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Child Care Under Pressure: The Quality of Dutch Centers in 1995 and in 2001

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ABSTRACT. In 2001, the authors assessed the quality of care provided to children in 51 care groups from 39 child-care centers in The Netherlands using the Infant/Toddler Environment Rating Scale (T. Harms, D. Cryer, & R. M. Clifford, 1990) and compared the results with the quality of child care assessed in 1995 (M. H. van IJzendoorn, L. W. C. Tavecchio, G. J. Stams, M. J. E. Verhoeven, & E. J. Reiling, 1998). The overall quality and scale scores for language and learning activities were significantly lower in 2001 than in 1995. Child-care centers founded within the past 6 years (all nonsubsidized centers) scored considerably lower than did older, mostly subsidized, centers. The results are discussed from the perspective of changes in the socioeconomic and political context of child care.

Key words: child-care center, child-care quality, infants and toddlers, ITERS

THE EFFECTS OF NONPARENTAL CHILD CARE on young children's development strongly depends on the quality of the care. With regard to center-based child care, the results can be summarized as follows: Children who attend high quality child-care centers display higher levels of well-being than do children who attend low quality centers. That is, the former show more positive and less negative emotions than do the latter. In addition, children attending high-quality centers have been found to be more communicative and socially competent; to be more independent and resilient; and to have better cognitive, language, and pre-

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academic skills than do children attending poorer quality child-care centers. Low quality care has been found to be associated with displays of negative affect, withdrawal and apathy, and elevated levels of disobedience and peer aggression (for summaries and recent studies, see Belsky, 2001; Burchinal et al., 2000; Lamb, 1998; National Institute of Child Health and Development [NICHD] Early Child Care Research Network, 2002; Peisner-Feinberg et al., 2001; Vandell & Wolfe, 2000). On the basis of these findings, it is important to closely monitor the quality of the care provided in child-care centers and to gain greater insight into the factors that affect the quality of such care.

The various models that have been proposed to describe the quality of child care and the factors affecting such care all have focused on the *process quality* of care, which is defined as the quality of the everyday caregiving and the educational process. The process quality of child care is thought to reflect children's actual experiences in child care, which include their interactions with caregivers and peers and their participation in different activities. These experiences directly affect children's well-being and development (Cryer, Tietze, Burchinal, Leal, & Palacios, 1999; Howes, 2000; NICHD Early Child Care Research Network, 2002a; Vandell & Wolfe, 2000). The process quality of care is influenced by structural characteristics of the caregiving setting. In general, such structural features as group size, child–caregiver ratio, caregiver education, and caregiver experience have been found to relate to the process quality of care and thereby to contribute indirectly to child development (NICHD Early Child Care Research Network, 2002a; Vandell & Wolfe).

In various child-care models inspired by Bronfenbrenner's ecological model (see Bronfenbrenner & Morris, 1998), both the process and structural characteristics of child care are placed within the broader socioeconomic and cultural context. The process quality of care is then compared across different countries with differing regulations regarding center-based child care and differing cultural, economic, and political attitudes (Cryer et al., 1999; Phillips, Mekos, Scarr, McCartney, & Abbott-Shim, 2000; Tietze, Cryer, Bairrão, Palacios, & Wetzel, 1996; van IJzendoorn, Tavecchio, Stams, Verhoeven, & Reiling, 1998).

In line with Bronfenbrenner's ecological model (Bronfenbrenner & Morris, 1998), the socioeconomic and cultural context of child care may be embedded in the historical context, as socioeconomic conditions, cultural attitudes, and policies related to child care change within a country or countries over time. Researchers who have conducted studies on the basis of such a model have examined the quality of child care across time and have attempted to explain any changes in terms of socioeconomic, political, and cultural changes. One example is Ahnert and Lamb's (2000) study of the changes in the quality of center-based child care in former East Berlin following the reunification of Germany in October 1990. Ahnert and Lamb observed that professional caregivers in East Berlin child-care centers were significantly more empathic, attentive, and responsive to the children years after reunification than they were before reunification, and the

percentage of children securely attached to their professional caregivers increased accordingly. Ahnert and Lamb argued that this change was probably a result of a change in child-care policy after reunification. Before reunification, East German child-care providers—in accordance with the collectivism emphasized by child-care authorities in the former East Block countries—were expected to provide group-oriented rather than individual-oriented care and to promote peer interactions and cognitive development rather than individual child–caregiver attachment relationships. Following reunification, experts developed new curricula and in-service training for child-care providers, which attributed greater importance to infants' emotional needs than to stimulation of peer interactions and cognitive development. In addition, because of a decrease in birth rates and the number of child-care centers available, many child-care providers lost their jobs, and only those who were most willing to embrace the new child-care practices were retained. Although we were not concerned with the effects of a similarly dramatic historical event, in the present study we had a comparable research aim—to compare the quality of center-based child care in The Netherlands in 1995 and in 2001, a period in which the quality of child care was put under tremendous pressure, as a result of a spectacular increase in the demand for center-based child care, which produced rapid growth in the numbers and sizes of child-care centers.

Compared with other European countries and the United States, The Netherlands has traditionally had a low percentage of working mothers (Organisation for Economic Cooperation and Development [OECD], 2001). Up to a decade ago, the majority of Dutch women quit their jobs when they became pregnant and chose to remain at home to care for their children. There was no national policy regarding nonparental child care. This situation changed in 1990 when the Dutch government enacted the national Child Care Stimulation Measure to promote employment among the mothers of young children. Child-care centers were widely subsidized and national regulations were introduced with regard to such structural features as group size and child–caregiver ratios. In 1995, child-care policy was decentralized to the community, which placed decisions of whether to subsidize the centers and how to control the quality of care, in the hands of local councils. The national Child Care Stimulation Measure promoted a steep increase in the number of places available for young children in child-care centers. Between 1989 and 1995, the number of places for 0- to 4-year-olds in Dutch child-care centers rose from 17,000 to 59,000 and further expanded to more than 93,000 by 2001. In that year, 168,000 children, or about 20% of all Dutch children between 0 and 4 years old, were cared for in child-care centers (Association of Netherlands Municipalities [SGBO], 2001).

In 1995, van IJzendoorn et al. (1998) assessed the process quality of child care in a representative sample of 43 child groups from 30 child-care centers in The Netherlands using the Infant/Toddler Environment Rating Scale (ITERS; Harms, Cryer, & Clifford, 1990) and the Early Childhood Environment Rating Scale (ECERS; Harms & Clifford, 1980). In that study, the authors showed that

the quality of care in Dutch child-care centers in 1995 was relatively high, from an international perspective. The average scores for the Dutch child-care centers were higher than were those reported for North American centers and highest among those reported for other European countries. The relatively small standard deviations for the Dutch scores indicated homogeneously high quality of care in the Dutch centers. Low quality child care was not, on the whole, encountered in the 1995 sample. Van IJzendoorn et al. also examined the relations between process quality and structural quality features of the child-care centers and found that the observed process quality was not related to group size, child–caregiver ratio, or caregiver education. However, they found a significant correlation with the age of the caregiver—older caregivers provided higher quality of care.

In 2001, 6 years after the van IJzendoorn et al. (1998) assessment, we assessed the quality of care provided in a random sample of Dutch child-care centers. We conducted the assessment as part of a longitudinal research project on the socioemotional development of 15-month-old children who attended child-care centers (see also Gevers Deynoot-Schaub & Riksen-Walraven, 2004a, 2004b) and relied on the ITERS, the same tool that van IJzendoorn et al. used 6 years earlier. In the present study, we focused on three research questions. First, we examined whether the quality of care provided in Dutch child-care centers changed between 1995 and 2001. Second, and similar to van IJzendoorn et al., we related the observed process quality of care to structural and caregiver characteristics such as caregiver age and caregiver experience, child–caregiver ratio, group size, and group composition (i.e., we compared the quality of the care for infant and toddler groups, which included 0- to 2-year-olds and for mixed-age groups, which included 0- to 4-year-olds). Third, we examined whether the observed quality of child care was related to the number of years of operation for the center and to whether the center was subsidized or not.

Method

Sample

In 2000, we sent letters to the directors of 71 child-care centers, which we randomly chose from the listing in telephone books for the western and middle areas of The Netherlands, and asked them to participate in our study. A total of 59 (83%) agreed to participate. Refusal was mostly because of organizational circumstances. The child-care centers provided the names and addresses of 145 families with 15-month-old children who attended their centers. A total of 128 families (88%) agreed to participate in the research project and, of these families, we randomly selected 70 families to constitute the final sample. The 70 children came from 51 different care groups within 39 child-care centers located in either the western and middle areas of The Netherlands. The 51 care groups constituted the sample for the present study and comprised (a) 32 infant and toddler

groups, which included 0- to 2-year-old children and (b) 19 mixed-age groups including 0- to 4-year-old children.

Procedure

The administration of the ITERS (Harms et al., 1990) involved a full morning of observation (8 a.m. to 1 p.m.). We obtained information on those aspects of care that could not be observed by using structured questions that the caregivers answered. Four graduate students, who had been intensively trained by the first author and who were previously trained by the researchers responsible for the 1995 quality assessment (van IJzendoorn et al., 1998), administered the ITERS. We found the interrater reliability, expressed as Cohen's kappas, to range from .74 to .91 before the start of the study and to remain at that level as evident from eight reliability checks (two for each of the four graduate students) during the data collection.

Instruments and Measures

Process quality of child care. We assessed the process quality of care by using the ITERS (Harms et al., 1990) because, in the present study, we focused on the quality of care provided to infants and toddlers, although the mixed-age groups also included older preschoolers. The ITERS comprehensively assesses the day-to-day quality of care provided for children from birth to 30 months of age and consists of 35 items organized in seven scales. Each item was presented on a 7-point Likert-type scale, with descriptors for *inadequate* (1), *minimal* (3), *good* (5), and *excellent* (7). A rating of *inadequate* described care that did not even meet custodial care needs; a rating of *minimal* described care that met custodial, and to some small degree, basic developmental needs; a rating of *good* described the basic dimensions of developmental care; and a rating of *excellent* described high-quality and personalized care. The *inadequate* (1) and *minimal* (3) ratings usually focused on provisions of basic materials and on health and safety precautions. The *good* (5) and *excellent* (7) ratings required good materials, positive interaction, planning, and personalized care. In the present study, we used the Dutch version of the rating scale that had been applied in the 1995 quality assessment (Reiling, Verhoeven, & Tavecchio, 1995). We considered only 27 items, which represented those scales that most directly reflected the children's experiences in child care. These items included furnishings and displays for children (5 items; e.g., furnishings for routine care, feeding, and sleeping; storage of child's possessions; furnishing for relaxation and comfort), personal care (9 items; e.g., greeting and departing, meals and snacks), language (2 items; e.g., informal use of language, books and pictures), learning activities (8 items; e.g., eye–hand coordination, active physical play), and social interaction (3 items; e.g., peer interaction, discipline). The Cronbach alphas were .63, .70, .50, .60, and .85 for the five

scales, respectively. We also computed a total quality score by averaging the scores for the 27 items ($\alpha = .83$).

Structural measures. We assessed three structural features, which we noticed in results from earlier researchers, that were associated with the quality of care (Lamb, 1998). These features included group size, child–caregiver ratio, and caregiver education. We computed group size and child–caregiver ratio on the basis of the number of children and staff present on the day of our observation at the center. In addition, we assessed the caregiver experience with the present group of children because we expected more experience with a group would promote a better quality of care. To be able to make comparisons with the van IJzendoorn et al. (1998) study, we also recorded the age of the caregiver and the type of care group (i.e., infant and toddler group, which included 0- to 2-year olds, mixed-age groups, which included 0- to 4-year olds). Finally, we asked the directors of the centers to complete a questionnaire to assess how long the center had been in operation and, because by the time of the study about half of the Dutch child-care centers were partially subsidized by the municipality, whether the center was subsidized or not.

Results

Quality of Care in 1995 and 2001

Our first research question pertained to possible changes in the quality of care provided in Dutch child-care centers between 1995 and 2001. Table 1 shows the means and standard deviations for the quality scores in 1995 (van IJzendoorn et al., 1998) and in our 2001 study as well as the *t* values and effect sizes for the differences between the two measurements. In this study, we based all of the quality scores on the ITERS. Van IJzendoorn et al. also used the ECERS to assess the quality of child care in mixed-age groups. Like Howes and Smith (1995), van IJzendoorn et al. combined the ITERS and ECERS scores because there were comparable properties. The results of our study showed the overall quality of the child care in 2001 ($M = 4.3$) to be significantly lower than in 1995 ($M = 4.8$), with an effect size of $d = .76$. According to Cohen's (1988; see also McCartney & Rosenthal, 2000) conventions, an effect size of $d = .20$ is considered small, .50 is moderate, and .80 is large. Closer inspection of the results shown in Table 1 shows the decline in the total score to be mostly caused by declines in the language and learning activities scales. The mean language score decreased a full scale point from 4.7 in 1995 to 3.7 in 2001 ($d = .84$), and we also observed a large ($d = .90$) decrease in the learning activities scores ($M = .43$ in 1995; $M = .36$ in 2001).

In Table 2, we compared the quality of the care provided in Dutch child-care centers in 1995 and 2001 with the quality of center-based child care assessed

TABLE 1. Quality of Care in Dutch Child-Care Centers in 1995 and 2001

	1995 (N = 43) groups		2001 (N = 51) groups			
ITERS/ECERS	*M*	*SD*	*M*	*SD*	*t*(92)	*d*
Total score	4.8	.61	4.3	.74	–3.64***	.76
Scale scores						
Furnishings and display	5.1	.98	4.9	1.07	–1.18	.25
Personal care	4.3	1.06	4.4	1.11	.49	.09
Language	4.7	1.01	3.7	1.30	–4.00***	.84
Learning activities	4.3	.82	3.6	.71	–4.31***	.90
Social interaction	5.3	.97	5.1	1.46	–0.80	.17

Note. The 1995 results are based on van IJzendoorn et al. (1998). In 2001 quality was assessed using the ITERS, in 1995 using the ITERS or ECERS. Comparison of the 2001 scores with the 1995 ITERS scores yields the same significant differences as the present comparison of the 2001 scores with the 1995 ITERS/ECERS scores. The ITERS/ECERS Total score in 1995 was based on 6 scales. The scores for the scale progam structure are not shown in the table. When the total score for 1995 was based on the same 5 scales as for 2001, the difference remained significant at the same level.
*$p < .05$. **$p < .01$. ***$p < .001$, two-tailed.

using the ITERS/ECERS in other European and North American countries. We took the data on the other countries from van IJzendoorn et al. (1998). More recent data on the quality of child care in the same countries assessed using the ITERS/ECERS are not available. The quality of child care in The Netherlands in 1995 was comparatively high. The Dutch centers scored consistently higher than did the centers in other European countries and in the United States (van IJzendoorn et al., 1998). In Table 2, however, we showed that the Dutch centers have not retained their excellent standing. In 2001, the quality of child care in The Netherlands was not significantly different from the quality of care provided in the European samples that were considered together but did remain higher than the quality of child care of those in the samples from the United States that were considered together, t (944) = 4.59, $p < .001$.

To gain more insight into the adequacy or inadequacy of the child care provided in 2001, we examined the distribution of the scores for the different child-care groups among the categories of quality as defined by Harms et al. (1990; i.e., low = 1 to 2.9, moderate = 3 to 4.9, high = 4.9 to 7). In contrast to the 1995 sample in which inadequate care was not encountered at all (van IJzendoorn et al., 1996), we found inadequate care to characterize 6% of the care groups in 2001. As shown in Table 3, the majority of the child-care groups in 2001 (76%) provided a moderate quality of care and only 18% provided a high quality of care.

TABLE 2. Quality of Center-Based Child Care in Different Countries

Country	Study	ITERS/ECERS *n*	*M*	*SD*
	Europe			
Netherlands	1995 (van IJzendoorn et al., 1998)	43	4.8	.61
	2001 (present study)	51	4.3	.74
Portugal	Tietze et al. (1996)	88	4.4	.63
Sweden	Kärrby & Giota (1995)	40	4.4	.78
Germany	Tietze et al. (1996)	103	4.4	.74
Greece	Petrogiannis & Melhuish (1996)	25	3.5	.70
England	Mooney et al. (1996)	60	3.0	.70
Italy	Varin et al. (1996)	6	3.7	
Europe total		365	4.2	.90
	North America			
United States	Phillipsen et al. (1995)	398	4.0	.90
	Scarr et al. (1994)	363	3.5	1.05
	Phillips et al. (1994)	50	4.1	.98
	Hestenes et al. (1993)	30	4.4	.71
	Howes & Hamilton (1993)	54	4.1	1.01
United States total		895	3.8	1.01
Canada	Schliecker et al. (1991)	10	4.4	1.56

Note. The number is based on the number of child-care groups.

By contrast, in 1995, 40% of the Dutch child-care groups provided high quality care (van IJzendoorn et al., 1998). The percentages of child-care groups providing low, moderate, or high quality care were significantly different in 1995 and 2001, $\chi^2(2, N = 94) = 7.44$, $p < .05$. With respect to the 2001 scale scores, we found a low quality of care for mostly language (31%) and learning activities (18%), whereas we gave the majority of the groups high scores for social interaction (63%) and for furnishings and displays (53%).

Quality of Care and Structural Characteristics

Our second research question concerned the relation between the observed process quality of care and various structural features: (a) caregiver characteristics, (b) child–caregiver ratio, (c) group size, and (d) group composition.

Caregiver characteristics. We considered two caregiver characteristics in relation to the quality of care provided by the caregivers (i.e., caregiver age, years of expe-

rience with the present care group). Table 4 shows that caregiver age was not related to the quality of the child care provided in the 2001 sample. As we expected, we found that caregivers who had more years of experience with their present care group provided a relatively higher quality of care in 2001 ($r = .27$, $p < .05$).

Child–caregiver ratio. In Table 4, the number of children per caregiver ranged from 2 to 8.5 ($M = 4.2$). The 2001 child–caregiver ratio was almost equal to the national mean 6 years earlier ($M = 4.3$; van IJzendoorn et al., 1998), and like the 1995 sample, the child–caregiver ratio did not relate to the total measure of care quality. However, the 2001 social interaction scale scores proved to be lower for

TABLE 3. Number and Percentage of Groups Providing Low, Moderate, or High Quality Child Care in 2001

	Low		Moderate		High		
ITERS	*n*	%	*n*	%	*n*	%	*N* (100%)
Total score	3	6	39	76	9	18	51
Scale scores							
Furnishings and display	2	4	22	43	27	53	51
Personal care	5	10	30	59	16	31	51
Language	16	31	25	49	10	20	51
Learning activities	9	18	41	80	1	2	51
Social interaction	5	10	14	27	32	63	51

Note. Low = scores 1–2.9; Moderate = scores 2.9–4.9; High = scores 4.9–7.

TABLE 4. Correlations Between Structural Characteristics and Quality of Child Care Total Scores for 1995 and 2001

	1995 ($N = 43$)	2001 ($N = 51$)			
Characteristic	*r*	*r*	*M*	*SD*	Range
Caregiver age	.36**	.11	30.0	7.70	19–53
Caregiver experience		.27*	3.0	3.33	0–14.5
Child–caregiver ratio	.18	.02	4.2	1.25	2–8.5
Group size	.10	–.32*	9.1	2.60	5–17

Note. The 1995 results are based on van IJzendoorn et al. (1998). The caregiver experience is based on the number of years with the care group.
*$p < .05$. **$p < .01$, one-tailed.

care groups with more children per caregiver ($r = -.28$, $p < .05$). In addition, the correlation of the 2001 language scale scores with the child–caregiver ratio approached significance ($r = -.23$, $p = .57$). Children in groups with fewer children per caregiver scored particularly higher on the item of informal use of language ($r = -.41$, $p < .001$).

Group size. Table 4 shows that group size ranged from 5 to 17 children in the present study. Group size significantly related to the quality of child care provided in 2001 but not in 1995. In 2001, we observed higher quality care for groups with smaller numbers of children. With respect to the scale scores (not included in Table 4), we found significant correlations with group size for personal care ($r = -.27$, $p < .05$) and social interaction ($r = -.36$, $p < .01$).

Group composition. Next we explored possible differences in the quality of the child care provided by the different types of groups, namely the mixed-age groups (0- to 4-year-olds) and the infant and toddler groups (0- to 2-year-olds). As in 1995, we found no differences, with the exception of the learning activities scale $t(49) = 3.10$, $p < .01$, $d = .97$. The scores on the learning activities scale in 2001 were higher for mixed-age groups ($M = 4.0$, $SD = .64$) than for infant and toddler groups ($M = 3.4$, $SD = .66$). Finally, we observed that all of the groups with low quality-of-care scores (see Table 3) were infant and toddler groups.

Quality of Care in Relation to Subsidy and Years of Existence

Our final research question was to determine whether the observed quality of child care was related to the number of years the center had been in operation and whether the center was subsidized or not. Table 5 reveals substantial differences in the quality of child care provided in subsidized versus nonsubsidized centers. The overall quality of the care in groups from subsidized centers was judged a full scale point higher than in groups from nonsubsidized centers ($d = 1.37$). We found large differences in favor of the groups from subsidized centers for the scales of personal care ($d = 1.01$), furnishings and displays ($d = 1.57$), and learning activities ($d = .94$).

Next we examined the correlations between the years of existence for the child-care centers and the quality of the child care provided. We found that older centers provided a significantly higher quality of care ($r = .36$, $p < .05$, $d = .77$) than did newer centers. To explore whether the correlation between years of existence of a center and the quality of care provided in that center might be a result of more years of experience of the caregivers in older centers (older centers had more experienced employees, $r = .35$, $p < .05$), we also computed a partial correlation between years of existence and quality of care with caregiver experience partialled out. The significant partial correlation ($r = .32$, $p < .05$) indicated that the higher quality of care provided in older centers was not caused by more experienced employees.

TABLE 5. Quality of Care Provided in Groups From Subsidized Versus Nonsubsidized Centers

	Nonsubsidized (n = 24)		Subsidized (n = 27)			
ITERS	*M*	*SD*	*M*	*SD*	*t*(49)	*d*
Total score	3.8	.73	4.8	.51	4.77***	1.38
Scale scores						
Furnishings and display	4.2	.93	5.5	.77	5.46***	1.57
Personal care	3.9	1.01	4.9	.99	3.51***	1.01
Language	3.5	1.12	3.9	1.42	1.25	.36
Learning activities	3.3	.71	3.9	.61	3.20**	.91
Social interaction	4.8	1.67	5.3	1.23	1.19	.34

*$p < .05$. **$p < .01$. ***$p < .001$, two-tailed.

Because the subsidized centers in our sample were older than were the nonsubsidized centers ($M_{\text{subsidized}}$ = 14 years, SD = 3.71; $M_{\text{nonsubsidized}}$ = 5.2 years, SD = 3.71) $t(49) = 5.40$, $p < .001$, the higher quality of care scores for the subsidized centers in Table 5 might be attributed, at least in part, to their longer existence. The positive correlation between the quality of the care provided and the years of existence for a center is clearly depicted by the scatterplot in Figure 1, which also reveals a threshold effect: All of the groups with low quality of care scores come from centers operating for 6 years or less—from centers founded after 1995. The lack of centers in the lower right side of the figure shows that low quality care was not observed in the older centers—centers founded before 1995, which was the time van IJzendoorn et al. (1998) used for their first quality assessment. This threshold effect was also evident in the zero correlations between the quality of child care and years of existence for the groups from centers operating more than 6 years ($r = -.02$, $n = 33$) and for the groups from centers operating less than 6 years ($r = .03$, $n = 18$). The sizable correlation between the quality of child care and years of operation observed for the total sample ($r = .36$) can be explained by the difference between the centers founded before 1995 and those founded after 1995.

In Table 6, we provide a more detailed overview of the differences between the quality of care provided in groups from older versus newer centers. The variance in the quality of care was higher for the newly founded centers than it was for the older centers, which is depicted in Figure 1. Furthermore, substantial and clearly significant differences between the groups from older versus newer centers were evident for the overall quality of care ($d = 1.42$) and the scales of furnishings and displays ($d = 1.50$), personal care ($d = 1.21$), and learning activities ($d = .70$).

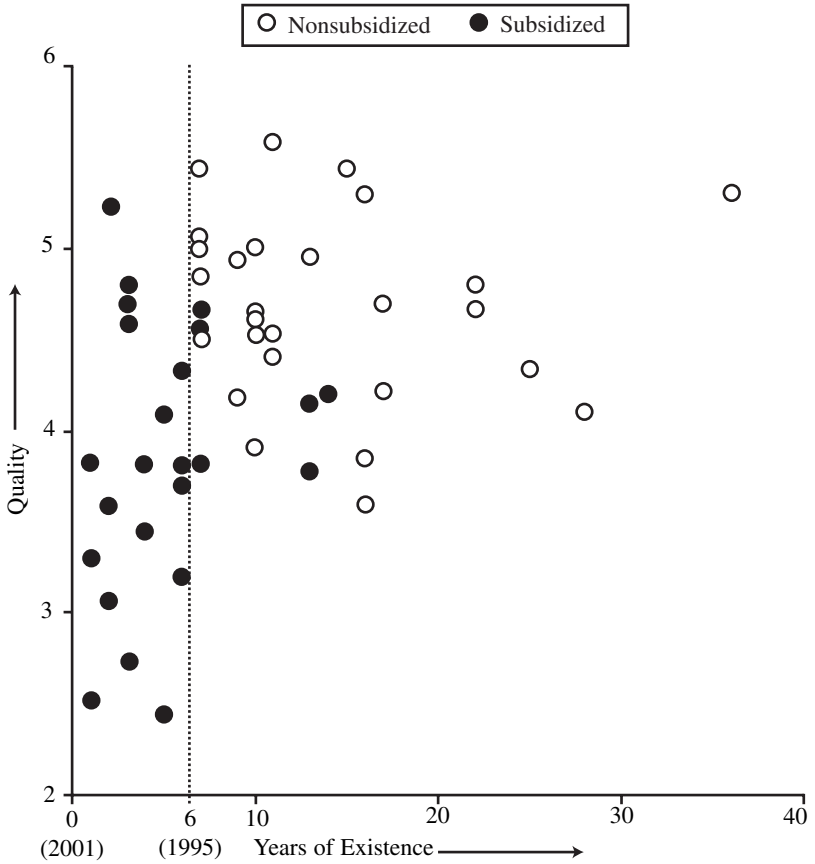

FIGURE 1. Quality of care in nonsubsidized and subsidized groups in relation to years of existence.

The results in Figure 1 and in Tables 5 and 6 show the effects of subsidization and the number of years of existence for child-care centers to be confounded. None of the newly founded centers (n = 18 groups) were being subsidized at the time of our study, whereas most of the older centers (n = 33 groups) were. This result may suggest that the lower quality of care found in the newer centers is because of the lack of funds available to such centers. When we examined the subsample of 33 groups from older centers, we found that those groups from subsidized centers scored significantly higher than did those groups from nonsubsidized centers ($M_{\text{subsidized}}$ = 4.7, SD = .51; $M_{\text{nonsubsidized}}$ = 4.2, SD = .36) $t(49) = 2.18$, $p < .05$. We could not conduct a similar comparison for the subsample of 18 groups from newer centers because none of those groups were subsidized at the time of our study.

TABLE 6. Quality of Child Care Provided in Groups From Recently Founded Centers (Operating ≤ 6 Years; Established After 1995) Versus Older Centers (Operating > 6 Years; Established Before 1995)

	Recently founded (n = 18)		Older (n = 33)			
ITERS	*M*	*SD*	*M*	*SD*	*t*()	*d*
Total score	3.7	.79	4.6	.52	4.70***	1.42
Scale scores						
Furnishings and display	4.0	.97	5.3	.82	5.03***	1.50
Personal care	3.7	1.05	4.8	.92	4.07***	1.21
Language	3.4	1.19	3.9	1.33	1.28	.38
Learning activities	3.3	.80	3.8	.61	2.36*	.70
Social interaction	4.7	1.79	5.3	1.23	1.27	.37

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

Discussion

Between 1995 and 2001, a period in which child-care centers were being rapidly established in The Netherlands because of a steep increase in the number of mothers with young children who worked outside of the home, the average quality of center-based child care has declined. The significantly lower average ITERS total quality-of-care score in 2001 was because of substantially lower scores on the scales for language and learning activities. On the scales for furnishings and displays, personal care, and social interaction, we did not find significant decreases when we compared our results with the quality information from 1995 (van IJzendoorn et al., 1998). In the majority (76%) of the child-care groups examined in 2001, we found the care to be of a moderate quality. We observed high quality care for only 18% of the sample. In contrast to 1995, when van IJzendoorn et al. (1998) did not encounter low quality care, we encountered inadequate care in 6% of the centers for the 2001 groups. We observed striking differences between the quality of care provided by the older, mostly subsidized, centers and the care provided by newer, unsubsidized centers—the newer centers provided a substantially lower quality of care than did the older centers.

It is a limitation of the present study that the 2001 assessment did not involve the same child-care centers as did the 1995 assessment. Such a longitudinal quality assessment would have permitted stronger conclusions with regard to changes in quality over time. The present comparison between child-care quality in 1995 and 2001 involved different samples of child-care centers. The 2001 study involved a random sample of child-care centers in the western and middle areas of The Netherlands, whereas van IJzendoorn et al. (1998) drew the 1995 sample

from a representative sample of child-care centers in The Netherlands. There are several arguments, however, that may lead one to think that the 1995 and 2001 samples were comparable. First, the 1995 sample also contained a relatively large proportion of child-care centers in the western and middle areas of The Netherlands because this part of the country is by far the most densely populated and has many child-care centers. Furthermore, using the 1995 data, the authors indicated that there was little variability in quality of child-care centers in the population, and they did not report differences in child-care quality between the western and middle areas of The Netherlands and other parts of the country. Finally, the refusal rate in the 1995 study was comparable with the refusal rate in the 2001 study.

Another difference between the 1995 study and the 2001 study was that van IJzendoorn et al. (1998) used both the ITERS and the ECERS to assess quality. In 2001, we used only the ITERS. As shown in Table 1, the comparison between the 1995 and 2001 quality ratings yielded exactly the same outcomes when we compared the 1995 ratings based on the ITERS with the ITERS and ECERS, which indicates the scales are comparable.

Although the Cronbach's alpha for the ITERS total quality rating, which was based on 27 items, was satisfactory ($\alpha = .83$), the alpha for some of the scales, and particularly the language scale ($\alpha = .50$, 2 items), was only moderate. However, the meaningful relation that we found between the language scale scores and the child–caregiver ratio in child-care groups supports the validity of the scale.

The differences in the quality of care between 1995 and 2001 lie mainly in the areas of language and learning activities (see Table 1). Even in the older child-care centers, which scored higher than the 1995 sample in some respects (compare Tables 1 and 6), the scores for language $t(74) = 2.98$, $p < .01$, $d = .70$ and learning activities $t(74) = 3.21$, $p < .01$, $d = .70$ were significantly lower than they were in 1995. In other words, the educational quality of child care provided in centers has declined, and the question is just how we can explain this change. One possible explanation for the observed decline in the educational quality of the child care provided in centers may lie in the enormous growth of child-care centers during the past few years, which has provided a clear shortage of qualified caregivers and an increased workload within the centers. Therefore, caregivers may be chiefly concerned with the basic care of children at the expense of more educational activities. The decentralization of child-care policy also may have contributed to the declining quality of center-based care. In 1995, just after the assessment by van IJzendoorn et al. (1998), the settings and imposition of quality regulations was relegated to local councils. The increased variability and decreased quality of the child care that we observed in both recently founded and in established centers may be the result.

Another explanation for the low scores detected for the two most educational scales from the ITERS may lie in the education of the caregivers. In The Netherlands, most child-care workers receive vocational training in contrast to

the higher professional education, which resulted in a bachelor's degree. The training of such caregivers (training for Social–Pedagogical Work [SPW–3]) is general and does not specifically prepare them to work with very young children. The 3-year training program involves 1 day of school and 4 days of supervised work per week across various domains of care and various age groups. In earlier years, child-care workers received much more specialized vocational training (training for Caregivers in Child-care Centers) and had both extensive and exclusive experience working with young children in child-care settings. The abolishment of such specific training in favor of more general social–pedagogical training might have contributed to the decreased quality of child care that we found in the present study. The type of vocational training among the caregivers in the present sample showed that the caregivers who completed the SPW-3 training did not provide lower quality of care than did the caregivers trained under the old system. Thus, the present decrease in the quality of child care is probably not caused by the changes in child-care training.

A finding in the present study is the large difference in the quality of care found for more established centers versus more recently founded child-care centers. Those centers opened since 1995, the year of the previous quality measurement by van IJzendoorn et al. (1998), scored significantly lower than did those centers already in existence before 1995. The three child-care groups with low quality-of-care scores were all more recently founded. Theoretically, the lower quality among the newcomers may simply reflect *teething troubles* and therefore may be largely temporary in nature. Because van IJzendoorn et al. (1996) did not examine the number of years of operation for the centers in their study, we cannot determine whether the 1995 sample also contained a group of newcomers or not. The complete absence of low quality child care in 1995, however, shows that serious teething troubles were not an issue in 1995 in any case. Our follow-up assessment of the newcomers may show whether the low quality of care in these centers is temporary or not. Separate from this conclusion, low quality child care should simply not exist—even if this type of care is temporary.

It is striking that none of the more recently founded child-care centers in our sample were subsidized. We do not know whether these centers did not apply for subsidies or whether they were refused. The latter is not unlikely because the local communities, which now provide the subsidies, have limited resources and may not be inclined to terminate already existing subsidies for established centers. It is likely that subsidies contribute to the quality of care provided in a center. In our study, the subsidized centers scored higher than did the nonsubsidized newcomers (founded after 1995) and higher than did the nonsubsidized centers founded before 1995 (also see Figure 1). If this result means that subsidization benefits child care, then one can consider the implications of the law on child care that was introduced in The Netherlands on January 1, 2005. Under this law, government subsidies are no longer paid to child-care centers but rather are given directly to parents (through a tax measure), who can then purchase care as they see fit.

Whether the presently subsidized centers will succeed in maintaining the high level of care is the question.

The new law on child care also ended all structural regulations, including those that regarded group size, child–caregiver ratios, and caregiver education. Quality inspection has been confined to health and safety conditions. The reason for this inspection criteria is to enable the operation of market forces. Parents are expected to automatically choose the highest possible quality for their children, which should then result in the elimination of low quality centers in the long run. Because of the relatively high cost of child care in The Netherlands (OECD, 2000 2001), the continued lack of openings in child-care centers, and the lack of information on the quality of child care for parents, it remains to be seen whether market forces will effectively maintain an adequate—if not good—level of child care (also see Vandell & Wolfe, 2000). On the basis of the declining quality of child care during the past years, particularly among the newer centers, researchers should assess the quality of child care in The Netherlands in 6 years, after the new law on child care has been evaluated.

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