

DOCUMENT RESUME

ED 255 290

PS 014 966

AUTHOR Kontos, Susan; Fiene, Richard
 TITLE Penn State/OCYF Day Care Project: Final Report of a Pilot Study.
 SPONS AGENCY Pennsylvania State Univ., University Park.
 PUB DATE Jan 85
 NOTE 17p.
 PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS Certification; Classroom Environment; Cognitive Development; Comparative Analysis; *Compliance (Legal); *Day Care Centers; Early Childhood Education; *Educational Improvement; *Evaluation Criteria; Evaluation Needs; Financial Support; Legislation; Nonprofit Organizations; Pilot Projects; Proprietary Schools; Quality of Life; Rating Scales; Social Development; *Standards; *State Standards
 IDENTIFIERS *Pennsylvania

ABSTRACT

In Pennsylvania compliance with state health and safety regulations for day care center licensing is monitored by administering the Child Development Program Evaluation (CDPE). This pilot study attempted to discover key indicators of day care center quality other than those measured on the CDPE and also to find out about the relationships between these quality indicators and child development. Ten day care centers were assessed using the CDPE and two other measures, the Early Childhood Environmental Rating Scale (ECERS) and the Caregiver Observation Form and Scale. Results indicated that nonprofit centers had higher scores on the two measures of quality than profit centers. However, children who attended profit centers had higher socioeconomic status and higher scores for cognitive, language, and social development. After a certain level of state compliance, program quality scores were found to fall as state compliance scores rose. A hierarchical multiple regression analysis to determine the predictors of child development revealed only one small effect for program quality. Ten items from the ECERS were found to be good predictors of overall program quality. It was concluded that compliance with state regulations is not an indicator of program quality, and that a comprehensive, state-wide study of day care quality should obtain separate samples of profit and nonprofit centers, should include lower and middle class children from each center, and should explore funding as a factor in day care quality. (CB)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

PENN STATE/OCYF DAY CARE PROJECT

FINAL REPORT OF A PILOT STUDY

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Susan Kontos, Ph.D.

The Pennsylvania State University

Richard Fiene, Ph.D.

Office of Children, Youth and Families

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Richard Fiene

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

January 1985

The study reported here would not have been possible without funding from the Office of Research and Graduate Studies at Penn State nor without the able assistance of Irene Molzahn and her dedicated staff in the Northeast Region. Special thanks are deserved by the staff, children, and parents at the ten participating centers for their generous contribution of time and for their commitment to quality child care.

ED255290

PS 014966

Introduction

Pennsylvania is one of a handful of states that still requires compliance with state regulations in order for day care centers to be licensed. Compliance with state regulations is monitored by annually administering a 270-item instrument known as the Child Development Program Evaluation (CDPE) that is designed to determine compliance with basic health and safety requirements as well as program criteria. Pennsylvania is committed to the use of the CDPE because it is an objective, reliable, cost efficient method of assessing compliance, but also because the Office of Children, Youth, and Families (OCYF) wants to assure that day care providers promote child development (Fiene & Nixon, 1981). The assumption OCYF must make is that higher compliance as measured by the CDPE is related to enhanced children's development and vice versa. No empirical support for that assumption has been available, however. Thus, there has been a clear need for research.

The impetus for such research has recently come about in several forms. For one, the instrument-based program monitoring system represented by the CDPE has resulted in a "ceiling effect" with respect to compliance to day care licensing regulations. Nearly 97% compliance to state regulations was obtained within just a few short years after the system was implemented. Second, day care centers are now required to apply to and be accepted by the state as "vendors" of subsidized child care slots. Consistent with its goal of promoting child development, OCYF would like to know that vendors selected to provide subsidized day care are

centers of high quality. However, since the CDPE focuses primarily on health and safety requirements, and since 97% of the centers are in compliance with those requirements, the state has no way of objectively discriminating among centers that are providing higher versus lower quality day care services. Knowledge of key quality indicators other than health and safety features is needed as is knowledge about the relationship between such quality indicators and children's development. Such knowledge could then be translated into public policy concerning regulation and funding in day care. To provide such knowledge, a pilot study using just ten day care centers was conducted between July and September, 1984 in the northeast region of Pennsylvania.

The pilot study was designed with the currently available literature on day care and day care quality in mind. The issue of variations in day care quality and its influence on children has only rarely been addressed empirically. In most studies concerning day care, it has been treated as a dichotomous variable - a homogeneous experience that is present or absent in a child's life - rather than as a multi-dimensional environment that can vary along a wide continuum for each dimension (Belsky & Steinberg, 1977). In fact, research shows that day care environments are heterogeneous and that differences in these environments may produce differences in children (Macrae & Herbert-Jackson, 1975).

Only three studies have examined the relationship between quality of the day care environment and the development of children cared for in those environments. In spite of the inconsistencies in these three studies, the results were

consistent. Higher quality day care environments were related to level of children's intellectual, language, and social development (McCartney, Scarr, Phillips, Grajek, & Schwarz, 1982); to more positive adult-child interaction and less solitary play and aimless wandering (Vandell & Powers, 1983); and to positive classroom behaviors (e.g. more cooperation, verbal initiative; less aggression and aimlessness) and superior test score gains (Ruopp, 1979). In sum, results of available research support a positive relationship between day care quality and child development and generate concern about the need for regulation of day care centers.

In light of the above concerns, the present pilot study was conducted so that ultimately day care regulations can be designed to promote children's development and to support families and childrearing rather than just to maintain minimal standards of care. The eventual outcome of the pilot study will hopefully be the evaluation and modification of public policy concerning day care regulations and their influence on children's development. Due to limitations in resources, however, the more immediate goal of the pilot study was to obtain preliminary data to support a federal grant proposal addressing the day care quality issue. Acquisition of federal funding will allow a state-wide, comprehensive study of day care quality and child development that is designed to inform public policy. Because of the pilot study, federal funding is more likely and the probability of a successful comprehensive study is higher.

BEST COPY AVAILABLE

Center Demographics and Quality

Profit/Nonprofit. Of the ten centers participating in this project, six were nonprofit and four were profit centers. When a dichotomous profit/nonprofit variable was included in a correlation matrix with other variables related to center characteristics and child development outcomes, it was discovered that profit/nonprofit status correlated with the program quality measures ($r = .60$ with ECERS and $r = .20$ with COFAS). Further examination revealed that there were no differences between profit and nonprofit centers on CDPE scores. However, nonprofit centers had significantly higher COFAS scores ($M = 73.66$ for nonprofit and 59.75 for profit) as well as significantly higher ECERS scores ($M = 189.83$ for nonprofit and 152.25 for profit). These results were surprising and totally unexpected since all centers had volunteered to participate following an invitation. Records on sample selection revealed that more profit centers declined invitations to participate than did nonprofit centers. Both of these facts would lead one to believe that there would be homogeneity of quality and a tendency towards uniformly higher quality than a randomly selected sample. Thus, the discrepancies in measures of quality found between profit and nonprofit centers are of particular concern.

Center Selection by Parents. Not surprisingly, there were differences found between the parent clientele of profit versus nonprofit centers. Parents who select profit centers were more highly educated and earn more money. These socioeconomic differences were related to differences in the development of children attending profit and nonprofit centers. Children in

BEST COPY AVAILABLE

profit centers were more likely to be products of middle and upper-middle class families and thus, predictably, exhibited higher scores for cognitive, language, and social development. While these center selection differences are to be expected, the discrepancies in quality between profit and nonprofit centers complicate the interpretation of the data collected. In other words, when the higher quality centers enroll the children with lower cognitive, language, and social development (and vice versa), it is difficult to tell how day care quality alone affects children's development since socioeconomic status is such an important intervening variable.

Ceiling Effect for CDPE/COFAS. One result of interest from the pilot study was the relationship between program quality as measured by the ECERS and level of program compliance with state day care regulations (as measured by the CDPE and COFAS). Correlations revealed that there was no relationship between the ECERS total score and CDPE-IC score (computed as proportion of items in compliance). However, there was a very restricted range of CDPE scores of only 20 points (80% to 100% compliance). The correlation between the ECERS total score and the COFAS was .20, rather small and lacking in statistical significance. The COFAS range was from 54 to 81 points. In a state where compliance to state day care regulations is 97%, there is little room for the variation required for there to be a statistically significant relationship between program quality and program compliance (this is called a ceiling effect).

The fact that a linear relationship between program quality

and program compliance does not exist does not preclude a nonlinear relationship between the two. Table 1 and Figure 1 (see attached) each depict the relationship between program quality and program compliance. It is easy to see that the relationship between these two variables is much more curvilinear than linear. This fact combined with the high level of compliance explain the lack of correlations between program quality and program compliance.

The existence of a curvilinear relationship could be explained in the following manner: as programs move from low levels of compliance to substantial compliance, they do improve in quality; however, as the programs move from substantial compliance to full compliance they do not necessarily improve in program quality. In high quality programs, there may be a compliance "plateau." In fact, there is speculation that higher quality programs actually forego full compliance in order to devote their energies to what they perceive to be more relevant program quality concerns.

Program Quality and Child Development Outcomes

In order to find out how variations in day care quality affect children's development, a hierarchical multiple regression was used. This means that a four-step process of determining predictors of children's development was implemented. At each step, the amount of variance in children's cognitive, language, and social development accounted for by the predictors was calculated. Then as predictors were added to the model, it was also possible to determine how much additional variance had been

ECERS = Early Childhood Environmental Rating Scale (Harms & Clifford)

CDPE = Child Development Program Evaluation (Fiene, Douglas & Kroh)

COFAS = Caregiver Observation Form and Scale (Fiene)

	CDPE/COFAS	ECERS	
Full Compliance	174* (174-173)**	169* (190-151)**	Medium Quality
Substantial Compliance	161 (162-158)	178 (206-140)	High Quality
Low Compliance	141 (148-135)	148 (186-119)	Low Quality

* = average

** = range

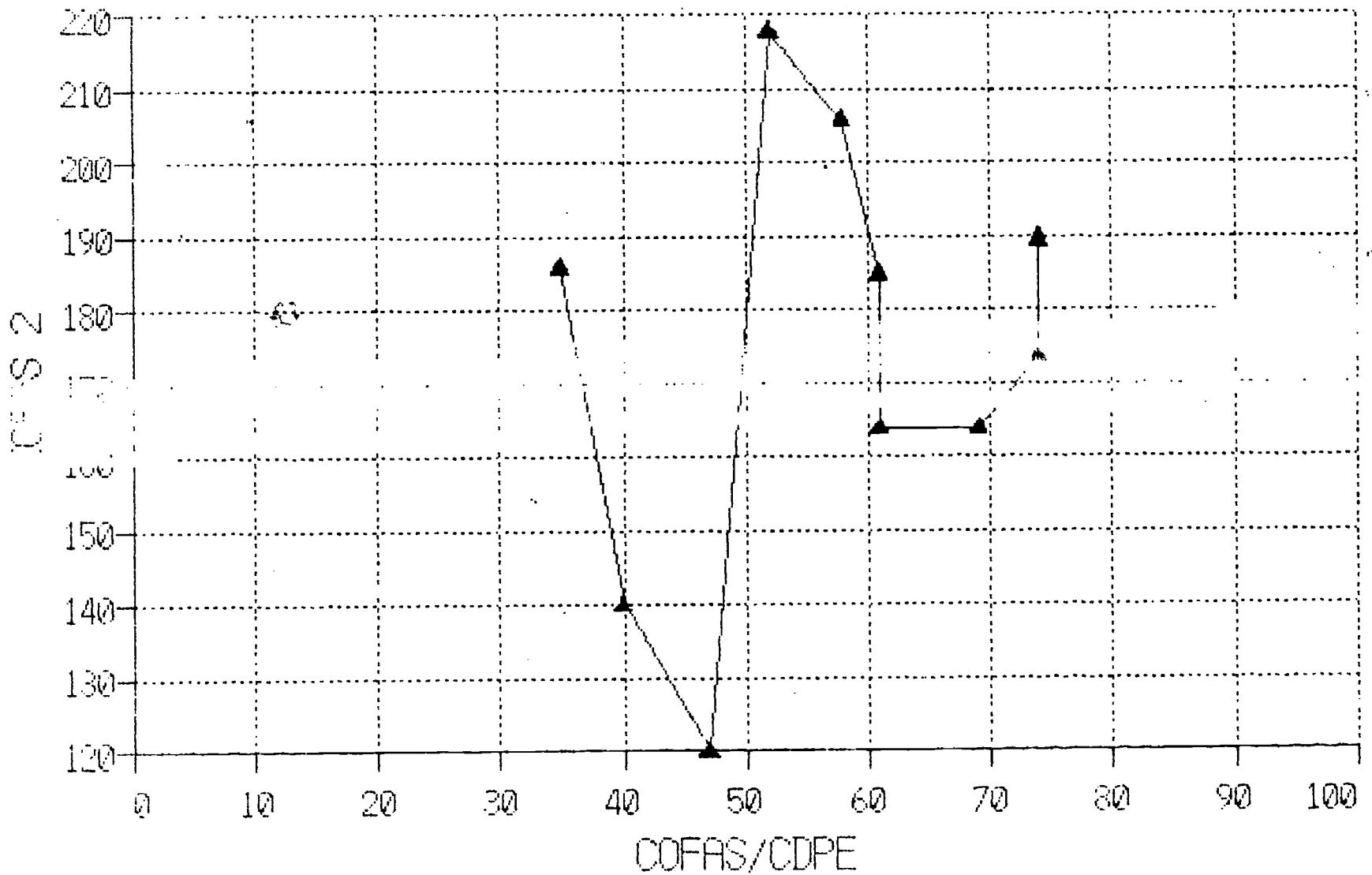
Table 1

Comparison of CDPE/COFAS and ECERS Scores

BEST COPY AVAILABLE

Graphic representation depicting the curvilinear relationship between Compliance with Pennsylvania State Child Day Care Regulations (as measured by the CDPE/COFAS) and program quality (as measured by the ECERS).

Figure 1



BEST COPY AVAILABLE

accounted for by the newly included predictors. For the first step, children's age was the only predictor of the measures of children's cognitive, language, and social development. Then family background variables found to influence center selection were added to form step 2 (those variables were: presence of the father in the home, whether or not the child was subsidized, and amount of home stimulation). Step three involved adding two variables concerned with the child's substitute care history (age at entry into group care and length of time in group care). This step estimates the effects of just exposure to day care, separate from the quality of the environment. Finally, measures of the quality of the day care environment were added to the model. (Ecers total, CDPE-IC, COFAS) to estimate the effects of day care quality.

Results of the hierarchical multiple regression revealed that in only one instance did day care quality add significantly to the amount of variance that accounted for children's development. Center quality was a significant factor in predicting children's scores on the Preschool Behavior Questionnaire, a measure of children's behavior problems. More specifically, 20% of the variance of children's behavior problems could be accounted for by center quality. In fact, it was the CDPE score that made the difference. Centers with higher CDPE scores had children with fewer behavior problems. There was no other child development outcome variable for which the full regression model (containing age, family background factors, center experience, and center quality) accounted for a significant portion of the variance.

BEST COPY AVAILABLE

Obviously, these results were not expected. Previous results have shown that day care quality is important for all aspects of children's development. However, the only previous study as comprehensive as the present pilot study was conducted in Bermuda where day care is nearly universal and instrument-based program monitoring is not in effect. Thus, the demographic factors found to characterize the day care centers in the present sample and the day care environment in the state of Pennsylvania may produce different relationships between program quality and children's development. The value of a pilot study such as this is that these things are discovered before the time and resources involved with a state-wide effort are committed. These data do not tell us that day care quality is not important for children's development. They do tell us that a more sophisticated design is needed for a future study. This pilot study was an important first step in identifying the variables that need to be taken into account in future studies.

A final word of caution is warranted. This pilot study involved only ten centers that were not randomly selected and were located in only one region of a very large state. Thus, the preliminary nature of the findings must be emphasized. The preliminary nature of the results preclude any public policy implications from being drawn. Implications for public policy await a full-scale study.

Predictors of Quality

There were ten items on the ECERS scale that appeared to predict overall quality of a program. These ten items (listed

BEST COPY AVAILABLE

below) had correlation coefficients that ranged from .78 to .94 with the total ECERS score.

1. ECERS item 2, Personal care routines: meals/snacks

Well balanced meals/snacks are provided on a regular schedule. Staff member sits with children and provides pleasant social environment during meals and when possible at snacks. Small group size permits conversation. Time planned as a learning experience, including: self-help skills; talking about children's interests, events of the day, and aspects of foods (color and where foods come from).

2. ECERS item 7, Furnishings/ play: furnishings (learning)

Basic learning activity furnishings plus woodwork bench and sand/water table. Easel or art table used daily; woodwork bench and sand/water table used weekly. Full range of learning activity furnishings regularly used plus provision for appropriate independent use by children.

3. ECERS item 8, Furnishings/display: furnishings (relaxation)

Planned cozy area regularly available to children. Cozy area may be used for reading, dramatic play, etc. Planned cozy area plus "softness" available in several other areas (examples, cushions in reading corner and doll house, several rug areas, many soft toys).

4. ECERS item 9, Furnishings/display: room arrangement

Three or more interest centers defined and conveniently equipped. Quiet and noisy centers separated. Appropriate play space provided in each center. Easy visual supervision of centers. Arrangement of centers designed to promote independent

use by children (example, labeled open shelves, convenient drying space for art work). Additional materials organized and available to add to or change centers.

5. ECERS item 11, Language/reasoning: understanding language

Many materials present for free choice and supervised use. At least one planned activity daily (example, reading books to children, storytelling, flannel board stories, finger plays, etc.). Teacher provides good language model throughout the day (example, gives clear directions, uses words exactly in descriptions). Plans additional activities for children with special needs.

6. ECERS item 15, Fine/gross motor: fine motor

Variety of developmentally appropriate perceptual and fine motor materials in good repair used daily by children. Materials rotated to maintain interest; materials organized to encourage self-help; activities planned to enhance fine motor skills.

7. ECEPS item 16, Fine/gross motor: supervision

Child given help and encouragement when needed. Teacher shows appreciation of children's work. Teacher guides children to materials on appropriate level for success. Teacher plans learning sequences to develop fine motor skills (example, provides children with puzzles of increasing difficulty, stringing of large beads before small beads).

8. ECERS item 21, Creative activities: art

Individual expression and free choice encouraged with art materials. Very few projects that are like an example are shown. Variety of materials available for free choice, including three

BEST COPY AVAILABLE

dimensional materials (example, clay, art dough). Attempt to relate art activities to other experiences.

9. ECERS item 24, Creative activities: sand/water

Provision for sand and water play outdoors or indoors including toys (example, cups, spoons, funnels, shovels, pots and pans, trucks, etc.). Used at least weekly. Provisions for sand and water play outdoors and indoors with appropriate toys.

10. ECERS item 37, Adult needs: parent provisions

Parent/staff information exchanged at regular intervals (example, through parent conferences, newsletter, etc.). Parents made aware of approach practiced at facility (example, through information sheets, parent meetings, etc.). Parents welcomed to be a part of program (example, eat lunch with child, share a family custom with child's class). Provision of information on parenting, health care, etc. Parents' input regularly sought in planning and evaluation of program. Parents involved in decisionmaking roles along with staff (example, parent representatives on board).

These ten items correlate extremely highly with the overall program quality scores. In other words, centers that had higher total ECERS scores, also tended to have higher scores on these ten items. Thus, these items could be treated as program quality indicator items, similar to the items on the Indicator Checklist of the CDPE. The CDPE as it is now designed is not discriminating enough in the program quality area. The addition of program quality indicators such as the above ECERS items would add depth and substance to a revision of the CDPE.

BEST COPY AVAILABLE

Conclusions

The results of the pilot study provided information crucial to the successful design of a comprehensive, state-wide study of day care quality with public policy implications. The most important information gleaned from the pilot was the importance of sampling centers in the comprehensive study. It may be necessary to obtain separate samples of profit and nonprofit centers. It could be important to make sure there are middle class and lower class children included from each center involved so that center quality and socioeconomic status are not confounded. It will certainly be advantageous if the centers are randomly selected (stratified by type) and a minimum of refusals occur. As a result of the pilot study, the problem areas have been identified and are known rather than unknowns when a comprehensive study is begun.

Program quality indicators must become part of Pennsylvania State Day Care Regulations. Compliance with regulations as measured by the CDPE is not an indicator of program quality. There is virtually no linear relationship between program compliance and program quality. In fact, it appears that as compliance scores for the centers in the pilot study rose, program quality scores actually dropped off. Before program quality indicators can be included in the regulations, a comprehensive study of day care quality must occur with a large, representative sample of Pennsylvania day care centers.

Another critical variable that should be looked at closely in the CDPE Cost study (now being undertaken by Dr. Fiene) is the confounding of center quality and funding source (public versus

BEST COPY AVAILABLE

private funding). The fact that private programs were significantly lower in quality than public programs (as measured by the ECERS) appears to have implications for the CDPECost study. Has cost had such an impact on the private programs that program quality has suffered? Have the private programs slipped down the cost/CDPE curve so significantly that program quality is in jeopardy? These questions should be explored in further detail via the CDPECost study.

BEST COPY AVAILABLE