children. We therefore conducted cross-sectional studies on these mothers' parenting, cognitive distortions, and distress (i.e., anxiety, depression, and somatic complaints), and these children's behavior problems, social cognitions, and life events. Furthermore, we sought for targets and improvements for potential intervention aimed at this population. We therefore examined associations between mothers' parenting behaviors, children's social cognitions, and children's behavior problems. Besides, we meta-analytically examined effectiveness of the Incredible Years parent training with regard to child behavior, and variability in intervention outcomes. Last, we examined effectiveness of enhanced Incredible Years parent training for mothers being released from incarceration in a randomized controlled trial. Thus, four different studies were conducted and presented in this dissertation.

In *Chapter 2* we examine whether mothers being released from incarceration show increased levels of self-serving cognitions, maternal distress, and less optimal parenting behaviors. We compared mothers being released from incarceration to mothers who also live in disadvantaged areas with low socioeconomic status (SES), but have never been incarcerated. Furthermore, we examined relations between incarceration, cognitive distortions, maternal distress, and parenting behaviors, while controlling for SES. We hypothesized that mothers being released from incarceration would show higher levels of distress and cognitive distortions, and less optimal parenting behaviors than mothers with

no history of incarceration. Furthermore, we expected incarceration to predict cognitive distortions and maternal distress, and cognitive distortions and maternal distress to predict less optimal parenting, even when controlling for SES.

In *Chapter 3* we examine whether children of mothers being released from incarceration face more disadvantages than children of mothers who live in disadvantaged neighborhoods with low SES, but have no history of incarceration. Therefore, we assessed both children's stressful life events and behavior problems. Moreover, we examined children's social cognitions and mother's parenting behaviors as potential targets for intervention. We hypothesized that children of mothers being released from incarceration would experience more stressful life events and more behavior problems than children from low SES families. Furthermore, we hypothesized that children of mothers being released from incarceration are more at risk than children from low SES families because of deviant social cognitions and their mothers' suboptimal parenting behaviors, which were assumed to be related to children's behavior problems. Evidence of deviant social cognitions may suggest utility of a child-based cognitive-behavioral approach, in which problem-solving skills and social-cognitive processes are targeted, whereas evidence of suboptimal parenting behaviors may suggest behavioral parent training.

In *Chapter 4* we examine the effectiveness of a well-known behavioral parent training, the Incredible Years parent training, in a meta-analytic review. Fifty studies, in which an intervention group receiving the Incredible Years parent training was compared to a comparison group immediately after intervention, were included in analyses. We examined the overall effectiveness of the Incredible Years parent training with respect to child behavior, which included both disruptive and prosocial behavior as well as behavior according to parents, teachers, and observers. Furthermore, we examined variability in intervention outcomes, and whether variability in children's outcomes could be explained by intervention characteristics, child characteristics, family characteristics, and methodological features.

In *Chapter 5* we examine the effectiveness of the Incredible Years parent training, enhanced with home visits, for mothers being released from incarceration, to prevent disruptive behavior problems in their 2 to 10-year-old-children, by means of a randomized controlled trial. We hypothesized that this intervention would have immediate effects on disruptive child behavior and on parenting behaviors.

In *Chapter 6* we summarize findings described in previous chapters. Moreover, we discuss implications for policymakers and practitioners, as well as recommendations for future research.

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Chapter 2

Risky motherhood: Parenting, cognitive distortions, and distress in mothers being released from incarceration

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Abstract

This study examined whether mothers being released from incarceration show increased levels of self-serving cognitions, maternal distress, and less optimal parenting behaviors compared to mothers who also live in disadvantaged areas with low SES, but have never been incarcerated. We examined relations between recent incarceration, cognitive distortions, maternal distress, and parenting behaviors, while controlling for SES. Participants were 106 mothers who were about to be released or had just been released from incarceration, and 63 comparison mothers, both with young children. Mothers provided self-report data on cognitive distortions, maternal distress, parenting, and socioeconomical difficulties. Mothers being released from incarceration evidenced higher levels of cognitive distortions, maternal distress, and less optimal parenting behaviors than comparison mothers. Furthermore, incarceration predicted cognitive distortions and maternal distress over and above SES. In turn, cognitive distortions and maternal distress predicted less optimal parenting behaviors.

Incarceration of mothers disrupts families. Many issues arise and aggravate when mothers are forced to leave their homes and families. For example, witnessing arrest, uncertainties regarding trials in court, not knowing mother's whereabouts, poor contact possibilities, changes in caregiving arrangements and reduced quality of care, and social stigma are issues that children of incarcerated mothers may face (Murray, Farrington, & Sekol, 2012). When mothers return to their families after incarceration, family relations need to be re-established. Given the accumulation of risk factors in these families (Dallaire, 2007), this may be no easy task. Parenting practices in these families may be disrupted, possibly due to cognitive and emotional problems these mothers face. Aim of the present study is to examine parenting by mothers being released from incarceration and associated cognitive and emotional problems.

It has been suggested that the markedly increased risk for later delinquency in children of incarcerated mothers (Lipsey & Derzon, 1998; Murray & Farrington, 2008) may be due to disrupted parenting processes. Parenting plays an important role in the development of delinquency and antisocial behavior. Possibly, inadequate parenting is one of the ways maternal delinquency may be transmitted to the offspring of incarcerated mothers, partly due to family problems prior to incarceration, and partly due to effects of incarceration on parenting. In general, parenting dimensions like monitoring, psychological control, and negative aspects of support (neglect, hostility and rejection) have been found to predict delinquency (Hoeve et al., 2009). Furthermore, parenting has been demonstrated to partially mediate the relation between antisocial behavior in adolescent mothers and disruptive behavior problems in their children (Rhule, McMahon, & Spieker, 2004). Therefore, it is likely that less optimal parenting plays a role in the increased risk of developing disruptive behavior problems and later delinquency for children of incarcerated mothers. Moreover, incarceration itself may exacerbate parenting difficulties of these mothers. That is, incarceration disrupts the bond between mothers and children, complicating interactions between them. Furthermore, incarceration may complicate parenting and exacerbate parenting difficulties by affecting mothers' well-being and invoking many stressors concerning caretaking, housing, work, and income.

Yet, despite the importance of parenting for our understanding of maternal and child delinquency, surprisingly little is known about actual parenting by mothers being released from incarceration, and the proximal factors associated with their assumed less optimal parenting. *Parental* incarceration has been associated with less optimal parenting. For children involved with child welfare services agencies, children with histories of parental incarceration were more likely to have experienced impaired parenting behaviors

than children without histories of parental incarceration (Phillips, Burns, Wagner, & Barth, 2004). Likewise, delinquent youth with histories of parental incarceration were more likely to have experienced severely ineffective parenting than delinquent youth without histories of parental incarceration (Dannerbeck, 2005). Besides not specifically addressing maternal incarceration, these studies used composite scores for parenting. Hence, it remains unclear which specific parenting behaviors are less optimal in incarcerated and formerly incarcerated mothers, if any. Main aim of the present study is to examine parenting by mothers being released from incarceration, and the proximal factors associated with their assumed less optimal parenting.

One important factor regarding parenting by mothers being released from incarceration may be low socioeconomic status (SES). Delinquent behavior and subsequent incarceration are highly intertwined with contextual disadvantages and disadvantaged neighborhoods. That is, parental incarceration may be associated with contextual disadvantages for several reasons. First, strain theory emphasizes the role of a disjunction between aspirations and actual achievements in criminality (Agnew, 1992), and aspirations may be particularly hard to achieve in low SES families. Second, incarceration is pervasive among families who live in disadvantaged neighborhoods, and prisoners disproportionally return to these disadvantaged neighborhoods (Sampson & Loeffler, 2010; Western & Wildeman, 2009). Third, parental incarceration makes it more likely that families will experience economic distress (Arditti, Lambert-Shute, & Joest, 2003; Phillips, Erkanli, Keeler, Costello, & Angold, 2006). Therefore, incarcerated and formerly incarcerated mothers are likely to be disadvantaged and to live in disadvantaged neighborhoods. Indeed, characteristics of low SES are found in incarcerated women: they are likely to have had little education and to experience serious barriers to employment (Blitz, 2006; Tonkin, Dickie, Alemagno, & Grove, 2004) and to be poor (Allen, Flaherty, & Ely, 2010).

This intertwinement of contextual challenges may influence parenting, but with parenting also children's development. Since it is hard to disentangle risk factors such as SES from parental incarceration, it seems not strange that researchers have not yet been able to conclusively answer the question whether incarcerating parents increases their children's chances of developing serious problems or whether parental incarceration is simply a proxy for numerous other risk factors (Phillips, 2010). Secondary aim of the present study is to examine whether parenting by mothers being released from incarceration is comparable to parenting by non-delinquent mothers with low SES.

Besides knowledge of actual parenting behaviors, including comparability with

parenting in another at risk population, it may be relevant to know which *maternal* characteristics are related to less optimal parenting. Parenting may be influenced by numerous factors. In this study, we explore relations between parenting and maternal social-cognitive characteristics, and parenting and maternal distress.

Maternal social-cognitive characteristics

Maternal social-cognitive characteristics may be related with maternal antisocial behavior as well as maternal parenting behaviors (MacKinnon-Lewis, Lamb, Hattie, & Baradaran, 2001). Social-cognitive styles, such as a tendency to attribute blame and hostility to others, may not just increase the likelihood of delinquent behavior. It has been proposed that they may also increase maternal harsh or inconsequent parenting and serve as guidelines for the development of children's own deviant social information processing (Dodge & Pettit, 2003; MacKinnon-Lewis et al., 2001; Mize & Pettit, 1997). Hence, deviant social-cognitive characteristics of delinquent mothers might also be related to their parenting.

In view of this possible relation, self-serving cognitive distortions may be particularly important. These specific social cognitions are believed to help to protect the self from blame or a negative self-view, and to disinhibit aggression and other antisocial behavior (Barriga, Landau, Stinson, Liau, & Gibbs, 2000). Barriga, Gibbs, Potter, and Liau (2001) distinguish four types of self-serving cognitive distortions. In self-centered distortions one accords status to oneself to such a degree that others' views are scarcely considered or disregarded. Blaming others is the misattribution of blame to external sources. Minimizing or mislabeling is depicting antisocial behavior as causing no real harm or as being acceptable/admirable, or referring to others with a dehumanizing label. Finally, assuming the worst is an unfounded attribution of hostile intentions to others or assuming a worst-case scenario.

In line with the assumption that self-serving cognitive distortions disinhibit antisocial behavior, research indicates prominence of self-serving cognitive distortions in delinquents. However, research on self-serving cognitive distortions mostly encompassed male and/or adolescent samples. In adolescents without criminal histories, positive relations were found between self-serving cognitive distortions and antisocial behavior (Barriga, Hawkins, & Camelia, 2008; Liau, Barriga, & Gibbs, 1998; Van der Velden, Brugman, Boom, & Koops, 2010). Furthermore, relatively high levels of cognitive distortions were found in juvenile delinquents (Barriga et al., 2000; Frey & Epkins, 2002; Lardén, Melin, Holst, & Langstrom, 2006; Liau et al., 1998; Nas, Brugman, & Koops, 2008) and male adult offenders (Hubbard & Pealer, 2009), even when the control group was matched for age,

gender, parents' occupation, and ethnic background (Lardén et al., 2006; Nas et al., 2008) or intelligence, age and ethnic background (Nas et al., 2008). However, since there is also some evidence of increased levels of cognitive distortions in non-delinquent low SES youth (Barriga & Gibbs, 1996; Nas et al., 2008), it seems to be important to take SES into account in research on self-serving cognitive distortions.

Surprisingly, no research has studied cognitive distortions in delinquent female adults, let alone in delinquent mothers. In theory, relatively high levels of cognitive distortions are to be expected in delinquent mothers. These cognitive distortions may impact their parenting behaviors.

Maternal distress

For parenting, in addition to how mothers think, it is also important how mothers feel. Research shows a clear relation between maternal distress, including depression, anxiety, and somatic complaints, and disruptive behavior problems in their offspring. Parenting behaviors are assumed to play a mediating role in the association between maternal depressive symptoms and child disruptive behavior, and maternal depressive symptoms have been consistently linked to low parenting competence. In a meta-analytic review, Lovejoy, Graczyk, O'Hare, and Neuman (2000) demonstrate an association between depression and domains of parenting behavior. Moreover, recent studies show that parenting behaviors mediate the relation between maternal depressive symptoms and disruptive behavior problems in their children (Barry, Dunlap, Lochman, & Wells, 2009; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). This apparent relation is supported by parenting intervention studies that suggest that reductions in maternal depression are followed by improvements in parenting behavior (Patterson, DeGarmo, & Forgatch, 2004), and mediate improvements in child disruptive behavior, even after accounting for potential mediating effects of improvements in parenting behavior (Shaw, Connell, Dishion, Wilson, & Gardner, 2009). Thus possibly, symptoms of depression in incarcerated and formerly incarcerated mothers lead to less optimal parenting behavior.

Indeed, increased levels of maternal distress seem to be a plausible contributor to suboptimal parenting by mothers who have been incarcerated. Slotboom, Kruttschnitt, Bijleveld, and Menting (2011) found depressive symptoms in more than half of their sample of incarcerated women from the Netherlands. These women's psychological well-being was predicted by importation as well as deprivation factors. However, deprivation factors had a greater impact on well-being than importation factors. That is, these authors suggest

that factors of prison life are most associated with women's distress. Likewise, Houck and Loper (2002) found relatively high levels of anxiety, depression, and somatization among mothers in prison. These authors linked mothers' distress to the likewise high levels of stress concerning their parenting role, which included stress about their competence as a parent as well as incarceration-specific contact and visitation stress. Because this research took place during incarceration, higher levels of distress might be specific to the situation of being imprisoned. In fact, since separation from children is often reported to be the most excruciating of pains and a key source of concern (Hairston, 1991), distress may reflect negative affect associated with stress about meaningful connections with and guidance of children (Loper & Novero, 2010). A more stringent test of maternal distress would be to look at distress in mothers once they have actually returned to their families to raise their children. Arditti and Few (2008) suggest persistence of depressive symptoms after reentry into family and community life. In their small sample of 10 mothers, of whom three were reincarcerated, eight women scored in the clinically distressed range with regard to depression, following incarceration. Thus, high levels of maternal distress may also exist in formerly incarcerated mothers and may impact their parenting behaviors.

In summary, high levels of cognitive distortions and maternal distress are expected to be found in mothers being released from incarceration. These factors may, in turn, impact their parenting. However, this proposition has never been tested. First, it is unclear whether mothers being released from incarceration are indeed characterized by heightened levels of cognitive distortions and maternal distress. Second, it is unclear whether cognitive distortions and maternal distress are indeed related to suboptimal parenting by these mothers.

Aim of the present study was to test whether incarcerated and formerly incarcerated mothers show increased levels of self-serving cognitive distortions, maternal distress, and inadequate parenting behaviors, compared to mothers who also live in disadvantaged areas with low SES, but do not have a history of incarceration. It was hypothesized that incarcerated and formerly incarcerated mothers would have higher levels of distress and cognitive distortions, and less optimal parenting behaviors than mothers with no history of incarceration. Furthermore, we tested theorized relations between incarceration, cognitive distortions, maternal distress, and parenting behaviors. We expected incarceration to predict cognitive distortions and maternal distress, and cognitive distortions and maternal distress to predict less optimal parenting, even when controlling for SES.

Method

Participants

Participants were 106 mothers being released from incarceration and 63 comparison mothers.

Mothers being released from incarceration

Mothers being released from incarceration were recruited within penitentiary institutions or via support organizations whose clientele consist partly of formerly incarcerated women. Within the penitentiary institutions, a nationwide screening, based on the total population of female inmates, was undertaken to trace all possible participants in the Netherlands. All incarcerated and formerly incarcerated mothers of two to ten year-old children who were released from incarceration between July 2007 and July 2010 were invited to participate in a randomized trial of the effects of enhanced Incredible Years parent training (Webster-Stratton & Hancock, 1998) on their children's development. The present study uses only pre-intervention data from this ongoing trial. Because of the goals of the intervention project, mothers who were either incarcerated and to be released soon (i.e. within 3 months) or formerly incarcerated and recently released (i.e. not exceeding 6 months), and who were (expected to become once again) caregivers of their children (ranging in ages from 2 to 10 years) were recruited. Since most women (n = 101) were the biological mother of at least one of the participating children, the term "mothers" is used throughout this paper to refer to them. 87.6% of contacted eligible mothers agreed to participate. This is 68.1% of the total population in the Netherlands possibly eligible for the study.

During baseline assessment, about 68% of all participating mothers had been released from the penitentiary institution. With regard to mothers who were still incarcerated at baseline, 72.3% saw their children during their weekly or monthly weekend leaves. Mothers who did not see their children during weekend leaves, had on average 5.7 (SD = 7.8) contact moments per week with their children's caretakers and 3.3 (SD = 3.8) telephone contacts per week with their children, whereas their children visited them on average 1.4 (SD = 1.9) times per month.

Mothers' mean age was 32.5 years (SD = 7.0). Most mothers (73.6%) were low educated: 3.8% did not complete primary education, 48.1% only completed primary education, and 21.7% only completed lower secondary education[1]. A minority (23.6%)

1 Total Dutch population 15-65 years in 2009: 8.3% only completed primary education and 23.4% only completed lower secondary education (Statistics Netherlands, 2010).

was native Dutch[2]. After their incarceration, most mothers (78.1%) did not have a paid job.

Comparison mothers

The comparison group consisted of 63 mothers of young children, who lived in disadvantaged areas but had never been incarcerated. Recruitment took place in districts that were designated by the Dutch government as districts facing the most serious problems in terms of housing, employment, education, integration, and safety (Ministerie van VROM, 2007). Mothers were approached for participation in research through their children's school. Mothers signed up for participation in a study on children from disadvantaged areas' well-being.

Mothers' mean age was 36.6 years (*SD* = 6.2). About half of the mothers (49.2%) were low educated: 11.1% did not complete primary education, 15.9% only completed primary education, and 22.3% only completed lower secondary education[1]. A minority (28.6%) was native Dutch[2]. Most mothers (55.6%) did not have a paid job.

Procedure

Participation was voluntary for all participants. All participants were assured that their information would be kept confidential and that the data would be processed anonymously. Prior to participation in the study, mothers being released from incarceration signed an informed consent form. All questionnaires were administered individually and mostly in an interview format, although participants were encouraged to fill out the How I Think Questionnaire without assistance if possible. Mothers being released from incarceration received a monetary compensation for the time spent to complete these and further questionnaires as part of the larger study. The study was approved by the Ethics Committee of the Utrecht University Faculty of Social Sciences.

Instruments

How I Think (HIT) Questionnaire

The HIT questionnaire (Barriga et al., 2001) is a self-report questionnaire designed to measure self-serving cognitive distortions, which is originally developed in the context of antisocial youth (Barriga & Gibbs, 1996). Besides 39 items that address self-serving distortions, the HIT questionnaire comprises two additional sets of items to encourage full

2 We used the customary definition of foreigner in the Netherlands (Keij, 2000), which says that a person is considered a foreigner if at least one parent was born abroad. That is, all mothers who were not considered foreigners were considered native Dutch.

use of the response scale and to camouflage distortion items: an anomalous responding scale (8 items) and 7 positive filler items (not scored). However, identical to Van der Velden et al. (2010) these 7 positive fillers, which were not meant to result in a meaningful score, were replaced by 11 social desirability items based on the Marlowe-Crowne questionnaire (Crowne & Marlowe, 1960). Therefore, the HIT questionnaire in this study consists of 58 items.

Each of the cognitive distortion items represents one or another of four categories of self-serving cognitive distortions (self-centered, blaming others, minimizing/mislabeling, and assuming the worst) as well as one or another of four categories of antisocial behavior (opposition-defiance, physical aggression, lying, and stealing). Participants responded on a six-point Likert scale (*agree strongly* to *disagree strongly*), with higher scores reflecting more cognitive distortions. Mean scores for the cognitive distortion scales self-centered, blaming others, minimizing/mislabeling, and assuming the worst were used in the present study. Internal consistencies for the subscales were adequate, with Cronbach's alphas ranging from .69 to .78. Internal consistency for the added social desirability subscale was also adequate (Cronbach's alpha = .67).

Symptom Checklist (SCL-90)

The SCL-90 (Arrindell & Ettema, 2003) is a Dutch adaptation of the Symptom Checklist-90-Revised (Derogatis, 1983). The SCL-90 is a self-report questionnaire that assesses eight dimensions of psychopathology. In the present study, three subscales (anxiety, depression, and somatic complaints) were used to measure maternal distress. Participants indicated to what extent (*not at all* to *very much*) they experienced symptoms in the past week. Internal consistencies for the subscales were high, with Cronbach's alphas above .86.

Alabama Parenting Questionnaire (APQ)

The APQ (Shelton, Frick, & Wootton, 1996) is a self-report questionnaire designed to measure the most important aspects of parenting behaviors related to disruptive behavior problems in children: positive parental involvement, monitoring/supervision, use of positive parenting techniques, inconsistency in discipline, and harsh discipline. The 42 items of the APQ are divided into the following scales: involvement (10 items), positive parenting (6 items), poor monitoring/supervision (10 items), inconsistent discipline (6 items), corporal punishment (3 items), and other discipline practices (7 items, included so that corporal punishment items are not asked in isolation of other forms of discipline).

However, in the current study, two items were deleted: "You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school" (involvement) and "Your child fails to leave a note or to let you know where he/she is going" (poor monitoring). These items were deleted because some participants were incarcerated at time of assessment; the unfeasibility of those items during incarceration would be too confronting. Participants responded on a 5-point frequency scale (*never* to *always*), with higher scores reflecting more frequent use of parenting practices. Internal consistencies for involvement (Cronbach's alpha = .67) and positive parenting (Cronbach's alpha = .75) were adequate. Internal consistencies for the remaining scales were nearly adequate, with Cronbrach's alphas ranging from .56 to .59.

Basic demographics and family functioning

General background information with regard to mothers, children, circumstances within these families, and history of incarceration was assessed with a basic demographics and family functioning form.

Reported material difficulties and educational level were used to indicate socioeconomical difficulties. In this study, the variable socioeconomical difficulties was calculated as the mean of two *z*-scores: a *z*-score for material difficulties and a *z*-score for educational level. Material difficulties was calculated by adding scores of the three variables house (0 = yes; 1 = no, has to live with friends or family), income (0 = participant and/or participant's partner has a paid job; 1 = social security; 2 = no job and no social security), and debts (0 = no; 1 = yes). Educational level was defined as the highest completed educational level, which ranged from 1 (university) to 9 (did not complete primary school).

Results

Preliminary analyses

Correlations between variables

Bivariate correlations are presented in Table 1. Both cognitive distortions and maternal distress correlated significantly with parenting behaviors. Socioeconomical difficulties correlated positively with cognitive distortions and maternal distress, and negatively with the parenting behavior involvement. Concerning social desirability, of 12 tested relations, only one significant relation was found: social desirability correlated negatively with depression, $r = -.17$.

Table 1 Correlations between cognitive distortions, maternal distress, parenting behaviors, socioeconomical difficulties, and social desirability

	1	2	3	4	5	6	7	8	9	10	11	12	13
					Cognitive distortions								
(1) Self-centered													
(2) Blaming others	.69**												
(3) Minimizing/mislabeling	.75**	.76**											
(4) Assuming the worst	.76**	.71**	.74**										
					Maternal distress								
(5) Anxiety	.23**	.35**	.26**	.28**									
(6) Depression	.21*	.32**	.23**	.31**	.87**								
(7) Somatic complaints	.20*	.30**	.27**	.23**	.75**	.74**							
					Parenting behaviors								
(8) Involvement	-.30**	-.26**	-.31**	-.36**	-.16	-.20*	-.11						
(9) Positive parenting	-.15	-.11	-.22**	-.19*	-.03	-.04	-.04	.39**					
(10) Poor monitoring	.23**	.18*	.24**	.22**	.23**	.24**	.21*	-.29**	-.37**				
(11) Inconsistent discipline	.20*	.15	.25**	.20*	.16*	.18*	.07	-.06	.04	.24**			
(12) Corporal punishment	.25**	.20*	.24**	.17*	.09	.10	.08	-.20*	-.05	.00	.29**		
(13) Socioeconomical difficulties	.25**	.27**	.27**	.30**	.23**	.24**	.22**	-.37**	-.06	.05	.05	.04	
(14) Social desirability	-.08	.03	-.11	-.08	-.15	-.17*	-.13	.05	.14	-.12	-.14	-.04	.09

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

Incarcerated versus formerly incarcerated mothers

Since the situation of incarcerated mothers differed considerably from the situation of mothers who were no longer incarcerated at time of assessment, and since the particular circumstances of being imprisoned could have influenced their report negatively, 14 independent t-tests were conducted to investigate differences between incarcerated and formerly incarcerated mothers. T-tests revealed no significant differences between incarcerated and formerly incarcerated mothers in maternal distress, socioeconomical difficulties, or social desirability. However, both among cognitive distortions and parenting behaviors one significant group difference was found. Incarcerated mothers scored significantly lower than formerly incarcerated mothers on blaming others ($t(96)= -2.01$, $p = .047$) and poor monitoring ($t(84) = -2.46$, $p = .02$; equal variances not assumed). Because t-tests revealed only two differences between incarcerated and formerly incarcerated mothers out of 14 tests, and because these differences did not indicate a negative influence of current incarceration, we decided to treat incarcerated and formerly incarcerated mothers as one group in further analyses. For convenience, we further call this group "mothers being released from incarceration".

Socioeconomical difficulties and social desirability

An independent t-test revealed a significant difference with regard to socioeconomical difficulties: mothers being released from incarceration experienced more socioeconomical difficulties than comparison mothers ($t(157) = 8.31$, $p < .001$). Therefore, the effect of socioeconomical difficulties was taken into account in further analyses. Social desirability did not differ significantly between groups. For that reason, and because we did find only one significant correlation for social desirability, we decided not to include social desirability in further analyses.

Main Analyses

Means and standard deviations for mothers being released from incarceration and comparison mothers are presented in Table 2.

Maternal cognitive distortions

To test differences in cognitive distortions between mothers being released from incarceration and comparison mothers, a between-subjects multivariate analysis of covariance was performed on the four self-serving cognitive distortion variables. Adjustment was made for the covariate socioeconomical difficulties. A significant

multivariate main effect for group ($F(4,146) = 4.13$, $p = .003$) was found. The combined dependent variables were not significantly related to socioeconomical difficulties ($F(4,146) = 0.63$, $p = .64$).

Consequent univariate analyses revealed group differences consistent with our hypothesis. Cognitive distortions were significantly higher for mothers being released from incarceration than for comparison mothers, with regard to self-centered ($F(1, 149) = 10.74$, $p = .001$), blaming others ($F(1, 149) = 6.70$, $p = .01$), minimizing/mislabeling ($F(1, 149) = 7.42$, $p = .007$), and assuming the worst ($F(1, 149) = 16.43$, $p < .001$). Effect sizes ranged from $d = .67$ for blaming others to $d = .93$ for assuming the worst.

Table 2 Means and standard deviations of cognitive distortions, maternal distress, parenting behaviors, socioeconomical difficulties, and social desirability by group

	Mothers being released			Comparison mothers		
	n	***M***	***SD***	***n***	***M***	***SD***
Cognitive distortions	90			62		
Self-centered		2.19	0.74		1.68	0.56
Blaming others		2.41	0.76		1.92	0.69
Minimizing/mislabeling		2.16	0.64		1.73	0.59
Assuming the worst		2.25	0.62		1.70	0.54
Maternal distress	90			62		
Anxiety		17.61	7.56		13.70	4.57
Depression		30.67	13.84		22.51	7.40
Somatic complaints		21.24	8.23		17.94	5.91
Parenting behaviors	79			57		
Involvement		30.48	5.21		34.83	3.96
Positive parenting		24.92	3.35		25.54	3.11
Poor monitoring		12.33	3.49		11.05	2.48
Inconsistent discipline		13.94	4.25		13.23	3.30
Corporal punishment		4.75	1.86		4.81	1.44
Socioeconomical difficulties	96	0.35	0.68	63	-0.55	0.66
Social desirability	98	4.17	0.70	61	4.20	0.77

Maternal distress

To test differences in maternal distress between mothers being released from incarceration and comparison mothers, a between-subjects multivariate analysis of covariance was performed on the three maternal distress variables. Adjustment was made for the covariate socioeconomical difficulties. A significant multivariate main effect for group ($F(3, 147) = 3.30$, $p = .02$) was found. The combined dependent variables were not significantly related to socioeconomical difficulties ($F(4,147) = 0.83$, $p = .48$).

Consequent univariate analyses revealed group differences consistent with our hypothesis. Maternal distress was significantly higher for mothers being released from incarceration than for comparison mothers, with regard to anxiety ($F(1, 149) = 5.71$, $p = .02$) and depression ($F(1, 149) = 9.07$, $p = .003$). Effect sizes were substantial for all maternal distress variables: $d = .59$ for anxiety, $d = .70$ for depression, and $d = .45$ for somatic complaints. However, groups did not differ significantly regarding somatic complaints ($F(1, 149) = 1.96$, $p = .16$).

Compared to Dutch norms (Arrindell & Ettema, 2003), mothers being released from incarceration displayed mean scores within the above average to high range for anxiety, and within the high range for depression and somatic complaints, whereas the comparison mothers displayed mean scores in the average range for all three scales. Scores above the 95th percentile are considered very high. For anxiety, 33.0% of mothers being released from incarceration reported very high levels, whereas 8.1% of comparison mothers reported very high levels. For depression, 30.9% of mothers being released from incarceration reported very high levels, whereas 9.7% of comparison mothers reported very high levels. Last, for somatic complaints, 27.8% of mothers being released from incarceration reported very high levels, whereas 11.3% of comparison mothers reported very high levels.

Parenting behaviors

To test group differences in parenting, a between-subjects multivariate analysis of covariance was performed on the five parenting variables. Adjustment was made for the covariate socioeconomical difficulties. A significant multivariate main effect for group ($F(5, 129) = 3.16$, $p = .01$) was found. The combined dependent variables were not significantly related to socioeconomical difficulties ($F(5,129) = 1.43$, $p = .22$).

Consequent univariate analyses revealed group differences with regard to involvement ($F(1, 133) = 10.93$, $p = .001$) and poor monitoring ($F(1, 133) = 4.91$, $p = .03$), indicating that mothers being released from incarceration reported less involvement and

poorer monitoring than comparison mothers. The effect size for involvement (d = .92) was larger than the effect size for poor monitoring (d = .41). Groups did not differ significantly regarding positive parenting (F(1, 133) = 0.86, p = .36), inconsistent discipline (F(1, 133) = 0.62, p = .43), or corporal punishment (F(1, 133) = 0.28, p = .60).

Relations between incarceration, socioeconomical difficulties, cognitive distortions, maternal distress, and parenting behaviors

Stepwise multiple regression analyses were employed to further examine relations between variables. First, we tested whether incarceration accounted for variance in cognitive distortions and maternal distress over and above socioeconomical difficulties. To this end, in each regression analysis, socioeconomical difficulties was entered in Step 1, and incarceration was added in Step 2. A dummy code was used for incarceration (0 = comparison mothers; 1 = mothers being released from incarceration), so that positive beta's indicate higher scores for mothers being released from incarceration. Second, to investigate whether specific cognitive distortions and maternal distress could predict parenting behavior, we regressed parenting behaviors on cognitive distortions and maternal distress, while accounting for socioeconomical difficulties. Because cognitive distortions, maternal distress, and the parenting behavior involvement were also related to socioeconomical difficulties, we entered socioeconomical difficulties in Step 1 of each regression analysis. In Step 2 all cognitive distortions and maternal distress variables were added together.

When entered separately, incarceration and socioeconomical difficulties were both significant predictors of all cognitive distortions and maternal distress variables. Incarceration accounted for 9 to 16% of the variance in cognitive distortions, and 6 to 12% of the variance in maternal distress. Socioeconomical difficulties accounted for 6 to 8% of the variance in cognitive distortions, and 4 to 5% of the variance in maternal distress.

Interestingly, as can be seen from Table 3, incarceration proved to be a stronger predictor of cognitive distortions and maternal distress than socioeconomical difficulties, as the relation between socioeconomical difficulties and outcome variables became nonsignificant when incarceration was entered, except for somatic complaints. The adjusted R^2 values of .12 (self-centered), .10 (blaming others), .11 (minimizing/mislabeling), and .17 (assuming the worst) indicated that at least 10% of the variability in cognitive distortions was predicted by socioeconomical difficulties and incarceration. With regard to maternal distress, adjusted R^2 values indicated that these two predictors explained 7% of the variability in anxiety, and 11% of the variability in depression.

Table 3 Cognitive distortions and maternal distress regressed on incarceration and socioeconomical difficulties

Dependent variables			β	adjusted R^2	ΔR^2	ANOVA
			Cognitive Distortions			
Self-centered	Model 1	SE-difficulties	.25**	.06		$F(1,150) = 10.38$, $p = .002$
	Model 2	SE-difficulties	.09			
		Incarceration	.30**	.12	.06**	$F(2,149) = 10.89$, $p < .001$
Blaming others	Model 1	SE-difficulties	.27**	.07		$F(1,150) = 11.85$, $p = .001$
	Model 2	SE-difficulties	.14			
		Incarceration	.24*	.10	.04*	$F(2,149) = 9.50$, $p < .001$
Minimizing/mislabeling	Model 1	SE-difficulties	.27**	.07		$F(1,150) = 12.14$, $p = .001$
	Model 2	SE-difficulties	.13			
		Incarceration	.25**	.11	.04**	$F(2,149) = 10.04$, $p < .001$
Assuming the worst	Model 1	SE-difficulties	.30**	.08		$F(1,150) = 14.71$, $p < .001$
	Model 2	SE-difficulties	.10			
		Incarceration	.36**	.17	.09**	$F(2,149) = 16.32$, $p < .001$
			Maternal Distress			
Anxiety	Model 1	SE-difficulties	.23**	.04		$F(1,150) = 8.01$, $p = .005$
	Model 2	SE-difficulties	.10			
		Incarceration	.23*	.07	.04*	$F(2,149) = 6.99$, $p = .001$
Depression	Model 1	SE-difficulties	.24**	.06		$F(1,150) = 9.26$, $p = .003$
	Model 2	SE-difficulties	.09			
		Incarceration	.28**	.11	.05**	$F(2,149) = 9.41$, $p < .001$
Somatic complaints	Model 1	SE-difficulties	.22**	.05		$F(1,150) = 7.88$, $p = .006$
	Model 2	SE-difficulties	.22**			
		Incarceration	.13			ns

Note. SE-difficulties = socioeconomical difficulties, ns = no significant predictor.

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

Table 4 Parenting behaviors regressed on cognitive distortions, maternal distress, and socioeconomical difficulties

Dependent variables			β	adjusted R^2	ΔR^2	ANOVA
Involvement	Model 1	SE-difficulties	-.37**	.13		$F(1,137) = 21.85$, $p < .001$
	Model 2	SE-difficulties	-.29**			
		Assuming the worst	-.29**	.20	.08**	$F(2,136) = 18.62$, $p < .001$
Positive parenting	Model 1	SE-difficulties				ns
	Model 2	Minimizing/mislabeling	-.22**	.04		$F(1,50) = 7.65$, $p = .006$
Poor monitoring	Model 1	SE-difficulties				ns
	Model 2a	Minimizing/mislabeling	.25**	.06		$F(1,143) = 9.69$, $p = .002$
	Model 2b	Minimizing/mislabeling	.21*			
		Depression	.21*	.09	.04*	$F(2,142) = 8.30$, $p < .001$
Inconsistent discipline	Model 1	SE-difficulties				ns
	Model 2	Minimizing/mislabeling	.27**	.07		$F(1,150) = 12.20$, $p = .001$
Corporal punishment	Model 1	SE-difficulties				ns
	Model 2	Minimizing/mislabeling	.25**	.06		$F(1,150) = 10.17$, $p = .002$

Note. SE-difficulties = socioeconomical difficulties, ns = no significant predictor.
*$p < .05$. **$p < .01$.

Cognitive distortions and maternal distress each provided unique contributions to parenting behaviors. Results of stepwise regression analyses regressing parenting behaviors on cognitive distortions and maternal distress are presented in Table 4. In Step 2, only significant predictors are shown. The cognitive distortion minimizing/mislabeling contributed to the prediction of most parenting behaviors: positive parenting, poor monitoring, inconsistent discipline, and corporal punishment. Addition of the maternal distress variable depression in the equation with minimizing/mislabeling led to a significant better prediction of poor monitoring. Socioeconomical difficulties and the cognitive distortion assuming the worst were significant predictors of the parenting behavior involvement. Adjusted R^2 values indicated that 20% of the variability in involvement was explained by the significant predictors, compared to 4% for positive parenting, 9% for poor monitoring, 7% for inconsistent discipline, and 6% for corporal punishment.

Discussion

Mothers being released from incarceration evidence higher levels of cognitive distortions, maternal distress, and less optimal parenting behaviors than mothers who also live in disadvantaged areas with low SES, but do not have a history of incarceration. Furthermore, incarceration predicts cognitive distortions and maternal distress over and above SES, whereas cognitive distortions and maternal distress predict less optimal parenting behavior.

Consistent with our hypothesis, mothers being released from incarceration showed increased levels of self-serving cognitive distortions. Increased levels of cognitive distortions are in line with earlier research in juvenile delinquents and male adult offenders. However, the present study is, to our knowledge, the first study that examined cognitive distortions in adult females, and more specific in delinquent mothers. This population is highly relevant because cognitive distortions are not only believed to disinhibit mothers' own aggressive and antisocial behavior (Barriga et al., 2000), but may also play a role in the intergenerational transmission of delinquency. Maternal social-cognitive characteristics may impact their children's socialization, not only by means of their parenting behavior, but possibly also through their children's social information processing (e.g., Barrett, Rapee, Dadds, & Ryan, 1996).

Mothers being released from incarceration showed increased levels of distress, in comparison with Dutch norms as well as in comparison with families from disadvantaged areas without a history of incarceration. This finding is in line with earlier research with

regard to imprisoned mothers (Houck & Loper, 2002) and builds on a study that suggested persistence of depressive symptoms after reentry into family and community life (Arditti & Few, 2008). Our sample included incarcerated as well as formerly incarcerated mothers, and we found no evidence of differences between incarcerated and formerly incarcerated mothers with regard to maternal distress. Since all mothers did have contact with their children at time of assessment, and the impact of maternal distress on parenting is well-known and empirically found in this study, our results suggest that distress is a risk factor in delinquent mothers, even after incarceration has ended. Houck and Loper (2002) linked high levels of distress during imprisonment to high levels of stress concerning the parent role. Hereby, Houck and Loper pointed to stress about competence as a parent as well as incarceration-specific contact and visitation stress. Stress about competence as a parent may continue after return to the family, and may probably even increase while actually raising the children. Furthermore, it is likely that release from prison also evokes some extra stress factors. Sources of stress might be, for example, feelings of guilt with respect to the children, difficulties with people who took care of the children during imprisonment, socioeconomical difficulties, and relational difficulties.

Results revealed that mothers being released from incarceration are less involved with their children and show poorer monitoring of their children, in comparison with mothers from disadvantaged areas without history of incarceration. These results provide a first test of the rarely studied hypothesis of inadequate parenting by incarcerated and formerly incarcerated mothers (e.g., Harm & Thompson, 1997; Sandifer, 2008), in indicating specific parenting behaviors that are less optimal in incarcerated mothers.

Interestingly, our findings also provide insights into potential reasons for these parenting behaviors. The cognitive distortion minimizing/mislabeling proved to be the strongest predictor of parenting behaviors. An explanation might be that some mothers minimize or mislabel their own less optimal parenting behaviors; they may, for example, believe that it will not harm the child to use harsh discipline, and that positive parenting techniques are not necessary or even harmful, because the child will become spoilt by too many compliments and rewards, and without proper discipline. Moreover, mothers might also minimize and mislabel their children's behavior and misbehavior; they may, for example, believe that the child's misbehavior is not that bad this time, because he/she had a good reason, or that it is not that bad that the child is out without an adult after dark, because he/she is perfectly able to set his/her own limits and will come home when he/she is tired.

Assuming the worst consequences was a predictor of low parental involvement. Possibly, mothers consider a worst-case scenario in interactions with their children; for example, it is no sense to do things with my child. Thus, mothers might have fatalistic, low self-efficacy beliefs, which are also typical for depression. This thought is supported by the significant bivariate correlations between assuming the worst and depression, and involvement and depression. Assuming the worst seems to be depressogenic, as well as aggressogenic, as was suggested by earlier research (Barriga et al., 2008; Quiggle & Garber, 1992). Thus, less involvement might arise from learned helplessness related to depression.

Depression provided a unique contribution to poor monitoring, besides minimizing/mislabeling. This finding is in line with earlier research, which showed that maternal depression is linked to disengagement (Lovejoy et al., 2000) and that the relation between maternal depression and child disruptive behavior problems is partially mediated by poor monitoring (Elgar et al., 2007).

The results of this study highlight that the increased risk for children of mothers being released from incarceration does not just result from low SES. In this study, we tried to disentangle risk factors confounded with low SES from risk factors purely associated with maternal incarceration, by means of a comparison group of families from disadvantaged areas and by controlling for SES in further analyses. Both between group differences and controlling for SES pointed to the relative importance of incarceration, over and above SES.

The results of this study are subject to limitations. First, they are based on cross-sectional data, which limits inferences about causality between variables. There may be other factors that influence both cognitive distortions and maternal distress, and incarceration and SES, as well as parenting behaviors apart from cognitive distortions and maternal distress. For example, it is likely that both delinquency and parenting behavior are also influenced by modeling of parenting by mothers' own parents, and that maternal distress is influenced by self-debasing cognitive distortions. Moreover, genetic transmission may play a role in, for example, delinquency, SES, depression, parenting, and vulnerability of children.

Second, the self-report nature of the data may have affected the findings. Social desirability and other biased responses may distort the data. However, inclusion of a social desirability scale did not reveal biased responses. Nonetheless, given cognitive distortions of mothers, part of the mothers may not adequately report on their own parenting.

Therefore, besides the self-report nature of data, using mother as single informant can be considered a limitation within this study. Hence, a promising line of research would be to examine parenting behaviors of incarcerated and formerly incarcerated mothers by means of additional informants and observations.

Third, the variable "socioeconomical difficulties" used in this study is only one possible approximation of the non-specific construct SES. SES is usually measured as some combination of income, education, and/or occupational status. Although all these factors are included in our socioeconomical difficulties variable, socioeconomical difficulties is not a pure sum of these three factors. That is, income and occupation are merged in our score for income, and, moreover, we added the two factors housing and debts to reflect additional socioeconomical problems in the population of incarcerated mothers. Therefore, socioeconomical difficulties might be considered one of all possible operationalizations of SES, and mainly a measure of socioeconomical stress relevant to formerly incarcerated mothers.

Fourth, mean SES differed between mothers being released from incarceration and comparison mothers. However, even though comparison mothers had somewhat less severe socioeconomical difficulties than mothers being released from incarceration, the comparison group does constitute a low SES group. Comparison families lived in the most disadvantaged areas of the Netherlands, facing the most serious problems in terms of housing, employment, education, integration, and safety (Ministerie van VROM, 2007). Therefore, the difference between mothers being released from incarceration and comparison mothers with regard to socioeconomical difficulties may be interpreted as a comparison between two low SES groups with even worse circumstances for mothers being released from incarceration. This difference, to the detriment of mothers being released from incarceration, is to be expected, because of the inclusion of socioeconomical problems which are likely to be faced in the period around release from incarceration, i.e. finding a new home, providing an income anew, and paying off debts (which are probably risen during incarceration). That is, our approach to control for socioeconomical differences is probably a more appropriate solution with regard to this population than to match for socioeconomical difficulties and to delete the most serious cases from data, because these worst cases are not likely to be found in the normal population.

Fifth, groups were distinguished by mother's incarceration. Of course, it may be assumed that delinquency is related to incarceration. However, we do not know to what extent this study's results are related to delinquency and/or incarceration. Although

incarcerated mothers can be assumed to be delinquent, incarceration also has effects in addition to delinquency. Furthermore, although none of the comparison mothers had been incarcerated, past less severe delinquency within the comparison group is possible. That is, this study was not designed to disentangle effects of incarceration and delinquency. Future research seeking to address this issue may include mothers who have been convicted for similar crimes, but not detained, although in the most severe cases this may not be possible.

This study suggests that cognitive distortions, distress, and less optimal parenting are extra risk factors in incarcerated and formerly incarcerated mothers, which may put their children at risk, over and above risks associated with low SES. Interventions which are aimed at incarcerated and formerly incarcerated mothers and their children seem therefore to be warranted. Since maternal characteristics were found to be related to parenting behaviors, which were found to be less optimal in mothers being released from incarceration than in comparison mothers, and interventions aimed at parenting techniques have been proven effective (McCart, Priester, Davies, & Azen, 2006), parenting may be a potential target for intervention. Such interventions should preferably aim at actual parenting, as well as cognitive distortions, distress, and socioeconomical difficulties associated with less optimal parenting. Research with families with delinquent family members (e.g., Brotman et al., 2005) has demonstrated the feasibility and potential effectiveness of such interventions. These interventions should start during imprisonment, because access to a hard-to-reach-population is easier during imprisonment, and because of the possibility to work on problems that are specific to the mother, e.g. depression, before return to the family. However, interventions should not stop after release from incarceration. In the first place, reentry is a difficult process for many women, so support seems to be warranted to prevent relapse. In the second place, the home situation is the situation in which mothers put their parenting behaviors actually in practice. Thus, most difficulties may become apparent for the mothers after reentry into society. Their return to the family is also a unique opportunity to practice parenting behaviors and to correct them if necessary. Results of the current study do suggest, however, that it might be not enough to learn parenting skills to incarcerated and formerly incarcerated mothers. To keep ones eye on maternal risk factors, like maternal social-cognitive characteristics and maternal distress, seems to be essential in this population.

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Chapter 3

Children of mothers being released from incarceration: Children at risk

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Abstract

Incarcerated mothers have to regain parenthood and to rebuild the parent-child relationship upon their return home. Given the multitude of problems these mothers and children may face during this period, more clarity is needed about characteristics of these children and their mothers in view of identifying possible targets for interventions. This study examined children's life events, behavior problems, and social cognitions and mothers' parenting behaviors, as potential targets for intervention with mothers being released from incarceration. Participants were 121 children of mothers being released from incarceration and 63 children of comparison mothers from disadvantaged areas, without a history of incarceration. Children of mothers being released from incarceration were more disadvantaged in life events, had more behavior problems, and their mothers' parenting behaviors were characterized by lower involvement and poorer monitoring when compared with children of comparison mothers. Suboptimal parenting behaviors of mothers being released from incarceration were associated with children's behavior problems. Therefore, parenting behaviors may be a potential target for intervention in this population.

Children of incarcerated parents have been called "the hidden victims of imprisonment" (Cunningham & Baker, 2003) for good reasons. The exact number of children affected by parental incarceration is not known for the Netherlands, and several other countries (e.g., Murray & Farrington, 2008a), and can only be roughly estimated. Moreover, incarceration of a parent typically encompasses more than temporary absence of a parent, and both absence and factors associated with this absence may have consequences for the children that are largely unknown.

Parental incarceration has been associated with multiple adverse outcomes, including child antisocial behavior, offending, mental health, school failure, and unemployment (Murray & Farrington, 2008a), with clearest effects observed for antisocial behavior (Murray & Farrington, 2008a; Murray, Farrington, & Sekol, 2012). Indeed, evidence suggests that delinquency runs in families (Besjes & Van Gaalen, 2008; Bijleveld & Wijkman, 2009; Farrington, Barnes, & Lambert, 1996; Farrington, Jolliffe, Loeber, Stouthamer-Loeber, & Kalb, 2001), although evidence regarding the net impact of incarceration over and above the impact of convictions is inconclusive (Besemer, Van der Geest, Murray, Bijleveld, & Farrington, 2011).

It has been commonly suggested that maternal imprisonment is more harmful for children than paternal incarceration, since children are more likely to be primarily raised by their mother than with their father, and incarceration of mothers will therefore more likely result in changes in caregiving arrangements (Dallaire, 2007; Koban, 1983). Furthermore, it is typically harder for children to visit an incarcerated mother than an incarcerated father, because children of incarcerated mothers have to travel relatively far, since there are relatively few penitentiary institutions for women (Berry & Smith-Mahdi, 2006; Koban, 1983). In addition, children of incarcerated mothers are more likely than children of incarcerated fathers to be exposed to their parents' criminal activity, arrest, and sentencing and may be experiencing more maladjustment (Dallaire & Wilson, 2010).

Yet, mothers have to regain parenthood and to rebuild the parent-child relationship after their incarceration. Resumed parenting by formerly incarcerated mothers may be hampered by a number of difficulties, as maternal incarceration is not the only difficulty in the lives of children of incarcerated mothers. It is this accumulation of difficulties across domains, rather than a single specific factor, which is important in the determination of adverse child outcomes (e.g., Sameroff & Seifer, 1993). Indeed, when risks accumulated, especially incarcerated mothers (compared with incarcerated fathers) were more likely to report that their adult children were incarcerated (Dallaire, 2007).

Children of incarcerated mothers may have to cope with a number of environmental

adversities, such as parental and familial difficulties (e.g., substance abuse, mental illness, lack of education, poverty, and instability; Phillips, Erkanli, Keeler, Costello, & Angold, 2006), stressful life events, and growing up in a disadvantaged neighborhood. Likewise, individual child factors, such as genetic vulnerability (e.g., Barnes, Beaver, & Boutwell, 2011) and cognitive abilities (Poehlmann, 2005a), may add to the accumulation of adversities. Both environmental and individual factors may partly explain the heightened risk of children affected by maternal incarceration. For example, both children's social cognitions (Lansford et al., 2006; Weiss, Dodge, Bates, & Pettit, 1992) and maternal parenting behaviors (e.g., Gryczkowski, Jordan, & Mercer, 2010; Hoeve et al., 2009; Stormshak, Bierman, McMahon, Lengua, & Conduct Problems Prevention Research Group, 2000) have been linked to negative developmental outcomes. Stressful experiences in early life may complicate social-cognitive development and parenting behaviors. These experiences may be directly associated with behavior problems, but also indirectly in that individual differences in social cognitions may grow out of experiences in early life (Dodge, 2006).

Although children of incarcerated mothers may obviously experience several difficulties in early life, and these risk factors have been associated with poor life span outcomes, little information is available about the actual accumulation of problems they face when their mothers return home after imprisonment. However, given the assumed accumulation of risk factors in this specific population and the importance of an accumulation of risk factors for adverse child outcomes, it may be relevant to examine the multitude of problems these children may face at the very moment in time when the parenting relation with their mother has to be reinstated: upon mother's return home. First, well-known risk factors for poor life span outcomes in general population are highly understudied in this specific population. Hence, more clarity is needed about the extent to which these children face adversities besides maternal incarceration, compared to other at-risk children. Second, these indications of extra risk may provide clues for interventions targeting these children and their mothers. When examining factors associated with problem behaviors in children of incarcerated mothers, it seems especially important to study factors that may potentially serve as targets for effective (preventive) intervention. Extensive research has shown that the most effective interventions are currently behavioral parent training and child-based cognitive-behavioral therapy focused on social cognition (e.g., McCart, Priester, Davies, & Azen, 2006). Hence, children's social cognitions and maternal parenting behaviors are important candidates as targets for intervention.

Aim of the present study is therefore to assess child problems (i.e., life events

and behavior problems), and social cognitions and parenting behaviors as targets for intervention in mothers being released from incarceration.

Life events

For children of incarcerated mothers, the number of experienced stressful life events may be relatively high. More than half of 6 to 12 years old children of incarcerated mothers reported having experienced four or more life events in the previous year, and scored above the cut-off number indicating children's likelihood for adverse outcomes (Hagen, Myers, & Mackintosh, 2005; Mackintosh, Myers, & Kennon, 2006). Children commonly reported life events such as residential changes (34%), school changes (36%), a new baby entering the family (45%), serious illness, injury, or hospitalization of a family member (61%), and death in the family (51%; Mackintosh et al., 2006). Likewise, incarcerated mothers reported that their children (whose average age was 10 years) had moved on average three times over the past 5-year period (Greene, Haney, & Hurtado, 2000). Furthermore, residential instability (19%) and a new parent figure entering the household (26%), but not non-routine changes in school (1%) and divorce (1%), were more prevalent in children whose parents did have contact with the criminal justice system than in children whose parents did not have contact with the criminal justice system. Life events were found to predict 9% of the variance in internalizing problems for children of incarcerated mothers (Hagen et al., 2005).

Children of incarcerated mothers may have experienced a number of life events prior to their mothers' incarceration. However, mothers' incarceration will likely exacerbate some of these life events. For example, mothers' incarceration may result in children being passed among caregivers, which may be accompanied with residential changes, and changes of school. Hence, although difficulties may be prevalent before incarceration, they are likely to exacerbate after incarceration, which may increase the likelihood of adverse outcomes for children of incarcerated mothers (Hagan & Dinovitzer, 1999). Indeed, Tasca, Rodriguez, and Zatz (2011) found a significant relation between residential instability following parental incarceration and rearrest in youth referred to an urban juvenile court.

Behavior problems

Likewise, children of incarcerated parents may already have problems before parental incarceration, and be worse off as a result of it (Wakefield & Wildeman, 2011). Unfortunately, we know little about children's behavior before their mothers' incarceration. However,

assuming that these children are at genetic risk and have experienced a number of stressful life events prior to maternal incarceration, it seems likely that part of the children may have shown behavior problems beforehand. Subsequently, children may react differently during and after maternal incarceration: some children will show no difficulties at all, whereas others might show emotional problems, conduct problems, hyperactivity, or peer problems. Parental incarceration and stigmatization due to parental incarceration have been linked to emotional and interactional problems (Lowenstein, 1986; Murray, 2007; Shlafer & Poehlmann, 2010). Commonly reported reactions to parental incarceration include sadness, fear, worry, loneliness, indifference, confusion, anger, and acting out (Poehlmann, 2005b; Shlafer & Poehlmann, 2010). Preliminary evidence suggests that witnessing parental arrest worsens peer relations, specifically in receiving less prosocial behaviors from peers (as cited in Dallaire & Aaron, 2010). Furthermore, a tendency for children affected by parental incarceration to affiliate with deviant peers has been found (Hanlon et al., 2005).

These feelings and interactional difficulties may be related to concurrent child problems. A substantial part of children affected by parental incarceration exhibits borderline or clinically significant internalizing (19%) or externalizing (33%) problems (Shlafer & Poehlmann, 2010). Furthermore, problems might sustain or start later in life-course. Separation because of parental incarceration during the first 10 years of life predicted boys' own delinquent, antisocial and internalizing behavior through the life-course (Murray & Farrington, 2005; Murray & Farrington, 2008b). Moreover, among youth receiving mental health services, adolescents with a history of parental incarceration are more likely to have a diagnosis for conduct disorder or attention-deficit/hyperactivity disorder (Phillips, Burns, Wagner, Kramer, & Robbins, 2002).

Social cognitions

Child social cognition may potentially be a target for preventive intervention with children of incarcerated mothers. Aggressive behavior problems and delinquency have been found to be concurrently and longitudinally related with specific social cognitive deviations, including inadequate encoding of social cues, overly hostile intent attributions, limited and aggressive response generation for social problems, relatively positive evaluation and high self-efficacy for aggressive compared to assertive behaviors, minimization of own responsibility for deviant behavior, blaming victims, egocentrism, and fatalism (e.g, Barriga, Landau, Stinson, Liau, & Gibbs, 2000; Crick & Dodge, 1994; Dodge & Pettit, 2003; Fontaine, Burks, & Dodge, 2002; Horsley, Orobio de Castro, & Van der Schoot, 2010;

Lansford et al., 2006; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). Experimental manipulation of social cognition has been found to change consequent aggressive behavior (Lochman & Dodge, 1998; Reijntjes et al., 2011; Thomaes, Bushman, Orobio de Castro, Cohen, & Denissen, 2009). Importantly, interventions aimed to improve social cognitive functioning in children and youth with behavior problems, conduct disorders, and/or delinquent behavior patterns can reduce these problems, and these effects are mediated by changes in social cognition (Bierman et al., 2010; Lochman & Wells, 2004; Van Manen, Prins, & Emmelkamp, 2004).

The social cognitive patterns associated with behavior problems are believed to result from a combination of environmental influences and child vulnerabilities (Dodge & Pettit, 2003). Maternal parenting is one of the environmental factors believed to affect social cognitive functioning (Dodge & Pettit, 2003). Evidence on this relation is, however, inconclusive so far. Some studies have established links between parenting, child social cognition, and behavior problems (e.g., Halligan, Cooper, Healy, & Murray, 2007; Weiss et al., 1992), but others have only partially found such relations (Nelson & Coyne, 2009).

As far as we know, no research to date has investigated social cognitive functioning of children of incarcerated mothers, nor its relation with maternal parenting. Establishing these relations might suggest utility of social cognitive training for children of incarcerated mothers to prevent behavior problems in these children.

Parenting behaviors

Parenting behaviors of incarcerated mothers may potentially be a target for preventive intervention. For children of incarcerated mothers, suboptimal parenting may be an important environmental factor. Linkages between parenting behaviors and disruptive child behavior have been found in relation to parental antisocial behavior (Dodge, Coie, & Lynam, 2006; Rhule, McMahon, & Spieker, 2004). In addition, parental incarceration has been associated with less optimal parenting. For children involved with child welfare services agencies, children with histories of parental incarceration were more likely to have experienced impaired parenting behaviors than children without histories of parental incarceration (Phillips, Burns, Wagner, & Barth, 2004). Likewise, delinquent youth with histories of parental incarceration were more likely to have experienced severely ineffective parenting than delinquent youth without histories of parental incarceration (Dannerbeck, 2005). Last, in a larger sample than used in this study, mothers being released from incarceration evidenced relatively few involvement and poor monitoring (Menting, Orobio de Castro, & Matthys, 2012a).

Although interventions aimed at parenting behaviors have been proven to be most effective in decreasing children's antisocial behavior (McCart et al., 2006) in the general population, surprisingly few intervention studies have targeted the high-risk population of children of incarcerated mothers, or even just families with delinquent family members, and assessed intervention effects on child behavior. Establishing relations between parenting behaviors of incarcerated mothers and their children's behavior might suggest utility of behavioral parent training for this particular population to prevent behavior problems in these children.

Socioeconononomic status

It is hardly possible to exclude the possibility that other factors than maternal incarceration affect problems in children of incarcerated mothers. A rigorous test would require random assignment of mothers to different punishment regimes and assessment of difficulties before incarceration, which are both practically and ethically infeasible. However, some improvements can be made by recruiting a more suitable comparison group. Given the accumulation of difficulties for children of incarcerated mothers, it would not be very informative to compare them with children who do not face aversive environments at all. Large differences in low socioeconomic status (SES) alone would already bias such a comparison, irrespective of maternal incarceration. Indeed, low SES may be an important confounding factor in understanding risks of maternal imprisonment. In fact, characteristics of low SES are found in incarcerated women: they are likely to have had little education and to experience serious barriers to employment (Blitz, 2006; Tonkin, Dickie, Alemagno, & Grove, 2004), and to be poor (Allen, Flaherty, & Ely, 2010; Moe & Ferraro, 2007). Among children from low SES families, a relatively high incidence of disruptive behavior problems is found, which is related to multiple risk factors in the lives of these children (see for a review, Qi & Kaiser, 2003). Thus, both children of incarcerated mothers and children from low SES families are considered at risk, whereas overlap between these two groups is plausible.

This study

Cross-national comparisons show that effects of incarceration may differ between countries (e.g., Besemer et al., 2011; Murray, Janson, & Farrington, 2007). Therefore, knowledge regarding Dutch children of incarcerated mothers is needed to understand effects of maternal incarceration in the Netherlands. However, research on children of incarcerated mothers is even scarcer in the Netherlands. To our knowledge, only one study

has addressed children on incarcerated mothers' well-being in the Netherlands. Hissel, Bijleveld, and Kruttschnitt (2011) examined children's well-being in an exploratory study with 30 participating mothers, using the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) and semi-structured interviews. For the CBCL, mothers reported borderline or clinical scores on the total scale for 32 percent of the children. Mothers reported borderline or clinical scores for 47 percent of children regarding internalizing problems and 26 percent regarding externalizing problems. As these authors state, it is not clear whether elevated CBCL scores are the consequence of the incarceration of their mother and related caregiving disruptions. That is, other difficulties than maternal imprisonment may have caused these elevated scores. Hissel et al. suggest that behavior problems and decreased well-being may also be due to stressful life events.

For our present purposes, this study by Hissel et al. is far from representative because of its inclusion criteria, which excluded a substantial part of incarcerated mothers and included mothers who were not likely to regain parenthood, and because children's well-being was only compared with population norms.

As mentioned before, comparison of children affected by maternal incarceration with children from low SES families would be far more informative than comparison with population norms. To our knowledge, it is unknown whether children from incarcerated mothers do actually face more difficulties then children of low SES families, and whether specific problems differ between these populations. Furthermore it is unknown which factors or problems should be addressed in interventions which specifically target children of incarcerated mothers. Evidence regarding difficulties faced by children of incarcerated mothers may suggest targets for intervention. For example, should we address maternal factors and involve mothers, or should we address child problems and work with the children? That is, evidence of suboptimal parenting behaviors may suggest behavioral parent training, whereas evidence of deviant social cognitions may suggest a child-based cognitive-behavioral approach, in which problem-solving skills and social-cognitive processes are targeted. Therefore, a comparison of two at-risk populations in the Netherlands is needed.

Aim of the present study was to explore whether in families of mothers being released from incarceration, children have experienced more life events, show more behavior problems, and have developed deviant social cognitions, while their mother's parenting behaviors are suboptimal when compared with children and mothers who live in disadvantaged

neighborhoods with low SES. Moreover, we searched for potential targets for intervention. Besides aforementioned group differences, associations between risk factors and behavior problems may hint intervention. It was hypothesized that children of mothers being released from incarceration experience more life events and behavior problems than children from low SES families. Furthermore, it was hypothesized that children of mothers being released from incarceration are more at risk than children from low SES families because of deviant social cognitions and their mothers' suboptimal parenting behaviors, which were assumed to be related to children's behavior problems.

Method

Participants

Participants were 121 children of mothers being released from incarceration and 63 children of comparison mothers, and their mothers. Children's age ranged from 4 to 11 years in this study.

Mothers being released from incarceration originated from the Caribbean (36.8%), South-America (33.3%), the Netherlands (20.7%), other European countries (4.6%), Africa (2.3%), and Asia (2.3%). Mothers being released from incarceration were recruited via nationwide screening within penitentiary institutions or via support organizations whose clientele consists partly of incarcerated women. Mothers were recruited as part of a larger study (Menting, Orobio de Castro, & Matthys, 2012b) on the effectiveness of enhanced Incredible Years parent training (Webster-Stratton, 2001). Mothers were either incarcerated and to be released soon (i.e. within 3 months) or formerly incarcerated and recently released (i.e. not exceeding 6 months), and (expected to become once again) caregivers of their children. Although the larger intervention project contains several measurement occasions, data with regard to only one assessment are used in this study. During assessment, most mothers (70.4%) were already released from the penitentiary institution. Incarcerated mothers saw their children at least twice per month during weekend leaves.

The comparison group consisted of 63 mothers, who lived in disadvantaged neighborhoods but had never been incarcerated, and their young children. Mothers originated from Africa (34.9%), the Netherlands (27.0%), Asia (20.6%), South-America (11.1%), other European countries than the Netherlands (4.8%), and the Caribbean (1.6%). Recruitment took place in neighborhoods that were designated by the Dutch government as districts facing the most serious problems in terms of housing, employment, education,

integration, and safety (Ministerie van VROM, 2007). Mothers were recruited via their children's schools. Mothers signed up for participation in a study on children from disadvantaged areas' well-being.

Since most children were biological children of participating women, the term "mothers" is used throughout this paper to refer to the participating women. Sociodemographic information for children and their mothers are presented in Table 1. Mothers being released from incarceration were younger at study enrollment ($t(135) = -3.07$, $p = .003$), younger at birth of their first child ($t(134) = -4.66$, $p < .001$), lower educated ($\chi^2(1) = 7.55$, $p = .006$), and relatively often single parent ($\chi^2(1) = 34.06$, $p < .001$), as compared with comparison mothers.

Table 1 Sociodemographic information for mothers being released from incarceration and comparison mothers, and their children

	Mothers being released	**Comparison mothers**
Child	($N = 121$)	($N = 63$)
% Boys	50.4	42.9
Age (months)	91.1	86.3
% Biological child	95.9	100.0
Mother	($N = 87$)	($N = 63$)
Age*	33.0	36.5
Age birth of first child*	20.7	24.2
Number of children	2.8	2.7
% Low educated*	71.3	49.2
% Native Dutch	21.8	28.6
% Single parent*	73.6	25.4

* Groups differed significantly on this characteristic with independent samples t-test or χ^2-test.

Procedure

Participation in the study was voluntary for all participants. All mothers were assured that their information would be kept confidential and that the data would be processed anonymously. All questionnaires were administered individually and mostly in an interview format.

Mothers being released from incarceration signed an informed consent form prior to participation, and received a monetary compensation for the time spent to complete these and further questionnaires as part of the larger study. This study was approved by the Ethics Committee of the Utrecht University Faculty of Social Sciences.

Measures

Basic demographics and family functioning

Sociodemographic information with regard to children and their mothers, social assistance and poverty within these families, and life events were assessed with a basic demographics and family functioning form.

Sociodemographic information. Sociodemographic information included mothers' educational level, which was defined as the highest completed educational level. Educational level ranged from 0 (did not complete primary school) to 8 (university). In this study, mothers' educational level was classified as "low-educated" if mothers had not obtained a "basic qualification", i.e. educational levels lower than secondary vocational education (MBO). Basic qualification is the educational level needed to be able to find a job, as defined by the Dutch government. In the Netherlands, schooling is compulsory for young people until the age of 18 or until they have obtained a basic qualification (Government of the Netherlands). Of the total Dutch population of 15 to 65 years in 2010, 31.0% had not obtained a basic qualification (yet; Statistics Netherlands, 2010).

Social assistance and poverty. In this study, we used contact with social care agencies and material difficulties to describe family social assistance and poverty. Mothers were asked whether there were currently contacts with social care agencies for this child. Furthermore, they were asked whether they currently received social security benefits, had a job, and/or had debts. If mothers received no social security benefits, they were asked whether their partner received an income. In addition, it was noted whether mothers had no housing and were obliged to stay with relatives or acquaintances. To be able to compare groups in similar circumstances, we did not assess material difficulties of mothers being released from incarceration when they were still incarcerated, but when they had actually been released from incarceration (three months later).

Life events. Mothers filled out a list of life events for their children. Mothers filled out whether a particular life event took place, how often, and at which age. Life events encompassed moving, birth of a brother/sister, divorce, death of a family member, death of a grand parent, death of an other important person, hospitalization, serious illness/ hospitalization of a parent, parent's job loss (regarding a long-term job), a parent's new partner, school change (within school type), class repeating, and "other life events". Incarceration of mother was not counted as life event, to avoid preset differences between

children of mothers being released from incarceration and comparison mothers.

The total number of life events children experienced so far was used in this study. For all categories except "other life events", we used the actual number of times a life event took place. If the actual number was not known, but mother stated the life event happened more than once, we replaced the missing value by 2. Since the "other life events" category included events like domestic violence, sexual abuse, and maltreatment, an actual number of times was often not appropriate. Therefore, we used the number of other life events mentioned.

Strengths and Difficulties Questionnaire (SDQ)

The SDQ (Goodman, 1997) is a brief questionnaire which is designed to measure prosocial as well as antisocial behaviors, according to parents, teachers or adolescents. Besides covering common areas of emotional and behavioral difficulties, it also asks the informant whether the child has a problem, and, if so, asks about resultant distress and social impairment. The 25 SDQ items are divided between 5 scales of 5 items each: hyperactivity scale, emotional symptoms scale, conduct problems scale, peer problems scale, and prosocial scale. Aggregation of the first four scales leads to a total difficulties score. Mothers answered with regard to each behavioral item whether the item was *not true*, *somewhat true* or *certainly true* for their child.

Internal consistencies for the hyperactivity scale (Cronbach's alpha =.78), emotional symptoms scale (Cronbach's alpha = .65), conduct problems scale (Cronbach's alpha = .66) and the total difficulties score (Cronbach's alpha =.80) were adequate or nearly adequate. However, internal consistencies for the peer problems scale (Cronbach's alpha =.50) and prosocial scale (Cronbach's alpha =.54) were inadequate. Therefore, these two scales were not used in further analyses.

Social information processing (SIP)

Two age-appropriate tasks, consisting of vignettes in which a child was hindered by a peer whose intent was ambiguous, were used to measure SIP in participating children. To be able to compare results of 4 to 6 years old children to results of older children, we used *z*-scores in our analyses. To assess interrater reliability of coded open-ended questions, all answers of participating children were coded by two independent coders.

4 to 6 years old. For the youngest children, identical to Posthumus, Orobio de Castro, Raaijmakers, and Matthys (2009), a SIP task consisting of 14 vignettes, which was based on

previously used SIP tasks (Crick & Dodge, 1996; Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005; Webster-Stratton & Lindsay, 1999), was used. An example of a vignette is:

> "Imagine: you are making a beautiful drawing. When you are almost ready, a boy/girl runs along the back of you. (S)he strikes your elbow, and now there is a big scratch through your drawing."

The first eight vignettes assessed response generation. Children were asked how they would respond if they would actually experience this particular situation. After a response, the child was asked for alternative responses, until the child said he or she did not know more alternatives. Each response was coded as physical or destructive aggression (2), verbal aggression or coercion (1), or solution/no response towards the other/don't know (0). In the present study, only the children's first response was used to assess aggressiveness. An average response, ranging from 0 (never aggressive) to 2 (always physical or destructive aggression) was calculated. Cronbach's alpha for the aggressiveness of first response variable was .79. Interrater reliability of the coded open-ended question was on average .80 (Cohen's kappa), ranging from .46 to 96.

The last six vignettes assessed attribution of others' intentions. Intent attribution was assessed with an open-ended question "Why did (s)he [behavior in vignette]" and a multiple choice question, in which the child was asked whether the other conducted the provocative behavior *purposely* or *accidently*. For both questions, answers which reflect purpose or hostile intent were rated as 1, whereas other answers were rated as 0. An average hostile intent score was calculated, which covered 12 (6 vignettes x 2 questions) responses and ranged from 0 (no hostile intent) to 1 (always hostile intent). Cronbach's alpha for the resulting hostile intent attribution variable was .46. Interrater reliability of the coded open-ended question was on average .73 (Cohen's kappa), ranging from .59 to .83. Because of the inadequate internal consistency, hostile intent attribution of 4 to 6 years old children was not used in further analyses.

From 7 years onwards. For older children, a SIP task consisting of five vignettes was used. An example of a vignette is:

> "Imagine: you are playing tag with other children on the schoolyard. Your whole class joins, so it is terribly crowded: everyone runs crisscross. The boy/girl who is the tagger, tries to tag you. (S)he succeeds in tagging you, but (s)he touches you so hard that you are falling over. Your knees are completely scraped."

After each vignette, children were asked seven questions. In the present study, answers regarding three questions were used. The other four questions concerned practice and approval of aggressive and assertive responses.

Aggressiveness of first response was assessed with the open-ended question "What would you do now?". Each response was coded as physical or destructive aggression (2), verbal aggression or coercion (1), or solution/no response towards the other/don't know (0). Cronbach's alpha for the aggressiveness of first response variable was .69. Interrater reliability of the coded open-ended question was on average .73 (Cohen's kappa), ranging from .59 to .91.

Intent attribution was assessed with an open-ended question and a 7-point rating scale (ranging from *accidently* [1] to *purposely* [7]). Answers to the open-ended question "Why did (s)he [behavior in vignette]?" which reflected purpose or hostile intent were rated as 1, whereas other answers were rated as 0. Answers to the open-ended questions and rating scales were combined by standardizing each variable and then taking their average. Cronbach's alpha for the resulting hostile intent attribution variable was .79. Interrater reliability of the coded open-ended question was on average .81 (Cohen's kappa), ranging from .63 to .94.

Alabama Parenting Questionnaire (APQ)

The APQ (Shelton, Frick, & Wootton, 1996) is a self-report questionnaire designed to measure the most important aspects of parenting behaviors related to disruptive behavior problems in children: positive parental involvement, monitoring/supervision, use of positive parenting techniques, inconsistency in discipline, and harsh discipline. The 42 items of the APQ are divided into the following scales: involvement (10 items), positive parenting (6 items), poor monitoring/supervision (10 items), inconsistent discipline (6 items), corporal punishment (3 items), and other discipline practices (7 items, included so that corporal punishment items are not asked in isolation of other forms of discipline). However, in the current study, two items were deleted because some participants were incarcerated at time of assessment; the unfeasibility of those items during incarceration would be too confronting: "You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school" (involvement) and "Your child fails to leave a note or to let you know where he/she is going" (poor monitoring). Participants responded on a 5-point frequency scale (*never* to *always*), with higher scores reflecting more frequent use of parenting practices. Participants filled out questionnaires with regard to each

participating child. Internal consistencies were adequate for four of five meaningful subscales, with Cronbach's alphas ranging from .61 to .75. However, internal consistency for corporal punishment was inadequate (Cronbach's alpha = .55). Therefore, this subscale was not used in further analyses.

Results

Data analysis

First, to examine significance of familial difficulties, social assistance and poverty were analyzed using χ^2-tests. Second, between group differences in life events, behavior problems, social cognitions, and parenting behaviors were examined using independent samples t-tests. Third, bivariate correlations (Pearson's *r*) between these variables were studied for children of mothers being released from incarceration.

In some families affected by maternal incarceration, data was collected regarding more than one child. For child variables, data regarding all participating children were included. For maternal and familial variables, each family was included once.

Table 2 Social assistance and poverty for families of mothers being released from incarceration and comparison mothers

	Mothers being released	Comparison mothers
Child	(*N* = 121)	(*N* = 63)
% Contact with social care agencies*	40.5	11.1
Material difficulties	(*N* = 73)	(*N* = 63)
% No housing	16.4	7.9
% Social security*	58.9	30.2
% No income at all*	11.0	0.0
% Debts*	88.1	28.6

* Groups differed significantly on this characteristic with a χ^2-test.

Social assistance and poverty

Social assistance and poverty of families of mothers being released from incarceration and families of comparison mothers are presented in Table 2. More children of mothers being released from incarceration than children of comparison mothers had contact with

social care agencies ($\chi^2(1) = 24.14$, $p < .001$; $d = -1.18$). Social assistance and poverty of mothers being released from incarceration were worse than social assistance and poverty of comparison mothers; groups differed with regard to social security ($\chi^2(1) = 6.78$, $p = .009$; $d = -0.25$), having no income at all ($\chi^2(1) = 6.13$, $p = .01$; $d = -0.71$), and debts ($\chi^2(1) = 47.58$, $p < .001$; $d = -1.74$).

Life events

Life events of children of mothers being released from incarceration and children of comparison mothers are presented in Table 3. The total number of life events differed significantly between children of mothers being released from incarceration and comparison mothers ($t(153) = 6.87$, $p < .001$; equal variances not assumed; $d = 0.99$). Children of mothers being released from incarceration had experienced more life events than children of comparison mothers.

Table 3 Life events

Life event	Mothers being released ($N = 121$)			Comparison mothers ($N = 63$)		
	M (SD)	**Min**	**Max**	***M (SD)***	**Min**	**Max**
Residential change	2.96 (2.16)	0	12	0.78 (0.75)	0	2
Birth of a brother/sister	0.65 (0.87)	0	5	0.62 (0.68)	0	3
Divorce	0.61 (0.51)	0	2	0.21 (0.41)	0	1
Death of a family member	0.02 (0.16)	0	1	0.11 (0.32)	0	1
Death of a grand parent	0.39 (0.68)	0	3	0.46 (0.71)	0	3
Death of an important person	0.22 (0.58)	0	3	0.16 (0.41)	0	2
Hospitalization	0.59 (1.64)	0	15	0.38 (1.30)	0	10
Illness/hospitalization parent	0.39 (0.58)	0	2	0.48 (0.76)	0	3
Job loss parent	0.17 (0.42)	0	1	0.21 (0.54)	0	3
New partner parent	0.71 (0.72)	0	3	0.14 (0.35)	0	1
School change	0.84 (1.06)	0	4	0.29 (0.55)	0	2
Class repeating	0.15 (0.36)	0	1	0.06 (0.25)	0	1
Other life events	0.30 (0.51)	0	2	0.14 (0.35)	0	1
Total life events	**7.93*** (4.19)**	**0**	**22**	**4.03*** (3.33)**	**0**	**22**

*** $p < .001$.

Behavior problems

Means and standard deviations for behavior problems of children of mothers being released from incarceration and children of comparison mothers are presented in Table 4. Children's overall difficulties ($t(172) = 2.46$, $p = .02$) and hyperactivity ($t(156) = 2.82$, $p = .005$; equal variances not assumed) differed significantly between groups. Children of mothers being released from incarceration experienced more problems than children of comparison mothers. However, groups did not differ significantly with regard to emotional symptoms ($t(172) = 0.22$, $p = .83$) and conduct problems ($t(172) = 1.62$, $p = .11$).

In Dutch norms (Goedhart, Treffers, & Van Widenfelt, 2003), scores above the 80th percentile are considered borderline scores, and scores above the 90th percentile are considered deviant scores. Compared to the Dutch norms, the average total difficulties score and conduct problems score of children of mothers being released from incarceration fell within the borderline range. Other average scores for both groups fell within the normal range. For children of mothers being released from incarceration, 32.1% displayed scores above the 90th percentile regarding total difficulties, 14.3% regarding emotional symptoms, 28.6% regarding conduct problems, and 22.3% regarding hyperactivity. For children of comparison mothers, 17.7% displayed scores above the 90th percentile regarding total difficulties, 24.2% regarding emotional symptoms, 24.2% regarding conduct problems, and 9.7% regarding hyperactivity.

Table 4 Behavior problems

	Mothers being released ($N = 112$)		Comparison mothers ($N = 62$)		Effect size
	M	***SD***	***M***	***SD***	***d***
SDQ – total difficulties	11.47*	6.14	9.18*	5.39	0.39
SDQ – emotional symptoms	2.90	2.21	2.82	2.37	0.04
SDQ – conduct problems	2.01	1.91	1.55	1.55	0.26
SDQ – hyperactivity	4.37**	2.97	3.24**	2.23	0.41

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

Social cognitions

Means and standard deviations for social cognitions of children of mothers being released from incarceration and children of comparison mothers are presented in Table 5. Both aggressiveness of first response ($t(141) = 0.92$, $p = .36$) and intent attribution ($t(80) = -1.47$, $p = .14$) did not differ significantly between groups.

Table 5 Social cognitions

	Mothers being released			Comparison mothers			Effect size
	n	*M*	*SD*	*n*	*M*	*SD*	*d*
SIP – aggressive first response (*z*-score)	80	0.07	0.96	63	-0.09	1.04	0.15
SIP – hostile intent attribution (*z*-score)	51	-0.13	0.93	31	0.21	1.09	-0.34

Parenting behaviors

Means and standard deviations for parenting behaviors of mothers being released from incarceration and comparison mothers are presented in Table 6. Mothers' involvement ($t(143) = -5.69$, $p < .001$; equal variances not assumed) and poor monitoring ($t(157) = 2.27$, $p = .01$; equal variances not assumed) differed significantly between groups, with respective *d*'s of -0.86 and 0.36. Mothers being released from incarceration reported less involvement and poorer monitoring than comparison mothers.

Table 6 Parenting behaviors

	Mothers being released			Comparison mothers			Effect size
	n	*M*	*SD*	*n*	*M*	*SD*	*d*
APQ – involvement	111	30.9***	4.9	60	34.8***	4.0	-0.86
APQ – positive parenting	112	25.1	3.4	63	25.7	3.1	-0.16
APQ – poor monitoring	110	12.2*	3.5	60	11.1*	2.4	0.36
APQ – inconsistent discipline	112	14.3	4.4	63	13.3	3.4	0.24

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

Relations between life events, behavior problems, social cognitions, and parenting behaviors

Bivariate correlations between life events, social cognitions, behavior problems, and parenting behaviors for children of mothers being released from incarceration are presented in Table 7. Life events correlated positively with three of four behavior problem scales (i.e., total difficulties, emotional symptoms, and hyperactivity). Both total difficulties and conduct problems correlated negatively with involvement, and positively with poor monitoring and inconsistent discipline. Hyperactivity correlated negatively with

involvement and positively with inconsistent discipline. There was a marginal significant positive correlation between emotional symptoms and inconsistent discipline, and between hyperactivity and hostile intent attribution.

Discussion

Children of mothers being released from incarceration face more disadvantages in life events, behavior problems, and their mothers' parenting behaviors than children of mothers who live in disadvantaged neighborhoods with low SES but have no history of incarceration. Children of mothers being released from incarceration have experienced more life events than children of comparison mothers, and experience more behavior problems than children of comparison mothers. Furthermore, children of mothers being released from incarceration are more at risk than children from low SES families because of their mothers' suboptimal parenting behaviors, which are related to children's behavior problems. Therefore, parenting behaviors of mothers being released from incarceration may be a potential target for intervention.

Children of mothers being released from incarceration have experienced more life events than children of comparison mothers, apart from incarceration of their mothers. In particular, the relatively high numbers of residential changes, divorce of parents, parents' new partners, school changes, and class repeating strike the eye. These results are in line with earlier research (Greene et al., 2000; Hagen et al., 2005; Mackintosh et al., 2006) and point to relative unstable courses of life for children of mothers being released from incarceration. One should bear in mind that part of the instability may be caused by maternal incarceration. That is, for example, changes in care giving arrangements because of mothers' absence may be accompanied by residential changes and non-routine school changes. However, examination of data revealed that a substantial part of life events took place, in all probability, before mothers' incarceration, and may therefore not be related to maternal incarceration. For example, in most cases with multiple residential changes, changes were to a certain extent spread over life course. Moreover, life events were positively related to behavior problems. This latter finding and the spread over lifetime are in line with the suggestion of Hissel et al. (2011) that children's behavior problems and decreased well-being may be also due to stressful life events experienced before maternal incarceration.

Table 7 Correlations between life events, social cognitions, behavior problems, and parenting behaviors for children of mothers being released from incarceration

	1	2	3	4	5	6	7	8	9	10
1. Total life events										
2. SDQ – total difficulties	.27**									
3. SDQ – emotional symptoms	.26**	.69***								
4. SDQ – conduct problems	.08	.65***	.20*							
5. SDQ – hyperactivity	.22*	.81***	.34***	.46***						
6. SIP – aggressive first response (*z*-score)	-.01	.03	.05	-.02	.00					
7. SIP – hostile intent attribution (*z*-score)	-.01	.15	-.01	.15	.24†	.34*				
8. APQ – involvement	.02	-.34***	-.09	-.24*	-.29**	-.06	-.01			
9. APQ – positive parenting	-.05	-.11	-.01	-.12	-.05	-.17	.10	-.38***		
10. APQ – poor monitoring	.10	.22*	.07	.31**	.15	.02	-.11	-.34***	-.54***	
11. APQ – inconsistent discipline	.05	.40***	.17†	.32***	.41***	-.12	.12	-.04	.16†	.20*

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Consistent with our hypothesis, children of mothers being released from incarceration experience more behavior problems than children of comparison mothers. That is, children of mothers being released from incarceration showed more overall difficulties and more hyperactivity than children of comparison mothers, while groups did not differ regarding emotional symptoms and conduct problems. Therefore, results of the current study reveal that children of mothers being released from incarceration do not only show relatively many problems compared with the general population, but also compared to another at risk population. Indeed, comparison with Dutch norms revealed that also relatively many comparison children displayed deviant scores on all behavioral scales, except for hyperactivity.

Social cognitions of children of mothers being released from incarceration do not differ from social cognitions of comparison children. No between group differences were found regarding aggressiveness of first responses and hostile intent attribution. Since social cognitions of these children were only compared to social cognitions of an other at risk population, we do not know whether this result means that these children's social cognitions are (still) comparable to social cognitions in the general population. Therefore, additional research is needed to examine these children's social cognitions in relation to the general population as well as to older children of mothers being released from incarceration. At this point, we do not have indications that these children's social cognitions are deviant, and therefore results do not suggest a child-based cognitive-behavioral approach for this population.

Consistent with our hypothesis, children of mothers being released from incarceration are put at extra risk because of their mothers' parenting behaviors. Mothers being released from incarceration reported relatively few involvement and relatively poor monitoring. This finding is in line with results regarding a larger sample (Menting et al., 2012a). However, results of the current study extend earlier results in establishing a relation between parenting behaviors of mothers being released from incarceration and their children's behavior problems. In specific, results of the current study show that both parenting behaviors which differed between groups (involvement and poor monitoring), and an additional parenting behavior (inconsistent discipline) which did not differ between groups are related to behavior problems in children of mothers being released from incarceration. This relation was established for both behavior problems which differed between groups (total difficulties and hyperactivity) and additional behavior problems (conduct problems) which did not differ between groups. These results are in line with other empirical evidence linking parenting behaviors to disruptive child

behavior. For example, mothers' poor monitoring and inconsistent discipline have been found to predict externalizing problems in respectively their daughters and their children of both sexes (Gryczkowski et al., 2010). Furthermore, low levels of warmth and physically aggressive parenting have been linked to oppositional and aggressive behaviors in children (Stormshak et al., 2000), and parenting dimensions like monitoring, psychological control, and negative aspects of support have been found to predict delinquency (Hoeve et al., 2009).

Surprisingly, no group differences were found for inconsistent discipline. We are not sure why groups did not differ, although this variable evidenced to be related to behavior problems. Perhaps we should view this the other way around. Both involvement and monitoring reflect investment of mothers in their children. Since we know that these mothers face their own problems (e.g., Menting et al., 2012a), mothers might be that occupied by working on themselves and their situations that these investments in their children come off the worst. Hence, they are less able to invest in their children than comparison mothers, because of their situation. But if they invest, they are as (in) consistent as comparison mothers.

The results of this study are subject to limitations. First, comparability of groups examined in this study might be seen as a limitation. That is, although groups are highly comparable regarding child characteristics, significant differences regarding maternal characteristics and social assistance and poverty within families exist. However, comparison of equivalent groups is not this study's purpose. Our purpose is primarily to explore risks of children of mothers being released from incarceration. A comparison group has been added in this study as a sort of "worst case scenario". That is, do these children face more risks than a well-known at risk population? Therefore, differences between these groups point to different circumstances, often to the detriment of mothers being released from incarceration and their children. To our opinion, these differences reflect reality in that the most serious cases in the population of mothers being released from incarceration are not to be found in the normal population. Therefore, we choose not to match for social assistance and poverty and to delete the most serious cases. However, between-group differences regarding mothers' origins in this study are unintentional and might therefore be more problematic. That is, for example, cross-cultural differences in parenting may have influenced this study's results.

Second, assessment of SIP tasks was accompanied by several difficulties. In the first place, since some mothers were still incarcerated at their assessment, assessment

of their children needed to be postponed to a later assessment, at which access to the children was more feasible. Since part of the mothers being released from incarceration had received intervention at that time, intervention may have indirectly influenced children's social cognitions. In the second place, many of the participating families are cramped for space. Therefore, possibilities to talk with children in a separate room, apart from their mother, were not always available. That is, presence of their mother may have affected findings. However, it is unclear in which direction presence of mothers may have affected findings. That is, children may have given more social desirable answers, but also more deviant answers because of their mothers' presence. That is, since social cognitions of mothers being released from incarceration have been found to differ from social cognitions of comparison mothers (Menting et al., 2012a), these mothers may model and be more tolerable of deviant social cognitions. In the third place, we have omitted hostile intent attribution scores of 4 to 6 years old children, because of inadequate internal consistency. Although we used an age-appropriate task which has been used in a previous study (Posthumus et al., 2009) in this study, and most 4-year-olds appear to understand their peer's intention as a prior causal mental state (Katsurada & Sugawara, 1998), questions regarding intent attribution seem to be difficult for these young children. Future research should examine why answers of these children are inconsistent; do these children understand the concept of intention and, if so, do present adults or presentation of questions influence their answers?

The results of the present study have implications for intervention researchers and policymakers. Results of the present study show that children of incarcerated mothers face more adversities that may contribute to problematic development than children from an other well-known at risk population, and that parenting behaviors may be a target for intervention. These children deserve extra efforts to reduce possible harm throughout their lives. In efforts to help these children, attention should be paid to differences with regard to the amount and severity of problems within this population. Although the population as a whole certainly should be considered an at risk population which deserves extra efforts in terms of prevention and intervention, problems vary widely between families, mothers, and children. Therefore, efforts should be customized to match the family's needs.

The results of this study suggest that parenting behaviors of these mothers may be a target for intervention. Hence, behavioral parent training seems to be the obvious thing to do in most families. Although research and intervention with these families may be an endeavor (Byrne, 2005), there are indications that these endeavors may be fruitful.

Behavioral parent training has been found to improve parenting behaviors and child problems in high-risk populations. For example, an enhanced version of the Incredible Years parent training (Webster-Stratton, 2001) yielded significant effects on negative parenting, parental stimulation for learning, and preschoolers' social competence with peers in the high-risk population of families with antisocial youths (Brotman et al., 2005). These findings suggest utility of parenting programs as a strategy for preventing behavior problems and diminution of risks. Preventively targeting parenting of children affected by maternal incarceration may hopefully lead to better opportunities for these children.

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Chapter 4

Effectiveness of the Incredible Years parent training to modify disruptive and prosocial child behavior: A meta-analytic review

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Abstract

The present meta-analytic review aimed to examine effectiveness of the Incredible Years parent training (IYPT) with regard to child behavior, and to explain variability in intervention outcomes. Fifty studies, in which an intervention group receiving the IYPT was compared to a comparison group immediately after intervention, were included in analyses. Results showed that the IYPT is an effective intervention with regard to child behavior. Positive effects with regard to distinct outcomes and distinct informants were found, including a mean effect size of .27 concerning disruptive child behavior across informants. For parental report, treatment studies were associated with larger effects (d = .50) than indicated (d = .20) and selective (d = .13) prevention studies. Furthermore, initial severity of child behavior revealed to be the strongest predictor of intervention effects, with larger effects for studies which included more severe cases. Findings indicate that the IYPT is successful in improving child behavior in a diverse range of families, and that the parent program may be considered well-established.

Behavioral parent training (BPT) has been proven to be the most effective intervention method for pre-school and school-aged youth with antisocial behavior problems (McCart, Priester, Davies, & Azen, 2006). BPT typically aims to reinforce children's prosocial behavior and decrease children's disruptive behavior by training their parents to use behavioral techniques. This approach, which uses the parent as the primary agent for change, can be distinguished from a child-based cognitive-behavioral approach, in which problem-solving skills and social-cognitive processes are targeted in order to diminish disruptive behavior (McCart et al., 2006). Although it is clear that parents can affect their children's behavior, it is less clear which factors influence the effectiveness of BPT programs (Hinshaw, 2002). Even with successful intervention programs, studies reveal substantial variability in outcomes. Identification of those who respond differently to intervention programs is necessary, because this points to interesting groups and possibilities to optimize interventions (Hinshaw, 2002). Besides that intervention effects may differ between populations, intervention effects may also be associated with factors which are not related to the participants, such as intervention formats and methodological features. Examination of these features may also yield possibilities for optimization of intervention programs. This is true for intervention programs in general, but possibly even more for specific programs. Examining to what extent a specific BPT program is effective in specific populations, with certain formats or within certain contexts, may guide better targeting of intervention programs and help to optimize the specific intervention program.

A well-known BPT program is the Incredible Years parent training (IYPT; Webster-Stratton, 2001), a group parent training in which parents of young children view videotapes that depict parent models interacting with their children in various situations. In collaboration with two group leaders, who use an empowering approach, parents discuss these video vignettes and put learned techniques into practice in role plays. In addition, home assignments are used to encourage parents to practice parenting skills at home. In the BASIC IYPT the subjects play skills, praise and rewards, limit setting, and handling misbehavior are dealt with, whereas the supplementary ADVANCE component goes further into interpersonal issues such as communication and problem solving (Webster-Stratton, 2002). An other supplement to the BASIC IYPT is the Incredible Years School Readiness Series (e.g., Reid, Webster-Stratton, & Hammond, 2007). Together with the Incredible Years Child Programs and the Incredible Years Teacher Programs these programs form the comprehensive set of Incredible Years curricula[1].

1 Our description of the Incredible Years curricula was based on the curricula as delivered in individual studies included in our analyses. Meanwhile, changes were made to the Incredible Years curricula. That is, a Preschool and School Age form can be distinguished with regard to the BASIC Parent Program, and Baby and Toddlers Parent Programs are added to the curricula.

The IYPT has seen widespread growth and is used and studied internationally as a treatment for children with severe conduct problems, and as a preventive intervention. The IYPT has proven to be an effective intervention for disruptive child behavior according to numerous effect studies (e.g., Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Webster-Stratton, 1984; Webster-Stratton & Hammond, 1997) and reviews (e.g., Bauer & Webster-Stratton, 2006; Brestan & Eyberg, 1998). However, other studies revealed less convincing evidence of effectiveness (e.g., Helfenbaum-Kun & Ortiz, 2007; Webster-Stratton, 1998). In addition, the initial classification of the IYPT as a well-established treatment in a review-article by Brestan and Eyberg (1998) was later recanted by the authors, because it was believed to be based on erroneous recording of the direction of group differences. According to a later review, the IYPT should be considered as probably efficacious instead, because of a lack of supportive replications by independent researchers, in addition to a lack of studies comparing the IYPT to other treatments (Eyberg, Nelson, & Boggs, 2008). However, it is unclear why independent studies by, for example, Drugli and Larsson (2006), Gardner, Burton, and Klimes (2006), and Scott, Spender, Doolan, Jacobs, and Aspland (2001) were not included in the review by Eyberg, Nelson, and Boggs (2008).

Furthermore, because of the inclusion criterion in the aforementioned reviews – only studies regarding youth with significant levels of disruptive behavior were included – a number of IYPT studies regarding youth with lower levels of disruptive behavior, particularly preventive studies, have not been included. Besides, new studies are available since previous reviews were published. Moreover, conclusions about the effectiveness of the IYPT differ among studies and reviews. Therefore, more clarity is desirable about the extent to which this specific parent training works, both as a treatment program and a preventive program, and both "standard IYPT" and variants of the IYPT program. The large variation in outcomes of IYPT effect studies also raises the question what determines the effectiveness of the IYPT. Discovering which factors moderate the extent to which this intervention will work for different clients and under different circumstances would make it possible to deliver tailored IYPT with optimal effectiveness.

Meta-analyses represent key study findings in a more sophisticated and differentiated manner than conventional review procedures and are capable of discovering meaningful effects and relationships upon which studies agree and differential effectiveness with regard to differences between studies (Lipsey & Wilson, 2001). Therefore, a comprehensive meta-analytic review of the IYPT is needed.

The aims of the present study are to provide a meta-analytic test of the effectiveness of the IYPT in improving child behavior and to examine potential moderators of effectiveness in intervention characteristics, child characteristics, family characteristics, and methodological features. By these means, we hope to gain insight into critical factors in designing and studying effective parenting interventions.

Dissimilarities among studies of parenting interventions might explain differential conclusions about effectiveness between studies to some extent. Reviews of parent training literature and empirical studies of the IYPT and comparable interventions suggest a number of factors that may influence child outcomes of the IYPT. In de next paragraphs, we discuss suggested factors related to intervention characteristics, child characteristics, family characteristics, and methodological features within studies.

Intervention characteristics

The IYPT is applied in various settings. The originally clinic-based treatment program has also been used as a prevention program for various high-risk populations, such as Head Start children (e.g., Webster-Stratton, 1998), preschool children with adjudicated siblings (Brotman et al., 2005), children placed in foster care (Linares, Montalto, Li, & Oza, 2006) and children of maltreating mothers (Hughes & Gottlieb, 2004). Furthermore, the training has been offered as stand-alone intervention as well as in package with other elements, including complementary curricula from the Incredible Years Training Series, i.e. "Dinosaur" child training (Webster-Stratton & Hammond, 1997) and teacher training (Webster-Stratton, Reid, & Hammond, 2001). Moreover, precursors of the IYPT (e.g., Webster-Stratton, 1982; Webster-Stratton, 1984) and deliberately stripped formats, such as individual parent training (Kratochwill, Elliott, Loitz, Sladeczek, & Carlson, 2003; Webster-Stratton, Kolpacoff, & Hollinsworth, 1988; Webster-Stratton, 1992), are variants of the well-known IYPT, of which effectiveness has also been reported in effect studies. These features of the intervention protocol and conduction of sessions may be relevant with regard to effectiveness. Therefore, it may be relevant to examine intervention characteristics, which are reliably assessed and sufficiently reported in IYPT effect studies to analyze them. Main intervention characteristics which may be associated with intervention outcomes are *study context*, *training components*, *number of sessions offered*, and *number of sessions attended*.

A first protocol characteristic that may be relevant is whether the intervention in the regarding study should be classified as treatment (intervention for families who sought help), indicated prevention (intervention aimed at children who are identified as having

minimal but detectable signs or symptoms), selective prevention (intervention targeted at children who are considered at high-risk due to biological, psychological or contextual factors), or universal prevention (intervention targeted at children who have not been identified on the basis of individual risk; Mrazek & Haggerty, 1994). The distinction between prevention and treatment studies may be related with initial problem severity of participating children. Probably, treatment studies generally include participants with more severe problems than prevention studies. However, study context and initial problem severity are not identical. It is quite possible that a selective prevention trial in a high-risk environment includes participants with problems as severe as participants in treatment studies elsewhere. For example, McIntyre (2008), Webster-Stratton (1998), and Letarte, Normandeau, and Allard (2010) reported relatively high levels of initial severity in preschool children with developmental disabilities, Head Start children, and children in child protection services, respectively. Therefore, we distinguish separate variables concerning the context of studies (prevention or treatment) and initial problem severity as a participant characteristic (see below).

A common thought is that prevention trials reveal smaller effects than treatment studies. That is, there is thought to be less room for improvement in prevention trials, because of lower initial severity of child behavior and inclusion of a high number of participants that do not actually need intervention, "false positives" (Bennett, Lipman, Racine, & Offord, 1998). Yet, type of preventive intervention (universal, selective or indicated prevention) was not related to effect size in a study by McMahon, Holly, Harrington, Roberts, and Green (2008) for the prevention of conduct disorder.

As mentioned before, the IYPT can be offered as a stand-alone intervention as well as in a package with other components or interventions. Although Foster, Olchowski, and Webster-Stratton (2007) concluded that stacking intervention components of the Incredible Years program is cost-effective (by means of combining treatment costs and child behavior outcomes), other studies revealed that a package of interventions does not always provide better outcomes (Beauchaine, Webster-Stratton, & Reid, 2005; Kaminski, Valle, Filene, & Boyle, 2008; Thomas & Zimmer-Gembeck, 2007). Besides training components, training content received by parents may differ according to the number of sessions they received (treatment dosage). That is, the number of sessions offered as well as the number of sessions received may be relevant. Evidence regarding treatment dosage is, in general, inconclusive: Wilson and Lipsey (2001) mentioned that dose is associated with effect size variance (but noted that treatment intensity and duration are probably confounded with other study features), while Serketich and Dumas (1996)

found no relation between treatment length and child outcomes for BPT. In extension, with regard to the IYPT, training engagement and outcome are positively associated in a dose-response manner, according to Baydar, Reid, and Webster-Stratton (2003). However, an IYPT study by Beauchaine et al. (2005) could not support this with regard to children's externalizing behavior.

Child characteristics

Characteristics of the target child, such as *age*, *gender*, *initial severity of child behavior*, and *clinical symptom levels*, may also moderate training effectiveness. Although the child's age and gender possibly do not have a predictive relation to treatment outcome in general (Beauchaine et al., 2005; Lundahl, Risser, & Lovejoy, 2006) and in IYPT (Beauchaine et al., 2005), an IYPT study revealed relatively better intervention outcomes for boys and young children (Gardner, Hutchings, Bywater, & Whitaker, 2010). Initial severity of child behavior is frequently believed to be of influence. Whereas some narrative reviews suggest that more severe behavior predicts reduced responsiveness to parent training (Assemany & McIntosh, 2002; Kazdin, 1997; Nixon, 2002), a meta-analytic review by Lundahl et al. (2006) showed, with respect to BPT, that studies including clinical symptom levels at pre-treatment reveal higher effect sizes than studies which include non-clinical or mixed symptom levels. An IYPT study suggested that children with more and less difficulties had an equal chance of responding well to the intervention program (Gardner et al., 2010).

Family characteristics

Main family characteristics that may be associated with intervention outcomes are *single parenthood*, *ethnic minority* status, mother's level of *education*, and *at risk* populations.

A first demographic characteristic that might influence effect sizes is single parenthood. Although numerous studies suggest that single-parent households profit less from parent training (e.g., Assemany & McIntosh, 2002; Kazdin, 1997; Nixon, 2002; Reyno & McGrath, 2006), other studies (Serketich & Dumas, 1996), including IYPT studies (Beauchaine et al., 2005; Fossum, Mørch, Handegard, Drugli, & Larsson, 2009; Gardner et al., 2010), do not support this assumption. Second, many studies suggest that membership to a minority ethnic group is related to poor treatment response (e.g., Assemany & McIntosh, 2002; Nixon, 2002). Third, mother's level of education is a family characteristic that may also influence intervention outcomes. Parent training is expected to be less beneficial for low-educated, young mothers (e.g., Assemany & McIntosh, 2002), but replication of this assumption failed in some IYPT studies (Beauchaine et al., 2005; Fossum et al., 2009; Gardner et al., 2010).

In sum, families which can be considered at risk because of various parental, contextual or family characteristics may benefit less from parent training interventions. However, findings with regard to at risk samples are inconclusive, and might be different for IYPT studies.

Methodological features

Wilson and Lipsey (2001) point out the relevance of methodological features, which may be almost as important as intervention features in explaining differential effectiveness. A range of child outcomes has been examined with regard to the IYPT; most studies included outcome measures related to externalizing behavior, but other studies also examined the training's effectiveness concerning children's internalizing symptoms (e.g., Cartwright-Hatton, McNally, White, & Verduyn, 2005; Webster-Stratton & Herman, 2008), social competence (e.g., Drugli, Larsson, & Clifford, 2007), language and literacy (Sylva, Scott, Totsika, Ereky-Stevens, & Crook, 2008), and autonomy (Hughes & Gottlieb, 2004), among other outcomes. Moreover, different methods have been used in different studies to measure more or less the same category of behavior. Therefore, it may be relevant to take such methodological characteristics into account. Main methodological moderators are related to assessment (e.g., constructs, informants, and use of specific questionnaires, like the Eyberg Child Behavior Inventory [*ECBI*]), to type of *assignment*, and to *nature of the comparison group*.

First, differences in assessment may matter. Different informants may yield dissimilar results. For example, direct observation may yield different conclusions than parental report. Although, for example, Scott (2001) has stated that direct observations shows a much smaller effect than parental questionnaires in several intervention studies, observed behavior was reported to be more sensitive to intervention effects than parent ratings of behavior in some IYPT studies (e.g., Brotman et al., 2008; Gardner et al., 2006; Raaijmakers et al., submitted).

But also within an informant dissimilarity may arise from differences in assessment: Scott (2001) revealed variation in effect sizes according to outcome measured and instrument used in a trial of IYPT. Semi-structured interviews and user satisfaction suggested more improvement than child symptoms and screening instruments. Furthermore, general screening instruments might be less sensitive to change than specific scales, such as the ECBI. In addition, Kaminski et al. (2008) found effect size for child outcomes to be related with outcome category. Measurements of externalizing behavior revealed larger effect sizes than measurements of social skills and prosocial behavior.

Third, assignment may influence differences between intervention and comparison groups. Since random assignment should result in groups which do not differ from each other as the study begins, and should control for all variables other than intervention that may be interfering with the ability to reach causal conclusions about the effect of the intervention, randomized controlled trials are expected to yield findings which are closer to the true effects than findings generated by other research methods. It has been suggested that randomized controlled trials produce a minimum estimate of effect sizes, and may therefore yield smaller effect sizes than non-randomized studies (McCall & Green, 2004). Therefore, type of assignment may be associated with intervention outcomes.

Fourth, differences in comparison groups between studies may be related to differences in effect sizes: comparison with a non-treatment group might lead to larger effect sizes than comparison with a group that received alternative treatment (Wilson & Lipsey, 2001). However, Kaminski and colleagues (2008) found similar effects in studies of parent training interventions with various types of comparison groups.

The current study has two aims. The first aim is to examine the overall effectiveness of the IYPT with respect to child behavior, which includes both disruptive behavior and prosocial behavior, as well as behavior according to parents, teachers, and observers. To distinguish between these outcomes, data with respect to disruptive and prosocial behavior, and behavior according to different informants are analyzed separately. Given the wide dissemination of the IYPT and the growing amount of studies concerning the IYPT, including replication studies, it would be useful to summarize the effects of this program quantitatively and separately from other parent training programs. Although meta-analyses with regard to parent trainings in general or specific parenting programs like Parent-Child Interaction Therapy (PCIT) and Triple P – Positive Parenting Program (Triple P) exist (De Graaf, Speetjens, Smit, De Wolff, & Tavecchio, 2008; Nowak & Heinrichs, 2008; Thomas & Zimmer-Gembeck, 2007), there is, to our knowledge, no meta-analytic review specifically aimed at the IYPT.

The second objective of this study is to examine variability in intervention outcomes and to determine whether intervention characteristics, child characteristics, family characteristics, and methodological features may explain differences in children's outcomes. Analyses were started with examination of differential effectiveness of treatment versus prevention studies and standard IYPT versus variants of IYPT, because these are fundamentally distinct types of intervention, which may possibly not be meaningfully aggregated. Examination of the comparative influence of various study

characteristics may yield critical information with respect to this specific parent training, and may in that respect also contribute to knowledge in a field that wishes to answer the question what works, when, and for whom, in parenting interventions (Brestan & Eyberg, 1998).

Method

Inclusion criteria

Studies had to meet the following criteria for inclusion: (a) effects of the IYPT, as a stand-alone intervention or in a package with other components or interventions, were examined; (b) the effectiveness was examined by comparing an intervention group to a comparison group; (c) the study reported at least one quantitative measure of disruptive or prosocial child behavior, which was measured equally among participants; and (d) sufficient empirical data was reported to enable the calculation of standardized mean difference effect sizes or standardized mean difference effect sizes were reported in text. Because of our interest in immediate outcomes of the IYPT, studies only reporting follow-up data were excluded. Furthermore, if several manuscripts with regard to the same data were available, manuscripts with primary analyses and published manuscripts were preferred.

Literature search

A systematic and comprehensive search for studies was conducted for the period 1980 until April 2010. First, a large set of studies was retrieved by searches in the online data bases PsychINFO, Scopus, Web of Science, PubMed, Cochrane library, and ERIC. These searches, in which 95 studies were checked for eligibility, resulted in 16 manuscripts fulfilling inclusion criteria. Second, the Incredible Years Library (http://www.incredibleyears.com/Library/show_all.asp) was searched for eligible studies. This search, in which 173 studies were checked for eligibility, resulted in an additional 17 manuscripts. Third, bibliographies of retrieved and related studies were examined for eligible studies. This method resulted in five additional manuscripts. Fourth, a personal request for unpublished material and/or additional data was sent by electronic mail to several researchers. This resulted in one additional manuscript.

Hence, 39 manuscripts met criteria for inclusion. This selection consisted of 36 published articles and 3 unpublished studies. Three manuscripts (Drugli & Larsson, 2006; Drugli et al., 2007; Larsson et al., 2009) pertained to the same study, but each contained information about different relevant aspects. Therefore, these three manuscripts were combined, and were dealt with as one manuscript, in our data. Furthermore, in 11

manuscripts two relevant studies could be distinguished, and in one manuscript three relevant studies. Therefore, 50 studies were included in the meta-analysis. See Table 1 for a list of included studies and associated study details.

Coding of study characteristics

Study characteristics of eligible studies were coded by six coders, using a detailed coding schedule. Twenty-seven studies (54.0%) were coded by two independent coders. Pearson's *r* correlation coefficients were computed for continuous variables, and Cohen's kappas were calculated for categorical variables. Inter-rater reliability was sufficient. For continuous variables, all coefficients exceeded .78, with an average of .96. For categorical variables, all kappas exceeded .73, with an average of .92. Disagreements among coders were resolved through consulting the studies and discussion between the first two authors.

Differential effectiveness: study context and standard IYPT

To be able to examine differential effectiveness of distinct types of intervention, which may not be meaningfully aggregated, we coded whether the study concerned a treatment or prevention study, and whether the intervention may be considered standard IYPT or a variant of IYPT. *Treatment/prevention* was coded on the basis of the classification of Mrazek and Haggerty (1994). That is, studies were coded as treatment, selective prevention or indicated prevention. If studies could not be classified in any single category, studies remained "not classified". Studies were considered *standard IYPT* if at least eleven IYPT sessions were offered in group format. Studies in which less sessions were delivered or in which sessions were delivered individually were considered variants of IYPT.

Moderators

Descriptive characteristics. We coded five characteristics which broadly describe the study: Webster-Stratton, publication type, publication year, number of children, and number of families. In addition, we coded one characteristic related to the effect sizes: intention-to-treat. Whether Carolyn *Webster-Stratton* was involved as an author or co-author was coded to reflect whether the developer of the IYPT was involved. *Publication type* was coded to reflect whether the study was published as a journal article. *Publication year*, *number of children* at the start of the study, and *number of families* at the start of the study were coded directly. *Intention-to-treat* was coded to reflect whether the effect sizes were based on intention-to-treat analyses.

Table 1 Articles included in the analyses

Study	*n*[a]	Treatment/ prevention[b]	Standard IYPT	Initial severity[c]	Effect sizes				
					Disruptive	Prosocial	Parents	Teacher	Observation
August et al. (2001)	110, 84	Indicated	Yes	–	-0.02	-0.03	-0.09	0.04	–
Barrera et al. (2002)	123, 125	Indicated	Yes	–	0.14	–	0.07	0.12	0.34
Brotman et al. (2003)	16, 12	Selective	Yes	–	0.65	–	0.65	–	
Brotman et al. (2005)	40, 38	Selective	Yes	51.0	-0.35	0.53	–	–	0.09
Connoly et al. (2001)	27, 18	Treatment	Yes	65.6	0.15	–	0.15	–	–
Connoly et al. (2001)	58, 18	Treatment	Yes	67.5	0.17	–	0.17	–	–
Cummings & Wittenberg (2008)	18, 17	Treatment	Yes	65.0	0.23	–	0.52	–	-0.34
Drugli & Larsson (2006)[d]	45, 28	Treatment	Yes	67.4	0.48	0.39	0.59	0.07	–
Drugli & Larsson (2006)[d]	52, 28	Treatment	Yes	67.3	0.39	0.55	0.44	0.47	–
Gardner et al. (2006)	39, 32	Treatment	Yes	66.2	0.59	–	0.49	–	0.78
Gross et al. (1995)	11, 6	Indicated	No	56.3	0.18	–	0.64	–	-0.74
Gross et al. (2003)	52, 54	Selective	Yes	50.4	0.07	–	-0.11	0.20	0.29
Gross et al. (2003)	54, 54	Selective	Yes	50.9	0.10	–	-0.04	0.11	0.37
Helfenbaum-Kun & Ortiz (2007)	7, 9	Selective	No	46.5	0.39	–	0.39	–	–
Hutchings et al. (2007)	104, 49	Indicated	Yes	63.6	0.48	–	0.55	–	0.26
Kim et al. (2008)	20, 9	Selective	Yes	43.9	0.30	0.45	0.35	–	–
Kratochwill et al. (2003)	34, 11	Indicated	No	–	-0.05	0.19	0.05	0.01	–
Kratochwill et al. (2003)	34, 14	Indicated	No	–	-0.42	-0.46	-0.83	-0.04	–
Lavigne et al. (2008)	37, 31	Treatment	Yes	66.6	0.32	–	0.32	–	–
Lavigne et al. (2008)	49, 31	Treatment	Yes	66.6	-0.06	–	-0.06	–	–
Letarte & Normandeau (2008)	35, 27	Treatment	Yes	55.6	0.41	–	0.41	–	–
Letarte et al. (2010)	26, 9	Selective	Yes	54.0	0.44	–	0.44	–	–
Linares et al. (2006)	68, 36	Selective	Yes	51.7	0.14	–	0.18	0.05	–
Lindsay et al. (2008)	204, 356	Not classified	Yes	–	0.23	0.33	0.28	–	–
Lindsay et al. (2008)	204, 501	Not classified	Yes	–	0.09	0.19	0.14	–	–

McIntyre (2008)	21, 23	Selective	Yes	62.6	0.26	–	0.26	–	–
Nilsen (2007)	11, 7	Selective	Yes	–	0.57	–	0.57	–	–
Patterson et al. (2002)	46, 50	Indicated	No	58.0	0.25	0.25	0.25	–	–
Raaijmakers et al. (submitted)[e]	72, 72	Indicated	Yes	58.3	0.24	0.16	0.25	-0.19	0.40
Reid et al. (2007)	97, 89	Indicated	Yes	54.4	0.28	0.20	0.27	0.15	0.41
Scott et al. (2001)	90, 51	Treatment	Yes	73.5	0.67	–	0.53	–	–
Scott et al. (2010)	58, 51	Indicated	Yes	55.4	0.40	–	0.42	0.20	–
Spaccarelli et al. (1992)	16, 16	Not classified	No	58.0	0.28	–	0.28	–	–
Spaccarelli et al. (1992)	21, 16	Not classified	No	59.6	1.01	–	1.01	–	–
Taylor et al. (1998)	15, 17	Treatment	Yes	61.6	0.43	0.14	0.70	0.12	–
Taylor et al. (1998)	38, 32	Treatment	Yes	64.0	0.20	-0.28	0.51	-0.31	–
Webster-Stratton & Hammond (1997)	26, 22	Treatment	Yes	69.5	0.71	0.24	1.23	-0.47	0.36
Webster-Stratton & Hammond (1997)	22, 22	Treatment	Yes	68.8	0.77	0.57	1.04	0.35	0.65
Webster-Stratton (1982)	16, 19	Not classified	No	55.5	0.55	–	0.45	–	0.62
Webster-Stratton (1984)	13, 11	Treatment	No	64.9	0.83	0.04	0.92	–	0.56
Webster-Stratton (1984)	13, 11	Treatment	No	67.8	-0.19	0.02	-0.23	–	-0.26
Webster-Stratton (1992)	57, 39	Treatment	No	67.2	0.48	0.40	0.57	0.34	0.31
Webster-Stratton (1998)	264, 130	Selective	Yes	55.2	0.31	0.17	0.12	0.06	0.44
Webster-Stratton et al. (1988)	27, 27	Treatment	Yes	67.4	0.71	0.28	0.74	0.57	0.64
Webster-Stratton et al. (1988)	27, 27	Treatment	No	67.0	0.49	0.42	0.61	0.30	0.32
Webster-Stratton et al. (2001)	191, 81	Selective	Yes	48.2	0.27	0.46	0.05	0.28	0.43
Webster-Stratton et al. (2004)	31, 26	Treatment	Yes	–	0.47	-0.09	0.24	0.15	0.44
Webster-Stratton et al. (2004)	24, 26	Treatment	Yes	–	0.28	0.06	0.63	-0.07	0.26
Webster-Stratton et al. (2004)	25, 26	Treatment	Yes	–	0.37	0.33	0.31	0.13	0.44
Williford & Shelton (2008)	50, 33	Indicated	No	–	0.55	–	0.38	0.72	–

Note. Dashes indicate that no data was reported. If a manuscript provided multiple studies, a listing for each study was included.

[a] The first value refers to the intervention group at post-intervention, the second value refers to the control group at post-intervention (uncorrected for double/triple sample inclusion).

[b] Selective = selective prevention, Indicated = indicated prevention. [c] Initial severity = initial severity of child behavior (*T*-score). [d] Including Drugli et al. (2007) and Larsson et al. (2009).

[e] See also advance online publication: Posthumus et al. (2011).

Intervention characteristics. We coded four intervention characteristics: training components, number of IYPT sessions offered, total number of sessions offered to parents, and number of sessions attended. To obtain the variable *training components* three variables were coded: (1) whether the IYPT sessions were delivered in a group format, (2) whether other components of the Incredible Years program were added to the IYPT, and (3) whether parents also received intervention elements other than IYPT. These three variables were combined into five categories: (1) individual IYPT, (2) IYPT, (3) IYPT + other IY component(s), (4) IYPT + other component(s) (not IY), and (5) IYPT + other IY component(s) + other component(s) (not IY). The *number of IYPT sessions offered* was categorized in "few" (less than 11 sessions), "normal" (11, 12 or 13 sessions) or "many" (more than 13 sessions). Unlike the number of IYPT sessions offered, *total number of sessions* was coded as a continuous variable, which included the number of IYPT sessions as well as other sessions, like home visits and other intervention elements delivered to parents. If attendance was reported with regard to the total number of sessions, *number of sessions attended* was also based on the total number of sessions.

Child characteristics. We coded six characteristics of the target child: age, gender, pre-treatment ECBI intensity score, pre-treatment Child Behavior Checklist (CBCL) externalizing score, pre-treatment ECBI problem score, and clinical symptom levels. Mean *age* of children was coded directly or estimated by averaging the minimum and maximum age reported. Percentage of boys was coded as a measure of *gender*. To be able to combine mean pre-treatment ECBI intensity scores and CBCL externalizing scores, which both reflect intensity of children's problem behavior, *T*-scores were coded or calculated based on ECBI (Eyberg et al., 2008) or CBCL (Achenbach & Rescorla, 2001) norms. If both CBCL externalizing *T*-scores and ECBI intensity scores were available, ECBI intensity scores were preferred, and included in the resulting variable *initial severity of child behavior*. ECBI problem scores were coded to reflect the extent to which children's behaviors were considered a *problem* by their parents at pre-treatment. As a measure of *clinical symptom levels*, percentage ECBI scores of the sample indicating clinical range was coded.

Family characteristics. We coded four family characteristics: single parenthood, ethnic minority populations, education, and at risk sample. Percentage of *single parenthood* and percentage of *ethnic minority* populations in the study were coded directly. If the percentage of participants from ethnic minority populations was not reported, it was estimated by adding percentages of participants from minority groups (other than

Caucasian origin). Percentage of low educated mothers was coded as a measure of *education*. If maternal education was not specified, parental education was used as estimation. Whether a sample could be considered *at risk*, was coded on the grounds of parental, contextual or family characteristics reported in the study. Sample selection purely on grounds of behavioral problems did not count as at risk.

Methodological features. We coded three methodological features: one variable related to the information used to assess behavior, and two variables related to the comparison group. With regard to the information used to assess behavior, we coded whether the *ECBI* was available in the study or not. With regard to the comparison group, we coded: *assignment* and *nature of the comparison group*. Type of assignment was categorized in non-random assignment, random after blocking or matching, and random assignment. Nature of the comparison group was categorized in receives nothing, waiting list, attention placebo, and alternative treatment.

Coding of effect size statistics

We used the unbiased standardized mean difference effect size, or Cohen's *d*, as the measure of effect size (see Lipsey & Wilson, 2001). Effect sizes were calculated for all outcome measures with regard to disruptive or prosocial child behavior. That is, multiple effect sizes per study could be calculated. When multiple effect sizes were available concerning a single outcome, these effect sizes were averaged into a single mean effect size for the study. However, when multiple effect sizes concerning different outcomes (e.g., parent ratings and teacher ratings) were available, these effect sizes were calculated separately and used in separate analyses. Decreases in disruptive behavior and increases in prosocial behavior in the intervention group, relative to the comparison group, resulted in positive effect sizes, whereas increases in disruptive behavior and decreases in prosocial behavior resulted in negative effect sizes.

As mentioned, a number of manuscripts provided more than one relevant study. In these cases, multiple comparisons with a sample were possible. For instance, in a study with two relevant treatment conditions, both treatment conditions were compared with the same control condition. To avoid double/triple counting of participants and samples contributing too much to the effect size mean, the number of participants in each sample was divided by the number of occasions that this sample was included in the meta-analysis with regard to standard errors and inverse variance weights.

Procedure and statistical analysis

Two meta-analytic questions were studied. First, we tested whether the mean effect sizes were significantly larger than 0 for all outcome constructs. To avoid manifold use of studies' effect sizes within one meta-analysis, we distinguished separate outcome constructs, which were analyzed in separate analyses. We distinguished five outcome constructs, which were all based on the mean effect size of possibly several effect sizes within a study. Two outcome constructs, disruptive behavior and prosocial behavior, reflected targeted child behavior. Three outcome constructs reflected commonly used informants: parents, teachers, and observation. The robustness of effects was tested by calculating fail-safe numbers.

Second, the distribution of heterogeneous sets of studies was analyzed. Tested was whether variability in effect sizes beyond subject-level sampling error can be explained by moderator variables.

Results

Study characteristics

Fifty studies with 4745 participants (2472 for treatment groups and 2273 for comparison groups) were included. Twenty-two studies (44%) were identified as treatment studies, whereas 12 studies (24%) were coded as selective prevention, 11 studies (22%) as indicated prevention, and 5 studies (10%) could not be classified in any single category. Thirty-seven studies (74%) were considered standard IYPT.

In 17 studies (34%) the IYPT's developer, Carolyn Webster-Stratton, was an author or co-author. Most studies (92%) were published journal articles, and most of them (72%) came out after the year 2000. Thirty percent of studies contained original sample sizes of more than hundred children and families. In 32% of the studies intention-to-treat analyses were conducted.

In most studies (60%) the IYPT was delivered in group format, without adding other components. In four studies (8%) an individual format was used. In nine studies (18%) only IY components were added to the IYPT, whereas in two studies (4%) other components were also added to the IY components. Because of the small set of studies that evaluated both additional IY components and additional other components, the addition of other components was ignored in further analyses, i.e. both categories were treated as IYPT + other IY components. In five studies (10%) other components (but no IY components) were added to the IYPT. In 19 studies (38%) 11 to 13 IYPT sessions were offered, whereas

less sessions were offered in 11 studies (22%) and more sessions were offered in 20 studies (40%). Total number of sessions offered to parents ranged from 4 to 60. The mean number of sessions attended by parents ranged from 4 to 28.

Mean age of child sample ranged from 3 to 9.2 years across studies. Percentage of boys included in studies ranged from 38.9 to 90.5%, in which most studies (95.6%) included more boys than girls. Mean *T*-scores with regard to children's problem behavior ranged from 43.9 to 73.5, whereas mean pre-treatment ECBI problem scores ranged from 7.2 to 22. Nineteen studies reported the percentage of children with ECBI scores indicating clinical range, of which nine studies reported clinical symptom level for all participating children.

Percentage of single parenthood in sample ranged from 0% to 79.1%, with a mean percentage of 38.6 single parents. Percentage of participants from minority groups ranged from 0.8% to 100%, with a mean percentage of 44.7 from minority groups. Percentage of low educated mothers ranged from 0% to 60.6% in the 18 studies which reported maternal education. Eighteen studies (36%) concerned at-risk samples.

In 36 studies (72%) the ECBI was used to assess behavior. Assignment was random in 28 studies (56%), random after blocking/matching in 13 studies (26%), and non-random in 8 studies (16%). The treatment condition was compared to a waiting list condition in 24 studies (48%). In 17 studies (34%) the comparison group received nothing, whereas in 7 studies (14%) the comparison group received an alternative treatment.

Relations between study characteristics

Study characteristics were not distributed independently over studies.

The descriptive characteristics number of children and number of families were highly interrelated. Therefore, only number of children was included in further analyses.

The intervention characteristic study context revealed to be strongly positively related to the child characteristics problem, clinical symptom level, and initial severity of child behavior (which also were highly interdependent), and strongly negatively related to the family characteristics ethnic minority and at risk (which were also highly interdependent). Because several variables were strongly related to the distinction between prevention and treatment studies and because of the theoretical relevance of this distinction, we chose to study differentiate effect sizes along this distinction, and to exclude study context from moderator analyses. To control for these confounded variables in further moderator analyses, we chose to include initial severity of child behavior (which was also negatively related to minority and at risk) first in moderator analyses,

and to exclude the child characteristics problem and clinical symptom level. Because of theoretical considerations we chose to include the family characteristic ethnic minority and to exclude the related family characteristic at risk.

The intervention characteristic total number of sessions was highly positively related to number of sessions attended. Because of theoretical relevance, we chose to include number of sessions attended in analyses and to exclude total number of sessions.

The methodological feature assignment was related to the child characteristic clinical symptom levels; lower clinical symptom levels were to be found in studies which used random assignment after blocking or matching. Because we decided to control for initial severity of child behavior, which was highly related to clinical symptom levels, inclusion of assignment seemed not to yield problems, in spite of possible intertwinement with clinical symptom levels.

Analyses

Overall effect sizes

The overall weighted effect size (across informants) of the set of 50 studies concerning disruptive behavior was .27 (95% CI = .21-.34, $p < .001$). Effect sizes ranged from -.42 to 1.01. Calculation of the fail-safe number revealed that 1351 additional studies with nonsignificant or adverse results have to exist in order to reduce the overall effect size for disruptive behavior to below the conventional significance level of $p <. 05$.

The overall weighted effect size of the set of 26 studies concerning prosocial behavior was .23 (95% CI = .15-.31, $p < .001$). Effect sizes ranged from -.46 to .57. Calculation of the fail-safe number revealed that 300 additional studies with nonsignificant or adverse results have to exist in order to reduce the overall effect size for prosocial behavior to below the conventional significance level of $p < .05$.

The overall weighted effect size of the set of 49 studies concerning parental report was .30 (95% CI = .22-.39, $p < .001$). Effect sizes ranged from -.83 to 1.24. Calculation of the fail-safe number revealed that 1207 additional studies with nonsignificant or adverse results have to exist in order to reduce the overall effect size for parents to below the conventional significance level of $p < .05$.

The overall weighted effect size of the set of 25 studies concerning teacher report was .13 (95% CI = .05-.22, $p = .001$). Effect sizes ranged from -.47 to .72. Calculation of the fail-safe number revealed that 71 additional studies with nonsignificant or adverse results have to exist in order to reduce the overall effect size for teacher report to below the conventional significance level of $p < .05$.

The overall weighted effect size of the set of 23 studies concerning observation was .37 (95% CI = .29-.46, $p < .001$). Effect sizes ranged from -.74 to .78. Calculation of the fail-safe number revealed that 576 additional studies with nonsignificant or adverse results have to exist in order to reduce the overall effect size for observation to below the conventional significance level of $p < .05$.

No significant heterogeneity was evidenced for four outcome constructs. Therefore, analyses were not pursued for these outcome constructs, but only conducted for the heterogeneous distribution of parental report ($Q(48) = 70.68$, $p = 0.02$).

Differential effectiveness: study context and standard IYPT

With regard to parental report, we calculated mean effect sizes for treatment and prevention studies and for studies which were considered standard IYPT or variants of IYPT (see Table 2). Effect sizes differed significantly between treatment and prevention studies. Study context explained significant variability ($Q_B(2) = 19.65$; $p < .001$) and accounted for sufficient excess variability ($Q_W(41) = 45.76$; $p = .28$). However, analog to ANOVA analyses revealed no differences in effect sizes between standard IYPT and variants of IYPT.

Table 2 Differential effectiveness

Study context	Standard IYPT		IYPT variant		All studies	
	k	***d***	***k***	***d***	***k***	***d***
Selective prevention	10	.13	1	.39	11	.13
Indicated prevention	6	.21	5	.10	11	.20
Treatment	18	.50	4	.54	22	.50
Not classified	2	.21	3	.58	5	.25
All studies	36	.25	13	.35	49	.30

Moderators of effect size for parent-rated outcomes

Weighted regression analyses were conducted to test potential moderators with regard to parental report.

First, all potential moderators were entered separately. As shown in Table 3, seven potential moderators were significant predictors of effect sizes. Two intervention characteristics (training components and number of sessions attended), two child characteristics (gender and initial severity of child behavior), and three methodological features (ECBI, assignment, and nature of comparison group) were predictors of effect sizes,

Table 3 Potential predictors entered separately and together with initial severity of child behavior

Potential moderator	Entered seperately			Initial severity of child behavior entered first		
	p	*B*	*β*	*p*	*B*	*β*
Descriptive characteristics						
Webster-Stratton	.97	-.00	-.00	.99	-.00	-.00
Publication type	.55	.05	.07	.98	-.00	-.00
Publication year	.18	-.01	-.16	.53	-.00	-.09
Number of children	.17	-.00	-.16	.07†	-.00	-.29
Intention-to-treat	.69	-.03	-.05	.36	-.08	-.14
Intervention characteristics						
Training components						
Individual IYPT[a]	.80	-.04	-.03	.65	.08	.07
IYPT + other IY component(s)[a]	.03*	-.15	-.26	.68	.04	.07
IYPT + other components(s) (not IY)[a]	.31	.13	.12	.15	.21	.22
Number of IYPT sessions offered						
Few[b]	.77	.03	.04	.71	.04	.06
Many[b]	.83	-.02	-.03	.28	.10	.19
Number of sessions attended	<.001***	.03	.55	.04**	.03	.37
Child characteristics						
Age	.65	-.01	-.05	.25	.04	.17
Gender	.005**	.01	.35	.16	.01	.27
Initial severity of child behavior	<.001***	.02	.62	na		
Family characteristics						
Single parenthood	.08†	-.00	-.22	.35	-.00	-.15
Ethnic minority	.11	-.00	-.21	.93	.00	.02
Education	.32	.00	.22	.76	-.00	-.09
Methodological features						
ECBI	.02*	.15	.27	.09†	.26	.29
Assignment						
Non-random[c]	.09†	-.14	-.23	.11	-.24	-.26
Random after blocking/matching[c]	.008**	-.20	-.36	.01*	-.22	-.40
Nature of comparison group						
Waiting list[d]	<.001***	.31	.52	.61	.06	.11
Alternative treatment[d]	.67	.03	.05	.85	.03	.03

Note. [a] IYPT is reference group; [b] normal is reference group; [c] random is reference group; [d] receives nothing is reference group; na = not applicable.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

when entered separately. None of the descriptive characteristics or family characteristics produced significant regression coefficients, although a trend was found for the family characteristic single parenthood.

Second, the child characteristic initial severity of child behavior was entered in the weighted regression analysis together with potential moderators, to control for confounded variables and to study relative contribution of variables. As shown in Table 3, the intervention characteristic number of sessions attended and the methodological feature assignment remained significant predictors of effect sizes, when controlling for initial severity of child behavior. Furthermore, trends were found for the descriptive characteristic number of children and the methodological feature ECBI.

Third, predictors which remained significant in the second step, were entered simultaneously in a fixed effects weighted regression analysis. Hence, the final model, as shown in Table 4, consisted of the intervention characteristic number of sessions attended, the child characteristic initial severity of child behavior, and the methodological feature assignment. These predictors explained 68% of variability in effect sizes, in which initial severity of child behavior explained most variance in effect sizes.

Table 4 Significant univariate predictors, when entered simultaneously

Predictor		***p***	***B***	***β***
Number of sessions attended		.11	.03	.36
Initial severity of child behavior		.01*	.02	.47
Assignment				
Non-random[a]		.13	-.29	-.28
Random after blocking/matching[a]		.14	-.17	-.28
Model	$Q(4) = 27.10, p < .001$			
Residual	$Q(19) = 12.89, p = .84$			
R-square	.68			

Note. [a] random is reference group.
* $p < .05$.

Discussion

Results from our meta-analysis show that the IYPT is an effective intervention with regard to child behavior, as measured immediately after intervention. Positive effects were found with regard to disruptive behavior ($d = .27$) as well as to prosocial behavior ($d = .23$). Mean effect sizes based on teachers' judgment ($d = .13$) were smaller than mean

effect sizes based on parents' judgments (d = .30) or observations (d = .37). Furthermore, parent-rated effect sizes differed between treatment studies (d = .50) and prevention studies (d = .13 for selective prevention; d = .20 for indicated prevention). Intervention characteristics, child characteristics, and methodological features could explain variability in parent-rated intervention outcomes of the IYPT. A child characteristic, pre-treatment intensity of children's problem behavior, proved to be the strongest predictor of the IYPT's intervention effects according to parents, with larger effects for studies which included more severe cases.

Analyses of 50 IYPT studies revealed that the IYPT is effective in diminishing disruptive behavior and increasing prosocial behavior, according to parents, teachers, and observers. Moreover, high fail-safe numbers suggest that these results are robust against the possibility of missing studies. Effectiveness of the IYPT is in line with effectiveness of BPT on the whole (e.g., McCart et al., 2006), and also in line with presumed effectiveness of the IYPT in specific, put forward in previous narrative reviews (e.g., Bauer & Webster-Stratton, 2006; Brestan & Eyberg, 1998). Moreover, the parent-rated effect size for IYPT treatment studies (d = .50) is even higher than the parent-rated effect size for BPT treatment studies in general (d = .38) reported by McCart et al. (2006). Our results put numerical weight behind the presumed effectiveness of this specific BPT program.

The present meta-analytic review shows the IYPT to meet criteria of a well-established intervention. Effectiveness of the IYPT is underscored by studies comparing the IYPT with alternative treatments (e.g., Cummings & Wittenberg, 2008; Taylor, Schmidt, Pepler, & Hodgins, 1998; Webster-Stratton, 1984), independent replications (e.g., Drugli & Larsson, 2006; Gardner et al., 2006; Scott et al., 2001), a treatment manual (Webster-Stratton, 2001), and specification of participant characteristics in individual studies. Since these are criteria for well-established treatments (Chambless & Ollendick, 2001), the IYPT seems to meet these criteria nowadays and may be judged well-established instead of probably efficacious.

Effects with regard to disruptive behavior and prosocial behavior were highly similar. This result is somewhat contrary to results of Kaminski and colleagues (2008), who found larger effect sizes with regard to externalizing behaviors than with regard to social skills and social competence. However, it is unclear to what extent operationalizations of this study's prosocial behavior and Kaminski and colleagues' (2008) social skills and social competence overlap. Conceptually, social competence seems a covering term, and likewise social skills incorporate other skills (e.g., peer entry) besides prosocial skills.

However, this study's operationalization of prosocial behavior may be broader than intended. That is, we included measures of helping behavior as prosocial behavior, but often outcome measures included other appropriate behavior besides helping behavior and the exact operationalization and conceptualization of prosocial measures was not always clear in individual studies. Therefore, more conceptual clearance about prosocial behavior and more focused measures of prosocial behavior are needed in future research (Eisenberg & Fabes, 1998).

Effects according to teachers were smaller than effects according to parents and observers. Discrepancies between parents' and teacher's ratings are well-known, and may be caused by genuine contextual differences and more similarity in criteria as used by teachers than as used by parents (Scott, 2001), or insufficient generalization of the intervention effect from home to school settings. However, similarity of effects based on observation, which is considered the 'gold standard' by many, supports effectiveness as rated by parents.

Studies included in this meta-analytic review differ in numerous respects. For parent-rated outcomes, differential effectiveness with regard to treatment or prevention studies and standard IYPT or variants of IYPT was examined. Analyses revealed larger effect sizes in treatment studies when compared with prevention studies, but no differences between standard IYPT and variants of IYPT.

Treatment studies differ from prevention studies in several respects, which may all contribute to the established difference in effectiveness, in favor of treatment studies. Most likely, differences in initial levels of problem behavior contribute highly to this difference. Smaller effect sizes in prevention studies are to be expected, because lower initial levels of problem behavior in prevention studies, as compared with treatment studies, leave less room for change during the intervention period (e.g., Kaminski et al., 2008). Interdependence between treatment studies and initial levels of problem behavior, in addition to initial level of problem behavior as strongest predictor of parent-rated effectiveness, are in line with this assumption. However, the distinction between treatment studies and prevention studies may be more or less equivalent to other aspects of the difference between treatment and prevention studies than initial severity of problem behavior, which were not investigated in this meta-analytic review. For example, setting and motivational issues may also play a role. In an earlier meta-analysis, studies conducted in clinical settings revealed larger effect sizes than studies conducted in non-clinical settings, suggesting an effect of setting (McCart et al., 2006), and treatment studies

encompass a relative high number of clinical studies. Furthermore, parents in treatment studies are probably more in need of help than parents in prevention studies. That is, parents in treatment studies typically seek help themselves (Mrazek & Haggerty, 1994). As a consequence, parents in treatment studies may be more motivated to accept help and to modify their own behaviors. Since motivation, or intention to attend sessions, may also be related to attendance (Sheeran, Aubrey, & Kellett, 2007), higher attendance and treatment dosage are to be expected in highly motivated parents.

Interestingly, no differences were found between standard IYPT and variants of IYPT. Although our broad distinction seems meaningful as such, distinguishing precursors, stripped, and individual forms from the elaborated group training, it is still uncertain for what reason variants of IYPT and standard IYPT yielded similar effect sizes. Variants of IYPT may be as effective as standard IYPT, because they are both based on the same principles. However, classification based on other aspects of the IYPT might reveal meaningful differences in effectiveness.

Our results shed a light on which characteristics influence children's outcomes, as reported by their parents, immediately after delivery of the IYPT to their parents. Initial severity of problem behavior revealed to be the strongest predictor of IYPT's intervention effects. That is, larger improvements are found in children with more severe behavior problems. Although the IYPT is most effective in severe cases, reasons may remain for delivery of the IYPT to populations with less severe behavior problems.

Although influence of initial severity of behavior revealed to be the strongest predictor of the IYPT's intervention effects when entered simultaneously in a fixed effects weighted regression analysis, examination of whether variability in intervention outcomes according to parents could be explained by other intervention characteristics, child characteristics, family characteristics or methodological features, also revealed some less powerful predictors.

Two intervention characteristics were related to intervention effects, if entered separately. First, used training components were related to effect, if entered separately. That is, addition of other IY components was related to smaller effect sizes, as compared with IYPT without other components. However, if initial severity of behavior was taken in account, training components were not longer predictive. Therefore, this association seems to be caused by a relatively low number of studies with severe samples in which other IY components are added to the IYPT. Indeed, for example, classroom-based

components are likely to be added in prevention studies, which will include children with relatively few behavior problems. Second, number of sessions attended by parents was positively related to intervention effects according to parents, even if initial severity of behavior was taken in account. Although we could obviously not examine causal relations, it seems likely that higher treatment dosages lead to more responses. However, in theory, it is also possible that this relation is affected by parental perceptions. Parents who experience improvements are most likely to continue attendance of sessions and parents' perceptions might be colored by their attendance (avoidance of cognitive dissonance). That is, parents might justify their efforts and attendance with extra improvements in their child's behavior.

Three methodological features were related to intervention effects, if entered separately. First, studies which used the ECBI as outcome measure revealed more improvements in child behavior according to parents than studies which did not used the ECBI. If initial severity of child behavior was taken into account, a trend remained. As suggested by Scott (2001), the ECBI may yield larger effect sizes than, for example, the CBCL, because the ECBI is a specific scale, which concentrates on behaviors that are likely to change during treatment. Second, type of assignment was related to intervention outcomes. That is, random assignment after blocking or matching resulted in smaller effect sizes compared with random assignment without blocking or matching. Probably, this association is caused by relatively large inverse variance weights for selective prevention studies within studies with random assignment after blocking or matching. That is, since these selective prevention studies included relatively many participants compared with other studies with random assignment after blocking or matching, and smallest effect sizes were found for selective prevention studies, heavy weighted selective prevention studies may have resulted in relatively small effect sizes for studies with random assignment after blocking or matching. Furthermore, a trend for smaller effects in non-randomized studies was found, if type of assignment was entered separately. Third, nature of comparison group was related to intervention outcomes, if entered separately. That is, comparison to participants on a waiting list yielded larger effect sizes than comparison to participants who receive no intervention. Since this association was not found if initial severity of behavior was taken into account, it is probably caused by relatively severe problems in studies using a waiting list, because waiting lists are preferred over non-treatment in samples that are in need for help.

Possibly unexpected, none of the descriptive or family characteristics proved to be a predictor of effectiveness. Family characteristics may be unrelated with intervention

outcomes of the IYPT because of the possibility to tailor the manualized intervention (Webster-Stratton, 2009). If the IYPT is tailored according to individual family's needs, and according to each parents' cultural background experiences, education, knowledge and values, differences between families might become less important with regard to intervention outcomes. However, our finding that none of the family characteristics influenced effectiveness might also be a consequence of coding problems. Manuscripts that report clearly about family characteristics like socioeconomic status, parental depression, and maternal education are scarce. As a consequence, we could not include socioeconomic status and parental depression in our analyses, and chose to reflect risk status in a broader way. Furthermore, a small part of the studies could be enclosed in analyses with, for example, maternal education. Broad measures and missing values may worsen the possibility to detect moderating effects.

Several limitations need to be considered when evaluating the results of this meta-analytic review. One key issue which needs to be considered is training quality. Although authorized three day IY workshops and a group leader certification/accreditation process are offered to maximize the performance of the group leaders (Incredible Years, 2011), it is unclear to which extent training quality differs between individual studies. For example, differences in education, but also in treatment fidelity, may have consequences for the effects found in individual studies. Unfortunately, it is often difficult to trace information about trainers' individual characteristics and treatment fidelity in individual studies, and to quantify this information for meta-analyses.

Another limitation does also concern the completeness of reporting within individual studies. For some variables the extent of missing data was considerable. Therefore, we could not include all potentially interesting moderators in moderator analyses. Furthermore, low statistical power due to a small number of studies may have hindered the detection of moderator effects. This absence of desired information in manuscripts is, unfortunately, well-known by authors of meta-analytic reviews and has therefore also been commented on by other authors (e.g., Kaminski et al., 2008; McCart et al., 2006).

Similar to other BPT programs, a premise of the IYPT is that children's functioning is influenced by parenting behaviors, and that modifying parenting behaviors will result in long-lasting changes for children and their parents. Although this meta-analytic review addresses an important part of this chain, other parts were not examined, and left open for further research.

First, although the IYPT appears to be an effective parent training with regard to short-term improvements in child behavior, we did not examine long-term effects of the IYPT. Examination of follow-up studies may elucidate durability of effects, but may also be hampered by an absence of follow-up data collected in comparison groups. Since a waiting list is the most common method across IYPT studies to constitute a comparison group, and prolonged restriction of access to interventions may cause ethical difficulties in several samples, long-term between-group comparisons would be unfeasible in most cases. Nonetheless, examination of long-term effects with within-group comparisons is also recommended. Understanding the long-term effectiveness of the IYPT is important to optimize maintenance of child behavior change, in view of altering children's pathways to antisocial and delinquent behaviors amongst other things.

Second, although the IYPT's effects on child behavior are probably mediated by modifications in parenting behaviors, parenting behaviors have not been examined in this meta-analytic review. That is, this meta-analytic review did not examine whether parenting behaviors improved, and whether modifications in child behavior are influenced by modifications in parenting behaviors. However, individual mediation studies with regard to the IYPT exist. Parenting domains like critical, harsh parenting (Beauchaine et al., 2005; Brotman et al., 2009; Fossum et al., 2009; Letarte et al., 2010; Posthumus, Raaijmakers, Maassen, Van Engeland, & Matthys, 2011), inconsistent discipline (Fossum et al., 2009), verbal criticism (Beauchaine et al., 2005), positive parenting (Gardner et al., 2006; Gardner et al., 2010), responsive parenting (Brotman et al., 2009), and stimulating parenting (Brotman et al., 2009) have been found to mediate outcomes in IYPT studies. Furthermore, ample evidence for modifications in parenting behaviors can be found in individual IYPT studies. The IYPT resulted in improvements in parenting domains like harsh parenting (Brotman et al., 2005; Gardner et al., 2006; Gross et al., 2003; Larsson et al., 2009; Letarte et al., 2010; Raaijmakers et al., submitted; Scott et al., 2010; Webster-Stratton et al., 1988; Webster-Stratton, 1992; Webster-Stratton & Hammond, 1997; Webster-Stratton, 1998; Webster-Stratton et al., 2001; Webster-Stratton, Reid, & Hammond, 2004), inconsistent discipline (Larsson et al., 2009), positive parenting (Gardner et al., 2006; Gross et al., 2003; Hutchings et al., 2007; Kim, Cain, & Webster-Stratton, 2008; Larsson et al., 2009; Letarte et al., 2010; Linares et al., 2006; Raaijmakers et al., submitted; Scott et al., 2010; Webster-Stratton, 1984; Webster-Stratton et al., 1988; Webster-Stratton, 1992; Webster-Stratton & Hammond, 1997; Webster-Stratton, 1998; Webster-Stratton et al., 2001; Webster-Stratton et al., 2004), responsiveness (Brotman et al., 2003), and overall parenting skills (Gardner et al., 2006). Nonetheless, the overall effectiveness of the IYPT with regard to parenting

behaviors and characteristics that influence effectiveness of the IYPT with regard to these parenting behaviors remain interesting questions for further research.

Positive results found in this meta-analytic review, combined with a need for evidence-based programs (e.g., Dodge, 2011; Eyberg et al., 2008), imply that the IYPT would be interesting for policymakers to adopt as an intervention. Homogeneity with regard to four of five outcome constructs indicates that IYPT studies are comparable, notwithstanding somewhat varying results. That is, given the broad range of populations included within individual studies, the IYPT can be used successfully in a diverse range of families. Moreover, positive outcomes with regard to different outcome constructs and with inclusion of a relatively large number of replication studies, emphasize the effectiveness of the IYPT. It seems possible to decrease a potential for child harm as well as to increase a potential for child success, for many kinds of families in diverse contexts.

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Chapter 5

A randomized trial of parent training for mothers being released from incarceration

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Abstract

Children of incarcerated mothers are considered at risk for disruptive behavior problems and later delinquency. Parenting may play a key role in this intergenerational transmission of delinquency. The present study aimed to evaluate the effectiveness of the Incredible Years parent training, enhanced with home visits, for (formerly) incarcerated mothers to prevent disruptive behavior problems in their 2 to 10 year-old children. Hundred-thirteen participants were randomly assigned to an intervention, which consisted of group sessions and individual home visits, or to a no-intervention control group. Intervention yielded significant effects on parenting and child behavior. The results of the present study show short-term effectiveness of parent training for the high-risk and hard-to-reach population of (formerly) incarcerated mothers and their children.

There are some vicious cycles that everyone would like to end. An example of such a cycle is the intergenerational transmission of delinquency. Children of delinquent mothers are considered one of the most at risk populations for later delinquency (Lipsey & Derzon, 1998; Murray, Farrington, & Sekol, 2012). Transmission of delinquency from delinquent mothers to their children appears to be at least as strong as transmission from fathers to their children (Bijleveld & Wijkman, 2009). This intergenerational transmission is partly explainable by the accumulation of risk factors for later delinquency, and its precursor disruptive behavior problems, in the lives of these children (Dallaire, 2007). It is this accumulation of risk factors across domains, rather than a single specific factor, that is important in the determination of adverse child outcomes (e.g., Sameroff & Seifer, 1993).

Parenting is believed to be a mediating factor in the association between risk factors like parental delinquency, socioeconomic status (SES), and maternal depression, and children's antisocial behavior and delinquency (Dodge, Coie, & Lynam, 2006; Reid, Patterson, & Snyder, 2002). Parenting has been demonstrated to partially mediate the relation between antisocial behavior in adolescent mothers and disruptive behavior problems in their children (Rhule, McMahon, & Spieker, 2004). Furthermore, parenting behaviors have been found to predict behavior problems, although the association between parenting behaviors and children's behavior problems may be confounded by genetic factors (Moffitt, 2005). Poor monitoring and inconsistent discipline by mothers predict externalizing problems in respectively their daughters and their children of both sexes (Gryczkowski, Jordan, & Mercer, 2010), and the parenting dimensions monitoring, psychological control, and negative aspects of support (neglect, hostility and rejection) predict delinquency (Hoeve et al., 2009). Parenting behaviors, in turn, also show evidence of continuity across generations (Bailey, Hill, Oesterle, & Hawkins, 2009; Capaldi, Pears, Patterson, & Owen, 2003; Conger, Neppl, Kim, & Scaramella, 2003; Hops, Davis, Leve, & Sheeber, 2003; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003). Thus, parenting may play an important role in the maintenance of this vicious cycle.

However, parenting can also be used to break a vicious cycle. Interventions aimed at parenting behaviors have been proven to be most effective in decreasing children's antisocial behavior (McCart, Priester, Davies, & Azen, 2006), and in preventing children's antisocial behavior. Indeed, a number of prevention studies has successfully targeted parenting behaviors and children's disruptive behavior in children exposed to a variety of risk factors for antisocial behavior. Positive results were found with regard to, for example, home visitation programs (e.g., Olds et al., 2002), Incredible Years (Webster-Stratton, Reid, & Hammond, 2001), and the Oregon model of Parent Management Training (Bullard et al., 2010).

Although parenting programs have been proven effective in high-risk populations, surprisingly few studies have targeted children of delinquent mothers, or even just families with delinquent family members. To our knowledge, only studies by Brotman and colleagues (Brotman et al., 2003; Brotman et al., 2005) examined the actual effectiveness of such a prevention program. These studies aimed at preschoolers in families with a history of antisocial behavior (mostly adjudicated older siblings), and found intervention effects on parenting and child behavior, with an intervention including the Incredible Years parent training (Webster-Stratton, 2001).

Certainly, more intervention studies which directly address samples consisting of incarcerated mothers or women who received an alternative sanction do exist. However, in marked contrast to most interventions for non-incarcerated parents, these studies did not assess effects on child behavior (besides parenting behavior). Typical outcomes for in-prison parenting classes include knowledge and attitude, mental well-being and parenting stress, and behavioral changes (such as recidivism rates) in parents (Loper & Novero, 2010), but not in children. In general, these interventions consist of parenting classes, without guidance of a thoroughly specified theoretical model (J. M. Eddy, Kjellstrand, Martinez, & Newton, 2010). These parenting classes typically offer plain instruction in generic communication and parenting techniques, and provide an overview of child development (J. M. Eddy et al., 2008).

With regard to parenting knowledge and attitudes, these studies revealed mixed results. With a pre-post design without comparison group, Browne (1989) found only negative changes in appropriate developmental expectations and alternatives to corporal punishment in a sample of 29 females who received an alternative sanction, but had initially been incarcerated. Other authors found positive changes in appropriate developmental expectations (Harm & Thompson, 1997; Palusci, Crum, Bliss, & Bavolek, 2008; Thompson & Harm, 2000), empathetic awareness of children's needs (Harm & Thompson, 1997; Palusci et al., 2008), alternatives to corporal punishment (Harm & Thompson, 1997; Palusci et al., 2008; Thompson & Harm, 2000), and appropriate family roles and responsibilities (Harm & Thompson, 1997; Thompson & Harm, 2000), using similar pre-post designs. In a quasi-experimental design with 40 incarcerated mothers, Moore and Clement (1998) established no significant differences between the intervention group and comparison group regarding parenting and child-rearing attitudes and knowledge about behavioral management techniques. However, pre-post comparisons revealed increases in knowledge about positive child-management in the treatment group, which consisted of 20 mothers. No significant changes were noted with regard to appropriate

developmental expectations, empathetic awareness of children's needs, alternatives to corporal punishment, and appropriate family roles and responsibilities. Sandifer (2008) also used a quasi-experimental design, but reported only pre-post comparisons. Similar to several pre-post studies, Sandifer revealed positive changes in appropriate developmental expectations, empathetic awareness of children's needs, alternatives to corporal punishment, and appropriate family roles and responsibilities in the treatment group, consisting of 64 incarcerated mothers. Furthermore, no significant change was found in the comparison group of 26 incarcerated mothers.

In sum, these studies provide some evidence that interventions targeting female offenders can produce positive outcomes. However, it is unclear whether measured changes in meta-cognitive beliefs and knowledge represent true shifts in maladaptive attitudes, and whether changes in attitudes actually lead to changes in mothers' parenting behaviors, let alone changes in child behaviors (Loper & Novero, 2010). Furthermore, most of these studies included small samples, and none of them included a randomized control group or examined child outcomes. Additionally, most interventions provided broad psycho-educational support during a nonspecified period of incarceration.

Therefore, more clarity about the effects of parent training for delinquent mothers is desirable. We do not only have to know whether it is possible to increase knowledge, but, more importantly, whether it is possible to change actual parenting behaviors and child behaviors. Otherwise, it will remain unclear whether it is possible to end the vicious cycle of intergenerational transmission of antisocial behavior, by means of a parent training.

In endeavors to break this vicious cycle, issues with regard to delivery of the parent training may be crucial. First, the exact timing of the intervention may be crucial for effectiveness. It seems logical to start interventions during imprisonment, because access to this hard-to-reach-population is easier during imprisonment, and because of the possibility to work on problems that are specific to the mother (e.g., depression) before return to the family. But, interventions should preferably not stop after release from incarceration. First and foremost, reentry is a difficult process for many women, so support seems to be warranted to prevent relapse. Second, the home situation is the situation in which mothers actually put their parenting behaviors in practice. Thus, most difficulties may become apparent for the mothers after reentry into society. Their return to the family is also a unique opportunity to practice parenting behaviors and to correct them if necessary. Hence, the period around release from incarceration seems to be an ideal moment for parenting interventions.

Furthermore, adaptation of trainers' approach and training content to the population of incarcerated mothers may be essential to deliver an effective intervention. Concerning the trainers' approach, a collaborative approach seems to be more suitable in hard-to-reach, troubled families (Barlow, Kirkpatrick, Stewart-Brown, & Davis, 2005). The intervention has to be flexible enough to be used within a diverse cultural population. Empowerment of parents' insights and acknowledgement of parents' unique strengths may be needed to build a non-blaming relationship, based on trust and open communication, with mothers who may be skeptic against outsiders who address sensitive topics (B. A. Eddy, Powell, Szubka, McCool, & Kuntz, 2001) or reluctant to accept ideas taught in a "school like" way. Addressing attitudinal and cultural barriers may be needed to reveal reasons for resistance and enhance engagement. Concerning training content, the training should exceed plain psycho-education and should incorporate practice of parenting skills. Moreover, the myriad of practical issues that these mothers confront when returning home may hinder the transfer of information related to parenting skills. Immediate life stressors are often prioritized above long-term goals for children or relationships with children, and creative problem solving may be needed to make practice of parenting behaviors possible within hectic life schedules. Therefore, addressing mother's own issues and contextual challenges, in addition to parenting issues, may be essential to improve her ability to parent her children (Boudin, 1998; J. M. Eddy et al., 2010).

The Incredible Years parent training (IYPT) seems to be a suitable intervention approach for this population, because the manualized intervention with demonstrated effectiveness (Menting, Orobio de Castro, & Matthys, 2012a) can be tailored according to each individual family's needs, and according to each parent's cultural background experiences, education, knowledge and values (Webster-Stratton, 2009). Furthermore, the collaborative and empowering IYPT approach fulfills aforementioned conditions with regard to optimal communication to the population of incarcerated mothers. Therefore, in the present study, the IYPT was delivered to incarcerated and formerly incarcerated mothers. Besides IYPT group sessions, the intervention encompassed home visits, which followed the IYPT group sessions. These home visits were added to the group sessions, to be able to work individually with mothers as well. An individual approach enabled more tailored coaching with regard to parenting, and, moreover, more attention for mothers' individual issues and contextual challenges.

Aim of the present study was to evaluate the preventive effectiveness of the IYPT, enhanced with home visits, for disruptive behavior of 2 to 10 year-old children of mothers being

released from incarceration, by means of a randomized controlled trial. We hypothesized that the intervention would have immediate effects on disruptive child behavior, according to mothers and according to teachers or daycare providers blind to intervention status, and on parenting behavior.

Method

Design

This study's design has one between subjects condition with three levels (intervention group, control group, and "opt-out group"), four measurement occasions within subjects, and two informants (mother and teacher/daycare provider blind to intervention condition). Mothers were randomly assigned with a simple randomization procedure (a throw of the dice by the second author, who was blind to participant information), to the intervention group or to the control group, in a 2:1 ratio[1]. Participants who were assigned to the intervention group, but chose not to attend the intervention, were invited to remain in the study as a second comparison group. Assessment in this "opt-out group" was relevant to us, because this enabled us to use real data instead of imputed data for these participants in intention-to-treat analyses.

To recruit sufficient numbers of participants, we planned to start group training half yearly during a period of three years. Therefore, participants were recruited in six recruitment periods. During two of the six recruitment periods for intervention groups there appeared to be too few potential participants to conduct the group training sessions properly. Therefore, for those two periods (concerning 24.7% of participants), we decided to allow all participants to participate in the intervention. The lower number of potential participants in these two periods was not due to anything related with the study or participants (approach, consent rate, etcetera) but simply due to a smaller number of mothers ending their prison sentences in these periods.

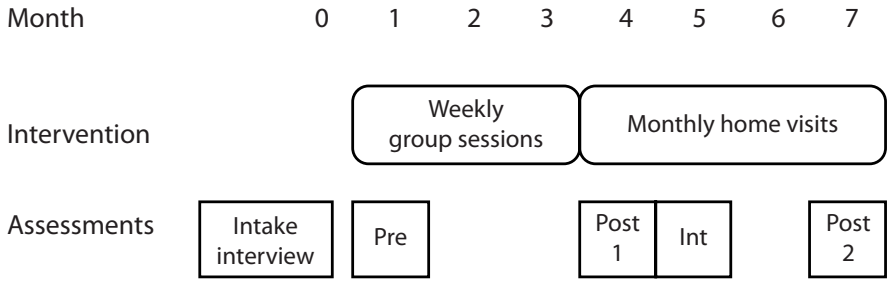
Following an intake interview, four measurement occasions were included in the study (see Figure 1). Assessments took place at the start of the intervention (pre-intervention), after completion of the group sessions (fourth month of the intervention; post-group sessions), and after completion of the intervention (post-intervention). Additionally, an intermediate assessment was taken in the fifth month of the intervention (intermediate).

1 A 2:1 allocation ratio was chosen to ensure sufficient group size within the group sessions. The IYPT requires at least 6 parents to optimize group discussions and to foster a sense of support (Webster-Stratton, 2001).

This intermediate assessment was added to increase statistical power and chances to stay in touch with mothers after their incarceration.

If mothers met criteria (see participants) regarding more than one child, mothers were invited to provide information about at most three children. Data were collected with regard to these target children. If children went to school or daycare and mothers consented approach, children's teachers and daycare providers were asked to fill out questionnaires. Teachers and daycare providers were blind to allocation status, and received a letter stating that research was aimed at mothers in a difficult situation.

Figure 1 Intervention and measurement occasions



Note. Pre = pre-intervention, Post 1 = post-group sessions, Int = intermediate, Post 2 = post-intervention.

Participants

Incarcerated and recently released mothers were recruited through nationwide screening within all penitentiary institutions or via organizations whose clientele partly consist of formerly incarcerated women. Within the penitentiary institutions, monthly nationwide screenings, based on the total population of female inmates, were undertaken to trace all possible participants in the Netherlands, between July 2007 and April 2010. Mothers had to meet three criteria to be included in this study. First, mothers were either incarcerated and to be released within 3 months or formerly incarcerated and recently released (i.e. not exceeding 6 months). Second, they were (expected to become once again) caregivers of their children ranging in ages from 2-10 years. Third, they were able to see their children during at least two weekends per month. Since most participants (95.6%) were the biological mother of at least one of the participating children, the term "mothers" is used throughout this paper to refer to them.

Mothers were convicted to a sentence of on average 11.1 months (range 0.3 to 57 months). The majority of mothers (57.5%) were convicted because of a drug-related

offense, and for most mothers (68.9%) this conviction led to their first incarceration. During incarceration, mothers called their children on average 4.8 times per week (*SD* = 5.3). However, 9.6% of mothers did not have telephonic contact with their children at all. Children visited their mothers on average monthly (*SD* = 1.3). However, 33.3% of mothers were not visited by their children during incarceration. Most mothers (55.8%) were able to visit their children during weekend leave at some point in their incarceration. During the intake-interview 58% of all mothers were already released from the penitentiary institution, and were therefore able to see their children more frequently.

Most mothers (73.6%) were low educated: 3.8% did not complete primary education, 48.1% only completed primary education, and 21.7% only completed lower secondary education. A minority (23.6%) was native Dutch[2].

Mothers reported several problems, in the past and the present. During the intake-interview, 52.8% reported one or several abortions, 34% reported having been maltreated, 16% reported having been sexually abused, 11.1% reported having been raped, 19% reported custodial placement of one of her children, and 22.3% reported incarceration of at least one of her parents. During baseline assessment, mothers reported adverse socioeconomical circumstances: 38.5% reported having no house (and having to live with friends or family after incarceration), 87.5% reported having debts, 27.1% reported having to live on social security benefits, and 46.9% reported having to live without social security or (partner's) income. Furthermore, mothers reported high levels of maternal distress, including depression (Menting, Orobio de Castro, & Matthys, 2012b). That is, 30.9% of mothers reported very high levels of depression on the Symptom Checklist (Arrindell & Ettema, 2003).

Procedure

Participation in the trial was voluntary for all participants. All participants were assured that their information would be kept confidential and that the data would be processed anonymously. This assurance included a promise that no information traceable to individual participants will be shared with the Ministry of Security & Justice or penitentiary institutions. Prior to participation in the study, mothers signed an informed consent form. After consent, randomization took place and an intake interview (1.5 hours) was conducted. Remaining measurements were taken during three face-to-face assessments (1 hour + 0.5 hour for

2 We used the customary definition of foreigner in the Netherlands (Keij, 2000), which says that a person is considered a foreigner if at least one parent was born abroad. That is, all mothers who were not considered foreigners were considered native Dutch.

each extra child) and one intermediate assessment (20 minutes + 15 minutes for each extra child), see Figure 1. All questionnaires were administered individually and mostly in an interview format to the mothers. For the face-to-face assessments, mothers were visited at home, or in the penitentiary institution, by teams of two project members. If mothers were not present at the time and place agreed upon, several attempts were undertaken to conduct the assessment as soon as possible. Mothers received a monetary compensation for the time spent to complete questionnaires at the four measurement occasions. For the intermediate assessment, mothers received a monetary compensation of €5 per child during the next face-to-face assessment. For face-to-face assessments, monetary compensations were rising per measurement occasion, from €20 per child at pre-intervention to €50 per child at post-intervention. Questionnaires were sent off to teachers and daycare providers after face-to-face assessments with mothers. The study was approved by the Ethics Committee of the Utrecht University Faculty of Social Sciences.

Intervention

The intervention "Better Start"[3] included 12 weekly 2-hour group sessions for mothers and 4 1.5-hour home visits for each mother. Six groups of mothers received group sessions in different towns and cities spread over the Netherlands. One group received group sessions within a penitentiary institution, whereas the other groups received group sessions in community centers. During group sessions, the BASIC IYPT (Webster-Stratton, 2001) was delivered. The BASIC IYPT is a manualized group parent training in which parents of young children view videotapes that depict parent models interacting with their children in various situations. In collaboration with two group leaders, mothers discussed these video vignettes and put learned techniques into practice in role plays. The topics play skills, praise and rewards, limit setting, and handling misbehavior came up for discussion. Mothers were taught to use child-directed play skills, to use less critical and harsh discipline, and to use more positive and consistent strategies. In addition, mothers read the Dutch translation of Webster-Stratton's book, The Incredible Years: A Trouble-Shooting Guide for Parents of Ages 3-8 Years (Webster-Stratton, 1992), and home assignments were used to encourage mothers to practice parenting skills at home. Because of some mothers' reading difficulties, handouts with chapter summaries were provided. In these handouts, chapter content was shortly reproduced in simple usage, ending with a one page summary.

3 The name of the intervention was based on the desire mothers expressed to give their children a better start in life than they had themselves.

Home visits were added to the parenting groups to practice parenting skills, to support mothers to use adequate parenting skills in difficult individual circumstances, and to provide individual practical consultation. Mothers received home visits in the 4 to 6 months after completion of the group sessions. In addition to individual difficulties, home visits covered two subjects that are part of the ADVANCE IYPT (Webster-Stratton, 2002), which elaborates on the BASIC IYPT. During the second home visit, communication with adults and children was dealt with, whereas problem solving with adults and children was dealt with during the third home visit. During home visits, but also during group sessions, mothers received practical consultation if desirable, with regard to, for example, debts and social security.

The intervention was delivered by four team members, who had backgrounds in child psychology or within penitentiary institutions for women, and were trained during a three-day workshop. Treatment fidelity was ensured by at least one IYPT certified group leader delivering all group sessions. Two team members became certified group leaders prior to delivering the groups investigated in this study. In addition, one team member became a certified group leader after delivering several groups investigated in this study, as a co-trainer with a certified trainer. Furthermore, group leaders received supervision from accredited IYPT trainers, and group sessions were videotaped and reviewed during weekly meetings to ensure treatment fidelity. In addition, the manual of the BASIC IYPT was used, and both parental evaluations and checklists for group leaders were completed after group sessions.

In the control condition, the same assessments were administered as in the intervention group. Both families from the control condition and families from the intervention condition were allowed to use care as usual. In addition, trainers and researchers offered their help in finding adequate services when needed, in both conditions.

Measures

Basic demographics and family functioning

General background information with regard to mothers, children, circumstances within these families, and history of incarceration were assessed with a basic demographics and family functioning form. In this study, the amount of contact between mothers and children was assessed repeatedly to enduringly check criteria fulfillment.

Eyberg Child Behavior Inventory (ECBI)

The ECBI (Eyberg & Pincus, 1999) is a questionnaire designed to measure parents' report of children's problem behaviors in children aged 2 to 16 years. The ECBI consists of 36 items which are rated on two scales; an intensity scale, which measures the intensity or frequency of the problem behavior on a seven-point scale (*never* to *always*), and a problem scale, which measures the extent to which this behavior is a problem for the parents (*yes* or *no*). Higher scores reflect higher intensity of behaviors and more problem behaviors.

In the present study, the ECBI was completed during each measurement occasion. Internal consistencies for the intensity scale were adequate, with Cronbach's alphas ranging from .89 at intermediate to .91 at pre-intervention. Internal consistencies for the problem scale were also adequate, with Cronbach's alphas ranging from .90 at intermediate to .93 at pre-intervention.

Teacher's Report Form (TRF) and Caregiver-Teacher Report Form (C-TRF)

Daycare providers or teachers of the participating children were asked to fill out the Caregiver-Teacher Report Form (Achenbach & Rescorla, 2000) or Teacher Report Form (Achenbach & Rescorla, 2001). The TRF consists of 113 items which assess behavior problems of the child as experienced by the teacher in the classroom, in children aged 6 to 18 years. The C-TRF is the preschool version of the TRF. It consists of 100 items which assess behavior problems in children aged 1.5 to 5 years. For each item, daycare providers and teachers circled the answer (*never*, *sometimes* or *always*) that fitted the behavior of the child in the preceding two months. To be able to compare TRF and C-TRF scores we used *T*-scores in our analyses. For convenience, we use (C)TRF to refer to *T*-scores on both TRF and C-TRF throughout this paper.

In the present study, the aggressive behavior scale was used to measure behavior problems according to teachers or daycare providers. Internal consistencies for C-TRF and TRF were adequate, with Cronbach's alphas ranging from .86 at post-intervention to .96 at post-group sessions for C-TRF and Cronbach's alphas ranging from .94 at pre-intervention to .97 at post-group sessions for TRF.

Alabama Parenting Questionnaire (APQ)

The APQ (Shelton, Frick, & Wootton, 1996) is a self-report questionnaire designed to measure the most important aspects of parenting behaviors related to disruptive behavior problems in children: positive parental involvement, monitoring/supervision, use of positive parenting techniques, inconsistency in discipline, and harsh discipline. The 42

items of the APQ are divided into the following scales: involvement (10 items), positive parenting (6 items), poor monitoring/supervision (10 items), inconsistent discipline (6 items), corporal punishment (3 items), and other discipline practices (7 items, included so that corporal punishment items are not asked in isolation of other forms of discipline). However, in the current study, two items were deleted: "You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school" (involvement) and "Your child fails to leave a note or to let you know where he/she is going" (poor monitoring). These items were deleted because some participants were incarcerated at time of assessment; the unfeasibility of those items during incarceration would be too confronting. Participants responded on a 5-point frequency scale (*never* to *always*), with higher scores reflecting more frequent use of parenting practices.

In the present study, the APQ was assessed during all face-to-face assessments. Internal consistencies for involvement were varying, with Cronbach's alphas ranging from .48 at post-group sessions to .77 at post-intervention. Internal consistencies for positive parenting were adequate, with Cronbach's alphas ranging from .75 at pre-intervention to .80 at post-intervention. Internal consistencies for poor monitoring were varying, with Cronbach's alphas ranging from .48 at post-intervention to .69 at post-group sessions. Internal consistencies for inconsistent discipline were (nearly) adequate, with Cronbach's alphas ranging from .59 at post-intervention to .68 at post-group sessions. Internal consistencies for corporal punishment were also (nearly) adequate, with Cronbach's alphas ranging from .56 at post-group sessions to .71 at post-intervention.

Data analysis

To account for the multilevel structure of the data (assessments in children in mothers), multilevel analyses were performed in HLM 6.08 (Raudenbush, Bryk, & Congdon, 2004) to examine change over time. Specifically, three-level models were used to examine intervention effects on pre-intervention to post-intervention changes in child behavior and parenting, except for positive parenting and corporal punishment[4]. In the three-level models, assessment waves (Level 1) were nested within children (Level 2) and children were nested within families (Level 3). For positive parenting and corporal punishment, two-level models were used because of nonsignificant variance at the child level.

4 Four-level MLwiN models were run as part of preliminary analyses to examine the nesting of families within groups (i.e. family formed a part of one of six intervention groups, five opt-out groups or four control groups). Since variance at the group level did not exist in 11 of 16 analyses, and did not exceed 5% of total variance in three other analyses, group-level was not included in the final models.

In these models, assessment waves (Level 1) were nested in families (Level 2). Full maximum likelihood estimation was used for all models. Since four scales (ECBI-problem scale, (C)TRF-aggressive behavior, APQ-poor monitoring, and APQ-corporal punishment) did not have a normal distribution, results were reported based on robust standard errors for these scales. The intervention variable (intervention [1] versus control [0]) was entered at the family level. Assessment waves were coded 0, 3, 4 and 6 to reflect the time schedule of assessments. In per-protocol analyses, we compared mothers who participated in at least one session of the intervention with mothers in the control group. Thus, the opt-out group was excluded from per-protocol analyses. However, in intention-to-treat analyses this group was added to the intervention group. Therefore, intention-to-treat analyses reflect actual randomization. Pre-intervention to post-intervention effect size estimates (*d*) were calculated for significant Group x Time interactions.

Results

Participants

Nationwide screening resulted in 183 mothers who seemed possibly eligible for the study (see Figure 2). Of those 183 possibly eligible mothers, 129 mothers actually met criteria and were asked to consent. 87.6% of these mothers actually chose to participate.

Data of seven mothers were excluded from analyses because these mothers did not fulfill inclusion criteria in retrospect. That is, data of six of these mothers were excluded because they were not considered to be caregivers (i.e., there was no weekly contact during post-group and post-intervention), whereas data of one mother was excluded because her child turned out to be older than 10 years old at the start of the intervention. Furthermore, with regard to 15 mothers, assessments were not possible due to loss of contact. Therefore, data from 91 mothers and 142 children were available for the intention-to-treat analyses, whereas per-protocol analyses involved 72 mothers and 104 children.

Attendance

The mean attendance during 12 group sessions was 7.7 sessions (*SD* = 3.1), with 6 mothers (12.2%) attending 1 to 3 sessions and 19 mothers (38.8%) attending 10 to 12 sessions. Mothers in the intervention group received on average 3.2 (*SD* = 1.4) of 4 home visits, with 5 mothers (10.2%) receiving no home visits and 34 mothers (69.4%) receiving 4 home visits. Mothers were included in analyses irrespective of amount of intervention received. That is, mothers who attended at least one group session were included in the

intervention group in per-protocol analyses. All mothers, including mothers who attended no sessions, were included in intention-to-treat analyses.

Figure 2 Participant flow

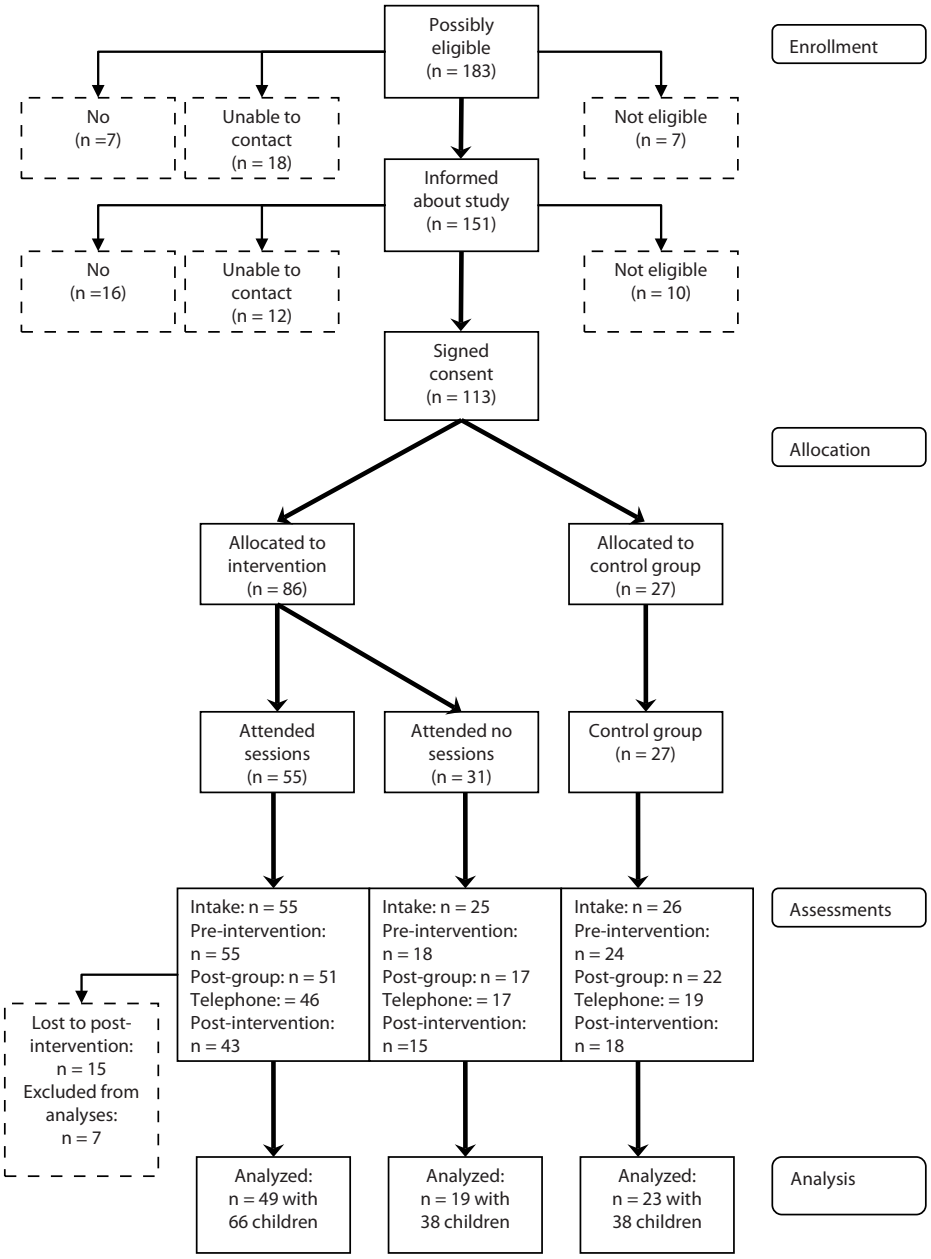


Table 1 Descriptive statistics for child behavior and parenting behaviors

Variable	Pre-intervention			Post-group sessions			Intermediate			Post-intervention		
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Intervention group												
Disruptive child behavior												
ECBI-intensity	111.84	30.47	65	104.24	26.13	62	99.24	27.78	56	94.23	24.27	53
ECBI-problem	13.61	8.74	65	12.20	7.17	61	11.18	7.61	56	10.37	7.86	53
(C)TRF-aggressive behavior	58.63	7.96	38	60.36	11.41	22				58.13	8.86	39
Parenting behaviors												
APQ-involvement	30.13	5.33	66	30.58	4.91	62				30.94	4.55	52
APQ-positive parenting	25.18	3.08	66	24.85	3.07	62				24.87	3.50	53
APQ-poor monitoring	12.37	3.55	65	12.25	3.66	62				11.66	2.56	52
APQ-inconsistent discipline	14.91	3.70	66	13.77	3.44	62				12.43	3.37	53
APQ-corporal punishment	4.94	1.84	66	4.69	1.65	62				4.64	1.93	53
Opt-out group												
Disruptive child behavior												
ECBI-intensity	91.78	24.95	29	100.09	27.3	28	91.77	24.53	28	92.42	27.59	25
ECBI-problem	4.39	3.79	29	5.57	5.98	27	5.62	5.48	28	5.21	6.33	25
(C)TRF-aggressive behavior	57.40	9.88	20	54.85	6.97	13				56.21	7.96	19
Parenting behaviors												
APQ-involvement	29.24	6.97	29	28.88	4.85	28				30.33	6.94	25
APQ-positive parenting	25.17	3.79	30	25.54	3.48	28				25.44	3.65	25
APQ-poor monitoring	10.70	2.19	29	10.81	1.98	28				10.25	1.36	25
APQ-inconsistent discipline	12.60	4.10	30	13.61	5.23	28				13.76	4.31	25
APQ-corporal punishment	4.03	1.27	30	4.32	1.49	28				4.36	1.82	25

	CONTROL GROUP											
Disruptive child behavior												
ECBI-intensity	103.65	34.26	36	108.16	30.02	30	96.93	26.78	26	101.04	24.32	25
ECBI-problem	8.18	7.94	36	10.12	8.56	29	7.93	6.97	26	8.42	6.83	25
(C)TRF-aggressive behavior	56.14	6.87	22	57.27	6.74	11				60.33	11.57	18
Parenting behaviors												
APQ-involvement	29.30	5.62	36	30.03	3.93	30				31.21	6.49	25
APQ-positive parenting	25.97	3.40	36	26.13	3.65	31				27.28	2.51	25
APQ-poor monitoring	11.33	2.76	35	11.63	4.01	30				10.48	2.04	25
APQ-inconsistent discipline	14.47	5.30	36	17.00	4.11	31				15.88	3.79	25
APQ-corporal punishment	5.00	1.94	36	4.81	1.76	31				4.84	2.08	25

Note. ECBI = Eyberg Child Behavior Inventory; (C)TRF = Teacher's Report Form or Caregiver-Teacher Report Form; APQ = Alabama Parenting Questionnaire.

Main analyses

Table 1 provides descriptive statistics for intervention, opt-out and control groups at pre-intervention, post-group sessions, intermediate, and post-intervention assessment. Results of analyses are presented separately for disruptive child behavior and parenting behaviors. Per-protocol analyses are presented before intention-to-treat analyses.

Since we were especially interested in effectiveness of the intervention, our main interest in analyses was whether the slope across measurement occasions differed between the intervention and the control group. Such significant Group x Time interaction within models indicates that group status explains variance between families. Hereby, positive significant regression coefficients indicate increase of the dependent variable in the intervention group when compared to the control group, whereas negative regression coefficients indicate decrease in the intervention group. However, it is only relevant to test for Group x Time interactions if variance across time differs between families; that is, if the random slope for time is significant. The intercept in models is the predicted score on the dependent variable at the first time point. Fixed effect of group indicates whether there is a relation between group status and the mean dependent variable. Positive significant regression coefficients indicate that scores of mothers in the intervention group are higher in comparison to mothers in the control group, whereas negative significant regression coefficients indicate lower scores in the intervention group. Fixed effect of time indicates whether there is a relation between measurement occasions and the dependent variable. Positive significant regression coefficients indicate increase of the dependent variable across measurement occasions, whereas negative regression coefficients indicate decrease of the dependent variable.

Disruptive child behavior

Results of final models with regard to disruptive child behavior are presented in Table 2. Actual scores and scores as predicted by the final models are displayed in Figure 3 and Figure 4.

For intensity of problems (ECBI), results of per-protocol analyses revealed a significant Group x Time interaction ($b = -2.67$, $p = .01$, $d = 0.47$), indicating an intervention effect on the intensity of disruptive behavior according to mothers. Intervention explained 13.1% of slope variance, or the differences in the regression coefficients over time between families. As seen in Figure 3a, mothers in the intervention group reported decrease of intensity of disruptive behavior, while intensity of disruptive behavior according to mothers remained fairly stable in the control group.

Table 2 Fixed effects estimates (top) and variance estimate (bottom) for final models of change in disruptive child behavior

Parameter	Per-protocol analyses			Intention-to-treat analyses		
	ECBI-IS	ECBI-PS	(C)TRF	ECBI-IS	ECBI-PS	(C)TRF
			Fixed effects			
Intercept	102.58***	7.96***	55.64***	102.65***	7.88***	55.51***
	(5.54)	(1.39)	(1.49)	(5.48)	(1.36)	(1.46)
Group	7.78	4.72*	3.88†	3.19	2.53	3.52†
	(6.81)	(1.77)	(2.01)	(6.39)	(1.66)	(1.85)
Time	-0.17	0.01	0.56	-0.15	0.02	0.58
	(0.86)	(0.17)	(0.45)	(0.89)	(0.17)	(0.45)
Group x Time	-2.67**	-0.55*	-0.77†	-1.86*	-0.34†	-0.75†
	(1.05)	(0.25)	(0.48)	(1.03)	(0.22)	(0.47)
			Random parameter			
Slope	7.14***	0.49***	0.28	8.22***	0.56***	0.34*
	(2.67)	(0.70)	(0.53)	(2.87)	(0.75)	(0.58)
ICC level 2	0.45	0.31	0.58	0.48	0.25	0.62
ICC level 3	0.34	0.45	0.10	0.31	0.54	0.15

Note. B-values, with standard errors in parentheses. ECBI-IS = Eyberg Child Behavior Inventory - intensity scale; ECBI-PS = Eyberg Child Behavior Inventory - problem scale; (C)TRF = Teacher's Report Form or Caregiver-Teacher Report Form - aggressive behavior; ICC = intraclass correlation; Time = assessment wave.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$ (one-tailed for Group x Time; two-tailed for other parameters).

For number of problems (ECBI), results of per-protocol analyses revealed a significant Group x Time interaction (b = -0.55, p = .02, d = 0.41), indicating an intervention effect on the extent to which child behavior is a problem for the mothers. Intervention explained 9.2% of slope variance. As seen in Figure 3b, although more problems were reported in the intervention group than in the control group, mothers in the intervention group reported decrease of problems, while the extent to which child behavior was considered a problem remained fairly stable in the control group.

For aggressive behavior ((C)TRF), results of per-protocol analyses revealed a trend toward a significant Group x Time interaction (b = -0.77, p = .05, d = 0.62), indicating a marginal intervention effect on disruptive behavior according to teachers and daycare providers, who were blind to allocation. Intervention explained 24.2% of slope variance. As seen in Figure 3c, teachers and daycare providers reported that children from the intervention group exhibited less aggressive behavior, while increase of aggressive behavior was reported for children from the control group.

In intention-to-treat analyses, a similar picture was seen, except for number of problems (ECBI). An intervention effect was found with regard to intensity of disruptive behavior according to mothers (b = -1.86, p = .04, d = 0.30). As shown in Figure 4a, mothers in the intervention group reported decrease of intensity of disruptive behavior, while intensity of disruptive behavior according to mothers remained fairly stable in the control group. For the number of problems according to mothers, a trend toward an interaction effect was found (b = -0.34; p = .07; d = 0.27) and the number of problems did not longer differ on average between groups. As shown in Figure 4b, mothers in the intervention group reported decrease of problems, while the extent to which child behavior was considered a problem remained fairly stable in the control group. A trend toward an interaction effect was found for disruptive behavior according to teachers and daycare providers (b = -0.75, p = .06, d = 0.60). As shown in Figure 4c, teachers and daycare providers reported that children from the intervention group exhibited less aggressive behavior, while increase of aggressive behavior was reported for children from the control group.

Parenting behaviors

Results of final models with regard to parenting behaviors are presented in Table 3. Actual scores and scores as predicted by the final models are displayed in Figure 3 and Figure 4.

For inconsistent discipline, results of per-protocol analyses revealed a significant Group x Time interaction (b = -0.72, p < .001, d = 0.90), indicating an intervention effect on

Table 3 Fixed effects estimates (top) and variance estimate (bottom) for final models of change in parenting behaviors

Parameter	Per protocol analyses					Intention-to-treat analyses				
	APQ-I	APQ-PP	APQ-PM	APQ-ID	APQ-CP	APQ-I	APQ-PP	APQ-PM	APQ-ID	APQ-CP
					Fixed effects					
Intercept	29.07***	25.85***	11.55***	14.42***	5.05***	29.06***	25.85***	11.54***	14.39***	5.06***
	(0.96)	(0.62)	(0.56)	(0.77)	(0.39)	(1.03)	(0.63)	(0.56)	(0.80)	(0.39)
Group	1.16	-0.72	0.84	0.38	-0.21	0.79	-0.65	0.44	-0.14	-0.43
	(1.17)	(0.76)	(0.67)	(0.94)	(0.46)	(1.19)	(0.73)	(0.63)	(0.93)	(0.43)
Time	0.35*	0.14	-0.11*	0.36*	-0.00	0.35*	0.14	-0.11**	0.37*	-0.01
	(0.16)	(0.10)	(0.04)	(0.15)	(0.07)	(0.17)	(0.09)	(0.04)	(0.16)	(0.07)
Group x Time	-0.24	-0.15		-0.72***	-0.05	-0.20	-0.14		-0.55**	-0.01
	(0.20)	(0.12)		(0.18)	(0.09)	(0.20)	(0.11)		(0.18)	(0.08)
					Random parameter					
Slope	0.17***	0.05*	0.01	0.18**	0.05***	0.16**	0.04*	0.01	0.24***	0.04***
	(0.41)	(0.23)	(0.10)	(0.42)	(0.23)	(0.40)	(0.20)	(0.10)	(0.49)	(0.20)
ICC level 2	0.14	0.68	0.11	0.14	0.63	0.12	0.70	0.13	0.16	0.62
ICC level 3	0.52		0.52	0.48		0.55		0.52	0.51	

Note. B-values, with standard errors in parentheses. APQ-I = Alabama Parenting Questionnaire - involvement; APQ-PP = Alabama Parenting Questionnaire - positive parenting; APQ-PM = Alabama Parenting Questionnaire - poor monitoring/supervision; APQ-ID = Alabama Parenting Questionnaire - inconsistent discipline; APQ-CP = Alabama Parenting Questionnaire – corporal punishment; ICC = intraclass correlation; Time = assessment wave.

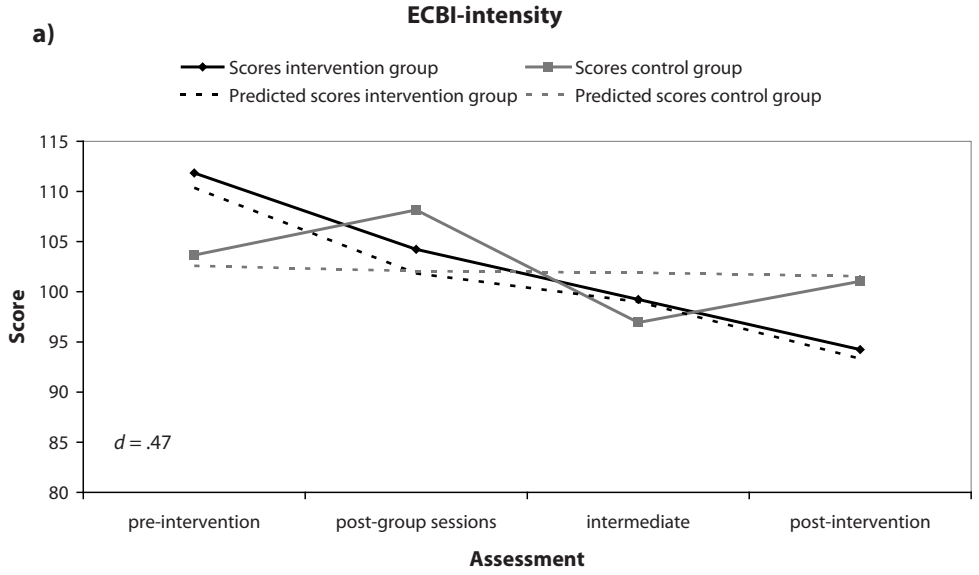
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$ (one-tailed for Group x Time; two-tailed for other parameters).

inconsistency of discipline according to mothers. Group status explained 31.8% of slope variance. As seen in Figure 3d, mothers in the intervention group reported decrease in inconsistency of discipline, while mothers in the control group reported increase in inconsistency of discipline.

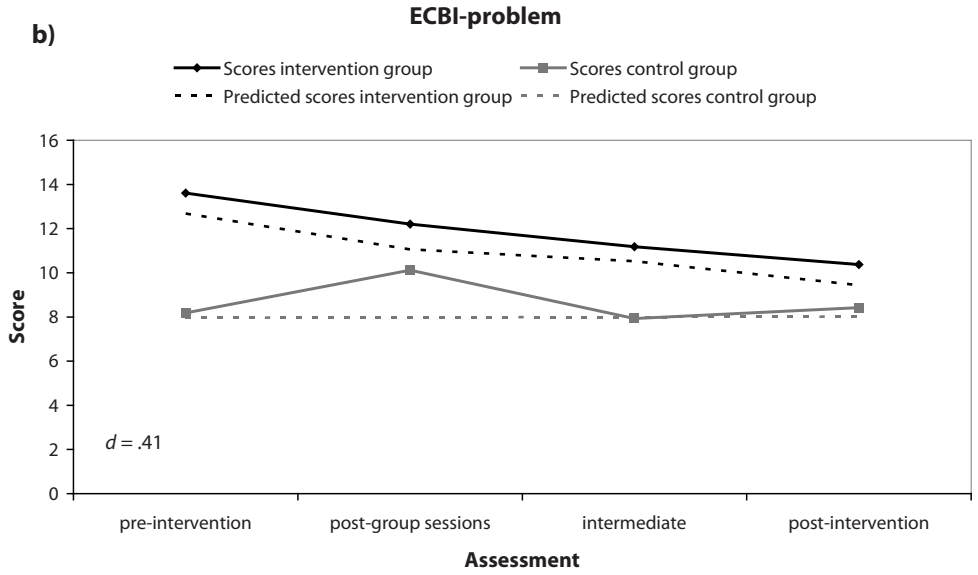
For involvement, positive parenting, and corporal punishment, no significant Group x Time interactions were found in per-protocol analyses, indicating no differences in trends between intervention group and control group. Mothers reported, on average, increasing involvement (b = 0.35; p = .04). For poor monitoring, no slope variance with regard to assessment waves was found in per-protocol analyses. That is, there were no differences in change in poor monitoring across families. On average, less poor monitoring was reported over time (b = -0.11; p = .01).

In intention-to-treat-analyses, a similar picture was seen. An intervention effect was found on inconsistent discipline (b = -0.55, p = .002, d = 0.63), but not on other parenting behaviors. As shown in Figure 4d, mothers in the intervention group reported a decrease in inconsistency of discipline, while mothers in the control group reported an increase in inconsistency of discipline.

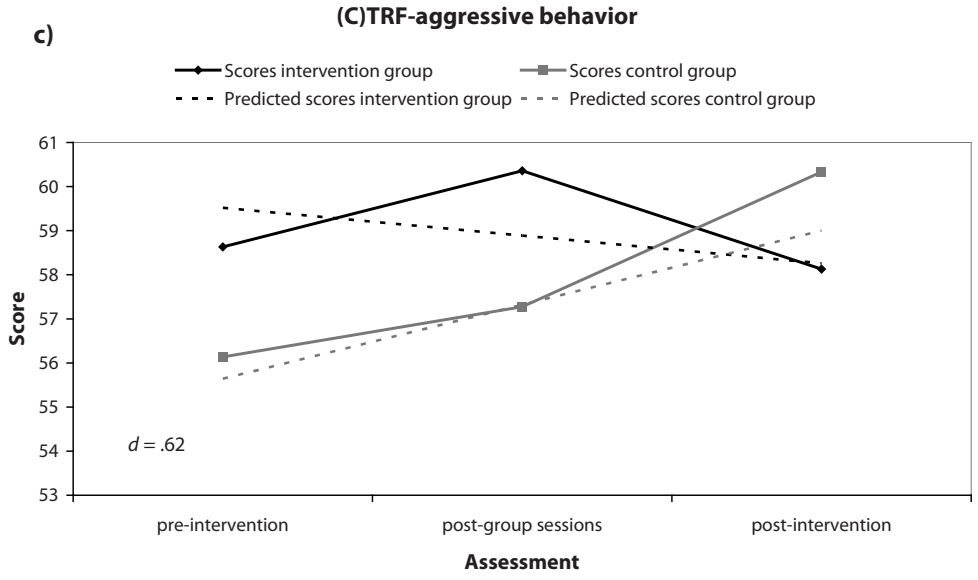
Figure 3 Effect of group on intensity, problem, aggressive behavior, and inconsistent discipline in per-protocol analyses



b)


ECBI-problem
Scores intervention group
Scores control group
Predicted scores intervention group
Predicted scores control group
Score
16
14
12
10
8
6
4
2
0
d = .41
pre-intervention
post-group sessions
intermediate
post-intervention
Assessment

c)


(C)TRF-aggressive behavior
Scores intervention group
Scores control group
Predicted scores intervention group
Predicted scores control group
Score
61
60
59
58
57
56
55
54
53
d = .62
pre-intervention
post-group sessions
post-intervention
Assessment

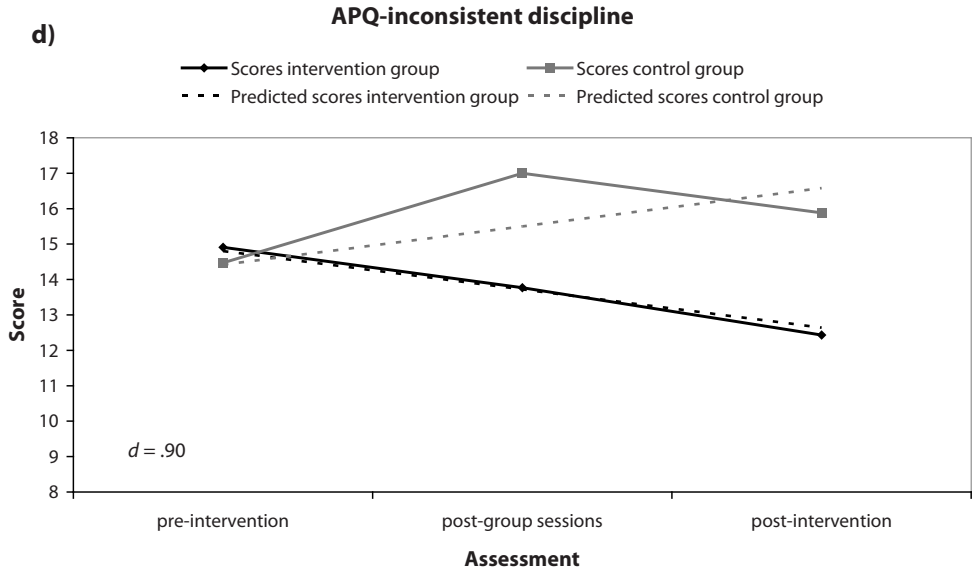
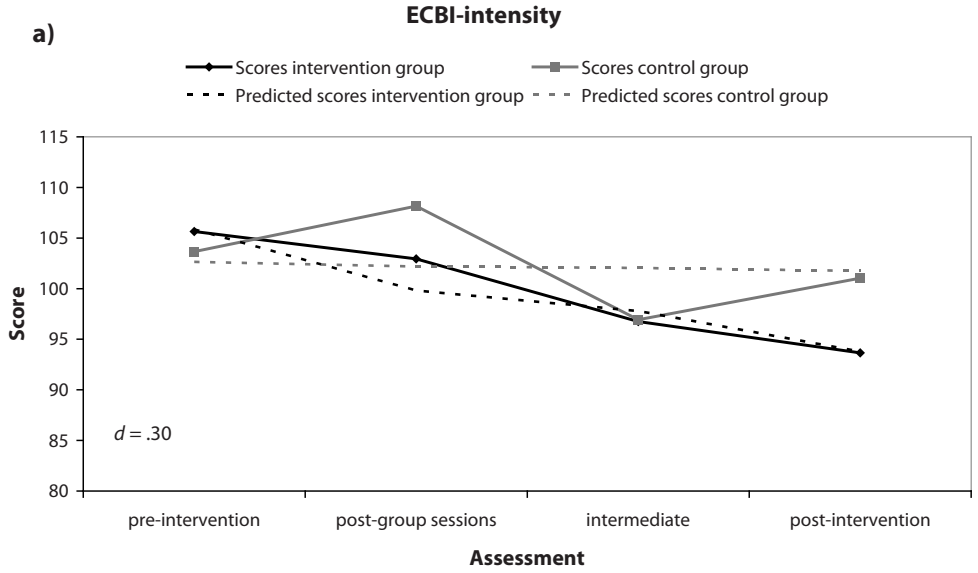
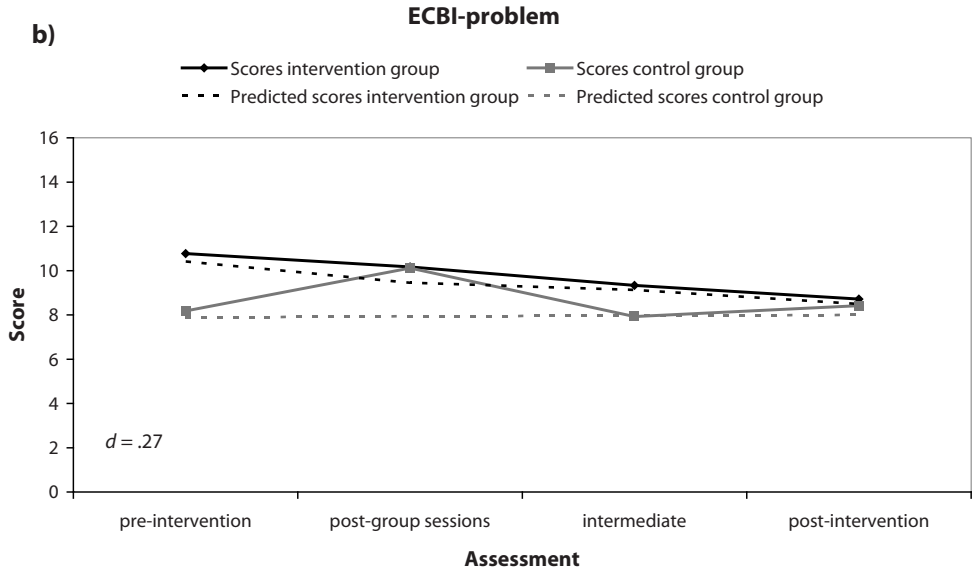


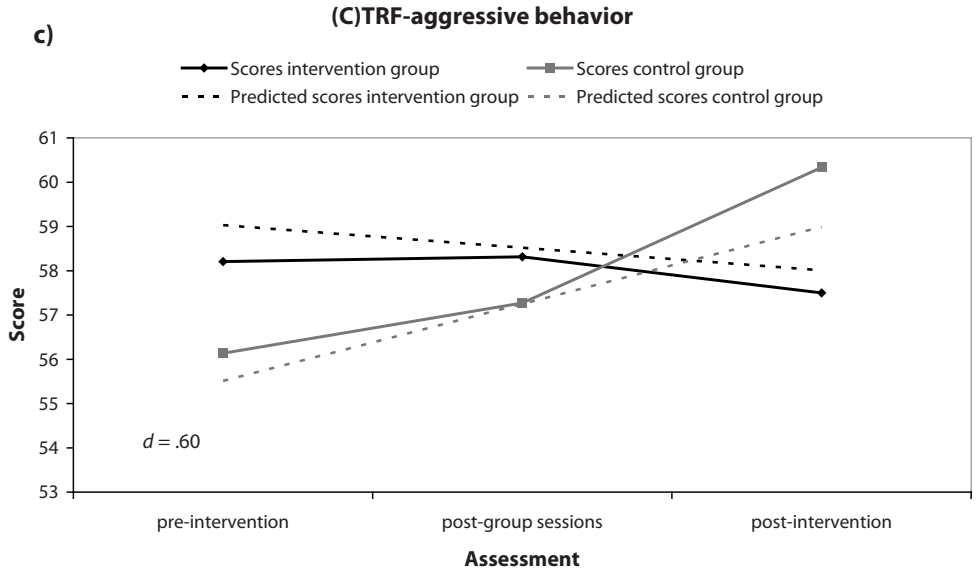
Figure 4 Effect of group on intensity, problem, aggressive behavior, and inconsistent discipline in intention-to-treat analyses

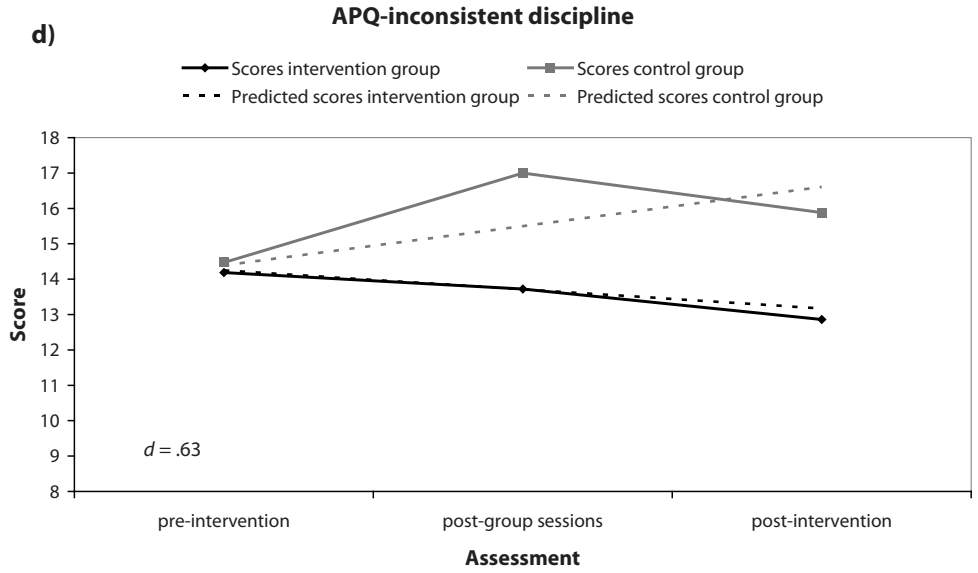


b)


ECBI-problem
Scores intervention group
Scores control group
Predicted scores intervention group
Predicted scores control group
Score
16
14
12
10
8
6
4
2
0
d = .27
pre-intervention
post-group sessions
intermediate
post-intervention
Assessment

c)


(C)TRF-aggressive behavior
Scores intervention group
Scores control group
Predicted scores intervention group
Predicted scores control group
Score
61
60
59
58
57
56
55
54
53
d = .60
pre-intervention
post-group sessions
post-intervention
Assessment



Discussion

The results of the present study show short-term effectiveness of parent training for the high-risk and hard-to-reach population of incarcerated mothers and their children. The intervention led to significant benefits on both disruptive child behavior and parenting behavior. Relative to control mothers, intervention mothers reported reductions in both their children's intensity of disruptive behavior and number of behavior problems, as well as their own inconsistency of discipline. Additionally, a marginal intervention effect on disruptive behavior according to teachers and daycare providers, blind to intervention status, was found. Intention-to-treat-analyses, in which mothers who were assigned to the intervention group but never attended intervention sessions were included in the intervention group, yielded highly similar results.

In line with our hypotheses, there were immediate intervention effects on disruptive child behavior, according to mothers. This finding is consistent with other selective prevention studies, which yielded intervention effects with regard to the IYPT (e.g., Brotman et al.,

2003; Nilsen, 2007; Webster-Stratton, 1998; Webster-Stratton et al., 2001). In a meta-analytic review of the IYPT (Menting, Orobio de Castro, & Matthys, 2012a), a mean effect size of $d = .13$ was found for selective prevention studies, regarding parent-rated child outcomes. Therefore, results established with regard to disruptive child behavior according to mothers in this study may be considered substantial. Moreover, this study is, to our knowledge, the first intervention study involving incarcerated mothers to show effects on child behavior besides parenting behaviors.

However, since the intervention directly targeted parenting, effects on parenting behaviors were also to be expected. Consistent with our hypotheses, immediate intervention effects on parenting behavior, specifically inconsistent discipline, came with intervention effects on child behavior. Ineffective parenting, including inconsistent discipline, has been linked to delinquent behavior; children of parents who are inconsistent in disciplining show delinquent behavior more often than children of parents who are more consistent in their disciplining (Hoeve et al., 2009). Moreover, inconsistent discipline has been found to mediate between maternal distress and child aggression, which often is a precursor of more serious delinquency in adolescence (Barry, Dunlap, Lochman, & Wells, 2009). Therefore, improvements in consistency of discipline seem especially helpful in breaking the vicious cycle in this population with high levels of maternal distress (see Menting, Orobio de Castro, & Matthys, 2012b).

The intervention yielded only a marginally significant immediate effect on disruptive behavior according to teachers and daycare providers. Differences between parent-rated outcomes and teacher-rated outcomes are common, and may be caused by genuine contextual differences and more similarity in criteria as used by teachers than as used by parents (Scott, 2001), or insufficient generalization of the intervention effect from home to school settings. Perhaps, since teachers were blind to allocation in this study, less improvements according to teachers than according to participating mothers, whose perceptions may be colored (e.g., by avoidance of cognitive dissonance), were to be expected. However, in this study, the effect was only just nonsignificant ($p = .054$), and effect sizes for teacher-rated disruptive behavior were larger than effect sizes for parent-rated disruptive behavior. Probably, we did not have enough statistical power to detect differences between the intervention and control group, due to a small number of received teacher-rated questionnaires. Therefore, the marginal intervention effect in this study, combined with a moderate effect size and blindness to allocation, may be considered promising.

Delivery of a combination of group and individual intervention components in the period around release from incarceration seems fruitful. Effects of IYPT group sessions are noticeable; effectiveness of these sessions is not only reflected in post-intervention effects, but appears already immediately after group sessions. That is, for example Figure 3d shows decrease in inconsistency of discipline already directly after the group sessions. Since improvements continued after these group sessions, addressing parenting skills and contextual challenges during individual home visits may have built on and elaborated processes which started during group sessions.

The benefits of this intervention for incarcerated mothers and their children should be viewed in light of the many challenges families face when mothers resume parenting upon their release. Although the intervention primarily targeted parenting and disruptive behavior problems, addressing parenting behaviors is impossible without addressing mother's incarceration and contextual challenges. That is, for instance, feelings of guilt and urgent problems, such as having no income and housing, may predominate to such an extent that transfer of information regarding parenting skills may be hindered otherwise. After intervention, both contextual challenges and parenting behaviors may remain reasons for concern. First, although intervention accomplished improvements in parenting and disruptive behavior in spite of contextual difficulties, and help with contextual difficulties was offered during intervention, it is likely that participants still face difficulties, in spite of successfully participating in the intervention. Second, mothers only recently resumed parenting and the parent-child relation is still in flux after the mother's absence. For parent training, an opportunity to practice parenting behaviors is essential. Therefore, opportunities to practice had to comprise at least role plays during group sessions and real-life practice during weekend leaves. Although not ideal, opportunities to practice were maximized for incarcerated mothers in this study, given the penitentiary regimes and possibilities for mother-child contact. Perhaps changes in sentencing and penitentiary regime may help improve opportunities for mother-child contact. Furthermore, for both incarcerated and formerly incarcerated mothers parenting behaviors at pre-intervention are relatively new, because mothers are still regaining parenthood and rebuilding the parent-child relationship. The fact that these processes may be still in development, might be an advantage for the intervention, but also points to possible changes in parenting apart from the intervention. Therefore, a comparison group which receives no intervention is especially necessary in effectiveness studies within this population. Last, participation in a parent training and its beneficial effects cannot compensate the effects of imprisonment on children and the parent-child relationship; improved parenting is no replacement for missed time.

An obvious limitation in this study is that we could not randomize two of the six recruitment periods in a 2:1 ratio. This pragmatic approach diminished power to detect differences between intervention and control group, and might have hampered equality between groups. However, continuation of the intervention was considered more important than control group size, because we promised potential participants a 2:1 chance on participation, and part of them would not be eligible for a new recruitment period because their release from incarceration would then be more than six months ago. Furthermore, these two recruitment periods are not systematically different from other waves, since the smaller number of participants was due to a smaller number of mothers ending their prison sentences in these periods, instead of due to, for example, changes in approach or lower consent rates. Moreover, in our analyses we tried to prevent erroneous conclusions due to group differences. First, we examined Group x Time interaction effects instead of post-intervention differences. That is, we examined whether slopes differed between intervention and control group, irrespective of pre-intervention or post-intervention differences. Second, four-level models were run as part of preliminary analyses to examine variance at the group level. Third, we conducted conservative intention-to-treat analyses, in which an opt-out group was added to the intervention group. Since the intervention group in intention-to-treat analyses equals the intervention group as randomized, more equality between groups may be assumed in these analyses. For example, Figure 3a shows higher intensity scores for the intervention group, as compared with the control group, in per-protocol analyses. Since relatively high scores are associated with relatively much room for improvement and relatively high effect sizes (Lundahl, Risser, & Lovejoy, 2006; Menting, Orobio de Castro, & Matthys, 2012a), the intervention effect might be caused by an heightened chance to accomplish decrease in the intervention group. However, Figure 4a shows more equality in pre-intervention scores and nevertheless an intervention effect in intention-to-treat analyses.

Group sizes in this study are not very large. However, given our nationwide screening and relatively high consent rate, participants are considered almost the entire eligible population. Furthermore, our attrition rate seems to be at least comparable to other intervention studies with female prisoners. Browne (1989), Harm and Thompson (1997), and Sandifer (2008) all reported availability of less than 70% of their pre-test sample during their second assessment. In comparison, 78.4% of mothers who completed the pre-intervention assessment were available at post-intervention in this study. In addition, although absolute numbers of teacher responses are small, response rate for approached teachers and daycare providers is considerable (on average 84.6%). That is, in many cases

teachers or daycare providers could not be approached because mothers dropped out or contact with mothers was temporary lost (21.0%), young children did not have a teacher or daycare provider (11.7%), teachers were absent during summer holidays (9.3%), or no permission to approach teachers or daycare providers was obtained (7.7%).

Results immediately after intervention are promising; an hard-to-reach population was reached and short-term intervention effects were found. However, this is just the first step. Since this intervention's ultimate purpose is to break the vicious cycle of intergenerational transmission of delinquency by means of improvements in delinquent mothers' parenting and in their children's behavior, future research with regard to long-term effectiveness is essential in view of this intervention's preventive purpose. Repeated assessments of both parenting and child behavior in the nearby future, as well as examination of arrest and incarceration rates when children reach adulthood are important directions for further research.

Research should also focus on identification of promotive and protective factors in children of incarcerated and formerly incarcerated mothers. Identifying children who show relatively few problems or respond relatively well to minor changes in parenting behaviors will help to understand both resiliency in children affected by maternal incarceration and intervention processes. In addition, promotive and protective factors may indicate possibilities for improvements with regard to the intervention.

Addressing contextual challenges which are likely to disrupt parenting after release, seems crucial in help for incarcerated and formerly incarcerated mothers. However, boundaries of what can be accomplished from a parent training are reached relatively soon. That is, mothers' material, personal, and other contextual problems often exceed expertise, and time, of individual team members. Although referring mothers to other organizations, including a warm transfer, is possible without formal collaboration, clear agreements with organizations will help to guide mothers to skillful parenting, hampered as little as possible by challenges like housing, getting a job, and avoiding destructive relationships.

Last, the effects found in this study were obtained in a specific context. That is, it is unclear whether the same intervention would yield similar results within other contexts, such as in other countries with other legal systems, other penitentiary regimes, and other social services, or with incarcerated fathers. For example, differences with regard to the criminal justice system or contextual challenges after release may affect effectiveness. Therefore, delivery of the same intervention as used in this study might need extra efforts

to realize sufficient parent-child contact and facilitate group meetings, additional or different help with contextual challenges, and additional adaptations of the intervention. However, whatever the exact context, the vulnerable population of children affected by parental incarceration deserves efforts to deliver and adapt interventions. The present study demonstrates the effects such interventions can actually have on their lives.

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Chapter 6

Summary and general discussion

Main aim of this dissertation was to evaluate effects of the Incredible Years parent training, enhanced with home visits, for 2 to 10 year-old children of incarcerated and formerly incarcerated mothers, by means of a randomized controlled trial. To this end, we first required insight into the population of (formerly) incarcerated mothers and their children. We therefore conducted cross-sectional studies of these mothers' parenting, cognitive distortions, and distress (i.e., anxiety, depression, and somatic complaints), and these children's behavior problems, social cognitions, and life events they experienced. Next, we cross-sectionally examined associations between mothers' parenting behaviors, children's social cognitions, and children's behavior problems as potential targets for intervention. These cross-sectional studies revealed parenting behaviors as targets for intervention. We then sought a suitable intervention, aimed at parenting, for this population. We therefore meta-analytically examined effectiveness of the Incredible Years parent training with regard to child behavior and variability in intervention outcomes, and found Incredible Years parent training to be effective with regard to child behavior. We therefore delivered enhanced Incredible Years parent training to incarcerated and formerly incarcerated mothers and their children, and we examined the effectiveness of this enhanced Incredible Years parent training in a randomized controlled trial. In this concluding chapter we discuss main findings of empirical studies, mention strengths and limitations in these studies, and elaborate future interests and implications for policymakers and practitioners.

Incarcerated and formerly incarcerated mothers

In *Chapter 1*, we argued that more insight in the population of (formerly) incarcerated mothers is needed. Therefore, we examined characteristics and circumstances of (formerly) incarcerated mothers in *Chapter 2*, *Chapter 3*, and *Chapter 5*.

The majority of incarcerated and formerly incarcerated mothers in our nationwide sample were convicted because of a drug-related offense and for most mothers this conviction led to their first incarceration (*Chapter 5*). Mothers reported numerous problems, in the past and the present. A substantial number of mothers reported several abortions, having been maltreated, having been sexually abused, having been raped, incarceration of at least one of her parents, and/or custodial placement of one of her children. Most incarcerated and formerly incarcerated mothers were low educated (*Chapter 2*, *Chapter 3* and *Chapter 5*) and single parent (*Chapter 3*). Most mothers did not have a paid job after incarceration (*Chapter 2*) and did have debts (*Chapter 5*). Some mothers did not have housing and/or income after incarceration (*Chapter 5*). Compared to

Dutch norms (Arrindell & Ettema, 2003), incarcerated and formerly incarcerated mothers displayed high levels of depression and somatic complaints, and average to high levels of anxiety (*Chapter 2*; see also *Chapter 5*). Thus, mothers evidenced both material and psychological difficulties.

But are these difficulties more serious than difficulties found in other mothers who face aversive environments or circumstances? Given this accumulation of difficulties, it would not be very informative to compare these mothers to middle-class mothers with quiet and undisturbed lives. Since both theory and empirical evidence (Agnew, 1992; Allen, Flaherty, & Ely, 2010; Arditti, Lambert-Shute, & Joest, 2003; Blitz, 2006; Moe & Ferraro, 2007; Phillips, Erkanli, Keeler, Costello, & Angold, 2006; Sampson & Loeffler, 2010; Tonkin, Dickie, Alemagno, & Grove, 2004; Western & Wildeman, 2009) suggest that incarcerated and formerly incarcerated mothers are likely to be disadvantaged and to live in disadvantaged neighborhoods, we compared characteristics and circumstances of (formerly) incarcerated mothers with characteristics and circumstances of mothers who also live in disadvantaged areas, but do not have a history of incarceration, to examine significance of maternal difficulties. Incarcerated and formerly incarcerated mothers evidenced higher levels of cognitive distortions (self-centered, blaming others, minimizing/mislabeling, and assuming the worst), maternal distress (anxiety and depression), and less optimal parenting behaviors (poor monitoring and involvement) than mothers who also live in disadvantaged areas with low socioeconomic status (SES), but do not have a history of incarceration (*Chapter 2*). In *Chapter 3* similar findings were found regarding parenting in a smaller sample than used in *Chapter 2*. For elementary school children, (formerly) incarcerated mothers reported less involvement and poorer monitoring than mothers from disadvantaged areas without a history of incarceration.

As suggested by the aforementioned results, stepwise multiple regression analyses in *Chapter 2* revealed that incarceration predicted cognitive distortions and maternal distress over and above SES. Incarceration proved to be a stronger predictor of all tested cognitive distortions and maternal distress variables, except for somatic complaints. Because maternal characteristics may affect parenting behaviors, we tested whether cognitive distortions and maternal distress predicted less optimal parenting behaviors. Indeed, cognitive distortions and maternal distress each provided unique contributions to parenting behaviors. In specific, the cognitive distortion minimizing/mislabeling (depicting antisocial behavior as causing no real harm or as being acceptable/admirable) proved to be the strongest predictor of parenting behaviors (positive parenting, poor monitoring, inconsistent discipline, and corporal punishment), whereas the cognitive

distortion assuming the worst (an unfounded attribution of hostile intentions to others or assuming a worst-case scenario) predicted low parental involvement. Depression provided a unique contribution to poor monitoring.

These findings regarding incarcerated and formerly incarcerated mothers are highly in line with earlier research and/or extend this research. Increased levels of cognitive distortions (*Chapter 2*) are in line with earlier research in juvenile delinquents and male adult offenders. The study reported in *Chapter 2* is, to our knowledge, the first study that examined cognitive distortions in adult females, and more specifically in delinquent mothers. This population is highly relevant because cognitive distortions are not only believed to disinhibit mothers' own aggressive and antisocial behavior (Barriga, Landau, Stinson, Liau, & Gibbs, 2000), but may also play a role in intergenerational transmission of delinquency. Maternal social-cognitive characteristics may impact their children's socialization, not only by means of their parenting behavior, but possibly also through their children's social information processing (e.g., Barrett, Rapee, Dadds, & Ryan, 1996).

Increased levels of distress (*Chapter 2*) are in line with earlier research with regard to imprisoned mothers (Houck & Loper, 2002) and build on a study that suggested persistence of depressive symptoms after reentry into family and community life (Arditti & Few, 2008). Our sample included incarcerated as well as formerly incarcerated mothers, and we found no evidence of differences between incarcerated and formerly incarcerated mothers with regard to maternal distress (*Chapter 2*). Since all mothers did have contact with their children at time of assessment (see *Chapter 2*, *Chapter 3*, and *Chapter 5*), and the impact of maternal distress on parenting is well-known (e.g., Barry, Dunlap, Lochman, & Wells, 2009; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Lovejoy, Graczyk, O'Hare, & Neuman, 2000), our results suggest that distress is a risk factor in (formerly) incarcerated mothers, even after incarceration has ended. Findings regarding an association between depression and poor monitoring are in line with earlier research, which showed that maternal depression is linked to disengagement (Lovejoy et al., 2000) and that the relation between maternal depression and child disruptive behavior problems is partially mediated by poor monitoring (Elgar et al., 2007).

Results regarding suboptimal parenting behaviors (less involvement and poorer monitoring; *Chapter 2* and *Chapter 3*) provide one of the first tests of the rarely studied hypothesis of inadequate parenting by incarcerated and formerly incarcerated mothers (e.g., Harm & Thompson, 1997; Sandifer, 2008), in indicating specific parenting behaviors

that are less optimal in incarcerated mothers. These results are only partially in line with earlier research regarding parenting behaviors of incarcerated parents. Murray and Farrington (2005) reported that youth in families with a history of parental incarceration were more likely to receive poor supervision or poor paternal attitudes (cruel, passive, neglectful attitudes, and harsh/erratic discipline) than children from families without a history of parental incarceration and parent-child separation. Furthermore, Kjellstrand and Eddy (2011) found that the use of inconsistent and inappropriate discipline was greater in families with a history of parental incarceration than in families without a history of incarceration. No such differences were found in the areas of monitoring, praise, involvement, and the overall quality of the parent-child relationship.

These findings give rise to several issues for discussion. Findings regarding relations between cognitive distortions, maternal distress, and parenting behaviors (*Chapter 2*) provide insights into potential reasons for suboptimal parenting behaviors by incarcerated and formerly incarcerated mothers. Some mothers may minimize or mislabel their own suboptimal parenting behaviors or minimize and mislabel their children's behavior and misbehavior. Furthermore, mothers may consider a worst-case scenario in interactions with their children. In fact, this worst-case scenario may be related to fatalistic, low self-efficacy beliefs typical for depression.

Although results in *Chapter 2* highlight that difficulties in families of incarcerated and formerly incarcerated mothers cannot just be explained by low SES, they also highlight significance of socioeconomical difficulties in this population. Comparison families lived in the most disadvantaged areas of the Netherlands, facing the most serious problems in terms of housing, employment, education, integration, and safety (Ministerie van VROM, 2007). Therefore, the difference between (formerly) incarcerated mothers and comparison mothers (*Chapter 2*) might be interpreted as a comparison between two low SES groups with even worse circumstances for incarcerated mothers. This difference, to the detriment of mothers being released from incarceration, is to be expected, because of the socioeconomical problems which are likely to be faced in the period around release from incarceration, i.e. finding a new home, providing an income anew, and paying off debts (which are probably risen during incarceration). These socioeconomical difficulties may hinder resumption of motherhood both practically and psychologically. Therefore, it seems necessary that adequate help regarding housing, social security, etcetera, is provided when mothers return "home". Problems regarding having debts (*Chapter 5*), and not having a paid job (*Chapter 2*), housing, and/or income after incarceration

(*Chapter 5*) are hard to overcome for these mothers, especially in light of a (perceived) social stigma (*Chapter 1*) and low education (*Chapter 2*, *Chapter 3* and *Chapter 5*). Personal communication revealed that applying for help is a difficult step to take, and that, when this step is taken, procedures keep mothers waiting for a relatively long time. For example, the impression is given that it takes months before some mothers get social security money, in at least part of the cases due to not having a postal address. Without money these mothers are not able to find housing. This leads to a catch-22 situation in which financial difficulties increase in expectation of social security or a job. In the meantime, some families can not be reunited or are obliged to stay with relatives or acquaintances. Practical help and acceleration of procedures may prevent additional problems after incarceration in this population.

As aforementioned, problems often rise during and just after release from incarceration. For example, mothers lose their homes and jobs due to incarceration, debts rise during incarceration, and mothers are not longer able to take care of their children after incarceration because of these financial and practical problems. Not to mention the possibility of children's individual problems after incarceration, significance of the situation in which these families end up causes questioning of appropriateness of incarceration for mothers with young children. Of course, there may be reasons for confinement, but alternative punishments with less severe consequences for the children might be worth considering for at least a part of currently incarcerated mothers. For example, in our sample, most mothers were convicted because of a drug-related offense (57.5%; *Chapter 5*), were convicted for an offense in which other people were also involved (85.7%), and were detained for the first time (68.9%; *Chapter 5*). This may suggest that at least part of these mothers had made a one-time, non-violent error, while being put under pressure by others. New developments in sanctioning, such as electronic home detention, seem promising for these mothers, and should be tested on their effects on recidivism and child development.

Children of (formerly) incarcerated mothers

In *Chapter 1*, we argued that more insight in the population of children affected by maternal incarceration is needed. Therefore, we examined characteristics of children of (formerly) incarcerated mothers in *Chapter 3* and *Chapter 5*.

Besides the studies described in *Chapter 3* and *Chapter 5* of this dissertation, another recent, Dutch study has addressed children of incarcerated mothers' well-being

in the Netherlands. Hissel, Bijleveld and Kruttschnitt (2011) examined children's well-being in an exploratory study with 30 participating mothers, using the Child Behavior Checklist (CBCL) for 50 children (Achenbach & Rescorla, 2001) and semi-structured interviews for 22 children under the age of 18. For the CBCL, mothers reported borderline or clinical scores on the total scale for 32 percent of the children. Mothers reported borderline or clinical scores for 47 percent of children regarding internalizing problems and 26 percent regarding externalizing problems. This design is not the most informative design in the light of preventive intervention for several reasons. First, inclusion criteria of Hissel et al. included children's awareness of their mothers' incarceration. Although it turned out, after informed consent, that some children did not know that their mother was incarcerated, this inclusion criterion may have excluded a substantial (and possibly high risk) part of the population of incarcerated mothers, since honest explanations about het whereabouts of their incarcerated mothers are often not given (Murray, Farrington, & Sekol, 2012). For example, 40.6% of the 4- to 11 years old children in *Chapter 3*'s nationally comprehensive sample did not know about their mother's incarceration. Since mothers' incarceration or absence may still have impact on children who are not aware of their mothers' incarceration (according to their mothers), exclusion on grounds of children's awareness of their mothers' incarceration seems not preferable for the present purposes. Second, although being the biological mother of a child, a substantial part of mothers in Hissel et al.'s study will presumably not be the caregiver of a child after incarceration. That is, two-fifths of the children were already living apart from their mother prior to incarceration. Impact of incarceration obviously differs between children who have no or limited contact with their mother around incarceration, and will not be raised by their mother upon return, and children of whom mother is a caregiver. Therefore, examination of actual caregivers may provide a clearer picture of children directly affected by maternal incarceration. Third, Hissel et al. excluded prison wards with minimum security, remand wards, and wards where women with severe psychological/psychiatric disturbances were incarcerated. Exclusion of particularly wards with minimum security and remand wards may have excluded a substantial part of the population of incarcerated mothers. Moreover, it may be assumed that this exclusion resulted in a very specific sample; specifically, mothers convicted of less serious crimes, mothers who are imprisoned for shorter periods, and mothers who are able to see their children (and may therefore provide more valid information) are excluded. Hence, to get a clearer picture of children of incarcerated mothers, penitentiary institution-wide inclusion seems preferable. Fourth, Hissel et al. did only compare CBCL scores with population norms. As the authors state, it is

not clear whether elevated CBCL scores are the consequence of the incarceration of their mother and related caregiving disruptions. Other difficulties than maternal imprisonment may have caused these elevated scores. Hissel et al. suggest that behavior problems and decreased well-being may also be due to stressful life events.

In this dissertation, we examined circumstances (including stressful life events), behavior problems, and social cognitions of children affected by maternal incarceration. If possible, we compared results of children affected by maternal incarceration with Dutch norms and/or an at-risk population of children from disadvantaged areas, whose mothers did not have a history of incarceration. Indeed, among children from low SES families, a relatively high incidence of behavior problems is found, which is related to multiple risk factors in the lives of these children (Qi & Kaiser, 2003).

First, we examined circumstances of these children in *Chapter 3*. Most children were the biological child of the (formerly) incarcerated woman (see also *Chapter 2* and *Chapter 5*). About two-fifth of children were in contact with social care agencies. Mothers reported that the number of experienced stressful life events differed considerably between children, with some children having experienced a substantial number of life events; for example, up to 12 residential changes, 15 hospitalizations, 3 new partners of parents, and 4 school changes (within school type).

Second, we examined children's behaviors according to mothers and teachers in *Chapter 3* and *Chapter 5*. Mothers filled out the Strengths and Difficulties Questionnaire (Goodman, 1997). In Dutch norms (Goedhart, Treffers, & Van Widenfelt, 2003), scores above the 80th percentile are considered borderline scores, and scores above the 90th percentile are considered deviant scores. Results in *Chapter 3* revealed that, compared to the Dutch norms, children of incarcerated mothers' average total difficulties score and conduct problems score fell within the borderline range. Other average scores fell within the normal range. Looking at deviant scores, 32.1% of children displayed scores above the 90th percentile regarding total difficulties, 14.3% regarding emotional symptoms, 28.6% regarding conduct problems, and 22.3% regarding hyperactivity.

Daycare providers or teachers of the participating children filled out the Caregiver-Teacher Report Form (Achenbach & Rescorla, 2000) or Teacher Report Form (Achenbach & Rescorla, 2001). In *Chapter 5*, we used the aggressive behavior scale of both instruments to measure behavior problems according to teachers or daycare providers. *T*-scores of 65 to 69 indicate borderline range. From 70, scores fall in the clinical range, whereas scores lower than 65 fall in the normal range. The average *T*-score of children

affected by maternal incarceration fell within the normal range. Looking at the clinical range, 7.5% of children displayed *T*-scores higher than 70 (above the 98th percentile). Furthermore, 13.8% of children displayed *T*-scores in the borderline range (93rd to 98th percentile).

These results show that, although average scores of these children are not alarming, relatively many children (as compared with the Dutch norm group) show behavior problems, according to their mothers and their teachers or daycare providers. However, as mentioned before, other difficulties than maternal incarceration (such as growing up in a disadvantaged neighborhood with low SES) may also have caused these elevated scores.

In *Chapter 3*, we compared characteristics and circumstances of children of (formerly) incarcerated mothers with characteristics and circumstances of children of mothers who also live in disadvantaged areas but do not have a history of incarceration, to examine significance of difficulties. Results revealed that children of incarcerated mothers have experienced more life events than children of comparison mothers, and experience more behavior problems (overall difficulties and hyperactivity) than children of comparison mothers. Furthermore, children of mothers being released from incarceration are more at risk than children from low SES families because of their mothers' suboptimal parenting behaviors (specifically, low involvement and poor monitoring; see also *Chapter 2*), which are related to children's behavior problems. However, social cognitions of children of mothers being released from incarceration do not differ from social cognitions of comparison children.

Children of (formerly) incarcerated mothers have experienced more life events than children of comparison mothers, apart from incarceration of their mothers. In particular, the relatively high numbers of residential changes, divorce of parents, parents' new partners, school changes, and class repeating strike the eye (*Chapter 3*). These results are in line with earlier research (Greene, Haney, & Hurtado, 2000; Hagen, Myers, & Mackintosh, 2005; Mackintosh, Myers, & Kennon, 2006), and point to relative unstable courses of life for children of (formerly) incarcerated mothers. One should bear in mind that part of the instability may be caused by maternal incarceration. For example, changes in caregiving arrangements because of mothers' absence may be accompanied by residential changes and non-routine school changes. However, examination of data revealed that a substantial part of life events took place, in all probability, before mothers' incarceration, and may therefore not be related to maternal incarceration. For example, in most cases with

multiple residential changes, changes were to a certain extent spread over the life course. Moreover, life events were positively related to behavior problems. This latter finding and the spread over lifetime are in line with the suggestion of Hissel et al. (2011) that children's behavior problems and decreased well-being may also be due to stressful life events experienced before maternal incarceration.

In *Chapter 3*, children of (formerly) incarcerated mothers showed more overall difficulties and more hyperactivity than children of comparison mothers, while groups did not differ regarding emotional symptoms and conduct problems. Therefore, results of the current study reveal that children of mothers being released from incarceration do not only show relatively many problems compared with the general population, but also compared to an other at risk population. Indeed, comparison with Dutch norms revealed that also relatively many comparison children displayed deviant scores on all behavioral scales, except for hyperactivity.

Regarding social cognitions, no between group differences were found in aggressiveness of first responses and hostile intent attribution (*Chapter 3*). Since social cognitions of children affected by maternal incarceration were only compared to social cognitions of an other at risk population, we do not know whether this result means that these children's social cognitions are (still) comparable to social cognitions of their peers. Therefore, additional research is needed to examine these children's social cognition in relation to the general population as well as to older children of (formerly) incarcerated mothers. At this point, we do not have indications that these children's social cognitions are deviant.

Results of *Chapter 2* and *Chapter 3* suggest that children of (formerly) incarcerated mothers are put at extra risk because of their mothers' parenting behaviors. A relation between parenting behaviors of (formerly) incarcerated mothers and their children's behavior problems was established in *Chapter 3*. In specific, results of *Chapter 3* show that both parenting behaviors which differed between groups (involvement and poor monitoring), and an additional parenting behavior (inconsistent discipline), which did not differ between groups, were related to behavior problems in children of mothers being released from incarceration. This relation was established for both behavior problems which differed between groups (total difficulties and hyperactivity) and additional behavior problems (conduct problems) which did not differ between groups. These results are in line with other empirical evidence linking parenting behaviors to disruptive child behavior (e.g., Gryczkowski, Jordan, & Mercer, 2010; Hoeve et al., 2009; Stormshak, Bierman, McMahon, Lengua, & Conduct Problems Prevention Research Group, 2000).

The current findings regarding children of (formerly) incarcerated mothers give rise to several issues for discussion. Results within this dissertation (*Chapter 3* and *Chapter 5*) show that not all young children affected by maternal incarceration show problem behaviors, at this age. However, the results also clearly show that part of these children already show alarming problem behaviors and that the amount of problems is partly even higher than in an other well-known at-risk group. Hence, the results show that children of (formerly) incarcerated mothers form a vulnerable group, which deserves extra efforts to reduce possible harm throughout their lives. Results, which linked children's problems behaviors to their mothers' suboptimal parenting behaviors (*Chapter 3*), suggest that parenting behaviors may be a target for intervention. Hence, behavioral parenting training seems to be one possibility to reduce possible harms throughout the lives of these children.

But of course, some children will need more or different help. Both in view of behavioral parent training and in view of other interventions, it is essential to know which children are affected by maternal incarceration. Of course registration within penitentiary institutions of children for which mothers take care is one important step regarding visibility of this population. However, to be able to provide adequate help to these children, further steps are needed. Not only should obstacles between families and social and mental care providers be removed, but also between incarcerated mothers and social and mental care providers. Incarcerated mothers stay their children's mother and will therefore, in general, feel responsible for their child and be seen as responsible by others, like caregivers and social care agencies. However, if maintenance of contact with children is a problem (see *Chapter 1*), establishment and maintenance of contact with social and mental care providers during maternal incarceration may be considered an extensive problem. Mothers are afforded restricted access to telephones, consistent with their security classification, and also availability of, for instance, employees of the Bureau for Youth Care is restricted. Therefore, mothers would be very lucky to actually be able to get in contact with social and mental care providers.

Besides, a criminal conviction of a parent should no way undermine the rights of a child. The Convention on the Rights of the Child (United Nations, 1989), which has been ratified by the Netherlands just like almost all other countries in the world, requires that children's rights are protected irrespective of the child's or parent's status (Article 2). Some rights of the Convention on the Right of the Child may be an issue regarding children of incarcerated mothers, as Boudin (2011) suggests. The right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health (i.e., Article 24) may be an issue because of the aforementioned

subject for discussion (access to social and mental care providers). Furthermore, as Boudin suggests, the child's right to "know and be cared for by his or her parents" (Article 7) does not need to be incompatible with parental incarceration, but has implications for appropriateness of incarceration and the availability of visiting options. Regarding contact and visiting, the Convention on the Rights of the Child indicates that children who are separated from parents have the right "to maintain personal relations and direct contact with both parents on a regular basis, except if it is contrary to the child's best interests" (Article 9). As argued in *Chapter 1* there is some debate about the benefits of contact and visiting. However, positive child outcomes were found when visits occurred as part of an intervention, and mail contact seems to be beneficial irrespective of intervention (Poehlmann, Dallaire, Loper, & Shear, 2010). This suggests that accessible, child-friendly visiting facilities, in which the child is accompanied by supportive employees, can be considered in the child's best interest. Hence, as Boudin suggests, policies and practices that make contact visiting difficult or impossible for the majority of children with incarcerated parents are in direct tension with the Convention on the Rights of the Child. Part of the obstacles for contact and visiting mentioned in *Chapter 1* should therefore be viewed in this light to optimize child outcomes and mother-child relationships for children affected by maternal incarceration. Optimization of possibilities for contact is also important in view of the aforementioned behavioral parent training. That is, mother-child contact is a prerequisite for effectiveness, because mothers should have sufficient possibilities to practice learned skills with their children.

Incredible Years parent training

In *Chapter 4* we examined effectiveness of the Incredible Years parent training (a behavioral parent training) to modify child behavior. We meta-analytically reviewed the effectiveness of the Incredible Years parent training with respect to child behavior, which includes both disruptive behavior and prosocial behavior, according to parents, teachers, and observers, immediately after intervention.

In *Chapter 4*, the results from our meta-analyses of 50 studies showed the Incredible Years parent training to be an effective intervention regarding child behavior, as measured immediately after intervention. Positive effects were found for disruptive behavior as well as for prosocial behavior. Mean effect sizes based on teachers' judgment were smaller than mean effect sizes based on parents' judgments or observations. Furthermore, parent-rated effect sizes differed between treatment studies and prevention studies, with lower

effect sizes for selective and indicated prevention studies. Intervention characteristics, child characteristics, and methodological features could explain variability in parent-rated intervention outcomes of the Incredible Years parent training. The child characteristic pre-treatment intensity of children's problem behavior proved to be the strongest predictor of the Incredible Years parent training's intervention effects according to parents, with larger effects for studies which included more severe cases.

These results reveal that the Incredible Years parent training is effective in diminishing disruptive behavior and increasing prosocial behavior, according to parents, teachers, and observers. Moreover, high fail-safe numbers suggest that these results are robust against the possibility of missing studies or publication bias. Effectiveness of the Incredible Years parent training is in line with effectiveness of behavioral parent training on the whole (e.g., McCart, Priester, Davies, & Azen, 2006), and also in line with presumed effectiveness of the Incredible Years parent training in specific, put forward in previous narrative reviews (e.g., Bauer & Webster-Stratton, 2006; Brestan & Eyberg, 1998). Moreover, the parent-rated effect size for Incredible Years parent training treatment studies (d = .50) is larger than the parent-rated effect size for behavioral parent training treatment studies in general (d = .38) reported by McCart et al. (2006). Hence, our results put numerical weight behind the presumed effectiveness of this specific behavioral parent training program.

Findings of the meta-analytical review give rise to several issues for discussion. In *Chapter 4*, we argued that the Incredible Years parent training meets criteria of a well-established intervention. Effectiveness of the Incredible Years parent training is underscored by studies comparing the Incredible Years parent training with alternative treatments (e.g., Cummings & Wittenberg, 2008; Taylor, Schmidt, Pepler, & Hodgins, 1998; Webster-Stratton, 1984), independent replications (e.g., Drugli & Larsson, 2006; Gardner, Burton, & Klimes, 2006; Scott, Spender, Doolan, Jacobs, & Aspland, 2001), a treatment manual (Webster-Stratton, 2001), and specification of participant characteristics in individual studies. Since these are criteria for well-established treatments (Chambless & Ollendick, 2001), the Incredible Years parent training seems to meet these criteria nowadays and may be judged well-established instead of probably efficacious.

Effects with regard to disruptive behavior and prosocial behavior were highly similar, in *Chapter 4*. This result is somewhat contrary to results of Kaminski and colleagues (2008), who found larger effect sizes with regard to externalizing behaviors than with regard to social skills and social competence. However, it is unclear to what extent

operationalizations of this study's prosocial behavior and Kaminski and colleagues' (2008) social skills and social competence overlap. Therefore, more conceptual clarity about "prosocial behavior" and more focused measures of prosocial behavior are needed in future research (Eisenberg & Fabes, 1998).

Effects according to teachers were smaller than effects according to parents and observers, in *Chapter 4*. Discrepancies between parents' and teacher's ratings are well-known, and may be caused by genuine contextual differences and more similarity in criteria as used by teachers than as used by parents (Scott, 2001), or insufficient generalization of the intervention effect from home to school settings. However, similarity to effects based on observation, which is considered the 'gold standard' by many, supports effectiveness as rated by parents.

The results in *Chapter 4* also showed that parent-rated effect sizes differ between treatment studies and prevention studies, in favor of treatment studies. Treatment studies differ from prevention studies in several respects, which may all contribute to the established difference in effectiveness. Most likely, differences in initial levels of problem behavior contribute highly to this difference. Smaller effect sizes in prevention studies are to be expected, because lower initial levels of problem behavior in prevention studies, as compared with treatment studies, leave less room for improvement during the intervention period (e.g., Kaminski et al., 2008). Interdependence between treatment studies and initial levels of problem behavior, in addition to initial level of problem behavior as strongest predictor of parent-rated effectiveness, are in line with this assumption. However, the distinction between treatment studies and prevention studies may be more or less equivalent to other aspects of the difference between treatment and prevention studies than initial severity of problem behavior, which were not investigated in this meta-analytic review. For example, setting and motivational issues may also play a role. In an earlier meta-analysis, studies conducted in clinical settings revealed higher effect sizes than studies conducted in non-clinical settings, suggesting an effect of setting (McCart et al., 2006), and treatment studies encompass a relatively high number of clinical studies. Furthermore, parents in treatment studies are probably more in need of help than parents in prevention studies. That is, parents in treatment studies typically seek help themselves (Mrazek & Haggerty, 1994). As a consequence, parents in treatment studies may be more motivated to accept help and to modify their own behaviors. Since motivation, or intention to attend sessions, may also be related to actual attendance (Sheeran, Aubrey, & Kellett, 2007), higher attendance and treatment dosage are to be expected in highly motivated parents.

Interestingly, in *Chapter 4*, no differences were found between standard Incredible Years parent training and variants of Incredible Years parent training. Our broad distinction, which distinguished precursors, stripped, and individual forms from the elaborated group training, seemed to be meaningful as such. It is still uncertain for what reason variants of Incredible Years parent training and standard Incredible Years parent training yielded similar effect sizes. Possibly, variants of Incredible Years parent training are as effective as standard Incredible Years parent training because they are both based on the same principles.

Parent training for (formerly) incarcerated mothers and their children

In *Chapter 5* we examined short-term effectiveness of the Incredible Years parent training, enhanced with home visits, for (formerly) incarcerated mothers, to prevent disruptive behavior problems in their 2 to 10-year-old-children, by means of a randomized controlled trial.

It is known that research and intervention with these families may be an endeavor (Byrne, 2005). For example, mothers may be skeptic against outsiders who address sensitive topics (Eddy, Powell, Szubka, McCool, & Kuntz, 2001) and a single inmate with influence among peers can either strengthen or undo a study, especially one that depends on long-term participation (Byrne, 2005). Besides skepticism and rumor, a myriad of practical issues and personal issues may hinder participation of both incarcerated and formerly incarcerated mothers. Indeed, as far as we know, no randomized controlled trial of parent training for mothers being released from incarceration has ever been conducted before. Therefore, *Chapter 5*'s study does also suggest whether parent training is feasible for this population.

As mentioned in *Chapter 2* and *Chapter 5*, nationwide screening and personal recruitment of participants resulted in a relatively large proportion of eligible mothers participating in the study. Moreover, attrition rates seemed to be at least comparable to other intervention studies with female prisoners and about 40% of mothers in the intervention group attended (almost) all group sessions (*Chapter 5*). We managed to motivate a hard-to-reach population for a demanding intervention (e.g., time and travelling) and repeated data collection.

Probably, characteristics of the intervention played a role in successfully recruiting and retaining participants. Group training may lower thresholds for participation and

participants may feel supported by other mothers in similar situations. In group training, mothers are not perceived as individuals with problems, but as mothers who form a special group and who are able to help themselves in collaboration with the group leaders.

Chapter 5 showed short-term effectiveness of parent training for the high-risk and hard-to-reach population of incarcerated mothers and their children. The intervention led to significant benefits on both disruptive child behavior and parenting behavior. Relative to control mothers, intervention mothers reported reductions in both their children's intensity of disruptive behavior and number of behavior problems, as well as in their own inconsistency of discipline. Additionally, a marginal intervention effect on disruptive behavior according to teachers and daycare providers, who were blind to intervention status, was found. Intention-to-treat-analyses, in which mothers who were assigned to the intervention group but never attended intervention sessions were included, yielded highly similar results.

The finding of immediate intervention effects on disruptive child behavior according to mothers is consistent with other selective prevention studies, which yielded intervention effects with regard to the Incredible Years parent training (e.g., Brotman et al., 2003; Nilsen, 2007; Webster-Stratton, 1998; Webster-Stratton, Reid, & Hammond, 2001). This study is, to our knowledge, the first intervention study involving incarcerated mothers to show effects on child behavior besides parenting behavior.

Moreover, since the intervention directly targeted parenting, effects on parenting behaviors were hoped for. Indeed, in *Chapter 5*, an intervention effect on inconsistency of discipline according to mothers was found. Ineffective parenting, including inconsistent discipline, has been linked to delinquent behavior; children of parents who are inconsistent in disciplining show delinquent behavior more often than children of parents who are more consistent in their disciplining (Hoeve et al., 2009). Moreover, inconsistent discipline has been found to mediate between maternal distress and child aggression, which often is a precursor of more serious delinquency in adolescence (Barry et al., 2009). Therefore, improvements in consistency of discipline seem especially helpful in breaking the vicious cycle in this population with high levels of maternal distress. However, long-term effects should be investigated.

In *Chapter 5*, the intervention yielded only a marginally significant immediate effect on disruptive behavior according to teachers. As mentioned before, differences between parent-rated outcomes and teacher-rated outcomes are common, and may be caused by, for example, contextual differences or insufficient generalization of the intervention effect. Perhaps, since teachers were blind to allocation, less improvements according to teachers

than according to participating mothers, whose perceptions may be colored (e.g., by avoidance of cognitive dissonance), were to be expected. However, the effect was only just nonsignificant ($p = .054$), and effect sizes for teacher-rated disruptive behavior were larger than effect sizes for parent-rated disruptive behavior. Probably, we did not have enough statistical power to detect differences between the intervention and control group, due to a small number of received teacher-rated questionnaires. Therefore, the marginal intervention effect, combined with a moderate effect size and blindness to allocation, may be considered promising.

Although short-term results, as described in *Chapter 5*, are promising, it is unrealistic to consider enhanced Incredible Years parent training a universal remedy within this population. Although we may have limited power, it would be interesting for future research to determine for which families this intervention worked better or worse. At this moment, some comments on differential effectiveness can be made.

First of all, this intervention is not desirable for all incarcerated mothers with young children. Although we think this intervention can be helpful for many mothers, a prerequisite for this intervention is mother-child contact. This means that care orders may prohibit some mothers from participation. In some cases, a care order may be the best solution; custodial placement can be more in the interest of the child than improvement of maternal parenting behaviors. However, decisions regarding care orders are not up to us, and should be left to others.

Second, also in families which benefit from the intervention, the intervention in itself may not be enough. In the first place, additional help and interventions may be needed in some cases. For instance, although help with contextual difficulties was offered during intervention, given the many challenges families face when mothers resume parenting upon their release, it is likely that participants still face difficulties, in spite of successfully participating in the intervention. Moreover, enhanced Incredible Years parent training is delivered during the period of mother's release from incarceration. Since this period may be too short for part of the women, additional interventions during incarceration and aftercare may be warranted. In the second place, although mothers play an important role in their own and their children's well-being, other persons and circumstances may positively or negatively influence these families too. For the intervention to be effective, supportive persons and circumstances are advantageous. For example, inconsistent co-caregivers, stigmatizing teachers, deviant peers, and criminal neighborhoods may worsen prospects for children.

Third, given the wide variation in child disruptive behaviors, parenting behaviors, and contextual challenges between families, tailoring to family's needs is not only necessary within the intervention, but also in the combination of interventions delivered to these families and involved agencies. Therefore, efforts to help these families should be customized to match the family's needs, and a stepped care model (e.g., Bower & Gilbody, 2005) might be appropriate. Moreover, communication and arrangements between agencies are necessary to provide adequate help and to facilitate mothers to keep track on this help.

Fourth, during the process we realized that the effectiveness of an intervention in this population and/or this intervention in particular depends not only on intervention components and adherence to the intervention protocol. Personal recruitment of mothers and each trainer's approach during intervention are at least as important to succeed as the intervention itself. A structural screening of incarcerated mothers and personal conversations with incarcerated mothers evidenced crucial to obtain participants. Thereby, the fact that participation was voluntary for all participants means that more efforts had to be put in recruitment. Likely, these efforts paid off during intervention: positive intervention effects are not to be expected with compulsory participation and presence of unmotivated mothers may hinder group sessions and thus effectiveness. Furthermore, flexibility and recognition of contextual challenges, as well as own adherence to agreements are essential in contact with these families.

Of course, the enhanced Incredible Years parent training, as examined in *Chapter 5* of this dissertation, may be considered a variant of Incredible Years parent training, delivered to a special population. Since children were selected based on their mothers' incarceration, and not based on their own problems, this study may be considered selective prevention (Mrazek & Haggerty, 1994). Hence, results regarding the selective prevention described in *Chapter 5* of this dissertation can be compared to results of other preventive Incredible Years studies, which were meta-analytically reviewed in *Chapter 4*. As aforementioned, in the meta-analytical review, a mean effect size of $d = .13$ was found for selective prevention studies, with regard to parent-rated child outcomes (*Chapter 4*). Therefore, results established with regard to disruptive child behavior according to mothers ($d = .47$ for intensity of problems in per-protocol analyses; *Chapter 5*) may be considered substantial.

The intervention described in *Chapter 5* was tailored to this population's needs. Adaptations in the intervention, compared with BASIC Incredible Years parent training (Webster-Stratton, 2001), concern mainly addition of handouts with chapter summaries and individual home visits. Because of some mothers' reading difficulties, handouts

with chapter summaries were provided. In these handouts, chapter content was shortly reproduced in simple usage, ending with a one page summary. Home visits were added to the parenting groups to practice parenting skills, to support mothers to use adequate parenting skills in difficult individual circumstances, and to provide individual practical consultation. Mothers received home visits in the 4 to 6 months after completion of the group sessions. In addition to individual difficulties, home visits covered two subjects that are part of the ADVANCE Incredible Years parent training (Webster-Stratton, 2002), which elaborates on the BASIC Incredible Years parent training. During the second home visit, communication with adults and children was dealt with, whereas problem solving with adults and children was dealt with during the third home visit. During home visits, but also during group sessions, mothers received practical consultation if desirable, with regard to, for example, debts and social security.

Hence, a foundation of an evidence-based program combined with components which are appropriate for the specific population, proved to be effective in this case. However, this principle may be appropriate for other interventions and other populations too. In this way, one may be able to meet the need for (use of) evidence-based treatments (Eyberg, Nelson, & Boggs, 2008), whereas these treatments can be translated in such a way that they become appropriate for a whole population (Dodge, 2011). Current results suggest that addition of individual components to group intervention is fruitful. Since improvements continued after group sessions, addressing parenting skills and contextual challenges during individual home visits may have built on and elaborated processes which started during group sessions. Moreover, individual components may do more justice to differences between families.

Strengths and limitations

The present findings should be interpreted in the light of strengths and limitations of study design and its execution. An important strength lies in the effect study's design: in *Chapter 5*, effectiveness of an enhanced version of an evidence-based parent training (see *Chapter 4*) was examined, partly based on informants who were blind to allocation status, by means of a randomized controlled trial in a real life setting. This design is not only beneficial for the methodological quality of data and results, but also in view of implementation. It is advocated that research should be conducted through rigorous community randomized controlled trial, because of flaws which might otherwise arise during implementation due to contextual differences between laboratory studies and community studies (Dodge, 2011).

The composition of our research population (in *Chapter 2*, *Chapter 3*, and *Chapter 5*) can be both seen as strength and limitation. On the one hand, the group of mothers being released from incarceration might be seen as a junction of two separate groups: incarcerated mothers and formerly incarcerated mothers. In this light, one may wonder whether those groups should not have been split in all analyses. However, on the other hand, the distinction between those groups is not straightforward: for example, incarcerated mothers may be partly home (during weekend leaves), whereas formerly incarcerated mothers may be restricted in their freedom and still be involved in the criminal justice system (e.g., mothers in a penitentiary program). Moreover, groups can not be distinguished in study design; one can start group sessions with incarcerated mothers only, but because of differences in points in time of release from incarceration one will soon end with a mixed group of incarcerated and formerly incarcerated mothers when an intervention is intended to take place at the end of the period of incarceration. Furthermore, inclusion of formerly incarcerated mothers offered us unique possibilities, along with challenges. Most research within this population takes place within prisons, because it is easier to reach and to motivate these mothers while still incarcerated. By inclusion of formerly incarcerated mothers, more knowledge about how these mothers are doing after incarceration can be generated. Therefore, data regarding formerly incarcerated mothers can be seen as a major strength.

An obvious limitation in *Chapter 5* of this dissertation is that we could not randomize two of the six recruitment periods in a 2:1 ratio. This pragmatic approach diminished power to detect differences between intervention and control group, and might have hampered equality between groups. However, continuation of the intervention was considered more important than control group size, because we promised potential participants a 2:1 chance on participation, and part of them would not be eligible for a new recruitment period because their release would then be more than six months ago. Furthermore, these two recruitment periods are not systematically different from other waves, since the lower number of participants was due to a smaller number of mothers ending their prison sentences in these periods, instead of due to, for example, changes in approach or lower consent rates. Moreover, in our analyses we tried to prevent erroneous conclusions due to group differences and analyses revealed no substantial variance at the group-level.

An other limitation concerns the comparability of cross-sectional groups (i.e. families affected by maternal incarceration and families who live in disadvantaged neighborhoods but are not affected by maternal incarceration) examined in this

dissertation (*Chapter 2* and *Chapter 3*). Although these groups were highly comparable regarding child characteristics, significant differences regarding maternal characteristics and family circumstances did exist. However, comparison of equivalent groups was not this study's purpose. Our purpose was primarily to explore risks for children affected by maternal incarceration. A comparison group was added in this study as a sort of "worst case scenario". That is, do these children face more risks than a well-known at risk population? Therefore, differences between these groups point to different circumstances, often to the detriment of families affected by maternal incarceration. To our opinion, these differences reflect reality in that the most serious cases in the population of mothers being released of incarceration are not to be found in the normal population. Therefore, we chose not to match for circumstances by deleting the most serious cases. However, between-group differences regarding mothers' origins are unintentional and might therefore be more problematic. For example, cross-cultural differences in parenting may have influenced results.

For the most part, data was based on maternal report. This may have affected the findings within this dissertation. However, inclusion of a social desirability scale (*Chapter 2*) did not reveal biased responses and an intervention effect was more or less replicated based on teachers' (who were blind to allocation status) report (*Chapter 5*). Nonetheless, given cognitive distortions of mothers (*Chapter 2*), part of the mothers may not adequately report on their own parenting. Hence, a promising line of research would be to examine parenting behaviors of (formerly) incarcerated mothers by means of additional informants and observations. However, feasibility of these methods can be questioned in this population, because of privacy concerns.

Future interests

The results of this dissertation give rise to a number of recommendations for future research. First, results immediately after intervention are just a first step. Since this intervention's ultimate purpose is to break the vicious cycle of intergenerational transmission of delinquency by means of improvements in delinquent mothers' parenting and in their children's behavior, future research with regard to long-term effectiveness is essential in view of this intervention's preventive purpose. Repeated assessments of both parenting and child behavior in the nearby future, as well as examination of arrest and incarceration rates when children reach adulthood are important directions for further research in view of breaking this vicious cycle. Furthermore, other adverse child

outcomes, such as pre-delinquent behaviors, school withdrawal, teen pregnancy, and substance abuse, are interesting topics for future research. However, this population is not only hard-to-reach, but also hard-to-retain and hard-to-contact. Therefore, to be able to assess parenting behaviors, child behaviors, and child outcomes in the future, maintaining continuous contact is necessary.

Second, mediation and moderation should be examined in future studies to identify how this intervention works and for whom the intervention is most or least successful. Results of these studies may indicate improvements with regard to the intervention, by insight in its key ingredients and by drawing attention to the less responsive families.

Third, future research should examine the feasibility and effectiveness of a parent training for incarcerated fathers. Although it has been suggested that maternal incarceration may be more disruptive for children than paternal incarceration, because mothers are more involved in childcare and more likely to be incarcerated far from home than fathers (Murray & Farrington, 2008), no evidence for differential effects was found in a recent meta-analytical review (Murray et al., 2012); effect sizes were almost identical for maternal and paternal incarceration. Given the short-term effectiveness of a parent training for incarcerated mothers and their children, and similarity in risks for children affected by paternal incarceration, parent training might be effective for incarcerated fathers too. However, the current intervention should be adapted to this population. Consistent to the current intervention, this intervention should target caregivers of children. Since many fathers will not be the primary caregiver, their children's mothers should also be involved in the intervention, and during recruitment extra attention should be paid to father's amount of involvement in parenting tasks.

Fourth, recidivism among participants should be examined in future research. It is not only in the interest of children that their mothers' parenting behaviors improve, but it is also in the interest of both children and mothers that the situation of incarceration will not occur again. Although recidivism is not the primary target of this intervention, theoretically, the intervention may reduce the likelihood of dysfunctional behaviors that lead to mothers' reoffending after release.

Fifth, more clarity about causal mechanisms in problematic development is needed in view of the key theories discussed in *Chapter 1*. The short-term effectiveness of enhanced Incredible Years parent training in this population does not only reflect feasibility and possibilities to change behavior, but experimental manipulation of parenting behaviors did also suggest that these parenting behaviors play an important role in the development and maintenance of disruptive child behavior. As argued in *Chapter 1*, parenting is most

explicitly reflected in social learning theory, but parenting behaviors are also associated with the three other key theories (trauma theory, strain theory, and labeling theory), which explain why children are affected by parental incarceration. Furthermore, we proposed (in *Chapter 2* and *Chapter 3*) that maternal social cognitions might also be directly or indirectly related to children's own social information processing, of which deviant patterns are believed to play a key role in disruptive behavior problems (Dodge & Pettit, 2003). However, we found no evidence of deviant social cognitions in young children of (formerly) incarcerated mothers. Therefore, based on the present results, we can only assume an indirect path, in which maternal social cognitions impact parenting behaviors, and parenting behaviors impact child disruptive behaviors. Future research should provide a rigorous test of mediating factors between maternal imprisonment and adverse child outcomes.

Implications for policymakers and practitioners

Although children of incarcerated parents have been called "the hidden victims of imprisonment" (Cunningham & Baker, 2003) for good reasons, fortunately these children are not forgotten by everybody. Advocates try to catch attention for this population and try to help them as well as they can. In the past year, attention was drawn by television programs (e.g., "Je ouders in de lik") and initiatives to help these children were developed (e.g., "SurvivalkidXL.nl" and "Wie let er op de kleintjes?") in the Netherlands.

However, attention by advocates is not enough for families affected by maternal/parental incarceration. Below, we will therefore discuss some implications for policymakers and practitioners of this dissertation's results and the process related to the coming about of this dissertation, which have partly been put forward already in the rest of this chapter and/or dissertation.

First, some implications regarding the intervention itself can be mentioned. Current short-term results of effectiveness are promising, but form no guarantee for future results. Although current results were established within a real life setting, they were also established under the rigorous conditions of a randomized controlled trial. To be able to retain at least similar levels of effectiveness, maintenance or enhancement of various factors regarding group leaders, supplier, and penitentiary institutions are warranted. Group leaders should, for example, be certified for the Incredible Years parent training, adhere to the training manual, fill out checklists after group sessions, receive supervision from accredited Incredible Years trainers, and weekly review videotaped group sessions

to ensure treatment fidelity. Furthermore, the supplier of the intervention should be flexible. For instance, mothers' residential instability requires last minute adaptations in both mothers' and group leader's travel schedules and accompanying tickets. Penitentiary institutions should optimize possibilities for mother-child contact, in view of sufficient possibilities to practice learned parenting skills and therefore effectiveness of the intervention.

Second, in our opinion and in line with the Convention on the Rights of the Child, children for which mothers take care should be a factor in sentencing. Therefore, a formal mechanism which makes sure that family status or minor-aged children come to the attention of a judge seems desirable. Severity of the situation in which these families end up and severity of individual problems of children raise questions of appropriateness of incarceration for mothers with young children. One could question whether other sanctions (e.g., electronic detention) are not more appropriate for at least part of charged mothers.

Third, based on both findings (high levels of distress in incarcerated mothers and linkages with their parenting behaviors) and personal communication/experiences with incarcerated mothers, there seems to be room for improvement when mothers are still in a penitentiary institution. During incarceration, the possibility occurs to work on problems that are specific to the mother (e.g., depression) before return to the family and before these problems affect their children (again). Furthermore, not only is there room for improvement in facilitating mother-child contact during incarceration, but also in facilitating contact between mothers and agencies like the Bureau for Youth Care.

Fourth, feasibility and effectiveness of the intervention suggest that it is possible to work with these mothers. No-shows, non-response, and not making contact may be easily misinterpreted as "not motivated" and "irresponsible". They may, however, also arise from practical reasons (e.g., restricted possibilities for telephone contact, ignorance or fear regarding public transport, and functional analphabetism) or financial reasons (e.g., no money for tickets nor call credit). Furthermore, these mothers may be skeptic against outsiders, especially when it concerns their children (see, e.g., Eddy et al., 2001; *Chapter 2* [cognitive distortions]). Therefore, flexibility and recognition of contextual challenges, as well as own adherence to agreements are essential in contact with these families. The myriad of contextual challenges and social and mental care providers around these families means that communication and arrangements between agencies are necessary to provide adequate help and to facilitate mothers to keep track on this help, but also that help should be tailored to each family's needs and situation. This includes the manner in

which contact takes place: it can be questioned whether the usage and forms of contact can be molded in such a way that asking too much of these mothers can be prevented, whereas empowerment can be facilitated.

Fifth, in terms of reintegration and prevention of recidivism and other problematic developments, it seems necessary to facilitate housing and social security for mothers released from incarceration. This might be in the form of practical assistance and acceleration of procedures.

Final conclusion

This dissertation confirmed presence of multiple problems in (formerly) incarcerated mothers and their young children. Mothers evidenced relatively high levels of maternal distress and cognitive distortions, which predicted suboptimal parenting (*Chapter 2*). In turn, these suboptimal parenting behaviors were associated with children's behavior problems (*Chapter 3*). Besides being exposed to suboptimal parenting behaviors (low involvement and poor monitoring), children of (formerly) incarcerated mothers evidenced more behavior problems and more stressful life events than children of comparison mothers (*Chapter 3*). Both between-group differences in parenting behaviors (*Chapter 2* and *Chapter 3*) and associations between parenting behaviors and behavior problems (*Chapter 3*) suggest that parenting behaviors are a potential target for intervention in this population.

Results of a meta-analytical review (*Chapter 4*) showed that the Incredible Years parent training is an effective intervention with regard to child behavior. Because of this demonstrated effectiveness and possibilities to tailor the intervention according to individual family's needs, an enhanced version of the Incredible Years parent training was offered to (formerly) incarcerated mothers in a randomized trial (*Chapter 5*). Intervention yielded significant effects on parenting and child behavior. Results established with regard to disruptive child behavior according to mothers (d = .47 for intensity of problems in per-protocol analyses; *Chapter 5*) may be considered substantial in comparison with intervention effects of the Incredible Years parent training found for other selective prevention studies (d = .13; *Chapter 4*). These results underscore the importance of understanding how maternal incarceration increases the risk of behavior problems in their offspring, and show that a preventive approach is promising for the high-risk population of incarcerated mothers and their children.

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Samenvatting

(Summary in Dutch)

De detentie van een moeder is een ingrijpende gebeurtenis voor de moeder zelf en haar achterblijvende gezin. Deze gebeurtenis kan voor de achterblijvende kinderen gepaard gaan met allerlei moeilijkheden die gerelateerd zijn aan deze detentie (bijvoorbeeld: Waar is mama? Wie zorgt er voor mij? Kan ik naar mama toe?), en gepaard gaan met problemen in het gedrag van deze kinderen.

Kinderen van gedetineerde moeders hebben een relatief groot risico op gedragsproblemen en latere delinquentie. Bij alle mogelijke oorzaken voor verhoogd risico op later antisociaal gedrag lijkt de opvoeding een sleutelrol te spelen. Problemen van moeders en problemen binnen de gezinnen leiden tot een suboptimale opvoeding, die op hun beurt de problemen bij kinderen veroorzaken of verergeren.

Uit internationaal onderzoek blijkt dat interventies die gericht zijn op opvoedvaardigheden van ouders het meest effectief zijn in het verminderen van probleemgedrag bij hun kinderen. Dergelijke vroege interventie gericht op kinderen met een verhoogd risico vermindert de kans op latere criminaliteit, gedragsproblemen, schooluitval en verslaving. De meest effectieve protectie van kind en maatschappij tegen latere criminaliteit door kinderen van gedetineerde moeders lijkt dan ook te kunnen worden geboden door moeders van jonge kinderen zo vroeg mogelijk te trainen in effectieve opvoedvaardigheden en het omgaan met gezinsstressoren tijdens en na detentie.

Het hoofddoel van dit proefschrift was om het effect van opvoedtraining voor (ex-) gedetineerde moeders vast te stellen. Om dit doel te bereiken, werd eerst onderzoek verricht naar kenmerken van deze moeders en kinderen, en naar de meest effectieve mogelijkheden voor interventie binnen deze doelgroep. Vervolgens werd in een gerandomiseerd effectonderzoek de effectiviteit van Incredible Years oudertraining met toegevoegde huisbezoeken ("Betere Start") onderzocht bij (ex-)gedetineerde moeders in de laatste fase van hun detentie, met concreet perspectief om na ontslag weer primair opvoeder van een kind tussen de 2 en de 10 jaar te worden.

In *Hoofdstuk 2* werd meer inzicht verkregen in (ex-)gedetineerde moeders en hun gezinssituatie. Hierbij werden 106 (ex-)gedetineerde moeders vergeleken met 63 moeders uit "Vogelaarwijken" die nooit in detentie verbleven om op deze wijze de ernst van de situatie te kunnen afzetten tegen de situatie in een andere, bekende risicogroep. Deze vergelijking maakte het mogelijk om na te gaan in hoeverre de problematiek in deze gezinnen vergelijkbaar is met die van gezinnen met een lage sociaaleconomische status (SES) in het algemeen, of dat er meer aan de hand is. De (ex-)gedetineerde moeders bleken minder optimale opvoedvaardigheden te gebruiken dan moeders uit

de vergelijkingsgroep. Daarnaast bleken zij meer cognitieve vertekeningen, en ook meer angst en depressieve klachten te vertonen dan moeders uit de vergelijkingsgroep. In regressieanalyses bleek detentie van de moeder bovendien zowel cognitieve vertekeningen als psychologische klachten te voorspellen, boven de invloed van SES op deze factoren. Op hun beurt, bleken cognitieve vertekeningen en psychologische klachten minder optimale opvoedvaardigheden te voorspellen.

In *Hoofdstuk 3* werd meer inzicht verkregen in de kenmerken van kinderen van (ex-)gedetineerde moeders. In dit hoofdstuk werd wederom vergeleken met een vergelijkingsgroep bestaande uit gezinnen uit "Vogelaarwijken", waarbij de moeder nooit in detentie verbleef. Vergelijking van 121 schoolgaande kinderen van (ex-) gedetineerde moeders en 63 kinderen uit de vergelijkingsgroep wees uit dat kinderen van (ex-)gedetineerde moeders meer stressvolle gebeurtenissen mee hadden gemaakt en dat zij meer gedragsproblemen vertoonden dan kinderen uit de vergelijkingsgroep. Daarnaast werd ook in deze steekproef gevonden dat kinderen van (ex-)gedetineerde moeders blootgesteld worden aan minder optimale opvoedvaardigheden dan kinderen uit de vergelijkingsgroep. Deze minder optimale opvoedvaardigheden bleken bovendien gerelateerd te zijn aan de gedragsproblemen van deze kinderen. Dit suggereerde dat opvoedvaardigheden van (ex-)gedetineerde moeders een potentieel doel zijn voor interventie binnen deze doelgroep.

In *Hoofdstuk 4* werd de effectiviteit van een bekende opvoedtraining, de Incredible Years oudertraining, onderzocht. De resultaten van meta-analyses van 50 internationale studies naar het effect van de Incredible Years oudertraining op kindgedrag wezen uit dat de Incredible Years oudertraining een effectieve interventie is voor het verbeteren van gedrag van kinderen. Er werden positieve effecten gevonden op verschillende uitkomstmaten (gedragsproblemen en prosociaal gedrag) en volgens verschillende informanten (ouders, leerkrachten en observatie), waaronder een effect (d = .27) op gedragsproblemen. Wanneer gekeken werd naar oudervragenlijsten, viel het op dat er grotere effecten werden gevonden bij studies waarbij de Incredible Years oudertraining in werd gezet als behandeling (d = .50) dan bij studies waarbij de Incredible Years oudertraining preventief werd ingezet (d = .13 bij selectieve preventie en d = .20 bij geïndiceerde preventie). Verder bleek dat de ernst van de gedragsproblemen bij aanvang van de interventie de sterkste voorspeller was van het interventie effect. Dat wil zeggen dat er relatief grote effecten werden gevonden in studies waarin veel kinderen met ernstige gedragsproblemen waren opgenomen. Deze resultaten suggereerden dat de Incredible Years oudertraining succesvol is in het verbeteren van kindgedrag binnen een grote verscheidenheid aan gezinnen.

In *Hoofdstuk 5* werd in een gerandomiseerd effectonderzoek de effectiviteit van Incredible Years oudertraining met toegevoegde huisbezoeken (Betere Start) onderzocht bij (ex-)gedetineerde moeders. Honderddertien moeders werden random (door loting) toegewezen aan de interventiegroep of een controlegroep. Interventie bleek zowel effect te hebben op de opvoedvaardigheden van moeders als op het gedrag van hun kinderen. De moeders uit de interventiegroep rapporteerden verminderingen in het aantal en de intensiteit van gedragsproblemen bij hun kinderen en vermindering van inconsequente discipline met betrekking tot hun eigen opvoedvaardigheden. De moeders in de controlegroep rapporteerden juist dat het gedrag van hun kinderen ongeveer gelijk bleef, terwijl zij een toename in inconsequente discipline zagen. Het ten aanzien van Betere Start gevonden effect op het kindgedrag volgens moeders is aanzienlijk; voor de intensiteit van gedragsproblemen was het effect $d = .47$, terwijl in de meta-analyse een gemiddeld effect van $d = .13$ werd gevonden voor internationale selectieve preventiestudies. Op leerkrachtoordelen over het gedrag van de kinderen werd een marginaal significant effect in dezelfde richting waargenomen. Deze leerkrachten waren niet op de hoogte van de interventie en namen zo als blinde beoordelaars de veranderingen in gedrag van kinderen waar.

Dit proefschrift eindigt met een samenvatting en discussie van resultaten in *Hoofdstuk 6*. Concluderend wordt in dit proefschrift de aanwezigheid van verscheidene problemen bij (ex-)gedetineerde moeders en hun jonge kinderen bevestigd en bleek de interventie Betere Start, bestaande uit Incredible Years oudertraining en huisbezoeken, op korte termijn effect te hebben op zowel de opvoedvaardigheden van (ex-)gedetineerde moeders als het gedrag van hun kinderen. De bevindingen in dit proefschrift suggereren dat interventie binnen deze doelgroep gericht op de opvoedvaardigheden van (ex-) gedetineerde moeders zinvol is. De gevonden effecten met betrekking tot Betere Start vormen een aanvulling op de in dit proefschrift aangetoonde effectiviteit van de Incredible Years oudertraining ten aanzien van het gedrag van kinderen in het algemeen. De bevindingen in dit proefschrift onderstrepen het belang van kennis omtrent de invloed van detentie van moeders op (het risico op) gedragsproblemen bij hun kinderen en suggereren dat een preventieve aanpak veelbelovend is voor (ex-)gedetineerde vrouwen en hun kinderen.

Op grond van de bevindingen in dit proefschrift en het proces dat tot de totstandkoming van dit proefschrift heeft geleid worden in het afsluitende hoofdstuk een aantal implicaties voor beleidsbepalers en beroepskrachten genoemd. Met betrekking tot de interventie Betere Start dient vermeld te worden dat de huidige resultaten weliswaar

veelbelovend zijn, maar dat zij geen garantie vormen voor toekomstige resultaten. Voor het behoud van effectiviteit dient aan een aantal basisvoorwaarden voldaan te worden. Daarnaast geven wij aan dat er zowel binnen de penitentiaire inrichtingen als daarbuiten verbetermogelijkheden lijken te bestaan met het oog op (ex-)gedetineerde moeders en hun gezinnen. Tot slot geven de bevindingen in dit proefschrift en het proces dat tot de totstandkoming van dit proefschrift heeft geleid aan dat het mogelijk is om met deze moeders te werken. Het werken met deze moeders vraagt om begrip en aanpassingen, maar blijkt met hulp van deze moeders zijn vruchten af te kunnen werpen.

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Curriculum Vitae

Ankie Menting werd geboren op 7 juni 1981 in Doetinchem. In 1999 behaalde zij haar VWO diploma aan het Almende College te Silvolde. Daarna behaalde zij de Propedeuse Toegepaste Psychologie aan de Hogeschool IJselland te Deventer. Vervolgens begon zij met de studie psychologie (afstudeerrichting ontwikkelingspsychologie, studieroute klinische ontwikkelingspsychologie) aan de Universiteit van Amsterdam te Amsterdam, waarbij zij zowel het propedeutisch examen als het doctoraal examen *cum laude* aflegde. Haar stage voor deze opleiding liep zij bij Onderwijshulpverlening (Stichting Jeugdhulpverlening Flevoland), waar zij ook na haar stage en na haar afstuderen in 2006 werkzaam bleef. In februari 2007 startte Ankie met haar promotieonderzoek aan de afdeling Ontwikkelingspsychologie van de Universiteit Utrecht te Utrecht, waarvan de resultaten in dit proefschrift zijn beschreven. Zij zal ook na de verdediging van dit proefschrift als postdoc onderzoeker aan deze afdeling verbonden blijven.