



Universiteit  
Leiden  
The Netherlands

## Carefree in child care? : child wellbeing, caregiving quality, and intervention programs in center-based child care

Werner, C.D.

### Citation

Werner, C. D. (2014, June 18). *Carefree in child care? : child wellbeing, caregiving quality, and intervention programs in center-based child care*. Retrieved from <https://hdl.handle.net/1887/26887>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/26887>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/26887> holds various files of this Leiden University dissertation

**Author:** Werner, Claudia Denise

**Title:** Carefree in child care ? : child wellbeing, caregiving quality, and intervention programs in center-based child care

**Issue Date:** 2014-06-18

**CHAPTER**

**5**

**General discussion**

## General discussion

This dissertation focused on the effectiveness of programs to improve child care quality and on the environmental chaos theory in association with child wellbeing in center care. Our first aim was to provide an overview of existing programs designed to improve child care quality and meta-analytically test their effectiveness. We were particularly interested in narrow-focus programs targeting caregiver behavior and child social-emotional wellbeing through caregiver training, distinguishing them from the broader Early Childhood Education programs (ECE) that have a cognitive focus. Second, we evaluated the effectiveness of the Video-feedback Intervention to promote Positive Parenting in Child Care (VIPP-CC; Groeneveld, Vermeer, Van IJzendoorn, & Linting, 2011; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008a) in child care centers. Finally, we investigated how indicators of the environmental chaos theory (Evans & Wachs, 2010) and noise in particular, may be combined to provide a more comprehensive model for processes involved in child care quality. In this chapter, the results of the three studies are integrated and discussed. In addition, recommendations for child care practice and future research are presented.

### Effectiveness of narrow-focus interventions in child care

The meta-analysis in Chapter 2 included 19 randomized controlled trials on programs that targeted the caregiver to improve caregiver-child interaction and child social-emotional wellbeing. The overall effect size was moderate but rather robust (Hedges'  $g = 0.35$ ), indicating that this kind of programs can be implemented to enhance child care quality in a cost-effective manner. The programs were most effective to improve quality at the caregiver level, and to a lesser extent at the classroom level and the child level.

Moderator analysis was restricted because of the relative small number of studies and we used primarily dichotomous moderator variables. We showed that program effectiveness did not differ for type of care, that is, center-based care or home-based child care; or for programs that were implemented within or outside the subsidized Head Start settings. Program intensity and duration, the focus of the intervention, the use of a specific child curriculum with weekly activities, and the use of video did not moderate program effectiveness. Two program characteristics were found to increase effectiveness: the use of a placebo intervention for the control group as compared to care-as-usual and the presence of an individual training component as compared to group-training-only. The increased effectiveness of programs with a placebo intervention may reflect higher quality investigations with more sophisticated measures and solid design. The finding that an individual training component is more effective than group-training-only should be considered preliminary and in need of further consolidation from other trials. It is conceivable that individual caregiver training-on-the-job is more effective than training

caregivers in group contexts through lectures, workshops and video examples, because during individual sessions caregivers can reflect on their own attitudes and behavior more specifically.

It should be noted that the underlying theoretical backgrounds of the programs varied widely and that methods were not always reported clearly. As a result, this meta-analysis could only shed limited light on what makes certain programs more effective than others. Another observation is that most programs included in the meta-analysis targeted children from low SES for whom those programs were sometimes even embedded within ECE programs. We found that only few intervention programs are available for child care services that provide care for children from middle to high SES backgrounds. It may also be that these programs have not been tested in randomized controlled trials.

Drawing on the VIPP-CC that was tested in home-based care (Groeneveld et al., 2011), we examined the effectiveness of the VIPP-CC in center-based child care, focusing on children from moderate to high SES.

### **Effectiveness of the VIPP-CC in center child care**

Using a randomized controlled trial we tested the effectiveness of the VIPP-CC, a short-term attachment-based intervention program that was adapted for use in child care centers (Groeneveld et al., 2011; Juffer et al., 2008a). Chapter 3 showed that the VIPP-CC was effective ( $\eta^2 = 0.07$ , i.e.  $d = 0.55$ ) in enhancing caregiver sensitivity: after the intervention, observed caregiver sensitivity increased in the intervention group, but not in the control group. The effect size of the VIPP-CC in center care enhancing observed caregiver sensitivity takes a middle position with regard to effect sizes of the VIPP in other samples targeting observed caregiver sensitivity: effect sizes range from small ( $d = 0.33$ ) for mothers with eating disorders (Stein et al., 2006) to large ( $d = 0.78$ ) for mothers with insecure attachment representations (Klein Velderman, Bakermans-Kranenburg, Juffer, & Van IJzendoorn, 2006). In home-based care the VIPP-CC did not result in increased caregiver sensitivity, but there was an effect for general quality (Groeneveld et al., 2011). The moderate to large effect size of the VIPP-CC in center care is comparable to the effect size for the increase in general quality in home-based care ( $d = 0.63$ ). It should be noted that in our trial on the VIPP-CC the increase in caregiver sensitivity was especially evident in structured play situations, when caregivers interacted with smaller groups of children. This may be explained by the fact that the structured play situations were more comparable to the training situations than, for instance, free play settings. Observed caregiver sensitivity was moderate to high at pretest, yet there was enough variance to prevent us encountering a ceiling effect. It is promising that even for caregivers who show moderate to high levels of sensitive caregiving there is room for improvement with the VIPP-CC.

In our study a small increase in general quality over time was observed in both the intervention and control group, which may reflect heightened awareness of classroom processes and materials through participation in the research project. At the start of the program, we observed a wide range in general quality of the centers in the intervention and control group, including centers of 'inadequate' to 'good' general quality. The considerable non-response in our study might have led to a bias in favor of well-functioning child care centers, despite great efforts to include centers from a wide variety of organizations and neighborhoods.

In addition to the effect for observed sensitivity, we found an intervention effect for caregiver attitudes towards sensitive caregiving and limit setting, similar to findings for home-based child care that were reported by Groeneveld et al. (2011). We reason that positive changes in attitudes may precede behavioral changes, so that at a later stage more positive caregiver behavior may be observed in a wider range of caregiving situations (Susman-Stillman, Pluess, & England, 2013). Finally, caregivers in the intervention group evaluated the program very positively: they reported that the training was very informative, interesting and useful to them. Remarkably, the placebo treatment that consisted of phone calls to talk about general development of children on the group was evaluated quite positively as well by the control group, although significantly less than in the experimental group. The positive evaluations may be speculated to be an important signal from the caregivers reflecting their need for frequent individual professional support.

### **Noise in center child care**

Another goal of this dissertation was to investigate the quality of center child care by combining traditional indicators of quality as described by Riksen-Walraven (2004) with relatively new indicators of quality from the environmental chaos theory as developed by Evans and Wachs (2010). In the correlational study presented in Chapter 4 we predicted child emotional wellbeing from a combination of traditional and new indicators for child care quality.

Traditional indicators of child care quality refer to the distal and proximal factors described in the well-established model of Riksen-Walraven (2004). Distal factors are the more or less fixed aspects of the care setting, such as group size, play materials, and caregiver education level, whilst proximal factors include caregiver-child interactions, child peer interactions and the interaction of the child with the physical environment. According to this model, optimal child care quality can be reached when distal factors support the proximal factors. We combined this model by including indicators of child care quality that refer to environmental chaos, that is, noise, noise variability, crowding, and chaos (Evans and Wachs, 2010). Empirical studies have demonstrated that negative influences from the environment can have adverse consequences for children's health

and development (Evans & Wachs, 2010), for instance high noise levels may impair child cognitive processes and affect child stress regulation (Evans, 2006) and chaotic, unordered caregiving practices were associated with more negative interactions (Evans & Wachs, 2010).

In the reported empirical study, using pretest data from the intervention study described in Chapter 3, we focused on three specific indicators of environmental chaos: noise intensity, noise variability and crowding, as indicated by group size. Our results showed that both noise intensity and variability were strong predictors (Beta = .36 and Beta = .33, respectively) for child emotional wellbeing. Noise levels were higher when group sizes were larger and when children and caregivers were engaged in outdoor activities. In addition, we confirmed a threshold for noise with regard to observed child emotional wellbeing for center-based child care, in line with findings by Linting, Groeneveld, Vermeer and Van IJzendoorn (2013) who first reported a threshold for home-base child care. Nonlinear analyses in our study revealed that lower levels of child wellbeing were related to very high *and* very low levels of noise intensity and variability. This indicates that too much noise is not favorable for young children, but neither is a very quiet child care environment. The threshold for noise may reflect a threshold for stimulation: If stimulation levels are too low, children may get bored and express lower wellbeing. On the other hand, if stimulation levels are too high, children may not be able cope with the child care environment, resulting in lower observed wellbeing. The fact that noise is related with distal care factors such as group size and with proximal processes such as children in interaction with their physical environment strengthens our argument that noise should be viewed as an additional indicator for child care quality. We therefore propose combining the model of Riksen-Walraven (2004) with indicators of environmental chaos (see Figure 1).

### **Comparing noise in center-based care and home-based child care**

This dissertation provides new information on the average noise levels and noise variability in center-based care and adds to the literature on environmental chaos in child care, following previous studies (Groeneveld, Vermeer, Van IJzendoorn, & Linting, 2010; Linting, Groeneveld, Vermeer, & Van IJzendoorn, 2013). Groeneveld and colleagues (2010) conducted empirical studies in two different types of child care and concluded that in center child care observed child emotional wellbeing was lower, caregiver sensitivity was lower, and average noise levels were higher than in home-based care. With regard to the latter finding, we confirmed that in center care average noise levels are significantly higher than in home-based care ( $d = 1.53$ ). Average noise levels in our study had a mean of 61.69 decibel ( $SD = 3.30$ ) and ranged from 54.95 decibel to 70.83 decibel. Taking into consideration that an increase of 10 decibel represents noise that is perceived twice as loud, these levels are much higher compared to the levels that were reported for home-

based care, with a mean of 56.54 decibel ( $SD = 3.43$ ) and ranging from 48.45 decibel to 64.56 decibel (Linting et al., 2013). Moreover, in our study noise variability, reflecting the peaks and lows in noise, was on average 7.39 decibel ( $SD = 0.81$ ) and ranged from 6.10 to 9.68 decibel. For home-based care Linting et al. (2013) reported a mean noise variability of 7.85 decibel ( $SD = 1.00$ ) and a range from 4.44 to 10.66 decibel. Although these levels may seem comparable for center-based care and home-based care ( $d = -0.51$ ), it implies that for children in center care with higher average noise levels absolute peaks are much higher and may even reach 91 decibel, comparable to high way noise. Children in center care are thus more often exposed to high and harmful average noise levels on a daily basis than children in home-based care. Finally, in center child care thresholds for noise in relation to child emotional wellbeing were observed, comparable to the situation in home-based care (Linting et al., 2013). In our study, child emotional wellbeing decreased with increase of noise, below and beyond certain noise levels. It should be noted that the thresholds were observed at different average noise levels for center-based care compared to home-based care.

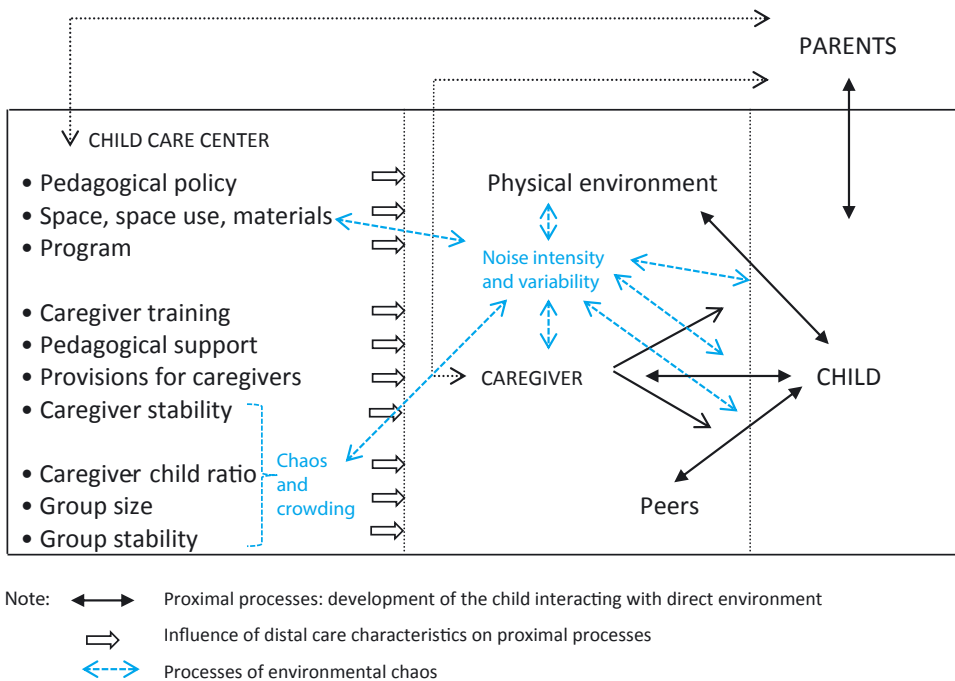


Figure 1. Model of Riksen-Walraven (2004) combined with indicators of environmental chaos

**Implications for child care practice and research**

Our findings are highly relevant for child care practice and parents, given the fact that 30% to 70% of children under age five attend center based child care in Europe and the U.S.A. (Organization for Economic Co-operation and Development; OECD, 2013). General quality and the caregiver-child relationships need constant monitoring by researchers and authorities, especially when for-profit centers are tempted to compromise caregiver-child ratios in economic low tides. Authorities in the U.S.A. and in the European Union recognize the importance of high quality care and education for children in the preschool age and by subscribing to the Starting Strong II plan (OECD, 2006) they have obliged themselves to address child care quality and the formal education for professional caregivers. Effective narrow-focus intervention programs that target the caregiver could be a start for improving quality. These programs can be implemented at an early stage in the professional career or they can become part of the employee curriculum of centers as an annual training.

In light of the above, the VIPP-CC has the potential to be implemented as a cost-effective way to increase caregiver quality because of the standardized program that has a relatively short duration, that is, six two-hour visits. The VIPP-CC could be implemented as additional training-on-the-job, or as suggested by many participating caregivers, at an earlier stage during internships for caregivers who are still in training. Another suggestion for further monitoring and improving child care quality is that in the future traditional indicators of general child care quality should be combined with indicators of environmental chaos to complete the model of proximal and distal processes that contribute to child wellbeing. Noise can be administered in a relatively easy and objective manner by using digital data loggers. Regulations for child care as monitored by local authorities should include these aspects, so that the wellbeing of children and staff can be ascertained. Moreover, more research is needed regarding interventions to regulate detrimental noise levels and other indicators of environmental chaos in child care.

The choice of parents between center child care and home-based care may depend on specific characteristics of the centers or caregivers in their neighborhood and what is more, on child characteristics such as the child's age, temperament, and susceptibility to the social environment. We stress that continuity of care is most important for young children to establish attachment relationships with non-parental caregivers, which is a fundamental requirement for optimal social-emotional and cognitive development.

**Limitations and future directions**

Some limitations should be mentioned. The modest sample size in the meta-analysis resulted in restricted moderator analysis and consequently, it remains unclear how the intensity (i.e. the number of sessions) and program duration contribute to effectiveness and which children benefit most or least. According to the differential susceptibility

hypothesis some children are more strongly affected by both negative and positive environmental influences (Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2007; Ellis, Boyce, Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2011) implying that in child care, highly susceptible children are more negatively affected by low quality child care, but also benefit more from high quality care (Pluess & Belsky, 2009). The hypothesis could not be tested in our studies. In our meta-analysis insufficient information was provided on child samples and in our randomized controlled trial of the VIPP-CC the hypothesis was not tested because of a principal focus on caregiver outcomes. Another limitation of our randomized controlled trial is that we only carried out the intervention with one caregiver, although in center child care two or three caregivers are responsible for the group of children. Benefits for children may be higher when caregiving quality in the group is enhanced by simultaneously or successively carrying out the intervention with all caregivers. In a similar vein, Ramchandani and Iles (2013) are carrying out a pilot study to apply the VIPP-SD to both parents in one family. Another limitation is that the sessions and scripts in our program were generally built around activities with three or four children on the group, whilst most of the time caregivers are together with one or two other caregivers responsible for the care of more than ten children on a daily base. Finally, in our study it was not feasible to include a follow-up assessment because of costs and planning of the study. It is valuable to know whether the intervention effects are retained in the long run.

For future research we have some recommendations. More randomized controlled trials should be conducted to the effectiveness of narrow-focus intervention programs and more of these programs should target child care settings serving children from low to moderately high SES. As for the VIPP-CC, we recommend evaluating the effectiveness of the program when carried out with two or three caregivers from one child care group successively or simultaneously. Moreover, long-term effects and effects of the VIPP-CC program on child emotional wellbeing should be examined in the future. Finally, specific interventions should be designed to regulate noise levels in child care centers and their effectiveness should be tested in randomized controlled trials.

In The Netherlands, there is need for a more solid scientific base to be able to compare caregiving quality in center-based care and home-based care. Since the pioneering studies by Groeneveld et al. (2010, 2011), not much research has been conducted on the quality of home-based child care, so that empirical evidence is restricted. Moreover, investigating the quality of home-based care has not yet been conducted as systematically as has been done for center care (Fukkink et al., 2013; Vermeer et al., 2008) which is why trends in quality in home-based care have not yet been established. We suggest to systematically evaluate quality in home-based care over the years, so that quality of center-based child care and home-based care can be compared. In the future, outcomes from those assessments may facilitate parent's choice for the most adequate care for their child.

## **Conclusion**

The quality of center child care is relevant for many children in the preschool age, given the fact that in Western-industrialized countries 30% to 70% of children are in center child care. We showed that beyond traditional indicators, child emotional wellbeing can be predicted from indicators from the environmental chaos theory. To improve child care quality narrow-focus intervention programs that target caregiver-child interaction and child social-emotional development through caregiver training are effective. For child care quality at the caregiver level in particular, the attachment-based short-term intervention VIPP-CC is effective to improve caregiver sensitivity in center child care.

