

The NICHD Study of Early Child Care

Child Care Research Comes of Age

by Bettye Caldwell

During the 30 or so years that I have been involved in child care research and administration, the field has been plagued with claims and counterclaims, praise and denunciation, acceptance and rejection. Even so, child care has come a long way. From an obscure service that most people had never heard of or thought about, it has risen to a position of national prominence and makes every list of key issues for the present and future of our nation and the world.

But general acceptance of the value of the service has not necessarily been an automatic accompaniment of this increase in attention and public awareness. Instead, child care continues to polarize people. Some perceive it as a valuable family support program and as a way of fostering optimal development in young children; others consider it to be family-weakening and as somehow depriving children of the uninterrupted interactions with their mothers regarded as essential for favorable socio-emotional and cognitive development.

When this kind of polarization exists about the merits of any particular service, the only way to move public opinion more consistently to one side or the other is to strengthen the knowledge base upon which the practice rests. And certainly this has been attempted for more than three decades now in the field of child care. No longer ignored by researchers as a service too trivial to merit their attention, child care is now subjected to careful research scrutiny.

In the course of this increased attention from both researchers and

policy makers, the field still has not achieved the public support that its first cousin, education, has. One possible reason for this can be traced to a history of research on child care that is itself partisan and one-sided. That is, much earlier research was derived from some important theoretical position — e.g., the importance of early experience for cognitive development, or the necessity of uninterrupted maternal care for the formation of secure attachment — and the studies were done to attempt to connect child care experiences with a relevant outcome.



Dr. Bettye Caldwell has been involved in the development of high quality early childhood programs in America for almost three decades. Her work in Syracuse, New York, with famed pediatrician Dr. Julius B. Richmond, is often cited as having helped provide the foundation for Head Start. In Little Rock, she launched and guided the Kramer Project, often described as a "school for the future."

This is a perfectly legitimate approach to research, provided one can truly isolate the presumed causal agent (child care) from other possible causes which could also influence the outcomes. In most child care research, this has not been done; and we might say that such research has been *decontextualized*. That is, outcomes such as cognitive development and attachment security are obviously influenced by *other experiences occurring previously or simultaneously*, most notably within-family experiences; and the important research questions cannot be answered without positioning child care within the context of these other influences.

Needed: An Ecological Approach

In order to escape from this polarization of opinions about the effects of child care, we have needed research exemplifying an ecological approach which simultaneously considers family and child care experiences and characteristics of the children themselves as developmental influences. With the launching in 1991 of the NICHD Study of Early Child Care, such a study was on its way.

The NICHD Study of Early Child Care

This is a multi-site longitudinal study funded by the National Institute of Child Health and Human Development. (The names of all major investigators and the sites at which data are being collected or analyzed are found at the end of this article.) Subjects representing a wide range of socioeconomic characteristics were recruited at birth while the mothers were still in the hospital, and 1,364 (49.4% girls and 50.6% boys) were enrolled. Assessments occurred at 1, 6, 15, 24, 36, and 54 months of the

children's ages; and another major assessment designed to see how the children function in first grade will soon be underway. Attrition in such a study is inevitable, but there are still almost 1,000 children and their families involved in the project.

Because of the scope and complexity of the study, it cannot be fully described in a brief article. However, without going into detail about instruments, some idea can be conveyed about the variables that were measured. The variables essentially represented three main areas: *family background, child development patterns, and child care characteristics*. Some of the data were collected in the homes, some in labs at each site, and some in the child care settings.

Family background. Included in these variables were all the classic demographic indicators such as family composition, income, education, number of hours mother worked or attended school, and ethnicity. Also included were psychological attributes such as perceived benefits of work, maternal depression, scores on the HOME Inventory, and maternal sensitivity.

Child development. Here what was measured obviously varied with the advancing ages of the children. No child outcome measures were made before the 15-month assessment, at which time security of attachment to the mother, language development, and general cognitive development were assessed. At subsequent assessment points (24, 36, and 54 months), age-appropriate methods of determining the children's functioning level in these same domains were used. Also examined were cognitive processes, complexity of play, general health, height and weight, incidence of behavior problems, compliance with adults, ability to delay gratification, and social competence with peers and adults.

Child care. For every child in at least 10 hours per week of any type of nonmaternal care, detailed information was collected at each assessment point about the pattern of care. Regulatable aspects of care (group size, adult:child ratios, and training of caregivers) were considered, detailed histories were kept of amount and stability of care, and meticulous observations were made of care received.

For the live observations, a procedure named ORCE (Observational Record of the Caregiving Environment) was developed for this study. For each child, almost three hours of observations, spread out over at least a two-day period, were of specific behaviors used by the caregivers; and qualitative ratings were made of the overall tone and quality of the setting.

Training, certification, and coding. In multi-site research, it is essential that data collected at all sites be comparable. This meant that — for every assessment tool — a training procedure had to be developed and data collectors at all ten sites certified for that procedure. For each procedure, one or more live training sessions took place, followed by videotaped demonstrations that acceptable procedures were being followed. For some measures, such as the Strange Situation test for attachment security at 15 months and the mother-child interaction sessions at each point from six months on, the sessions were videotaped and all coded in the same location by coders who had to meet specified coding reliability standards.

Data analysis. Data collected at all ten sites were sent to a central location (Vanderbilt University up to 36 months and the Research Triangle Institute thereafter) for *cleaning* and statistical analyses. Variables to be

examined and hypotheses were carefully formulated in advance. Primary analyses are those that pertain to what is called the “common protocol,” or the total study. Individual investigators may not use even their own data until all common protocol questions have been answered. Then, around the year 2000, the data tapes will be released to other interested investigators in the scientific community.

Results of the Study

Until the last year or so, by far the major effort of the investigators had to be devoted to planning the study, training, and collecting data. Now the early results are beginning to pour forth. Several major publications have appeared during the recent past (NICHD Early Child Care Research Network, 1996, 1997a, b, c) and several others are under review. Verbal presentations of early results have been made at the Society for Research in Child Development (1995 and 1997), International Society for Infant Studies (1996), the Head Start Research Conference (1996), NAEYC (1996), and the American Psychiatric Association (1997).

Following each presentation, there has been widespread attention in the media to the results of the study. This validates the claim made earlier that today everyone is interested in the results of child care research. Some of the major findings to date:

- Families in America tend to use child care extensively and enroll their children at very early ages. In this study, by four months of age, about three-fourths of the infants were in some type of nonmaternal care.
- About half of the infants are cared for first by a relative (often the father), with only 12% being in center care.

- Economic factors are clearly associated with use of early child care in a curvilinear relationship — mothers with higher incomes and those whose families were more dependent on their incomes enrolled their children at earlier ages.
- Mothers who felt that employment benefited the family were more likely to use early care.
- At six months, for children in some type of child care, more positive caregiving was associated with small group sizes, low child:adult ratios, nonauthoritarian child-rearing beliefs, and safe and stimulating physical environments.
- When child outcomes are considered, family factors appeared to be more powerful predictors than child care factors. Even when statistically significant, child care effects were small in magnitude.
- There were no significant main effects of child care on attachment security. However, there were significant associations between secure attachment in children and sensitivity and responsiveness in mothers.
- Infants were less likely to be securely attached when low maternal sensitivity and responsiveness were combined with poor quality child care.
- When child care factors are found to be statistically significant, the ones most likely to relate to outcomes are those associated with quality. This was demonstrated in terms of cognitive and language functioning and cooperation with mother during play.
- Mothers who enroll their children for more hours during the first six months are subsequently a little less sensitive in dyadic interaction with their children in laboratory play sessions.
- There is some evidence (for some outcomes) that high quality child

care may reduce risk for children in high-risk families (due to low income, maternal depression, maternal insensitivity) and that low quality care may increase risk. Quality definitely counts.

Summary

I have described a large-scale ongoing study that, hopefully, shows that day care research has come of age, that it has moved off of its narrow partisan track on to an ecologically valid freeway which should lead to policy-relevant answers to critical questions about how early experiences inside and outside the family impact growing children. Within the limitations of present instruments and concepts of research design, the study is exemplary. The joint consideration of family and child care variables has shown that, of the two sets of influences, the family is clearly the more powerful. Even so, child care experiences have been shown to exert significant effects on some outcome variables in both children and mothers. And, in this regard, quality stands out clearly as the most significant aspect of the experience.

References

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