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ABSTRACT

Primary goals of this study were to determine: (1) whether a child-centered educational preschool program and/or a parent-centered early elementary educational intervention program for disadvantaged children had effects on the child rearing beliefs and values of parents; and (2) whether parents' child rearing beliefs and educational values were related to children's academic achievements in early elementary school. Subjects were 83 low-income parents whose children were judged to be at risk for academic problems associated with mild mental retardation. Children from the at-risk subjects' kindergarten classes were randomly chosen to provide a local population comparison group. The preschool intervention consisted of a systematic program that provided intellectual stimulation for infants and preschoolers in a day care setting. The school-age intervention consisted of supplementary learning activities that parents could implement with their children and that were delivered in biweekly home visits of a home-school resource teacher. Findings indicated that mothers of at-risk children in the preschool intervention group scored lower than other mothers on traditional beliefs. Such parental beliefs were negatively correlated with children's achievement in reading. Parents of at-risk children differed from control group parents in beliefs and values. Maternal IQ and authoritarian beliefs may both be implicated in differences in parenting style which impact children's language development and eventual literacy. References number 34. (RH)

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Parental Beliefs and Values Related to Family Risk, Educational
Intervention, and Child Academic Competence

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ABSTRACT

Traditional, authoritarian and progressive beliefs toward childrearing and education, and self-directing and conforming values for children were contrasted in parents of 126 children entering kindergarten. Eighty-three the parents were socioeconomically disadvantaged; their children were at risk for mild mental retardation and school failure and had taken part in an experimental study of early childhood educational intervention. Forty-three were parents of randomly selected kindergarten peers from the local population. Mothers of at-risk children with preschool intervention scored lower on traditional beliefs; such beliefs by parents were negatively correlated with child achievement in reading. Parents of children at risk differed from local population parents in both beliefs and values.

Parental Beliefs and Values Related to Family Risk Indicators,
Educational Intervention, and Child Academic Achievement

The goals of this study were to determine: 1) whether a child-centered educational preschool program and/or a more parent-centered early elementary grade educational intervention program for socio-economically disadvantaged children had effects on the childrearing beliefs and value systems of the parents of treated children; and 2) to see if the parents' child-rearing beliefs and educational values were related to the children's academic achievements in early elementary school.

Assuming that beliefs about parenting have their roots in the parents' own experiences, it is logical to ask whether having their children involved in educational intervention programs might affect the attitudes and beliefs of low-income parents. Developmental outcomes in children have been linked to parental beliefs, even though such relationships, when found, are sometimes small in magnitude (Miller, 1988). Authoritarian beliefs, in particular, have been associated with negative outcomes for children (Emmerich, 1969; Baumrind, 1971; Ramey, Farran, & Campbell, 1979).

Parental beliefs and values have been reported to be correlated with socioeconomic status (SES; Laosa, 1982; Schaefer & Edgerton, 1985; Luster, 1986; Miller, 1988; Ramey & Campbell,

1976), educational attainment, religion, and race (Rickel, Williams, & Loigman, 1988). Because child competence is positively correlated with parental SES, the inference has been that the beliefs and values of higher SES parents facilitate their children's achievement, but the origins of the beliefs and the nature of the influence are as yet poorly understood.

That a child-centered preschool program would strongly influence parental attitudes might be questioned, for it has been shown that parental attitudes are difficult to change, (Goodnow, 1988; Kanisberg & Levant, 1988; Roosa, 1984). Goodnow (1988, p. 190) concluded that "stability and resistance to change are as likely as change and perhaps more likely." In support of this point, Hock & Lindamood (1981) reported that mothers' child-rearing attitudes changed very little over the course of almost three years, from the time their children were 8 months to 41 months of age. Factors correlated with positive changes in parental beliefs include higher levels of parent education (Loasa, 1982; Schaefer & Edgerton, 1985) and evidence of positive change in their children (Bricker & McLoughlin, 1982; Luster, 1986; Miller, 1988). Because one major goal of early educational intervention is to effect positive change in the treated children, the demonstrated link between parental beliefs and child outcomes motivated an analysis of possible changes in parental attitudes associated with early intervention.

Two sequential educational interventions, the first, a child-centered program delivered in a daycare center from infancy to age five, the second involving parents as supplemental

educators for their children during the first three years in elementary school, permitted an analysis of this question. The child-centered preschool program was not expected to change parental beliefs, but it was hypothesized that the school-age program, which more directly involved parents, might have an impact on parental attitudes.

Other goals of this study were 1) to determine the relationship between parental beliefs and values and child academic outcomes for the low SES families, and 2) to compare the parental beliefs and values of the high-risk, low SES parents with those of a random sample of higher SES mothers.

METHOD

Subjects

The high-risk subjects were 83 low-income parents (82 mothers, 1 father) whose children were judged, on the basis of demographic indicators, to be at risk for academic problems associated with mild mental retardation. In a longitudinal study of the effects of early educational intervention for low SES children, parental measures such as family earned income, parental education, and maternal IQ were combined to form a High Risk Index (HRI) indicative of risk for mental retardation (Ramey & Smith, 1977). Infants whose families qualified on the HRI were randomly assigned either to a group which received five years of preschool educational intervention (I) or to an untreated control group (C). Before entry to public school kindergarten, the I and C groups were re-randomized within groups, with half of each preschool group assigned to a school-age intervention group.

Thus the 4-cell design included groups who had both preschool and school-age intervention (II), preschool intervention only (IC), school-age intervention only (CI), and no intervention at all (CC).

The base sample for the full study included 109 families, 55 assigned to the I group, 54 to the C group. Attrition had reduced this number to 94 families when the school-age random assignments were made. The 83 parents in the present sample were those for whom measures of parent attitudes and values at child kindergarten entry were available. It should be noted that the study included 7 cases, 4 from the I group and 3 from the C group, where a female other than the biological mother completed the parental attitude measures at kindergarten entry and the endpoint. Typically, this individual was either an adoptive mother or a grandmother. In every case, however, the surrogate was with the child during much or all of the preschool period. One family was excluded from the present study because different persons completed the first and second PEI interviews; one case was excluded because of other circumstances which could have compromised the data. In one II group family the father, rather than the mother, completed the parental measures on both occasions. Because this father had major responsibility for childcare during the relevant years, the case was retained in the sample even though it precludes the description of the data as reflecting "maternal" attitudes and values. The figures for maternal IQ in Table 1 are all based on the biological mother.

All preschool measures of parental attitudes alluded to in this study reflect those of the biological or adoptive mother.

Same-sex comparison children from the same kindergarten classrooms were randomly chosen to provide a local population (LPS) comparison group for the high-risk children. This randomly selected sample of children and families provided perspective on the predominantly upper-middle-class local community and indexed levels of pupil achievement within its public school classrooms. The same child measures were collected from the LPS and high-risk children. Not all parental measures were available for the full set of LPS children, however. Parental belief and value scores were available for 43 LPS subjects. Data on the number of years of education completed by mothers was available for 35 of the 43 mothers; the mean was 15.0 years, with a range from 8 to 20 years. In contrast, mothers in both high risk groups had,

Insert Table 1 Here

on the average, less than a high school education at the time their child entered school (see Table 1). A higher percentage of I group parents had completed 12 or more years of education when their children entered public school but this difference was not statistically significant: $\text{Chi}^2_{(1)} = 1.47, p > .10$. As Table 1 also shows, the high-risk mothers tended to be young when the target child was born, and to have IQs approximately one S.D. below the national average. (Age and IQ measures were not available for LPS mothers.)

Intervention

Preschool. The preschool intervention consisted of a systematic program to provide intellectual stimulation for infants and preschoolers in a day-care setting. The program began in early infancy and continued 50 weeks a year for 5 years, until the children were old enough to enter public school. Teachers and caregivers worked directly with the children to enhance cognitive, language, perceptual-motor, and social development. The goal was to provide an optimal environment for cognitive growth and learning during the preschool years (Ramey & Campbell, 1984; Ramey & Campbell, 1987; Ramey, Collier, Sparling, Loda, Campbell, Ingram, & Finkelstein, 1976). Control children did not attend the experimental day care center, although some were enrolled by their families in other local centers or were placed in home-based day care. Children and parents in all the high-risk groups received identical longitudinal assessments over the preschool and subsequent school years. Descriptions of the preschool program and child outcomes have been extensively reported elsewhere. See, for example, Ramey & Campbell, 1984; Ramey, Yeates, and Short, 1984; and Ramey, Bryant, Campbell, Sparling, & Wasik, 1988.

School-age. The school-age intervention consisted of having a Home/school Resource Teacher make biweekly visits to the homes of the II and CI families to deliver supplemental curriculum activities. These activities were designed for parents to use with their children to give the child extra exposure to and practice with the academic concepts being taught in the primary

grade classrooms. By encouraging parental use of these academically relevant materials, the researchers attempted to increase the parent's involvement in the child's education. No direct attempt to influence parental attitudes per se was made in either the preschool or school-age phase of the study.

Measures

Measures of parental beliefs and values. Inkeles and Smith (1974) described a construct they labelled "modernity" to explain demographic differences among more and less advanced societies; this construct included such factors as increased information, nonparochial allegiances, efficacy, and technological advances, and was shown to be related to higher levels of education and occupation. Subsequently, Schaefer and Edgerton (1985) extended this concept to the parental role and developed two scales to measure Parental Modernity. These scales measure Traditional and Progressive beliefs and were the measures of parental beliefs used in the present study.

High scores on the Traditional scale indicate relatively rigid and authoritarian views toward the rearing and education of children; it consists of 22 items (e.g., "The most important thing to teach children is absolute obedience to parents."). High scores on the Progressive scale, which has 7 items, indicate beliefs that children learn actively, should be treated as individuals, and should be encouraged to express their own ideas, (e.g., "It's all right for my child to disagree with me."). Parents express agreement or disagreement with the items on a 5-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly

Agree). The score for each scale is the sum of scores assigned all items on that scale.

Initial studies with the Parental Modernity measure revealed split-half reliability to be .90 and test-retest reliability to be .84. Schaefer and Edgerton (1985) found positive correlations between modernity and parent education, income, and majority group membership. In addition, significant correlations between teacher ratings of children's intellectual levels and parent scores on the modernity measure were interpreted as evidence of the predictive validity of the measure (Schaefer & Edgerton, 1981).

Parental values were assessed in this study using constructs adapted from Kohn (1977) by Schaefer & Edgerton (1985). The method involved rank ordering value statements about Self-Directing and Conforming behaviors in children. There were 15 items: 6 describing self-directing behaviors and 6 for conforming behaviors, and an additional 3 items describing positive social behaviors. These were presented in 3 sets of 5 items each -- 2 conforming, 2 self-directing and a social item. The respondent ranked each set from 1 to 5, with a score of 1 indicating "Most Valued." The scoring procedures inverted the score such that higher numbers indicate placing greater value on that behavior. The sum of ranks for its items constituted the score for each value scale.

Child scholastic achievement. Children's academic achievement was measured using the Reading and Mathematics Cluster Scores from the Woodcock-Johnson Psychoeducational

Battery, Part 2: Tests of Academic Achievement (WJ; Woodcock & Johnson, 1977). Cluster scores, which are summary scores based on the combined raw scores for all subtests measuring a given academic subject, are considered the preferred scores to use for data analysis (Woodcock, 1978). The subtests for Reading are Letter-Word Recognition, Word Attack, and Passage Comprehension. The Mathematics score is comprised of subtests labeled Applied Problems and Calculation. Woodcock (1978) reported reliability for the Reading Cluster at Grade 1 as .98, that for the Mathematics Cluster as .92.

Procedures

At the time the high-risk infants were enrolled in the study their mothers were given the Wechsler Adult Intelligence Scale (WAIS; Wechsler, 1955) and questioned about their educational level. Periodic updates of such demographic factors as parental education were made between the child's infancy and the endpoint assessment 8 years later. Maternal attitudes toward child-rearing were assessed when children were 6 and 18 months of age using the Parental Attitudes Research Instrument (PARI; Schaefer & Bell, 1958) as adapted by Emmerich (1969). This version of the PARI contained three scales: Authoritarianism, Democratic Attitudes, and Hostility-Rejection. This early measure of parental attitudes, while not identical to that used later, does provide a way for the investigators to compare the degree to which the two groups of high-risk mothers endorsed authoritarian and democratic attitudes toward child rearing when the preschool intervention program began.

The school-age measures of parental beliefs and values were embedded in a Parent as Educator Interview (PEI) which was administered to high-risk and LPS parents in their homes around the time their children entered kindergarten. The PEI interview was again administered to the high-risk parents when the children completed three years in elementary school. At that point, PEI data were available for 79 of the 83 high-risk parents who had kindergarten data. Longitudinal data could not be collected from LPS mothers because same-grade placement across multiple years could not be guaranteed and therefore it was necessary to select a different LPS match for each high-risk child each year.

Children's academic achievement was assessed after three calendar years in public school. The WJ was individually administered to the children at school by persons unaware of the mother's responses to the PEI.

RESULTS

Early parental attitudes

For the PARI scale administered to high-risk parents when their children were six months old, none of the t-tests of the significance of the difference between the I and C group means attained the .05 level of significance. This result was expected because all families had qualified on the basis of the HRI and assignment to treatment groups was random. Moreover, no difference on the 18-month Authoritarian scale score was anticipated, because an earlier study of parental attitudes within the preschool I and C groups by Ramey, Farran, & Campbell, (1979) had implied that the two groups were equivalent in this

regard. In the previous study, which was based on data from only half the sample of high-risk parents, a slight mean difference implying less Authoritarian attitudes in the I group mothers was found, but this difference did not attain statistical significance. However, when the full sample was examined in the present study, it was found that the trend for mothers in the preschool I group to score slightly lower on Authoritarianism was still apparent, and now approximated the .05 level of significance. The preschool I group's mean score on the PARI Authoritarian scale was 38.76 (S. D. = 10.39); the C group scored 41.29 (S. D. = 10.80), $t_{(81)} = 1.98$, $p = .051$. Thus, some divergence in parental attitudes was seen in the preschool I and C group mothers early in the preschool program.

Beliefs and Values at School-age

Means and Standard Deviations of belief and value scores for all groups at kindergarten entry and for high risk parents at the early elementary school endpoint are given in Table 2. To test whether the beliefs and values of the high-risk parents significantly varied as a function of their

Insert Table 2 Here

children's preschool and school-age intervention status, the mean scores on each scale were analyzed separately using a 2 (preschool group) x 2 (school-age group) x 2 (testing occasions) analysis of variance treating the parental belief or value scores obtained on the first and last testing occasions as repeated measures (McCall & Appelbaum, 1973).

The results for the Traditional belief scale showed a significant effect for preschool group status ($F(1,75) = 4.81, p=.03$) but no effect for school-age group status, no significant time change from the first to the third school year, and no group x time interactions. For the Progressive belief scale there were no significant differences among the 4 high-risk groups, nor a significant time change from the first to the third school year, nor any interactions.

Of the value measures, the Conforming score showed a significant time effect ($F(1,74) = 12.73, p=.0006$), but no group effects or group x time interaction. Scores on this scale decreased over time, suggesting that all parents relaxed their belief in conformity somewhat over the first three years their children attended school. For Self-Directing values, there were neither group nor time effects nor any interaction.

Effects of preschool intervention on parental beliefs and values with maternal education covaried. In order to determine whether the differences in beliefs and values in the two preschool groups of high-risk mothers might have been a function of differences in their educational levels, the repeated measures analyses of variance were repeated, using the number of years of education completed, as reported by the parent at children's kindergarten entry, as a covariate. However, for the high risk parents in this study, measurement of parental education beyond the secondary school level is not a simple matter. Parents self-reported how many years of education they had completed at any given point, but past high school, it was often difficult to

decide what constituted a "year." Most post-secondary education for the high-risk parents involved enrollment in various technical training programs in a local community college. Many enrolled, often in more than one program over the years, but few completed these programs and obtained certificates of completion. For this reason, parental education was coded as a binary variable, with 1 representing less than a high-school education, and 2 representing completion of high school and any amount of college or technical school thereafter. (Reported raw scores ranged from 0 to 15 for this variable). Parental Education was significantly related to all four PEI scores, but did not obviate the relationship between preschool intervention and parental Traditional beliefs ($F(1,71) = 5.11, p = .03$) or the time effect for Conforming values ($F(1,70) = 14.22, p = .0003$). Results for Progressive beliefs and Self Directing values were also essentially unchanged by the covariate analysis.

Interrelationships between parental beliefs and value scores. Table 3 gives the intercorrelations between

Insert Table 3 Here

parental belief and value scores as measured at the endpoint. Traditional belief scores were positively and significantly correlated with Conforming values and negatively correlated with Self Directing values and Progressive beliefs; the latter correlation was not statistically significant. Scores on the Progressive scale were positively and significantly correlated

with Self-Directing values. The strongest interrelationship found among these scores was the significant negative correlation between Conforming and Self-Directing values. The finding that Progressive beliefs are positively related with Self-directing values and Traditional beliefs are positively related to Conforming values confirms earlier findings by Schaefer and Edgerton (1985).

Relationship between parental beliefs and values and child achievement: The relationship between the high-risk parents' beliefs and values and child achievement in reading and math was examined using a partial correlation procedure which adjusted for the fact that mean differences between the groups on any of the variables might spuriously inflate the correlations obtained. Values for biological mother's IQ as measured at the time of the child's birth were also entered into the matrix. The results, given in Table 4, show that parents' scores on the Traditional scale at kindergarten entry were significantly and negatively related to children's reading achievement measured three years

Insert Table 4 Here

later. Progressive scale scores at kindergarten showed no significant relationship to child achievement, and neither belief scale at the endpoint showed a statistically significant correlation with child achievement measured concurrently. Neither Conforming nor Self-Directing values were significantly related to children's academic achievement, whether measured at

the beginning of the child's school experience or concurrently with achievement, at the endpoint. Maternal IQ was significantly and positively related to achievement in both reading and mathematics.

Differences between high-risk and LPS parents. To determine whether significant differences existed between the beliefs and values of the LPS and high-risk parents, t-tests were calculated between mean scores for the parents of preschool Control group children (CI and CC groups combined) and those for the LPS parents. Parents in the preschool Control group were considered to provide the better indication of attitudes among lower SES women, since there was a slight shift in attitudes of the mothers of children in the preschool I group as early as the second year of the children's lives. The results, given in Table 5, showed that mothers of LPS and high-risk preschool C group

Insert Table 5 Here

kindergartners were significantly different on all belief and value scores. LPS mothers scored lower on Traditional beliefs and Conforming values and higher on Progressive beliefs and Self-Directing values. Since the LPS was predominantly middle-class, the outcome of the present study replicates findings of highly significant differences in the parental attitudes and values of lower SES and middle-class parents (Becker and Krug, 1965; Ramey & Campbell, 1976; Schaefer & Edgerton, 1985).

DISCUSSION

Economically disadvantaged parents whose children received five years of preschool educational intervention had lower scores than did a control group of similar parents on a measure of traditional, authoritarian beliefs about childrearing, measured when their children were in early elementary school. This was true even though the providers of the child-centered preschool intervention made no direct attempt to change the parent's beliefs. No such effect was found for scores on the measure of Progressive beliefs used here, nor for Self-Directing or Conforming values for children.

That it should have been the preschool phase of the intervention which was associated with differences in the parent's Traditional beliefs, rather than that provided at school-age, was not expected for two reasons. First, as noted above, in the earlier analysis of maternal attitudes within the preschool I and C groups, involving fewer subjects, no significant differences were found. Second, of the two phases of intervention, the school-age phase might reasonably have had the greater impact on parental attitudes and beliefs because it involved more systematic contact between the parent and a professional teacher than did the preschool program. Although the focus of the school-age intervention was on academics, the HST was also a good resource for parents who sought advice about adult-child relationships. Thus, had either phase of the intervention had an impact, it might have been the latter. The present outcome suggested otherwise, however. The school-age

intervention program had no detectable effects upon on the measures of parental beliefs or values used in this study, whereas the preschool phase apparently did at least affect Traditional, or authoritarian, beliefs. Because of the evidence in this and other studies that the sort of authoritarian attitudes measured by the Traditional scale are associated with negative child outcomes, early childhood educators might consider the feasibility of exploring ways to counter such parental attitudes where they are known to exist.

Better educated women have less authoritarian attitudes (Ramey & Campbell, 1976), and it is quite plausible that having one's child in full-time day care from infancy, a feature of assignment to the preschool I group, freed those mothers to devote time to furthering their own development through continued education or employment. Campbell, Breitmeyer, and Ramey (1986) found that teen mothers whose children participated in the I phase of the study were more likely to finish school and become self-supporting. In the present study, not confined only to teen mothers, by the time their children entered kindergarten, mothers in the I group reported, on the average, having completed approximately one more year of education than mothers in the C group.

However, while parental educational level was significantly related to all belief and value measures employed in this study, the apparent effect of the preschool intervention on Traditional beliefs seems not due only to differences in parental educational levels, for it persisted when such differences were statistically

controlled through the use of covariance. Combining the PARI results with those from the Traditional Scale from the PEI suggests that the preschool I group mothers did experience something of a shift toward less rigid beliefs toward childrearing, whether mediated by changes in their educational levels or not.

Intervention-related changes in the children themselves could have led to changes in the parent's attitudes. The children in the preschool educational program developed cognitive skills at a faster rate than did children in the C group (Ramey & Campbell, 1984). An awareness of differences in the children's cognitive development could have influenced parental beliefs about the nature of children and how best to rear and educate them. Credibility of this explanation is enhanced by the finding of Farran and Ramey (1981) that, when observed in a naturalistic setting with their mothers at 36 months of age, children in the preschool I group were more interactive and more directive with their mothers.

It seems likely that parental beliefs would influence the degree to which parents support children's efforts. Emmerich (1969) found that low scores on authoritarianism were associated with more adaptive, effective functioning in the parental role and also with parents having well defined positive and negative goals and standards for their children. The present results support this finding: they show a significant relationship between children's academic accomplishment and parental beliefs.

Parent's Traditional belief scores at kindergarten entry were almost as highly related to reading achievement ($r = -.32$) as was maternal IQ ($r = .34$). Maternal IQ was the best predictor of child achievement in mathematics, the latter subject showing no significant relationships with parental beliefs or values when the correlations were pooled across the high-risk groups.

Present data do not permit us to explain the differential influence of parental attitudes on reading and mathematics outcomes, but there is other evidence in the research literature to indicate that family variables are more highly related to measures of verbal ability, including reading, than to measures of quantitative skills (Marjoribanks, 1980). Bernstein (1961) suggested that authoritarian families would be likely to control children in ways which might suppress verbal expression, leading to less adequate development of language and literacy skills.

The relationship found between parents' traditional beliefs and child academic outcomes may be partially a function of the parent's own ability level, which could clearly affect the degree to which the parent might contribute to the child's scholastic progress. Maternal IQ and authoritarian beliefs may both be implicated in differences in parenting style which impact children's language development and eventual literacy. For example, Adams and Ramey (1980) found that imperatives constituted the largest proportion of sentence forms used by a sample of these high-risk mothers in a video-taped play session with their 6-month-old infants, and that the proportion of imperatives was significantly negatively correlated with maternal

IQ. More research with larger samples limited to biological parents alone is needed to pursue the question of the degree to which parental authoritarianism and intellectual levels might interact to affect child outcomes.

The comparison of high-risk and LPS mother's beliefs and values showed highly significant differences. Low-risk mothers strongly endorsed self-direction and rejected conformity, and rejected authoritarianism and accepted progressive child rearing and educational beliefs. It should be noted also that, even though there were differences in the degree to which high risk mothers in the preschool I and C groups endorsed Traditional beliefs when their children were entering kindergarten, the two high risk groups much more strongly resembled one another in this regard than either resembled the LPS group.

The present study goes beyond the mere demonstration of a relationship between parental SES and parental attitudes, because it shows that, within a lower SES high-risk group, there was a significant relationship between a particular parental attitude and children's scholastic achievement. Although one may not infer a direct causal link between parents' attitudes and children's accomplishments, these results do suggest that the mechanisms which underlie the negative relationship between parental authoritarianism and children's learning to read should be further explored.

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Table 1

Demographic Characteristics of High-Risk Families by Presch

Maternal		Mean Maternal Age* (Birth)	Mean High Risk Index (Birth)	Mean Maternal IQ*	Pe w High Educa Bet Schoo
Group	N				
Preschool Control	41				
M		20.68	21.93	83.20	5
SD		(6.30)	(6.08)	(10.59)	
Preschool Intervention					
M	43	19.60	19.28	84.83	6
SD		(4.05)	(5.30)	(13.25)	

* Based on data for biological mothers only.

Table 2

Mean Scores on Parent as Educator Interview Variables at Kindergarten Entry and at Endpoint by Group

PEI Variable	Group									
	II		IC		CI		CC		LPS	
	K (N=23)	K + 2 (N=22)	K (N=19)	K + 2 (N=18)	K (N=20)	K + 2 (N=19)	K (N=21)	K + 2 (N=20)	K (N=43)	
Parental Modernity										
Traditional										
M	75.65	73.41	75.58	73.89	79.15	77.42	83.38	82.90	57.35	
SD	(12.89)	(11.02)	(13.12)	(10.92)	(10.77)	(13.00)	(11.85)	(13.00)	(21.42)	
Progressive										
M	30.65	30.50	28.74	28.11	28.75	28.84	29.24	28.90	31.95	
SD	(2.84)	(2.46)	(3.57)	(3.82)	(5.18)	(3.48)	(3.30)	(4.20)	(2.89)	
Value										
Self-Directing										
M	8.39	10.05	7.26	8.72	6.55	7.84	6.81	8.79	12.53	
SD	(3.70)	(3.33)	(4.23)	(4.16)	(3.07)	(3.27)	(3.74)	(4.18)	(5.19)	
Conforming										
M	11.39	10.55	11.05	11.17	12.45	11.84	12.33	11.32	6.16	
SD	(3.56)	(3.51)	(4.42)	(4.54)	(2.91)	(3.70)	(3.61)	(3.51)	(5.31)	

K = Kindergarten

K + 2 = Endpoint

Table 3

Intercorrelations Between Parental Beliefs and Values Measured
at Endpoint (K + 2)

	Traditional	Progressive	Self- Directing	Conforming
Traditional	-	-.18	-.34**	.44***
Progressive		-	.27*	-.21
Self Directing			-	-.85***
Conforming				-

* p < .05
 ** p < .01
 *** p < .001

Table 4

Pooled Correlations of At-Risk Child Reading and Mathematic in School (K + 2) with Parental Beliefs and Values Measured Three Years Later (K + 2) and with Maternal IQ

Parental PEI Score	Child Academic Subject (K +	
	Reading	Math
	r	r
Beliefs		
Traditional		
Measured at Kindergarten	-.32**	-.22
Measured at K + 2	-.21	-.18
Progressive		
Measured at Kindergarten	.16	.15
Measured at K + 2	.24	.06
Value		
Self-Directing		
Measured at Kindergarten	.05	.03
Measured at K + 2	.06	.02
Conforming		
Measured at Kindergarten	-.18	-.15
Measured at K + 2	-.05	-.00
Mother's Full Scale IQ		
Measured at child's birth	.34**	.38**

** p < .01
 *** p < .001

Table 5

T-Tests of Mean Difference in Kindergarten PEI Scores for Mothers in th
Preschool C and LPS Groups

PEI Variable	Group				t	df	p
	Preschool Controls		LPS				
	M	SD	M	SD			
	N = 41		N = 43				
Parental Modernity							
Traditional	81.32	11.39	57.35	21.42	6.44	64.6	.0001
Progressive	29.00	4.27	31.95	2.89	-3.70	69.8	.0004
Values							
Self-Directing	6.68	3.39	12.53	5.19	-6.15	72.7	.0001
Conforming	12.39	3.25	6.16	5.31	6.52	70.1	.0001