

# EARLY CHILD CARE RESEARCH NETWORK

## CHILD CARE AND THE FAMILY – AN OPPORTUNITY

### TO STUDY DEVELOPMENT IN CONTEXT

**D**ramatic change has occurred in the early experiences of the youngest children in the United States. Whereas 32 per cent of the mothers of infants were employed in 1977, this figure increased to 48 per cent of the mothers in 1985. By the early 1990s, 55 per cent of the mothers of infants were in the workforce. Paralleling these increases in maternal employment have been equally dramatic increases in the use of non-maternal child care. By 1990, more than 50 per cent of infants under 12 months old of age were being cared on a routine basis by someone other than their mothers.

This shift in the number of infants receiving child care generated fundamental scientific and social policy questions about the effects of early child care experiences on children's development. Some (Hojat 1990; Leach 1994) have argued that child care poses risks for infants because healthy development requires continuous caregiving by one person. Others (Clarke-Stewart 1987; Phillips and Howes 1987) have asserted that children can thrive in child care arrangements if the quality of care is high. Still others (Scarr 1992) have contended that early experiences do not alter developmental trajectories unless they are characterised by extreme deprivation, as in the case of abuse and neglect.

**T**he National Institutes of Child Health and Development (NICHD) Study of Early Child Care was designed to address these fundamental questions. The study has been guided by an ecological developmental framework that incorporates information about the child care environment, the home and family, and individual differences among children. As illustrated in Figure 1, child care environments, home environments, and child characteristics are conceptualised as interdependent, with each contributing to children's socio-emotional, language, and cognitive development. A major focus of the study is on ascertaining under what conditions children thrive in child care and under what conditions their development is compromised. Another

central issue is the determination of the processes by which child care and the family environments affect children's development.

Twenty-four investigators collaborated in framing hypotheses and the conceptual framework, selecting and developing procedures, training staff to implement procedures, framing specific research papers formulating analytic strategies, and writing papers. These investigators are located at NICHD, at a Data Analysis Centre, and at 14 other universities and colleges. In executing the study, investigators have convened in 50 (two–three day) meetings of the Steering Committee. Additional small group meetings for investigators charged with specific project responsibilities such as writing individual papers or training particular procedures occur on a regular basis. Electronic mail serves as the major mode of communication within the Network (literally thousands of messages since the study began).

Data are being collected at ten research sites located across major geographic regions of the United States, and in urban, suburban, and rural areas. Families ( $n = 8,986$ ) were initially approached in hospitals. When infants were one month old, 1,364 families with healthy newborns (23 per cent ethnic minority, 14.5 per cent single parent, and 10 per cent less than a high school degree) were included in the sample. The recruited sample is very similar to the characteristics of mothers giving birth in the catchment areas in terms of education, ethnicity, and family structure. The recruited sample was somewhat elevated relative to the catchment as a whole in terms of plans to be employed or in school for 30 or more hours per week during the first year (54 per cent versus 49 per cent) and somewhat less likely to plan to work or be in school for less than ten hours per week (23 per cent versus 27 per cent).

Consistent with an ecological systems framework, multiple measures of the child care and home environments were obtained. Phone interviews were conducted every three to four months in order to track changes in child care and employment over time. These interviews provided measures of child care hours, types of arrangement

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that were used, age of onset into child care, and changes in care arrangements over time. At 6, 15, 24, and 36 months, children were observed in their primary child care arrangement (centres, child care homes, in-home care, grand parents, other relatives, fathers). These observations included assessments of caregivers behaviours with the study children as well as determination of structural features such as child–adult ratios, caregiver characteristics such as education and child rearing beliefs, and the physical facilities.

At 1, 6, 15, 24, and 36 months, visits to the homes of the study children were made. The quality of the home environment was assessed along with measures of mothers attitudes, beliefs, personality, and employment. Videotapes interactions of mother child play were collected and scored in terms of sensitivity, warmth, and stimulation. Six sites obtained information from fathers.

Laboratory visits at 15, 24, and 36 months provided standardised assessments of the children's social, cognitive, language, and physical development. These lab-based assessments were supplemented with observations of children's developmental functioning at home and child care. Thus, children's development was assessed at multiple ages using multiple measurement strategies. For example, infant mother attachment was measured using the Strange-Situation at 15 months, the Attachment Q-sort at 24 months, and Separation and Reunion Ratings at 36 months. Children's peer relationships were measured using teacher and mother reports, a videotaped dyadic structured task with a friend, and naturalistic observations with the peers in the child care setting.

Additional data collection is planned or ongoing for a second phase of the study, begun in 1995, during which the children will be followed or observed in home, child care (or school), and laboratory assessments through the end of first grade.

Extensive efforts are being made to ensure that comparable data are obtained at the ten sites. Data collectors from all of the sites participate in the same training sessions and are certified as experimenters or observers only after they achieve predetermined standards. Videotaped procedures were coded at central locations, under the direction of study investigators who had expertise in those procedures, by observers who were not aware of children's child care or family histories.

In order to understand the conditions under which child care and family factors influence children's development, the study investigators have considered a number of questions. A brief summary of findings pertaining to some of these questions is presented in this report. During the next two years, many additional issues pertaining to child outcomes at 15, 24, and 36 months will be investigated.

### **Patterns of infant care usage during the first 12 months**

The vast majority of infants in the sample (81 per cent) experienced some regular non-maternal care during the first 12 months of life, with most (58 per cent) starting prior to four months of age and for more than 30 hours per week. Close to half of the infants were cared for by a relative when they first entered care, but there was a discernible shift towards reliance on centres and family day care homes over the course of the first year. Infants typically experienced more than two non-parental arrangements over the course

of the year. About two-thirds of the families paid for child care, about 7.6 per cent of the family income on average. Three of four families received either financial or in-kind help with child care fees. The majority of assistance was in the form of help from a relative or friend and the dependent care tax credit, rather than public or employer subsidies.

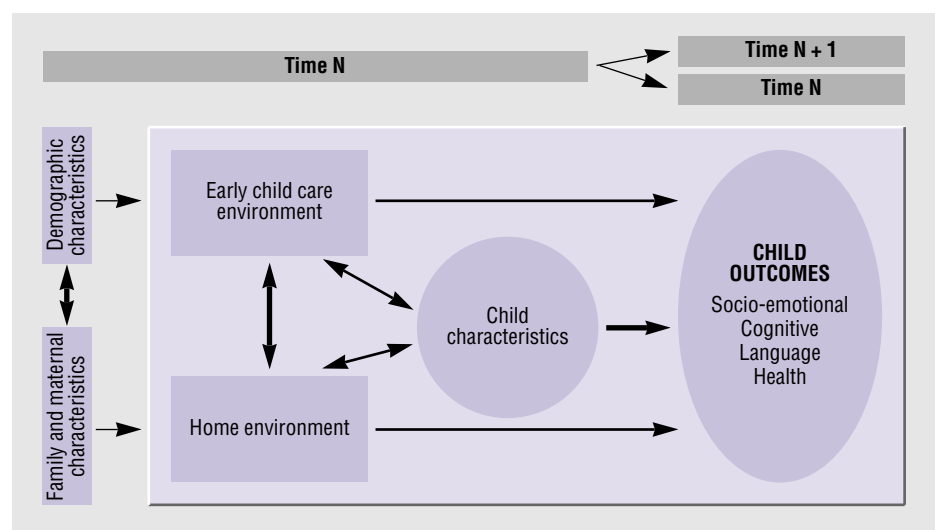
These results reveal a higher reliance on infant care than has been previously documented in a context of very rapid entry into care post-birth, high hours of enrolment, and substantial instability in arrangements.

### **Factors associated with the quality of infants' child care experiences**

What structural/regulatable features and caregiver characteristics are associated with higher quality infant child care? At six months, 576 infants were observed during two half-days in five types of non-maternal child care (centres, child-care homes, in-home sitters, grandparents, and fathers). Settings were assessed in terms of structural features (group size, child adult ratio, physical facilities) and caregiver characteristics (formal education, specialised training, child-care experience, beliefs about child rearing). In addition, caregivers interactions with the study infants were observed.

Caregivers were rated as providing more positive care-

**Figure 1 NICHD early child care research**



giving (sensitive, responsive, warm, involved, stimulating care) when group sizes and child adult ratios were smaller and caregivers held less authoritarian beliefs about child rearing. Significant differences were associated with type of care. Child–adult ratios and group sizes were largest in centres and smallest in informal in-home care with fathers, grandparents and in-home sitters. Specialised training was highest in centres. Across these child care settings, smaller group sizes, lower child–adult ratios, less authoritarian child rearing beliefs, and safe/clean/stimulating physical environments were consistently associated with positive caregiving behaviours.

### **Who uses what child care arrangements?**

Another issue addressed by Network is the determination of family factors that are associated with child care usage. Economic factors were found consistently to contribute to child care utilisation, with non-maternal family income and maternal income having opposite effects on the amount of care children receive. When non-maternal family income is higher, families use child care for fewer hours; when maternal incomes are higher, families use child care for more hours. Families whose children enter care the earliest (0-2 months) had low non-maternal incomes, whereas families with the highest overall incomes reported infants entering care between three and five months. Higher non-maternal incomes were associated with families utilising higher quality child care.

Family demographic and psychological factors also were associated with type of child care, quality of care, entry age, and amount. The type of care parents chose was related to family size, maternal education, household composition, and mothers concerns about the risks of employment to children. Children with in-home caregivers or those cared for by fathers came from larger families. Families using in-home care had the highest incomes, both maternal and non-maternal. Mothers who thought employment had high risks were more likely than others to use father or grandparent care; those who thought employment presented relatively low risk were more likely to use child care homes or centres.

Family factors predicting quality of child care varied substantially across different types of care. Children at the highest and lowest income levels received higher quality centre-based care than those in the middle. One reason for this pattern, replicated in other studies, is the distribution of federal subsidies. Children from very low income families are eligible to attend directly subsidised centres that are comparable in quality to that provided to their more affluent peers. Higher income families receive an indirect subsidy in the form of the child care tax credit. Those in the middle are less likely to receive any federal benefit.

Families also differed in terms of when they first placed their child in non-maternal child care. Children in larger families entered care later than those in smaller families. Children entering care between three and five months were the most likely group to have highly educated mothers. Maternal extraversion and agreeableness also were highest for mothers whose infants entered care between three and five months. The greater the perceived benefits, the earlier the child entered care.

Finally, families differed in how much child care their infants received. Smaller families, minority race status, and less maternal education were associated with longer child care hours. Mothers who believed in the benefits of maternal employment had children in care for more hours, whereas those who thought it had risks used child care for fewer hours. Mothers with more authoritarian child-rearing beliefs used child care for fewer hours.

The results of these analysis underscore the non-random use of child care. They identify potentially confounding factors that must be considered when analysing for the effects of early child care experiences on child outcomes. These analysis are now underway. One set of analysis that has been completed pertains to the central issue of the effect of child care on children's emotional attachment to their mothers.

### **Infant-mother relationships**

Do infant child care experiences affect the quality of infant-mother attachment relationships? At 15 months, infants were videotaped in the Strange-Situation with their mothers. These videotaped were doubled coded for A/B/C/D/U attachment classifications. The primary aim of this portion of the study was to test three general hypotheses about associations between child care and attachment.

The first was a main effects hypothesis which postulated that children in early, extensive, unstable or poor quality care would have increased likelihood of insecure attachment, independent of conditions at home or in the child.

The second hypothesis was the cumulative risk hypothesis, which stipulated that large amounts of care or poor quality care or changes in care arrangements over time would promote insecure attachment principally when the child was otherwise at risk – for example, by having a difficult temperament, being a male, or residing in a home where the mother is relatively insensitive.

The third hypothesis was the compensatory hypothesis, which stipulates that when family or child risks are high then non-maternal care that is early, extensive, or of high quality would stabilise the child's experience and thereby foster the formation of a more secure infant-mother attachment.

Before testing these three hypotheses, the internal and external validity of the Strange-Situation for assessing attachment in children with extensive child care experience was examined. In the internal validity assessment, two extreme groups of children were contrasted: children with low intensity child care were those with less than ten hours of child care per week for every month from 0 to 15 months (n = 263) and children with high intensity child care were those with 30 or more hours per week in every month from 3 to 15 months (n = 257). Children in the two groups did not differ in distress during separation from the mother, nor were differences apparent in raters' confidence in making attachment classifications. Thus, there was no evidence in these analysis that the Strange-Situation was less valid for children in third care. External validity of the Strange Situation was demonstrated by showing that mothers in the lowest quartiles for psychological adjustment and observed sensitivity had fewer secure infants compared with mothers in the highest quartiles.

Having demonstrated internal and external validity of the Strange Situation, the three hypotheses were tested in a series of logistic regression analyses which controlled for family selection effects (income to needs ratio, benefits of work). No evidence was found to support a child care main effects hypothesis. Variations in amount of infant child care, age of entry, number of child care arrangements, or the observed quality of care did not, in and of themselves, increase or decrease a child's chances of being securely or insecurely attached to mother. There was some evidence to support the cumulative risk hypothesis. For children whose mothers were insensitive, the incidence of insecure attachment was further elevated when (a) the quality of observed child care was poor, or (b) care was used for more hours, or (c) child care was unstable. A final set of analysis examined whether child care served a compensatory function for children with less sensitive mothers. This hypothesis did not receive strong support.

### **Future analyses**

What are the next questions to be addressed? During the coming year, investigators are focusing on the effects of child care and family experiences on children's (1) interactions with their mothers, (2) cognitive and language development, (3) compliance and behavioural regulation, and (4) relationships with peers. The research network also will extend to the toddler and preschool periods, the examination of family selection factors, and the determination of conditions that facilitate child care quality.

### **References**

- Clarke-Stewart, K. A. (1987), 'Predicting child development from child care forms and features: the Chicago study', in D. Phillips (ed.) *Quality in Child Care: What Does Research Tell Us?*, National Association for the Education of Young Children, Washington, DC.
- Hojat, M. (1990), 'Can affectional ties be purchased? Comments on working mothers and their families', *Journal of Social Behaviour and Personality*, vol.5, pp.493-502.
- Leach, P.J. (1994), *Children First*, Knopf, New York.
- Scarr, S. (1992), 'Developmental theories for the 1990s: development and individual differences', *Child Development*, vol.63, pp.1-19.
- Phillips, D., &Howes, C. (1987), 'Indicators of quality in child care: review of research', in D. Phillips (ed.) *Quality in Child Care: What Does Research Tell Us?*, National Association for the Education of Young Children, Washington, DC.

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The implications of the report for Australia are highlighted in the Director's Report on pages 2-3 of this issue of *Family Matters*.