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ABSTRACT

This paper describes the results of a longitudinal study which compared the effects of three types of home-based, parent-oriented, infant education curricula. One curriculum stressed language, another stressed play, and a third stressed social development. Mothers and children from 108 middle and working class families received home visits beginning when the children were 12 months old and ending when they were 30 months of age. Four assessments of mothers and children were made at 12, 15, 24, and 30 months and involved audio tapes of mother and child language, children's language comprehension, observations of mother-child interaction in the home and in the laboratory, observations of children's play with toys, probes of stranger reactions, assessments of maternal play styles, and standardized tests such as the Bayley mental scales. Extensive data on demographic and family life variables were also collected. Three types of analyses were performed: (1) comparison of treatment effects on children's behavior, (2) cross-lagged correlation of maternal behavioral patterns and subsequent child behaviors, and (3) analysis of the effects of family organization and structures on curriculum success or failure. Implications of the findings for parent involvement in education efforts are discussed briefly. (JMB)

The Social Context of Mother-Infant Relations: A study of home based education

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ABSTRACT

The paper describes the results of a longitudinal study of 108 mothers and children from middle and working class families who participated in a home-based, parent-oriented, infant education program. Home visits began when the children were 12 months and ended when they were 30 months of age. The four assessments of mother and child at 12, 18, 24 and 30 months involved measures covering social, cognitive and language behavior. Extensive data on demographic and family life variables were also collected.

Three sets of analyses were performed. First, groups who had participated in different curriculum and procedural formats were compared. The language curriculum group (in comparison with play and social groups) produced the most impressive effects. However, differences on measures which reflect structural aspects of social, intellectual and language development were attenuated by the time the children reached 30 months. Differences on functional measures (e.g. how children use language) appeared later and were still evident by the final testing. In order to determine whether material behavioral patterns which did not reveal curriculum effects could account for subsequent behavior of the child, a second set of analyses using cross-lagged correlational procedures were performed. Results indicate that several variables including maternal responsiveness at 12 months is related to the child's later competence. A third set of analyses involving family measures indicated that regardless of social class, families with extensive kin relations or expanded households were far more responsive to the program than were families who had restricted social ties with others. At least one implication of the findings is that it is a mistake for those involved in educational efforts to assume a tabula rasa state in either the family, the parent or the child. The family, as a well-formed structure, plays a significant role in the development of mother-child interactions and in the accessibility of parents to non-familial institutions. Additional implications of the findings for when and how to involve parents in educational efforts will be discussed.

It seems as if helping parents to rear happier, more capable children should be a simple matter. It may not be. I would like to convince you that it is not.

I want to describe some findings from a study of home based education which involved 108 mothers and children. It was a six-group design in which we compared the effects of 3 kinds of curricula - one curriculum stressed language, another stressed play and a third stressed social development. Two additional groups were used to compare the style of the home visits (baby centered versus mother centered) and the sixth group was the standard Test Only control group. Dyads were randomly assigned to the six home visit variations. Families entered the program (or better, we stepped into their lives) when the children were 12 months of age and the program terminated when they were 30 months of age. During the first 6 months of the study, home visits were weekly, during the second six months they were bi-weekly, and during the last six months of the study they were monthly.

The study would not have been possible without the dedicated labor of many people. William Kessen was a source of elegant insights, inspiration and support; Alison Clarke-Stewart created the social curriculum and devised the measures of social development; Susan Starr did the same for language development. My comments today briefly summarize a voluminous report prepared by William Kessen and myself.

One of the issues, one that confronted us early and often was the painful question of the morality of "intervention." We were aware- almost to the point of paralysis - that how people rear children is intimately linked to the kind of adults they want their children to become. Our approach to a solution had three components, First, we selected ideas from child development research which seemed most easily adaptable to the values and life circumstances of individual families. Then we sidled up to our educational curricula very slowly. Finally, we built our curricula

around strategies for the mother rather than around specific behaviors, theories or prescriptions. Let me say a word about each of these components because they pertain to the topic of our symposium today.

Before putting together anything that could be called curricular, we set up three longitudinal studies -- we have called them panel studies -- of play, language and social development. In other words, the panel studies were our preliminary surveys of the terrain, our exploratory probes into the phenomena we wanted to study through later systematic variation. The importance of the panels was in providing us data collected both in homes and the laboratory - data that were the quantitative and phenomenological raw material from which we fashioned our curricula and our assessment measures.

Second, we gave a great deal of thought to strategies of early education. As William Kessen so elegantly phrases it, the child is best thought of as

> "a field of events, complexly interconnected in ways that we can only presently guess at. What seems beyond guessing is that there are several separable theories of the field of child... There are, at least, the psychologist's theory of the field (which has evaluative and normative components as well as the analytic ones we advertise), there is the child's theory of the field...and there is the mother's (or other caregiver's) theory of the field." (Kessen, 1976, p. 510)[1]

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[1] Kessen, W. The construction and selection of environments: Design of the study. In K. F. Riegel and J. A. Meacham (Eds.), The developing individual in a changing world. (Vol. 2), Chicago: Mouton & Co., 1976

Briefly, we wanted to use our emerging psychological theory of the child's theory to influence the mother's theory of the field of the child. We used the insights gained from other research and our panel studies, to elaborate some general ideas about how the child changed over the months between 12 and 30 in the special areas of language, play, and social development. We then, as our major educational curricular theme, tried to inform the mothers about these ideas. Our focal attempt was to inform the mother about child development, to draw out her goals and intentions for her child, to make her as aware as we could of the intricate relation between her life and the baby's and to intrude on her relation with her baby as lightly as possible. If you believe, as we do, that the parents are the major agents of change in the life of the young American child, and if you have as we did, an image of the child as a field of events connected to the phenomena around him, then the basic educational strategy must be to modify the mother's theory of the child in ways that are held to be developmentally benign.

A word about assessments. We saw mothers and children for assessment purposes when the children were 12 months (pretest), 18, 24 and 30 months (post-test). In our assessments we tried to implement our belief that the child is not only a complicated field but a highly adaptable one. That is, the social sensitivity of the child is so highly developed during the second year that there are many ways in which the study itself would begin to change him and many ways in which that change would be expressed. For these reasons, we wanted to see the children in a number of settings and with a

variety of observational procedures. Therefore, each assessment point consisted of three parts - we saw each dyad twice in their own home and once in the laboratory. each session lasted for 45 minutes to one hour. We designed a variety of instruments which involved audio tapes of mother and child language, children's language comprehension, observations of mother-child interaction in the home and in the laboratory, observations of children's play with toys, probes of stranger reactions, maternal play styles as well as standardized tests such as the Bayley Mental Scales.

We tried to see mother and child from as many angles as possible in different situations, through the eyes of different trained observers who were - hopefully - unaware of the particular study condition of the pair. Our hope was to arrange a "wraparound" of observational procedures that would provide a good first statement at least, of the stability and variety of each child, and of the impact of our program.

Finally, and of central importance, our study gave us an unusual opportunity to address several issues. We did not set out to ask whether or not the child can be changed significantly in the first years of life; rather, we tried to make a first assessment of the susceptibility to change of particular aspects of the child. It is, you see, our conviction that the classical argument about early experience has been wrongly drawn. Our central task as students of the young child is to make a systematic analysis of the possibilities of change -- which will surely vary widely from one behavior system to another -- and to relate those possibilities to characteristics of the child, his parents, the setting of his early life, and, at last, to whatever educational innovations are introduced in his first years. The

final answer on the effects of early education will not be "yes", "no", or "maybe" but rather will be an elaborate matrix indicating the likelihood that particular aspects of the child can be influenced in particular dimensions by particular kinds of situational or education events. The matrix will also indicate what particular aspects of the child and the parent-child relationship is less likely to be changed by a particular experience at a particular age.

In accord with these expectations, we analyzed our data in three distinctively different ways. Time permits only a brief summary of these ways and examples of the results which emerged.[2]

First, we did the traditional thing and looked for treatment effects. One of the more intriguing contrasts was between what might be considered structural indices of development (i.e. the development of grammatic forms vocabulary, levels of play from sensori-motor to symbolic) and other indices which might be considered stylistic or functional aspects of development. It is a distinction between what seems to be the child's competence and how that competence is used. Briefly, our analyses of structural indices indicated that the language curriculum took the lead by 18 months and maintained that lead until 24 months. But by 30 months (when the home visits were occurring monthly) the effectiveness of the language curriculum leveled off and children in the other groups caught up. At 30 months, group differences were not significant. However, our stylistic measures

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[2]The final report can be obtained from Eric # 118 233: Kessen, W. and Fein, G. In Home-based Infant Education: Language, Play and Social Development.

showed a different pattern. On measures of the child's use of language to communicate with the mother, significant differences did not appear until 30 months, and the ordering of those differences with respect to curriculum groups paralleled the ordering of structural differences at an earlier age, with the language group first, the play group second and the social group third.

Second, we wanted to know what was going on when there were no curriculum effects. More specifically, and to illustrate, when group differences disappeared at 30 months on structural measures we asked whether it was possible to identify early variables associated with levels of performance at the later age. The answer is yes. With respect to structural measures, the mother's tendency to be passively responsive to her child at 12 months had a negative relation to the child's competence at 30 months. Passive mothers rarely initiate a language interchange with the baby at 12 months although they do respond to the baby's overtures. By contrast, more active mothers tend to initiate encounters, especially language encounters, even though their babies are not speaking. We used the technique of cross-lagged correlational analyses which permits one to eliminate plausible rival hypotheses. Therefore we could argue that there were aspects of the mother-child system operating at 12 months (in this case the mother's passive responsiveness) that were not modified by our curriculum designs, but yielded outcomes that were maintained over time. It is as if our language curriculum added a short term overlay - an ephemeral precocity - which could only temporarily override properties of the mother-child system established during the first year of life.

Our third way of looking at the data was to ask how the ongoing structure and organization of the family itself might account for curriculum successes and failures.

In our initial interview with the mother, we inquired about the parents' education and occupation, their contact with relatives and friends, the size of the household, whether the mother sought advice in child rearing from friends, relatives or professionals, and other items which might tell us about the life style of families. In addition, the mothers were given the Peabody Picture Vocabulary Test and the Wechsler Adult Intelligence Scale.

Family background, demographic and IQ data were combined by factor analysis into two scales which seemed to reflect the structure of family life for the parents and children who participated in our study. The first factor provided a contrast between families who maintained extensive and close contacts with members of a large and local family network and those whose family connections were relatively limited. Families who scored high on this family network factor tended to utilize their families as a source of social support; they had more education, a higher occupational status, and the mothers scored higher on tests of verbal and non-verbal intelligence.

The second factor represented a somewhat different dimension of family structure, namely the organization of the household. Families who receive high scores tended to have large households, with many individuals in addition to the mother providing child care but with the father seldom participating. Although many relatives might live in the area, the household itself was a relatively self-contained social unit. High scoring families tended to have

lower occupational status and less education.

You must bear in mind that these patterns of family life style might be particular to the small New England city in which our families lived. Our families were predominantly Roman Catholic and ethnically, Italian-American. The median family could count 15 relatives living in the immediate area, and 84% counted 4 or more. The larger households generally contained a sibling, one or two grandparents and occasionally an aunt or uncle. Our families tended to be relatively long term residents of the community; 58% had lived in the area 16 or more years, and 87% expected to stay in the area for at least 5 years more. Only 22% of the mothers and 39% of the fathers belong to a club or other organization. Although relatively stable residents of the community, 30% of our families moved within the area during the year-and-a-half period; 21% of the fathers changed jobs, 5% lost jobs, and 21% of the mothers went to work, leaving their children in the care of relatives.

For our sample family ecology was associated with the behavior of mothers and children. For example, one of the child measures which we called sustained problem solving - showed significant relations with family structure at 12 and 18 months. Children who came from families with an extended network of close family relations, were more likely to show sustained problem solving activity. Children from these families did well on standardized intelligence tests beginning at 18 months and showed a high level of test taking skill at 24 months.

There was also a relationship between family structure and maternal interaction style. Mothers who came from a restricted family network were

more likely to be passively responsive when they interacted with their children at 12 months - the age at which maternal passivity as I indicated earlier was associated with later decrements in social symbolic functioning. However, at 30 months these mothers became more intrusive. By contrast, mothers from a more supportive family network showed the reverse pattern; they initiated more interaction at 12 months, and became more reactive at 30 months.

In general, those families who participated in either extended social networks outside the home or who had expanded arrangements within the home were more receptive to our educational messages.

Again, this is just a brief summary of the way we analyzed our data and a sample of the kind of results which emerged from those analyses.

Let me summarize what we think our results have to say for the design of future programs.

1. It is possible to modify some aspects of children's behavior and maternal behavior by entering into the parent-child system when children are 12 months of age.

2. Other aspects are less likely to be modified, and indeed some components of the system are so well established by 12 months that they continue to exert an influence at least over the following year-and-a-half.

3. Finally, the organization of family life represents an enduring and sustaining force, a functioning system, if you will, which determines to some extent how open people are to new information and to the possibility of change.

When we design educational programs, and especially when we design evaluations of these programs, we do well to take into account that field of events from which and in response to which children develop. For some program objectives, the age of the child is crucial; for other objectives the life style of the family must be taken into account. The cost of neglecting these issues is an inflated image of success and a deflated image of failure.