

Child Care Quality, Children's Development, and Compliance with Regulations



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Introduction

The only public policy designed to maintain quality control in child care consists of each state's licensing regulations. It is assumed that when child care programs comply with licensing regulations, they meet a level of quality that will, at the very least, not be harmful to the development of young children (Fiene & Nixon, 1981). Variation in regulatable characteristics of child care is related to differences in children's intellectual, language, and social development or experiences. Little research has been done to determine how regulatable aspects of child care (those aspects of quality that enter into licensing criteria) relate to measures of quality determined by standards of the child care profession. Specific information is needed regarding how much children's development is influenced by differences in regulatable characteristics of child care after all other relevant variables have been taken into account. Information of this nature will help determine which regulatable characteristics of centers are most critical to quality as it is defined by professional criteria and observed in child development outcomes.

A unique opportunity to obtain data arose in the state of Pennsylvania, where the Office of Children, Youth and Families (OCYF) was wrestling with several related licensing issues. Pennsylvania implemented an instrument-based program monitoring system to determine the level of center compliance to licensing regulations. The average center in the state was in compliance with 97% of the regulations (Fiene, 1980). Most centers, therefore, met the basic floor of quality.

In Pennsylvania, child care centers are required to apply to and be accepted by the state as licensed vendors of subsidized child care slots. The state had no way to objectively discriminate among the quality of services provided by centers. Thus, OCYF sought data to help pinpoint key quality indicators from individual regulatable center characteristics by determining how well these characteristics predict child development outcomes, licensing compliance scores, and an environment quality score as defined by early childhood professionals. This study was conducted in collaboration with OCYF because they planned to formulate this data into public policy pertaining to child care regulations and funding.

Methods

Of the 40 centers selected as representative of the 350 centers in the northeast region of Pennsylvania, only 25 randomly selected centers volunteered while 10 centers actually participated in this study. The random sample of 10 participating centers consisted of 5 urban/non-profit, 3 urban/profit, one rural/non-profit, and one rural/profit. Child care directors provided a list of all 3, 4, and 5-year-old children who had attended the center full-time (more than 20 hours per week) for at least six months. These 100 randomly selected children were divided by gender (53 males and 47 females), and were from all socioeconomic levels. Compliance with licensing regulations in Pennsylvania is monitored through an instrument-based system.

The Child Development Program Evaluation (CDPE) is comprised of the following seven subscales: program administration, environmental safety, child development program and curriculum health, nutrition, parent involvement, and transportation. Each item on the CDPE was empirically given a weight (translated into points) based on ratings of the level of risk to children's health and safety if the center is out of compliance (see Fiene & Nixon, 1981).

The second measure of quality involving compliance to licensing regulations was the percent of items passed on the CDPE Indicator Checklist (CDPE-IC). The CDPE-IC is a 15-item scale comprised of the best predictors of the total score from the full scale (Fiene & Nixon, 1985). The Early Childhood Environment Rating Scale (ECERS) (Harms & Clifford, 1980) was administered at each center by one of the three-member research team. The items focus on seven areas of quality (personal care routines, furnishings and display, language and reasoning experiences, creative activities, fine and gross motor activities, social development, adult needs).

Methods

Seven center characteristics – one process variable and six structural variables – were individually measured: staff turnover, center capacity, staff-child ratio, group size, director's experience, average staff experience, and proportion of staff with 4-year degrees.

A standardized telephone interview was used to obtain family background information and characteristics of the family from the mother. A team of three researchers visited each center for one day to obtain the ECERS scores and administer to children the Slosson Intelligence Test and the TELD. Children's primary caregivers were given instructions for completing the rating scales.

Results

Table 1: Means Standard Deviations, and Ranges for Each Variable

Variable	Mean	SD	Range
Age of child (months)	52.80	8.66	36-70
Family background:			
Mother's education (years)	13.07	2.74	4-21
Value for pro-social (score)	10.28	2.24	5-14
Child care experience:			
Age at child care entry (months)	24.98	14.64	1-60
Time in care (hours)	4084.43	2097.14	270-9360
Center quality:			
ECERS	139.62	21.59	111-176
CDPE-IC (%)	88.94	7.03	80-100
CDPE	34.00	39.48	-51-100
COFAS	67.97	10.54	54-87
Center characteristics:			
Turnover (%)	27.88	19.99	0-70
Capacity	66.16	33.33	20-127
Group size	22.85	6.67	15-39
Ratio	9.81	2.06	6-15
Director's experience (years)	8.09	3.88	2-14
Average staff experience (years)	6.51	3.88	24-145
4-year degree (%)	49.00	56.00	0-100
Child development outcomes:			
Slosson	112.47	16.84	71-150
CBI-Int	52.83	18.34	-5-91
TELD	101.72	13.07	67-130
ALI	60.29	11.41	33-90
PBQ	15.91	9.60	0-38
CBI-Soc	31.89	14.48	2-67

Results

Table 1 presents means, standard deviations, and ranges for each variable included in the analyses. According to scores on the full CDPE, only six centers qualified to be fully licensed, three could be provisionally licensed, and one would be denied a license. Out of the seven individual center characteristics, four predicted caregiver behavior (COFAS) and two the total CDPE, and three ECERS.

The individual center characteristics were most strongly related to caregiver behavior both in number and strength of correlations. Capacity, group size, and ratio were the structural characteristics most consistently related to any aspect of quality. Interestingly, and contrary to findings in other studies, group size was positively related to quality.

The contribution of variations in center quality and characteristics to children's development was measured in two ways. Center characteristics and quality measures most consistently predicted language development as measured by the TELD.

The correlations were confounded with children's ages, family background, and child care experience. The subsequent set of analyses attempted to control for the effects of these variables in order to obtain a clearer picture of how children's development is affected by individual center characteristics and center quality. Capacity, group size, and ratio were the structural characteristics most consistently related to any aspect of quality.

Table 2: Correlations of Center Characteristics and Quality Measures with Child Development Outcomes Measures

Characteristics:	Child development outcomes (n=100)					
	Intellectual		Language		Social	
	Slosson	CBI-Int	TELD	ALI	PBQ	CBI-Soc
Turnover	-.12	.04	-.06	.10	.16	-.13
Capacity	.02	-.17	.11	-.05	-.25*	-.06
Group size	-.21*	-.02	-.22*	.02	-.06	.07
Ratio	-.005	-.08	.06	-.02	.12	.12
Director's experience	-.23*	.02	-.33*	-.06	-.003	-.20*
Average staff experience	-.09	.10	-.20*	.05	-.09	.006
4-year degree	.16	.06	.18	.09	.14	.14
Quality:						
ECERS	-.20*	.03	-.21*	.07	.02	-.04
CDPE-IC	-.003	.01	-.02	.03	-.39*	.21*
CDPE	.16	.03	.20*	.08	-.18	.10
COFAS	.14	-.05	-.22*	-.03	-.02	-.22*

Table 3: Proportion of Variance Accounting for Child Development Outcomes by Clusters of Center Characteristics

	Slosson		CBI - Int		TELD		ALI		PBQ		CBI - Soc	
	Step 4	Step 5	Step 4	Step 5	Step 4	Step 5	Step 4	Step 5	Step 4	Step 5	Step 4	Step 5
Turnover -												
Capacity	.035	.027	.023	.028	.036	.034	.008	.011	.091	.091	.014	.014
Ratio -												
Group size	.065	.064	.024	.025	.051	.049	.005	.006	.047	.048	.013	.012
Group size -												
Director's experience	.031	.023	.01	.009	.054	.055	.002	.002	.023	.024	.025	.024
Group size -												
Average staff experience	.043	.035	.082	.083	.038	.037	.044	.045	.066	.066	.037	.038
Group size -												
4-year degree	.051	.043	.01	.009	.056	.056	.011	.011	.022	.023	.04	.039
Director's experience -												
Average staff experience	.047	.046	.109	.109	.039	.038	.109	.109	.057	.062	.162*	.164*
Average staff experience -												
4-year degree	.074	.069	.13	.129	.033	.031	.081	.081	.055	.058	.084	.087
Group size -												
Director's experience -												
Average staff experience	.066	.058	.111	.112	.068	.064	.112	.113	.073	.074	.188*	.189*
Group size -												
Average staff experience - 4-year degree	.085	.077	.136	.135	.057	.056	.085	.085	.066	.061	.112	.112

Results

Table 3 shows the proportion of variance accounted for by clusters of center characteristics entered at step 4, without ECERS, and at step 5, after ECERS. These results revealed two statistically significant effects, both of them involving the sociability subtest of the Classroom Behavior Inventory – Preschool. Two statistically significant effects would be expected solely due to chance. Director experience and average staff experience together contributed 16.2 to 16.4% of the variance for sociability. Seven additional effects of greater than 10% approached significance. Four of these involved the intellectual functioning subtest of the Classroom Behavior Inventory – Preschool and two involved the Adaptive Language Inventory.

In general, clusters of center characteristics had the strongest effects (>10% of the variance accounted for) on the intellectual functioning and sociability subtests of the Classroom Behavior Inventory – Preschool and on the Adaptive Language Inventory, all teacher rating scales.

Discussion

The results suggest that family background is the most salient determinant of development in children attending day care centers whose quality varies from adequate to good. The strength of family background as a predictor in and of itself ought not to come as a total surprise. These results are consistent with a major study of public school quality and children's cognitive development and educational attainment (Jencks, 1972). In that study family background explained half of the variance in children's educational attainment while school quality added little or nothing to predictions of cognitive development or educational attainment.

The implication may be that when child care quality ranges from adequate to good the differential effects of quality are nonexistent. When the lower range of quality drops below adequate, the differential effects may become salient due to detrimental effects of low quality care on children's development. This is not consistent with Vandell and Powers's (1983) data that showed medium quality centers were more like low quality than high quality centers. They were using floor of quality measures and not professional standards. Being at a moderate level with respect to the floor of quality may indeed have different implications for children's development than being moderate in quality using professional standards.

Looking at the individual center characteristics in isolation, we found that capacity, group size, and ratio were most frequently related to quality regardless of how it was measured. Contrary to the results of the National Day Care Study (Ruopp, 1979), group size was positively related to quality. On the other hand, the negative relationship between caregiver child ratio and quality is consistent with the National Day Care Study finding. Consistent with the findings of Howes and Rubenstein (1985) and Vandell and Powers (1983), staff characteristics (turnover, ratio, director's experience, and average staff experience) predicted caregiver behavior (as measured by the COFAS).

The results clearly show that individual center characteristics were much more powerful as predictors of children's development when they were treated in clusters. The clusters of characteristics explained more than 10% of the variance in several measures of development and in two instances explained between 15 to 20% of the variance. The latter two were statistically significant predictors. The typical range of regulated center characteristics in Pennsylvania or any other state is unknown. Another line of reasoning suggests that researchers have yet to determine at what point an effect can be said to have a substantive impact on development, even when it is statistically significant. With the added perspective of previous research, one thing that these data tell us is how far we have to go in understanding how variations in child care environments affect children's development. Each state has variations in licensing regulations and monitoring, demographic variables related to families and communities. This study contributes to the knowledge base by showing how, within the confines of the measures used and the sample of families and centers, family background contributes more to variation in children's development than center quality or individual center characteristics.