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Quality in home-based childcare : Impact and improvement
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1 Introduction

In the Netherlands, the number of children visiting childcare has been increasing rapidly in the last decade. The number of children attending childcare centers, childcare homes, and after school care, is shown in Figure 1.1 (Netwerkbureau Uitbreiding Kinderopvang, 2003; Statistics Netherlands, 2008). Whereas in 2006, in total 490,000 children visited childcare, this number had increased to 625,000 children one year later. This increase in childcare is mainly attributable to the increase in home-based childcare. Although most children attend center-based childcare (38% of all children in childcare in both 2006 and 2007), more and more Dutch parents prefer home-based child care, especially for younger children. In 2006, 14% of all children in childcare attended home-based childcare, whereas in 2007 this percentage had increased to 22% (Statistics Netherlands, 2008).

In both childcare homes and childcare centers, a group of children up to four years of age are taken care of by one (childcare homes) or more (centers) caregivers. In Dutch childcare centers, the ratio of children per caregiver ranges from 4:1 to 8:1, depending on the ages of the children. In each group, two or three caregivers are present. Most childcare centers offer full-day care, with restricted periods of bringing and picking up the children. Caregivers in childcare centers are all certified in childcare. Home-based childcare is provided from a caregiver's personal home, which makes the daily environment more similar to a child's home than center-based childcare. In Dutch childcare homes, each caregiver

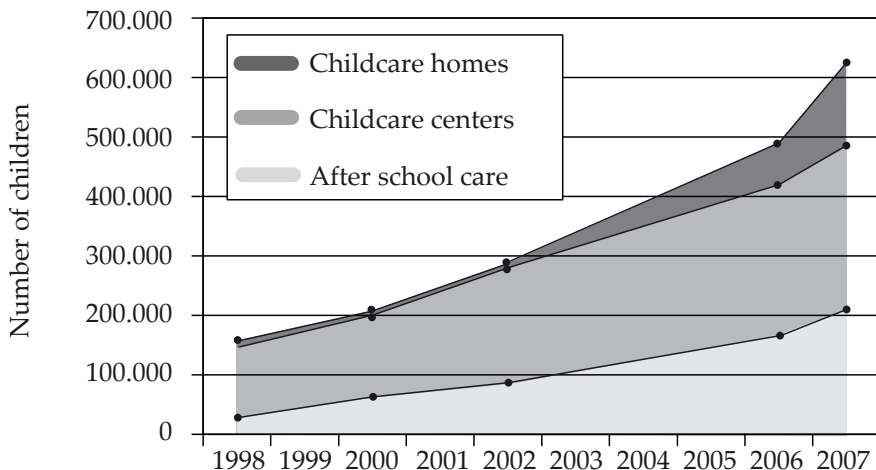


Figure 1.1 Number of children in childcare homes, childcare centers, and after school care (Netwerkbureau Uitbreiding Kinderopvang, 2003; Statistics Netherlands, 2008)

takes care of a small group of children, with a maximum of six children under the age of 4. This type of childcare is more flexible in bringing and picking up times and thus in adjusting working hours to the parent's schedules. Since January 1st 2010, caregivers in home-based childcare are legally bound to formal training (including first aid training) and/or experience.

Regulations

The Dutch childcare system recognizes two primary types of childcare: informal and formal childcare. Childcare is called formal if it adheres to the rules and regulations of the Dutch Childcare Act that came into effect in 2005. Home-based childcare registered at a childcare agency and center-based childcare are considered formal types of childcare, whereas occasional babysitters and unregistered home-based childcare are considered informal types of care. Formal childcare is jointly financed by parents, employers and the government. Besides finances, the Dutch Childcare Act also establishes quality and supervision standards in childcare, in which is stated that a childcare organization should have a pedagogical policy plan, and in which rules have been set for the group size, caregiver-child ratio, educational level of caregivers, and the (safety of) the childcare environment.

Childcare quality

The aforementioned regulative aspects such as group size, ratio and caregiver education refer to the so-called structural elements of childcare quality. Childcare quality however also covers children's actual experiences in childcare, in this thesis referred to as global quality and caregiver sensitivity.

Global quality refers to the stimulation and support available to children in the childcare environment. Several elements of global quality are important for children's development, for example organization of the environment, (learning) materials available for the children, and variety in events and environments. In general, children who visit higher quality childcare tend to have better cognitive and social skills than children experiencing lower quality childcare (NICHD ECCRN, 2002; Peisner-Feinberg et al., 2001; Vandell & Wolfe, 2000). In a recent publication, the NICHD ECCRN showed that even at age 15, former higher quality childcare predicted higher cognitive-academic achievement and less self-reported externalizing behavior (Vandell, Belsky, Burchinal, Steinberg, Vandergrift, & NICHD ECCRN, 2010).

Besides global quality, sensitive caregiving is one of the most fundamental aspects of childcare quality. For children, a sensitive caregiver is important as a base for the exploration of the environment, and for opportunities to develop. According to attachment theory, children use their caregivers as a haven of safety, from which they can explore the environment (Bowlby, 1969). Parental sensitivity is a determinant of children's attachment security (De Wolff & Van IJzendoorn, 1997) and can be defined as the ability to accurately perceive the child's signals and to respond promptly and adequately to these signals (Ainsworth, Blehar, Waters, & Wall, 1978). Several studies have shown that children do not only form attachment relationships with their parents, but also with professional caregivers

in childcare (Elicker, Fortner-Wood, & Noppe, 1999; Goossens & Van IJzendoorn, 1990; Howes, Hamilton, & Matheson, 1994). Elicker et al. (1999) and Goossens and Van IJzendoorn (1990) found that caregiver sensitivity was a significant predictor of children's attachment security to those caregivers.

Childcare quality and cortisol

Recently, several studies have focused on children's cortisol (a stress related hormone) levels during childcare. Vermeer and Van IJzendoorn (2005) showed in their meta-analysis that children display higher cortisol levels at childcare compared to the home setting. In addition, results from several cortisol studies point in the direction of an association between lower global childcare quality and higher cortisol levels in childcare (Dettling, Parker, Lane, Sebanc, & Gunnar, 2000; Sims, Guilfoyle, & Perry, 2006; Tout, de Haan, Kipp Campbell, & Gunnar, 1998). Besides global childcare quality, caregiver sensitivity is associated with children's cortisol levels as well. Studies showed that the availability of sensitive caregivers beyond the parents can act as a buffer against stress responses (Gunnar, Larson, Hertsgaard, Harris, & Brodersen, 1992; Gunnar, Talge, & Herrera, 2009). In a laboratory study, Gunnar, Larson, Hertsgaard, Harris, and Brodersen (1992) found that infants cared for by babysitters who sensitively interacted with them showed no cortisol elevations, whereas infants cared for by less sensitive babysitters showed cortisol elevations. At the start of this PhD study, no studies concerning cortisol levels of children in childcare and associations with childcare quality were conducted in the Netherlands.

Childcare quality in the Netherlands

Since 1995, center-based childcare quality in the Netherlands has been assessed four times by the Dutch Consortium for Research in Childcare: in 1995 (Van IJzendoorn, Tavecchio, Stams, Verhoeven, & Reiling, 1998), 2001 (Gevers Deynoot-Schaub & Riksen-Walraven, 2005), 2005 (Vermeer et al., 2008), and 2008 (De Kruif et al., 2010). Assessments were done in nationally representative samples using the Infant/ Toddler Environment Rating Scale (ITERS; Harms, Cryer, & Clifford, 1990), the Infant/ Toddler Environment Rating Scale-Revised (ITERS-R; Harms, Cryer, & Clifford, 2003), the Early Childhood Environment Rating Scale (ECERS; Harms, Cryer, & Clifford, 1980) and the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms, Clifford, & Cryer, 1998).

Although the first assessment led to the conclusion that, from an international perspective, the quality of Dutch childcare centers was relatively high (Van IJzendoorn et al., 1998), results of the second assessment showed a significant decline in global quality. In 1995, no centers showed low childcare quality, whereas in 2001, low childcare quality was encountered in 6% of the centers (Gevers Deynoot-Schaub, & Riksen-Walraven, 2005). In the third assessment, in 2005, again a significant decline emerged in global quality of care: 36% of the centers showed low childcare quality (Vermeer et al., 2008). Lastly, in the 2008 assessment, global childcare quality had significantly declined again. The authors do not report percentages of low quality for the total ITERS-R and ECERS-R scales (De Kruif et al., 2010). In Figure 1.2, the decline of childcare quality in

Dutch childcare centers is shown. Although quality of home-based childcare is included in the Dutch Childcare Act, quality of this type of childcare has not yet been studied in the Netherlands. In the first study reported in this thesis we assess childcare quality in home-based childcare and center-based childcare, comparing the two types of care on the following aspects: childcare quality, children’s wellbeing, and children’s and caregivers’ cortisol levels. In addition, we not only focus on associations between childcare quality and child outcomes, but also on associations between childcare quality and caregiver stress. For home-based childcare, we also investigate whether caregiver stress (cortisol levels and perceived stress) are associated with child outcomes.

As described earlier, Dutch caregivers in home-based childcare have limited or no education in childcare. International studies showed that caregiver education is a predictor of childcare quality in childcare homes (Clarke-Stewart, Lowe Vandell, Burchinal, O’Vrien, & McCartney, 2002; Doherty, Forer, Lero, Goelman, & LaGrange, 2006), and that informal caregiver training sessions result in higher childcare quality *beyond* education (Burchinal, Howes, & Kontos, 2002; NICHD ECCRN, 1996; Clarke-Stewart, Lowe Vandell, Burchinal, O’Brien, & McCartney, 2002). In the second study, we report on the results of a focused training using a video-feedback intervention, that we implemented in home-based childcare to enhance childcare quality.

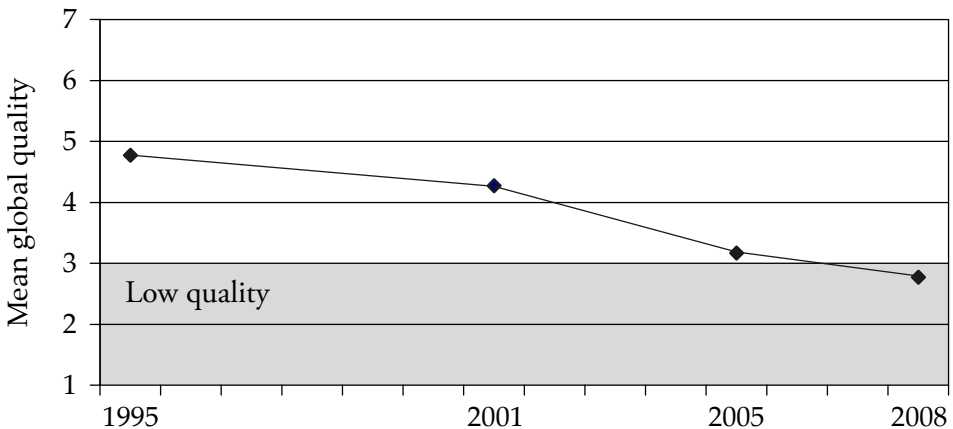


Figure 1.2 Global quality of Dutch childcare centers in 1995 (Van IJzendoorn et al., 1998), 2001 (Gevers Deynoot-Schaub, & Riksen-Walraven, 2005), 2005 (Vermeer et al., 2008), and 2008 (De Kruif et al., 2010).

Note. Global childcare quality is measured with the ITERS-(R)/ ECERS-(R). Centers can be classified according to the mean quality levels *low* (< 3), *moderate* (3 ≤ and < 5), and *high* (≥ 5)

Intervention

Previous intervention studies performed in families, center care and home-based childcare suggest that interventions are more effective when they have a narrow focus, a fixed-curriculum, make use of video feedback, and are short term (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003; Fukkink & Lont, 2007).

The short-term, behaviorally focused Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) satisfies these criteria. The VIPP-SD aims at enhancing (parental) sensitivity and disciplining through providing personal video-feedback, combined with written information on sensitive responding in daily situations. The intervention program is home-based and short-term: interventions are implemented in the home of the caregiver in a modest number of sessions (six sessions). The VIPP-SD has already shown positive effects on parental sensitivity in various settings (see Juffer et al., 2008) and was recently recognized as demonstrably effective in the Database of Effective Youth Interventions developed by the Netherlands Youth Institute (Nederlands Jeugdinstituut, 2009)

In the second study presented in this thesis, the VIPP-SD (Juffer et al., 2008) is (minimally) adapted for home-based childcare: Video-feedback Intervention to promote Positive Parenting – Child Care (VIPP-CC). As in the VIPP-SD, caregiver and children are videotaped during daily situations in childcare. Videotaped episodes are discussed with the caregivers, focusing on caregiver sensitivity. The effectiveness of the VIPP-CC is tested in caregivers in home-based childcare in a randomized controlled trial.

Aims of the studies

This thesis consists of two studies. The general aim of the first study is to examine children's stress levels and wellbeing, and the role of caregiver stress and childcare quality. In the second study we test the effectiveness of the VIPP-CC in enhancing childcare quality in home-based childcare. The design of both studies is shown in Figure 1.3.

In the first study we focus on children and caregivers in center-based childcare and home-based childcare. Caregivers and (parents of) children are asked to collect (their child's) saliva at home to measure cortisol levels. During the visit at the childcare setting, caregivers' and children's cortisol samples are collected again. In addition, global quality is observed, caregivers' and children's behavior are videotaped, and rated for caregiver sensitivity and child wellbeing afterwards. After the visit, parents are asked to complete questionnaires on children's temperament, and caregivers are asked to report on children's wellbeing and their own perceived stress. Research questions of this first study are:

1. Are there differences in cortisol levels (of children and caregivers) between a childcare day and a day at home?
2. Are there differences in cortisol levels (of children and caregivers), wellbeing (children), and perceived stress (caregivers) in childcare homes versus childcare centers?
3. Is childcare quality associated with cortisol levels (of children and caregivers), wellbeing (children), and perceived stress (caregivers)?
4. Are caregivers' cortisol levels and perceived stress associated with children's wellbeing and cortisol levels? Does temperament moderate these associations?

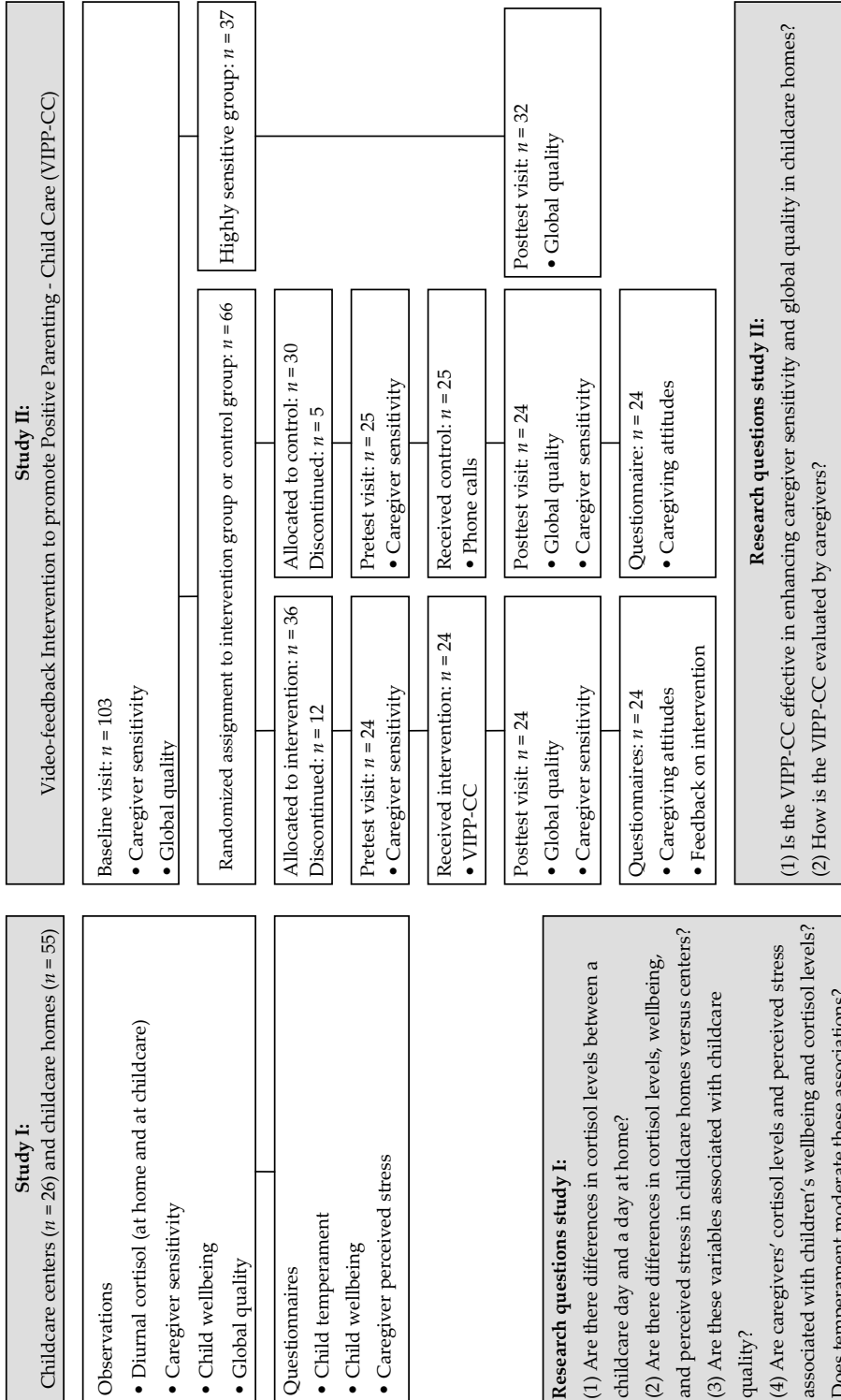


Figure 1.3 Design and research questions

In the second study, the effectiveness of the intervention program VIPP-CC is tested in a randomized controlled trial (Figure 1.3). During a baseline visit, caregiver sensitivity and global quality are measured. Caregivers scoring the highest on caregiver sensitivity are assigned to the 'high sensitivity' group. The rest of the caregivers are randomly assigned to the intervention group or the control group. These caregivers receive a pretest in which their behavior is videotaped to code caregiver sensitivity. Caregivers in the intervention group receive the VIPP-CC and caregivers in the control group receive six phone calls, parallel to the intervention visits. During the posttest, global childcare quality is measured in all three groups. Caregiver sensitivity is again measured in the intervention group and control group. After this visit, caregivers are asked to fill out questionnaires concerning their caregiving attitudes and feedback on the intervention. Research questions of the second study are:

1. Is the VIPP-CC effective in enhancing caregiver sensitivity and global quality?
2. How is the VIPP-CC evaluated by caregivers?

Outline of the thesis

The first study is described in chapters 2, 3, and 4, and results of the second study are outlined in chapter 5. Chapter 2 addresses the question whether children's cortisol levels (and wellbeing) differ between contexts (childcare day or at home day) and setting (childcare homes and childcare centers), and associations with childcare quality are examined. Chapter 3 reports on caregivers' cortisol levels (and perceived stress) between contexts (work day, non-work day) and setting (childcare homes and childcare centers). In addition, associations between caregiver stress and childcare quality are examined. Chapter 4 investigates associations between caregivers' cortisol levels (and perceived stress) and children's wellbeing and cortisol in home-based childcare. Also, children's temperament is taken into account. Chapter 5 focuses on the effectiveness of the VIPP-CC in enhancing childcare quality. In chapter 6 the results of the studies are integrated and discussed, and implications for future research and childcare practice are presented.

