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A Comparison of the Quality in Public and Private Child-Care Center

Kwon, Jeong Yoon* · Han, You Me**
Department of Early Childhood Education, Sungshin Women's University, Seoul, Korea*
Department of Early Childhood Education, Hoseo University, Chunan, Korea**

국공립 보육시설과 사립 보육시설의 질 비교

권 정 윤* · 한 유 미**
성신여자대학교 유아교육과* · 호서대학교 유아교육과**

국문초록

본 연구의 목적은 국공립 보육시설과 사립 보육시설을 구조적, 과정적, 소비자 관점의 질 등 세 가지 질의 관점에서 비교하고, 이들 세 가지 유형의 보육의 질 간의 관계를 알아보는 것이었다. 이를 위하여 서울시에 위치한 국공립 보육시설 8개소와 사립 보육시설 8개소를 관찰하고, 이 보육시설들을 이용하는 어머니 293명을 대상으로 질문지 조사를 실시하였다. 그 결과, 국공립 보육시설과 사립보육시설은 구조적 질과 소비자 관점의 질 측면에서는 유의한 차이가 있지만 과정적 질 측면에서는 유의한 차이가 없는 것으로 나타났다. 그러나 공립과 사립 보육시설의 과정적 질이 유사함에도 불구하고 소비자로서의 부모들은 공립 보육시설에 더 만족하는 것으로 발견되었다. 또한 보육시설의 구조적인 질은 과정적 질, 소비자 관점의 질과 상관이 있으나 과정적인 질은 소비자 관점의 질과 유의한 상관이 없었다.

주제어: 보육의 질, 보육, 국공립 보육시설, 사립 보육시설

I. Introduction

Over the past 15 years a number of studies have examined the effects of child-care quality on children's behavior and development, as social needs for child-care has increased. Researchers reached the same conclusion that a significant correlation exists between program qualities of child-care and outcomes for children (Frede 1995; Howes 1992; Kim et al. 2004; Shim & Kim 2005; Williams 1998). For example, NICHD study of early child-care indicates that quality of caregiver-child interaction is related to better cognitive and language scores for children and to more positive mother-child interactions across the first three years of life (NICHD Network, 1997).

There are different ways to define and measure the child-care quality. Since quality can mean differently to different people (Gunnarsson et al. 1999; NCEDL 1997), the indicators of quality are

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Corresponding Author: Han, You Me Tel: 82-41-560-8134 FAX: 82-41-560-8114
E-mail: hanym@office.hoseo.ac.kr

often categorized by three different aspects, which is quality of structure, process, and services, in research of child-care quality (Munton et al. 1995; Phillips et al. 1994). First, the structural quality is considered as one of the most common definitions that refers to objectively measurable variables such as class size, teacher and child ratios, physical settings or outdoor facilities, educational level of teacher, and teacher training.

Second, quality can be focused on how care-givers interact with children and the actual experiences children have. This might be called as the process quality which refers to the quality of children's activities, teacher sensitivity and stimulation for children, and relationships among children and teachers in child-care centers (Phillips et al. 1994). High process quality depends on well functioning of different levels of elements in the child-care setting. Measurement of process quality has been conducted with the use of several scales including globally well-known the ECERS(The Early Childhood Environment Rating Scale) scale.

Third, the quality of services is a different way of defining quality that takes as its starting points the parents using the child-care, in their roles as clients or customers (Gunnarsson et al. 1999). In measuring quality of services, issues that could be focused on efficient administration and distribution of places, access, opening hours or parental freedom to choose among different child-care centers.

Among the variables that related to the child-care quality, teacher variable is considered as the most significant factor to influence children and the quality (Berk 1985), though it showed inconsistent result of its effects on them. Friesen (1995) reported that the educational level of teachers and their child-care experiences were related to the total child-care quality. On the other hand, Thompson (1992) argued that the educational level of teachers and their in-service training experience were not related to the child-care quality.

There is an increasing recognition that the quality of child-care is important for the well-being of young children in Korea. Most of the researchers reported the quality of child-care in terms of structural features such as group size, teacher and child ratios, space, teacher qualifications, staff training, wages, and safety (Bang 2005; Cho 2005; Choi 1999; Ju & Lee 2001; Koo & Kim 2005; Lee & Lee 2001), and the relationship between quality and outcomes (Choe & Mun 2004; Lee et al. 2005; Oh & Kwak 2006).

Also, the effort of establishing national level of child-care quality accreditation system has been reinforced in past a few years. Accordingly, recent studies have focused on teachers' perception of child-care accreditation and cross national comparison of child-care accreditation (Lee 2005; Lee 2002; Shim et al. 2006). Despite of extensive studies in child-care quality, it is hard to find the studies of reporting three aspects of child-care quality and the relationships among these dimensions of the quality in Korea.

Most of the studies on child-care quality were conducted to examine structural quality and process quality and their relations to children's development and/or adjustment (Cho & Lee 2004; Jun & Lee 2002; Son & Song 2004). Studies on service quality of child-care were addressed in terms of parental satisfaction with the service of child-care (Ji & Park 2000; Jun 1999; Ko 2003). These studies primarily presented descriptive data of service quality or comparison with sub-categories or parents' demographic variables.

The private child-care centers take up almost 70% of total child-care in Korea, but its lower quality comparing to public child-care's has been criticized. Researchers also pointed these quality difference between public and private child-care. Ju and Lee (2001) indicated that there were significant differences among the overall quality of private, private corporate, and public child-care. Also, Won (2000) reported that the structural quality of public child-care centers was higher than that of private and family day care in Ulsan city. Though these studies compared the quality of public and private child-care centers, the instruments were mainly questionnaires or observation of only teacher's interaction with children.

The discrepancy of child-care quality between public and private sector is an important issue to address in the discussion of transition of private child-care center into private corporate child-care center these days in Korea. Therefore, it needs more specific studies that identify the differences of public child-care center and private child-care center in terms of quality and interrelationship among the types of quality.

In sum, the current study explored the three aspects of child-care quality by the types of child-care center, and examined the relationships among three aspects of child-care quality. The result of this study would provide an important basis for understanding the current state of the child-care quality in public and private child-care center.

The research questions are:

1. How are the structural qualities of child-care different by the types of centers?
2. How are the process qualities of child-care different by the types of centers?
3. How are the service qualities of child-care different by the types of centers?
4. What are the relationships among three aspects of quality in child-care centers?

II. Method

1. Subjects

The subjects of this study are sixteen child-care centers (8 public and 8 private) in Seoul and 293 parents. They are sampled through the following process. First, Seoul was classified into four geographical areas such as east-north, east-south, west-north, and west-south and then two districts were selected from each area. Finally, one public child-care center and one private child-care center were sampled from each district.

2. Measures

1) Structural Quality

Structural quality was measured by size of the class, number of teacher in the class, number of staff (e.g., principal, vice principal, nurse, cook, and driver), teacher and child ratios, and educational level of the teachers.

2) Process quality

The Early Childhood Environment Rating Scale (ECERS; Harms & Clifford 1980) was used to evaluate structural and process quality of child-care. ECERS is widely used instrument that reflecting a broad understanding of quality in child-care centers (Cryer et al. 2002; Phillipsen Burchinal et al. 1997). It consists of 37 items rating a seven point scale under seven content areas, including personal care routines of children, furnishing and display, language-reasoning experiences, find and gross motor activities, and creative activities, social development, and adult needs. The items are presented as a seven-point scale with quality descriptors under one(inadequate), three(minimal), five(good) and seven(excellent). A score 4 is given when everything on number 3 is accomplished and half on number 5. The raters observe the environment, activities, and teacher and child interactions in terms of developmental appropriateness for children, while spending all day in the classroom in order to conduct an assessment with ECERS.

Two trained raters evaluated the quality with ECERS and their inter-rater reliability was .89.

3) Consumer quality

In order to examine the consumer quality, 'Scales of Parental Satisfaction with Child- care (Yoo & Kang 2002)' was used after the revision. This questionnaire measures the parental satisfaction for child-care centers under nine sub-scales, such as the fee, teacher, the program, child-care settings, working hours, distance, food, safety of child-care, and extra-curricular activity. The parents were asked to indicate their satisfaction from non-satisfaction to very high satisfaction (1-5 point scale). The content validity was obtained by three professors of early childhood education. The reliability was .79.

3. Procedure

The Korean Association of Child-care Facilities and officers related with child-care introduced the subject child-care centers from each of four districts. With the help of the Korean Association of Child-care Facilities, researchers contacted with the directors of each child-care center and asked for participation. The researchers were trained to assess quality with ECERS, and conducted pilot assessment with five child-care centers using ECERS and measured the inter-rater reliability.

On child-care setting evaluations, the rater observed with ECERS while spending all day in the class and the setting, which took 4 weeks to evaluate sixteen child-care centers. The rater observed the space (e. g., the size of classroom), equipment and materials (e. g., sufficiency of educational materials as well as child play materials) used inside and outside, physical surroundings (e. g., child-care center), documentation (e. g., room display, classroom news, etc), the atmosphere, and the interaction between teacher and child (e. g., impressions that must be interpreted or implied from, the observed communication and social interaction). Also, the rater conducted semi-structural interview with the director about the management of child-care center, and asked some questions to teachers before the children come to the classroom or snack to supplement for rating ECERS. For example, the rater asked the total number of enrolled children in the child-care center, curriculum for cultural awareness, in-service training for teachers, and parent conference and meetings.

In order to assess the consumer quality of child-care center, researchers asked the classroom teacher to distribute 400 questionnaires to the mothers of the children who enrolled in each of center. Among them 310 questionnaires were returned, but seven was discarded because of inappropriate responses. Therefore, 293 questionnaires were used in analysis.

Table 1. General information of participants

Subject	Variable	Category	N(%)
Child-care center	area	east-north	4(25.0)
		east-south	4(25.0)
		west-north	4(25.0)
		west-north	4(25.0)
		total	16(100.0)
	types	public	8(50.0)
		private	8(50.0)
		total	16(100.0)
Mother	age	30 and below	42(14.5)
		31-35	169(58.5)
		36-40	67(23.2)
		41 and above	11(3.8)
		total	289(100.0)
	education	high school	108(37.8)
		college(2yrs)	58(20.3)
		university(4yrs)	97(33.9)
		graduate school	23(8.0)
		total	286(100.0)
	job	yes	147(53.1)
		no	130(46.9)
		total	277(100.0)

4. Data Analysis

The data was analyzed by SPSS WIN Program. In addition to descriptive statistics, Mann-Whitney test which is one of the non-parametric statistics was used for research question 1 and 2 since the numbers of the child-care centers were 16. Independent t-test and Pearson correlation were performed for research question 3 and 4 respectively.

III. Results

1. Structural quality

As shown in Table 2, the public child-care centers had similar class size with those of private. The public child-care centers tend to have more teachers in a class and lower teacher and child ratio than those of private; however, Mann-Whitney test did not reveal the statistical significance (see Table 3). Only significant difference in the structural quality was found in educational level of teachers ($U=1353.500$; $p<.05$).

The teachers of public child-care center had higher education level than those of private child-care.

Table 2. Descriptive statistics of structural quality

Items	Public (n=8)		Private (n=8)		Total	
	M (SD)	Min-Max	M (SD)	Min-Max	M (SD)	Min-Max
Size of class	20.75 (6.88)	11-33	21.50 (4.17)	18-31	21.13 (5.50)	11-33
No. of teacher	1.50 (.93)	1-3	1.00 (.00)	1-1	1.25 (.68)	1-3
Teacher : child ratio	16.00 (5.95)	8-26	21.50 (4.17)	18-31	18.75 (5.74)	8-31
Teacher education[a]	1.97 (.57)	1-4	1.72 (.56)	1-4	1.85 (.59)	1-4

a Number of teachers: Public (n=63), Private (n=54), Total (n=117)

Table 3. Mann-Whitney test of structural quality

Items	M rank		Total rank		Mann-Whitney U
	Public (n=8)	Private (n=8)	Public (n=8)	Private (n=8)	
No. of children	8.00	9.00	64.00	72.00	23.00
No. of teacher	9.50	7.50	76.00	60.00	30.00
Teacher : child ratio	6.13	10.88	49.00	87.00	30.00
Teacher education[a]	64.52	52.56	4064.50	2838.50	1353.500*

*p<.05; a Number of teachers: Public (n=63), Private (n=54), Total (n=117)

2. Process quality

As shown in table 4, the average of process quality in the subject is 2.83 (range of 1-7) which means below minimum level of quality in ECERS. Among the six sub-scales of process quality, 'adult needs' (M= 3.33) had relatively high score followed by 'personal routine care' (M=3.23), and 'language and reasoning experiences' (M=3.13). The lowest score of subscale was the 'furnishings and display for children' (M=2.28).

All of six sub-scales showed mean difference that public child-care center showed relatively higher scores except the measures of 'furnishing and display for children' and 'perceptual and fine motor activities'.

Table 4. Descriptive statistics of process quality

Items	Public (n=8)		Private (n=8)		Total	
	M (SD)	Min-Max	M (SD)	Min-Max	M (SD)	Min-Max
Personal care routines	3.38 (1.08)	2.50-5.75	3.09 (.90)	1.50-4.25	3.23 (.97)	1.50-5.75
Furnishings & display for children	2.22 (.99)	1.00-3.75	2.34 (1.03)	1.00-4.25	2.28 (.98)	1.00-4.25
Language/ reasoning experiences	3.34 (.81)	1.75-4.25	2.91 (1.15)	1.50-4.75	3.13 (.99)	1.50-4.75
Perceptual/fine motor	2.50 (1.31)	1.00-4.50	2.88 (1.16)	1.00-4.50	2.69 (1.21)	1.00-4.50
Creative activities	2.88 (1.01)	1.83-4.50	2.65 (.87)	1.33-3.50	2.76 (.92)	1.33-4.50
Social development	2.44 (.88)	1.33-3.83	2.31 (.89)	1.00-3.33	2.38 (.86)	1.00-3.83
Adult needs	3.58 (.85)	2.33-5.00	3.08 (1.26)	1.33-4.67	3.33 (1.07)	1.33-5.00
Total	2.90 (.84)	1.88-4.20	2.75 (.87)	1.24-3.81	2.83 (.83)	1.24-4.20

Mann-Whitney test was performed to investigate the group difference, but no significant group difference was found in any sub-scale scores as well as the total score of ECERS (see Table 5). It implies that the public child-care center and the private child-care center are not so different in terms of process quality.

Table 5. Mann-Whitney test of process quality

N=16

Items	M rank		Total rank		Mann-Whitney U
	Public (n=8)	Private (n=8)	Public (n=8)	Private (n=8)	
Personal care routines	9.56	7.44	76.50	59.50	23.500
Furnishings & display for children	8.69	8.31	69.50	66.50	30.500
Language/ reasoning experiences	9.81	7.19	78.50	57.50	21.500
Perceptual/fine motor	9.38	7.63	75.00	61.00	25.000
Creative activities	9.44	7.56	75.50	60.50	24.500
Social development	9.88	7.13	79.00	57.00	21.000
Adult needs	8.75	8.25	70.00	66.00	30.000
Total	9.38	7.63	75.00	61.00	25.000

3. Consumer quality

General features of the quality from the consumer perspective are illustrated in table 6. On average, the result of consumer quality measured by mothers was neutral (range of 1-5; M=3.09). The highest item was teacher (M=3.28) followed by time (M=3.17) and distance (M=3.15) while the lowest item was facility (M=2.85). It implies the need for investment of the child-care equipment or facilities.

Table 6 presents the results of comparison between the public child-care center and the private child-care center in terms of nine sub-scales of consumer quality. Except the program, the public child-care center obtained higher scores on all of the consumer quality measures than the private child-care center. As a result of t-test, the group difference was significant in the four sub-scales of consumer quality as well as the total score. It means that the mothers of public child-care center were more satisfied with the fee (t=4.36, p<.001), facility (t=3.66, p<.001), time (t=3.66, p<.001), and food (t=5.08, p<.001). Also, the total score of consumer quality was higher in the mothers of using public child-care centers (t=4.02, p<.001).

Table 6. Independent t-test of consumer quality measured by parent satisfaction

N=293

Items	Public (n=171)	Private (n=122)	Total Child-care	t
	M(SD)	M(SD)	M(SD	
Fee	3.14(.54)	2.87(.52)	3.00(.55)	4.36**
Teacher	3.34(.52)	3.23(.50)	3.28(.51)	1.85
Program	3.05(.50)	3.07(.41)	3.06(.45)	-.45
Facility	2.99(.64)	2.73(.57)	2.85(.62)	3.66**
Time	3.25(.53)	3.10(.41)	3.17(.47)	2.56*
Distance	3.23(.67)	3.09(.67)	3.15(.67)	1.77
Food	3.32(.54)	2.99(.54)	3.14(.57)	5.08**
Safety	3.17(.50)	3.07(.54)	3.12(.52)	1.56
Extra-curricular activity	3.06(.58)	2.98(.59)	3.02(.59)	1.16
Total	3.17(.35)	3.02(.31)	3.09(.34)	4.02**

*p<.05, **p<.01

4. Relationships among three aspects of quality

Pearson correlation was conducted to investigate the relationships among the three aspects of quality (structural, process, and consumer) and their sub-scales(Table 7). All sub-scales of the structural quality were significantly correlated with the total score of process quality. It implies that the class size (r=.16, p<.01), the number of teachers (r=.54, p<.01), and teachers' education level (r=.36, p<.01) were positively related to the total score of process quality, but teacher and child ratio was negatively correlated with the total score of process quality (r=-.42, p<.01).

Among the four sub-scales of structural quality, only the education of teacher positively correlated with the total score of consumer quality (r=.16, p<.01). It suggests that the structural characteristics such as class size, number of teachers in a class, and teacher and child ratio do not have direct effect on consumer quality while high level of teachers' education is the important factor in consumer quality.

Finally, the total score of process quality was not significantly related to the total score of consumer quality.

Table 7. Correlations among the three types of quality

N=293

		Structural				Process	Consumer								
		①	②	③	④	①	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Structural	①Classs Size	1														
	②No. of Teacher	.58**	1													
	③Ratio	.28**	-.59**	1												
	④Teacher Ed	-.21**	.02	-.08	1											
Process	①Total	.16**	.54**	-.42**	.36**	1										
Consumer	①Fee	.11	.02	.13*	.17**	.03	1									
	②Teacher	-.01	-.03	.07	.10	.10	.34**	1								
	③Program	-.02	.01	-.01	.00	.08	.20**	.45**	1							
	④Facility	.14*	.01	.12*	.14*	.14*	.21**	.30**	.34**	1						
	⑤Time	-.02	-.06	.08	.10	-.01	.34**	.38**	.29**	.36**	1					
	⑥Distance	.07	.04	.04	-.00	.02	.24**	.25**	.04	.11	.21**	1				
	⑦Food	.13*	.05	.09	.17**	.12	.30**	.42**	.37**	.33**	.41**	.24**	1			
	⑧Safety	.15*	.05	.11	.07	.50	.26**	.41**	.39**	.38**	.40**	.13*	.54**	1		
	⑨Extra-curri.	-.04	.03	-.06	.13*	.13*	.14*	.33**	.49**	.34**	.35**	.06	.41**	.44**	1	
	⑩Total	.10	.02	.11	.16**	.12	.54**	.68**	.61**	.61**	.66**	.44**	.72**	.69**	.63**	1

*p<.05, **p<.01

IV. Conclusion and Recommendation

This study investigated the child-care quality of public and private child-care centers in terms of the three aspects of quality and examined the relationships among three dimensions of child-care quality. The results presented here suggest that there was a significant difference in the structural and consumer quality but no significant difference was found in the process quality between public and private child-care centers. Also, the structural quality was significantly related to the process quality and consumer quality. But the process quality was not significantly related to the consumer quality of child-care.

First, the result of research question 1 showed that the sub-scales of structural quality were similar between pubic and private child-care centers. Such as the class size was 20-21 in both types of child-care centers, and the number of teachers and the teacher and child ratio did not show meaningful difference. Even though there was no significant difference in three sub-scales between two types of child-care centers, the numbers of teachers per class were different. Only one teacher was observed in the classroom of each of the eight private child-care centers whereas 1-3 teachers taught in the classroom of each of the public child-care centers. This seems to make the difference in teacher and child ratio between public child-care and private child-care centers (1:16 vs. 1:21, respectively), despite of the similar total number of children per class in those two types of child-care centers.

Also, teachers' education level was significantly high in public child-care centers, which is consistent with the results that the percentage of college graduated teacher was high in public child-care than private child-care centers (Ju & Lee 2005; Lee et al. 2005). It reflects recent trends that profit oriented private child-care centers usually hire 1-year teacher training program graduated teachers, and 4-year college graduated teachers prefer to work at public child-care centers. Since the structural quality, such as educational level of teachers, educational experience, and in-service training is important factor that related to the consistency of child-care (McMullan 1999), and total child-care quality (Friesen 1995), the difference of teacher education between two types of child-care may effect on the total quality difference between public and private child-care centers.

Second, the result of research question 2 indicated that the process quality of public and private child-care centers in this study was low, which means process quality was below the level of good (i.e., point 3) by ECERS. Unlike the common expectations, there was no significant difference in the total score as well as the sub-scales of process quality between public and private child-care centers. This result supports Yoo (1997) and Lim (2002)'s result of no significant difference found between public and private child-care process quality. However, it is different from the Ju and Lee (2005)'s study that the process quality of private child-care, especially in teacher and child interaction was higher than public ones, and Jung, Oh, and Ahn (1995)'s result that high process quality was found in public centers than private centers.

The studies regarding process quality by the types of child-care centers presented different results which may due to the difference of research tools, such as whether use of reviewer from outside and the scale that each study has used. For example, Ju and Lee (2005) used a questionnaire that the director of each child-care center was asked to rate his/her centers, and Koo and Kim (2005) used teacher rating scale rather than using trained observer that the researcher modified and combined some of the child-care quality rating scales. But this study used ECERS as well as trained observer to evaluate process quality.

This result also might be attributed to the fact that the subject child-care center is only 16 and limited to Seoul area. If it compares the public and private child-care centers in small cities or rural area, it may produce different results.

Third, the result of research question 3 showed that there was a significant difference in the consumer quality between public and private child-care centers. The mothers of public child-care centers showed higher satisfaction for the child-care service than private mothers. This result is similar with the result of Kim (2001), Park (2000), Yoo and Kang (2002)'s study but it is different from the study of Kim and Kim (2003), and Choi (1998).

One of interesting thing is that despite of the non-significant difference in the process quality between two types of child-care, significant difference was found in the consumer quality. It means that the mothers' satisfaction was different by the types of child-care centers even though the public and private child-care centers provide similar quality of services. This result suggests that the mothers feel safe and put confidence in the centers when they use nationally managed child-care. Therefore, the government should concentrate on enlarging public child-care centers and converting the existing private child-care facilities into private corporate centers for realization of consumer friendly child-care policy.

The sub-scales where the difference of consumer quality was found were child-care fee, facility, time, and food. This result is consistent with the Yoo & Kang (2002)'s study that the mothers' satisfaction level was high in the area of child-care fee for public centers, and in the area of providing transportation for private child-care centers, which confirms the affordable child-care fee is the most important factor for good child-care.

Forth, significant relationships were found between the structural quality and the process quality. The class size, the number of teachers, and teachers' education level were positively related to the process quality, but the teacher and child ratio was negatively related to the process quality of child-care. These relationships suggest that the teacher and child interaction are related to the structural characteristics of child-care facilities (e.g., the teacher and child ratio, class size, teacher's educational level, and experience; Howes & Rubinstein 1985; Jun & Lee 2002). Also, teacher and child interactions are well developed when they have big enough class size and low teacher and child ratio (Jun & Lee 2002).

Unlike the notion of the negative relationships between class size and the process quality of child-care, this study showed a weak positive relationship between the class size and the

process quality of child-care. It can be explained that even though there were many children in the class, more than two teachers were observed in class which lowers the teacher and child ratio eventually. This result suggests that it should be focused primarily on lower the teacher and child ratio than on decrease the class size; therefore, dual teacher system would be effective in this matter.

Also, the result, which is the positive relationship was found between the educational level of teacher in the structural quality and the process quality, is different from the result of Lee (2000) and Thompson (as cited in Lee 2000) who found no relationship was found between educational level of teachers and the quality of child-care. However, it supports Friesen (1995) who indicated teacher educational level was related to the quality of child-care.

The consumer quality was only related to the teacher's education level in the structural quality of child-care. That is, this study showed that the consumer quality of child-care was not significantly related to the general child-care quality measuring variables, such as the class size, number of teachers per class, teacher and child ratio, and the process quality. This result is somewhat different from the study of Lim (2002) and Oh (2005) that the mothers' satisfaction was high when they use high quality of child-care centers. Rather, it reflects the mothers' satisfaction was greatly depended on the teacher who educates and cares the child than the objective aspects of child-care and general process quality. Thus, this result confirms the importance of teacher factor in child-care quality (McCartney 2004).

This study sampled the child-care centers considering distribution of each district of Seoul; however, the result has limitation because only 16 child-care centers in one city were evaluated in the study. Therefore more numbers of child-care centers with relevant areas should be included in future studies, since the quality of public and private child-care centers may different by the area.

The results of this study taken together provide implications for policy makers as well as practitioners. As policy makers strive to ensure that more child-care centers provide high quality environments and educational services, our findings suggest that the existing private child-care centers should increase their child-care qualities in order to meet parental satisfaction and their needs for children. Since we have faced to low birth rate, in addition to the lack of public funds for establishing new public child-care centers, this way may help to solve the child-care quality problems.

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