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Father's Presence and Young Children's Behavioral and Cognitive Adjustment

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The present study examined the impact of the biological father on young children's cognitive and behavioral adjustment. Using data from the 1986 Child Supplement of the National Longitudinal Survey of Youth, the relationship between father's &residence in the household over the first 3 years of a child's life and children's adjustment was assessed for 1,688 four- to six-year-old children. Two dimensions of father-presence were considered, reflecting the timing of the father's entry into the household and the duration of his presence during the child's first 3 years of life. Within-group analyses of variance indicated significant effects of father-presence for White and Hispanic children and for children born to teenage and older mothers. All of these initial effects disappeared, however, once controls for child characteristics, maternal characteristics, and family resources were introduced in multiple regression models. These findings suggest that the father-effects operated through family characteristics and did not represent unique effects of fathering.

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The impact of fathers on the development and well-being of their children has been the focus of much recent research and debate (e.g., Furstenberg, 1988; Hawkins & Eggebeen, 1991; Lamb, 1987). Traditionally, fathers have been assumed to play an important role in the socialization of their children and, consequently, father-absence has been hypothesized to result in a variety of cognitive and psychosocial vulnerabilities. The need to understand the influence of fathers becomes especially acute at a time when high rates of divorce and nonmarital childbearing lead to the predic-

tion that the majority of children will experience some period of father-absence (Bumpass, 1984; Bumpass & Sweet, 1989).

A number of studies have demonstrated that fathers can have a positive impact on their children's development (Parke, 1981). For example, infants' mental test scores are positively associated with the amount of contact with the father (Pederson, Rubenstein, & Yarrow, 1979). Similarly, paternal involvement is positively associated with preschool cognitive performance, especially among boys (Radin, 1981). Conversely, father-absence has been associated with poorer behavioral and cognitive functioning in both younger and older children (Dombusch et al., 1985; Fergusson, Dimond, & Horwood, 1986; Patterson, Kupersmidt, & Vaden, 1990; Shinn, 1978; Steinberg, 1987). Such studies indicate a potentially significant influence of fathers on their children's cognitive and socioemotional adjustment.

Other research, however, suggests a minimal impact of fathers beyond their contribution to the economic well-being of the family. In several studies, negative effects of father-absence on children's cognitive performance were found to be nonexistent once family socioeconomic status was controlled (Goldstein, 1982, 1983; Hofferth, 1985). Similarly, divorce appears to have few detrimental consequences for young children's adjustment once economic circumstances are taken into account (Acock & Kiecolt, 1989; Baydar, 1988; Demo & Acock, 1988; Hawkins & Eggebeen, 1991; Svanum, Bringle, & McLaughlin, 1982).

In part, the minimal impact of fathers on their children's development may reflect the family ecology of early childhood. In two-parent families, mothers are still the primary figures in the lives of most young children (Furstenberg, 1988), whereas fathers are often minimally involved (Pleck, 1985; Rexroat & Shehan, 1987). These parental role arrangements suggest that fathers may be peripheral figures, who, apart from their financial support, make few unique contributions to their children's early development. Indeed, based on an extensive review of the literature, Lamb and his colleagues concluded that the impact of fathers appears to be "essentially redundant" (Lamb, Pleck, Charnov, &Levine, 1987, p. 123). Given this claim, it is important to consider the *nature* of father-effects. Are they largely a function of economic support or is there some additional impact of fathering on children's well-being?

To date, the discussion of the father's role in the context of young children's developmental ecologies has neglected an important fact: that these developmental ecologies show tremendous variation, both among important subgroups in the population and over the course of childhood. A recent study (Eggebeen, Crockett, & Hawkins, 1990) found that young children's patterns of coresidence with adult males showed stark differences by ethnicity and by the mother's age at the time of the child's birth. African-American children were more likely than White children to have no adult male in the household during the first 3 years of life; they were also much more likely than White children to experience one or more transitions in which an adult male entered or left the household. Furthermore, the first adult male living in the household of African-American children was less likely to be the mother's spouse and more likely to be the maternal grandfather than was true of White children. Within each racial group, the patterns of male coresidence also differed depending on the age of the mother when the child was born: Children born to teenage mothers were more likely than those of older mothers to experience the entrance or exit of adult males and were less likely to coreside continuously with an adult male. These findings demonstrate that ethnicity and the age of the mother at the child's birth strongly affect children's exposure to their biological father, and to coresident males more generally.

The differing patterns reflect important variations in the developmental ecologies of children belonging to distinct social subgroups in the United States. At the same time, they indicate a potential for differences in the impact of the biological father on these children's development and well-being. Clarke-Stewart (1978) proposed that fathers may influence their children's well-being via three general paths: economic support of the family, assumption of the paternal social role, and social support of the mother. The impact of these paternal influences is likely to differ depending on other features of the family ecology. Paternal impact may be enhanced or diminished by other ecological variables that differentially characterize distinct subgroups; for example, the level of economic resources, the availability of extended kin-based support networks, and the prevalence of single parenthood.

The above considerations suggest that some of the inconsistencies in the literature on father-effects may be attributable to the differential impact of fathers within families differing in ethnicity and in the social[1] developmental status of the mother as indexed by her age. Most of the prior research on paternal influences has been unable to examine possible subgroup differences in the father's impact due to limitations of the data sets employed. The present investigation uses data from the 1986 mother-child Supplement of the National Longitudinal Survey of Youth (Baker & Mott, 1989), which includes adequate samples of Black, White, and Hispanic

children as well as large numbers of children born to teenage mothers. In addition, the data set enables us to begin to elucidate the nature of observed father-effects. In sum, our purpose is twofold: (a) to determine for which groups of children father-presence makes a difference and (b) to determine whether father-effects in each group are largely attributable to associated background factors such as maternal characteristics and family economic resources or, rather, represent unique effects of fathering beyond the provision of economic support.

METHOD

SAMPLE

The data for the present analyses come from the 1986 mother-child supplement of the National Longitudinal Survey of Youth (NLSY). The survey is based on a national probability sample of 12,686 respondents aged 14 to 21 as of January 1, 1979, with an oversampling of Blacks, Hispanics, and low-income Whites. As part of the 1986 wave of data collection, an extensive assessment battery was administered to 4,971 children born to the female NLSY respondents. The assessments measured cognitive, socioemotional, and physiological aspects of the children's development. These data on the children were integrated with selected information from the 8 years of longitudinal data collected from the mothers to form the mother-child supplement. Analyses in the present investigation are based on the 1,688 children who were aged 4 to 6 at the time of the 1986 interview and for whom the presence or absence of the biological father could be determined. We focus on the child's biological father because some research indicates that stepfathers do not always have the same beneficial impact as natural fathers (e.g., Furstenberg, 1987; Kellam, Ensminger, & Turner, 1977; Steinberg, 1987). In addition, to facilitate comparability across children, we focus on father's presence during the first 3 years of life, a standard time unit common to the majority of children in the sample. Extending the length of that unit (e.g., to 5 years) would have resulted in a substantial decrease in sample size. Therefore, father-presence was assessed over the first three years, with outcome variables assessed in 1986 when the children were ages 4 to 6.

The determination of biological fatherhood was based on the longitudinal data on household composition. The biological relationship of the mother's spouse or cohabiting partner to her children was not asked until the 1984 interview. Thus the process for determining the biological relationship between a coresident spouse or male partner and the target child was as follows. First, if the coresident male at the 1984 interview was reported by the mother to be the biological father of the target child and he resided continuously in the household prior to the 1984 interview, then he was classified as the biological father of the target child. Second, spouses of partners who had left the household before the 1984 interview were classified as natural fathers if they were present at the time of the interview before the birth of the child and at the time of the interview after the birth of the child, or if the mother was living with her parents at the time of the interview before the birth of the child and then with her spouse at the time of the interview after the birth of the child. With these assumptions, 94% of all children in the subsample could be classified in terms of the biological relationship of coresident spouses or male partners to the target child at each interview. The remaining undetermined cases were inspected by hand, and by looking at data from each interview on household composition and detailed information on marital-status changes (marriage, separation, reuniting, divorce, remarriage, death), we were able to classify with a high rate of certainty an additional 3% of cases. The remaining 3% of cases were excluded from analyses.

MEASURES

Child adjustment measures. Cognitive ability was assessed with the revised Peabody Picture Vocabulary Test (PPVT-R) (Dunn & Dunn, 1981). This test measures vocabulary knowledge in children and gives an indication of mental age. The PPVT-R was standardized on a sample of 4,200 children and adolescents. All drawings have been reworked for better racial, ethnic, and gender balance. In the NLSY, age-appropriate forms of the test were administered.

Behavioral adjustment was assessed with the Behavior Problems Index (BPI) (Baker & Mott, 1989). This scale is designed to measure the frequency, range, and type of childhood behavior problems based on maternal report and was administered to children aged 4 and above. It includes 28 items drawn from Achenbach's Child Behavior Checklist (Achenbach & Edelbrock, 1981). The BPI was able to distinguish children referred for psychological treatment from typical children in a large sample (1,300 children in each group). The internal consistency of the index was found to be alpha = .89 for children aged 4 to 11 (National Center for Health Statistics, 1982).

Father-presence. The longitudinal data on household composition enabled us to determine with high certainty whether the child's biological father was residing in the household at any given interview. Based on these data, two dimensions of the father's contact were assessed, reflecting the timing of the father's entry into the child's life and the duration of coresidence, respectively.

The duration of father-presence reflected the proportion of the child's life during which the father resided in the household. Duration was measured by counting the number of annual interviews during which the biological father was living in the child's home. Because all children had four interviews, we assume that those children whose father was present at all four times of measurement experienced father-presence during their entire first 3 years of life; children whose father was present for only three interviews experienced roughly three fourths of their first 3 years with their father, and so on. Three levels of father-duration were derived, corresponding to continuous coresidence, partial coresidence, and no coresidence.

For children who experienced partial coresidence, we further determined the fathers' timing of entry into the household relative to the birth of the child. Two categories of timing were coded: early (the father was residing in the household at the first interview after the child's birth); and late (the father entered the household at some point after the first postnatal interview).

The two dimensions of father-presence were combined into a single categorical variable reflecting four patterns of father-presence. The four categories were "continuous coresidence"; "partial coresidence–early onset"; "partial coresidence–late onset"; and "never coresided."

Subgroup categories. Child's ethnicity was categorized as Hispanic, African-American, and White/other based on maternal report. The analysis sample consisted of 316 Hispanic, 522 African-American, and 850 White children. Maternal age at the birth of the child was categorized as 17 or less, 18 or 19, and 20 or more. This categorization reflects distinctions between childbearing prior to the typical age for high school completion, post-high-school teenage childbearing, and childbearing after the teen years. These distinctions may be important because some research suggests that school-aged mothers (and presumably their children) are particularly likely to be disadvantaged (Hamburg, 1986; Hayes, 1987). Of the 1,688 children aged 4 to 6 in 1986, 178 (11%) were born to mothers under the age of 18,436 (26%) to mothers aged 18 or 19, and 1,074 (64%) to mothers aged 20 or more.

Background variables. Three sets of background variables were included in multivariate analyses: (a) child characteristics (child's sex, birth order, and age at the time of the 1986 interview); (b) maternal characteristics, including mother's IQ (assessed by the Armed Forces Qualification Test, AFQT) and educational attainment (years of schooling completed); and (c) family resources, assessed by poverty status and the ratio of adults to children in the household.' Child characteristics and maternal characteristics served as control variables; the family resource variables, on the other hand, were viewed as possible mediators of father-presence effects. Conceivably, a coresident father could contribute to household economic resources and to the adult-child ratio (an index of person-resources), each of which might positively affect the child's cognitive and behavioral functioning. It should be noted, however, that other (nonpaternal) adults could make similar contributions to the household; thus we are not claiming that these variables reflect unique contributions of fathering; rather, they represent ways in which fathers could have an impact.

DATA ANALYSIS

Analyses focused on the impact of father-presence among children in distinct racial groups and among children born to mothers of differing ages. Within each racial or maternal age subgroup, analysis of variance (ANOVA) was used initially to compare the adjustment of children experiencing each of the four patterns of father-presence. The ANOVAs were followed by ordinary least squares (OLS) regressions in which any effects of father-presence were assessed net of background variables. For inclusion in the regression models, the four-level father-presence variable was coded as three dummy variables reflecting comparisons between the three categories of continuous and partial coresidence and the fourth category of "never coresided." All three dummy variables were entered simultaneously into regression equations.

Three regression models were tested sequentially. The first model (Model 1) included the father-presence variables plus control variables reflecting the child's age, sex, and birth order. In the second model (Model 2), we added controls for maternal characteristics (AFQT and educational attainment). The third model (Model 3) contained all of the previous variables plus additional variables reflecting family resources (poverty status and the adult-child ratio in the household). Models are discussed sequentially in the text; for brevity, however, only Model 3 is presented in the tables.

TABLE 1
Descriptive Statistics of Children, by Race

	Whites (N = 850)		*Blacks (N = 522)*		*Hispanics (N = 316)*	
	Mean	SD	*Mean*	SD	*Mean*	SD
Independent variables						
Age of child	4.35	1.31	4.46	0.89	4.38	0.70
Percentage male	0.54	0.61	0.49	0.39	0.54	0.34
Birth order	1.50	0.88	1.65	0.68	1.60	0.58
Percentage born to mothers < 18	0.07	0.31	0.15	0.28	0.09	0.19
Percentage born to mothers 18-19	0.20	0.48	0.27	0.35	0.28	0.30
Mothers AFQT[a] score	70.0	22.2	48.1	13.0	51.7	12.3
Mother's education (in 1986)	11.9	2.0	12.0	1.2	11.1	1.3
Percentage in poverty in 1985	0.17	0.46	0.52	0.39	0.33	0.32
Adult/child ratio	1.10	0.72	1.05	0.62	1.11	0.54
Dependent variables						
PPVT-R[b] scores	98.07	18.77	77.08	14.51	78.92	17.06
BPI[c] scores	8.49	1.92	8.57	1.27	8.47	1.19
Patterns of father-presence (%)	*Whites*		*Blacks*		*Hispanics*	
Father never present	19.9		58.3		13.4	
Partial coresidence: early onset	11.7		7.8		13.1	
Partial coresidence: late onset	9.3		12.0		3.7	
Father continuously present	59.1		21.8		69.7	

NOTE: The means and proportions reported are weighted by the child's sampling weight. The *N*s reported are the unweighted number of cases.
a. AFQT = Armed Forces Qualification Test.
b. PPVT-R = revised Peabody Picture Vocabulary Test.
c. BPI = Behavioral Problems Index.

RESULTS

DESCRIPTIVE RESULTS

Descriptive statistics for all variables are presented in Tables 1 and 2, by child's race and mother's age at the child's birth, respectively. The differences in poverty status, mother's IQ, and mother's educational attainment suggest important differences in the family ecology to which children in the different subgroups are exposed.

Examining the three racial groups (Table 1) it can be seen that Black children were more likely than either White or Hispanic children to have been born to a mother aged 17 or less. In addition, Black and Hispanic children were more likely than White children to have been born to a mother aged 18 or 19. Black children were most likely to live in poverty, followed by Hispanic children and then White children. Differences in mother's educational attainment were small, with Hispanic mothers having on average 1 year less schooling than White or Black mothers. White mothers had higher AFQT scores than did either Black or Hispanic mothers.

Children in the three racial groups also differed in their patterns of father-presence. Seventy percent of White children, 59% of Hispanic children, and 22% of Black children lived continuously with their biological fathers during the first 3 years of life. The reverse pattern appears for con-

TABLE 2
Descriptive Statistics of Children, by Mother's Age at Child's Birth

	< 18 (N = 178)		*18-19 (N = 436)*		*20+ (N = 1,074)*	
	Mean	SD	*Mean*	SD	*Mean*	SD
Independent variables						
Age of child	5.00	0.78	4.44	1.00	4.28	1.15
Percentage male	0.42	0.45	0.54	0.46	0.54	0.53
Birth order	1.14	0.35	1.29	0.53	1.66	0.86
Mother's AFQT[a] score	54.6	16.4	57.9	17.0	67.6	21.3
Mother's education (in 1986)	10.9	1.6	11.4	1.3	12.1	1.8
Percentage Black	0.32	0.43	0.23	0.39	0.16	0.39
Percentage Hispanic	0.08	0.25	0.11	0.29	0.08	0.28
Percentage in poverty in 1985	0.40	0.45	0.29	0.42	0.22	0.44
Adult/child ratio	1.37	0.88	1.16	0.63	1.04	0.62
Dependent variables						
PPVT-R[b] score	89.05	17.40	89.71	17.70	93.84	20.40
BPI[c] score	8.66	1.53	8.68	1.61	8.41	2.25
Patterns of Father Presence (%)	*< 18*		*18-19*		*20+*	
Father never present	44.9		34.4		15.9	
Partial coresidence: early onset	12.3		11.7		12.2	
Partial coresidence: late onset	13.9		6.6		4.5	
Father continuously present	29.2		47.4		67.5	

NOTE: The means and proportions reported are weighted by the child's sampling weight. The *N*s reported are the unweighted number of cases.
a. AFQT = Armed Forces Qualification Test.
b. PPVT-R = revised Peabody Picture Vocabulary Test.
c. BPI = Behavioral Problems Index.

tinuous father-absence, with Black children experiencing the highest rates (%%), followed by Hispanic children (20%) and White children (13%).

In sum, the family ecologies of White, African-American, and Hispanic children differed on several counts. White children were least likely to be born to a teenage mother, least likely to live in poverty, and most likely to have coresided continuously with their fathers. On average, their mothers scored higher on the AFQT, and they themselves received higher PPVT-R scores. Black children were more likely than other children to have been born to a teenage mother, to live in poverty, and to have never coresided with their biological fathers. They also had slightly higher behavior problem scores than did White or Hispanic children. Hispanic children had mothers with the least amount of education but with intermediate scores on the AFQT. Poverty rate was between those for Black and White children. A majority (59%) had coresided continuously with their biological fathers. PPVT-R scores were similar to those for Black children (and lower than for Whites), but behavior problem scores were similar to White children (and lower than among Blacks).

Differences in family circumstances also appeared for children born to younger versus older mothers (Table 2). Poverty rates varied sharply by maternal age group: 40% of children born to mothers under the age of 17, 29% of those born to mothers aged 18 or 19, and 22% of those born to mothers over the age of 19 were living below the poverty line, although there was also substantial variability within maternal age groups. In addition, maternal educational attainment was positively related to mother's age at the child's birth; on average, the younger the mother was when the child was born, the less schooling she had completed. AFQT scores followed the same pattern, being lower for younger mothers.

Patterns of father coresidence also varied across maternal age groups. The proportion of children experiencing continuous father-presence increased with mother's age at the child's birth. Similarly, the proportion whose father never coresided with them decreased with maternal age. Children of the youngest mothers were especially likely to experience partial coresidence with late onset (i.e., the father entered the household at some point after the child's birth).

In sum, the children born to younger mothers were being raised by mothers with lower educational attainment and lower AFQT scores than were children born to older mothers. They were also more likely to be living in poverty. Concerning patterns of father-presence, they were less likely to have coresided continuously with their biological fathers and somewhat more likely to have experienced continuous father-absence or partial coresidence beginning after birth. In addition, children born to teenage mothers had, on average, slightly lower PPVT-R scores and slightly higher behavior problem scores than did children born to mothers in their 20s.

ANALYSES BY RACE OF CHILD

The impact of father-presence on children's verbal and behavioral functioning was tested separately for Black, Hispanic, and White children. In each case, an initial ANOVA tested only the effect of father-presence on the outcome variable of interest. Then OLS regression was used to examine the residual impact of father-presence once controls for other background variables were added. In addition to the core control variables reflecting age, gender, maternal characteristics, and family resources, two dummy variables reflecting maternal age at the child's birth were included in the regression models. Examination of the full correlation matrix of explanatory variables revealed little evidence of multicollinearity. The coefficients ranged from 0 to .51, indicating small to moderate associations. Therefore, all relevant control variables were included in the multiple regressions.

Verbal functioning. Mean PPVT-R scores by father-presence category are given in Table 3 for Black, White, and Hispanic children, respectively. One-way ANOVAs within each ethnic group suggested an effect of the father's coresidence on the verbal functioning of White and Hispanic children. Follow-up *t* tests indicated that White children who experienced either continuous father-presence or partial coresidence with early onset scored significantly higher than did those who experienced continuous father-absence or partial coresidence with late onset. Children with early coresidence did not differ from those with continuous coresidence, and children with late coresidence did not differ from those whose fathers never coresided. In stark contrast, among Hispanic children, those who experienced partial coresidence with *late* onset performed significantly better than did those experiencing any other pattern of father-presence.

To better understand the nature of these father-effects, multiple regressions were conducted in which the father-presence variable was reexamined after controlling for background variables and mediating variables that might account for the observed effects of father-presence. Results of the regression analyses are provided in Table 4.

TABLE 3
Mean Differences in PPVT-R[a] and BPI[b] Scores, by Pattern of Father Presence and Race

	Whites		*Blacks*		*Hispanics*	
Pattern	*Mean*	SD	*Mean*	SD	*Mean*	SD
PPVT-R scores						
Father never present (1)	94.3	17.4	76.7	13.9	77.3	18.1
Partial coresidence: early onset (2)	100.1	16.7	83.4	12.2	76.4	17.4
Partial coresidence: late onset (3)	95.7	17.6	76.4	12.8	91.6	12.4
Father continuously present (4)	98.5	19.5	76.3	17.4	78.0	16.9
F	3.41*		1.75		2.80*	
BPI scores						
Father never present (1)	8.8	2.0	8.6	1.3	8.8	1.1
Partial coresidence: early onset (2)	8.7	2.0	8.2	1.3	8.6	1.2
Partial coresidence: late onset (3)	8.9	1.6	8.8	1.0	8.2	1.4
Father continuously present (4)	8.3	1.9	8.8	2.0	8.4	1.2
F	3.91*		0.67		0.43	

*Significant at .05 level.
a. PPVT-R = revised Peabody Picture Vocabulary Test.
b. BPI = Behavioral Problems Index.

Among both White and Hispanic children, the initial effects of father-presence disappeared once controls were introduced. For White children, the initial regression model (controlling on child characteristics) did not alter the pattern of father-presence effects: Children who experienced earlier or continuous father coresidence fared best. With the addition of the controls for maternal characteristics (age at child's birth, IQ, education) in Model 2, the effect of continuous father-presence became nonsignificant, and the effect of early partial coresidence remained significant albeit somewhat reduced in size. Maternal education seemed to account for these changes. Finally, when poverty status and the adult/child ratio were added (Model 3), even the effect of early partial coresidence was removed. Poverty status appeared to account for this change (Table 4).

Among Hispanic children, the effect of late partial coresidence remained when child control variables were included (Model 1)but became nonsignificant when maternal characteristics were added (Model 2). Maternal education and AFQT scores showed significant effects in Model 2, potentially accounting for the removal of the father-presence effects.

TABLE 4
Ordinary Least Squares Models of Father Presence on PPVT-R[a] and BPI[b] Scores, by Race

	PPVT-R Scores			*BPI Scores*		
	Whites (N = 743)	*Blacks* (N = 471)	*Hispanics* (N = 271)	*Whites* (N = 536)	*Blacks* (N = 341)	*Hispanics* (N = 199)
Age of child	1.54*	1.97**	2.45	–0.13	–0.01	–0.07
Male	–1.70	–1.91	1.97	0.04	0.18	–0.02
Birth order	–1.45	0.71	–1.70	–0.11	–0.06	–0.02
Age of mother						
< 18	–2.65	1.94	7.83	–0.13	–0.06	0.27
18-19	–0.55	1.37	6.39*	0.23	–0.30	0.37
Mother's AFQT[c] score	0.03	0.02**	0.01	–0.001*	–0.002*	–0.001
Mother's education	–2.23**	2.39**	4.37**	–0.03	–0.04	–0.04
In poverty	–3.54*	–4.12*	–3.35	–0.11	0.49*	0.81
Adult/child ratio	1.87	0.71	1.88	–0.23	–0.06	–0.13
Patterns of father						
Partial: early	2.58	4.66	4.03	0.06	–0.09	–0.23
Partial: late	0.13	–1.25	8.28	–0.08	0.31	–0.58
Continuous	–1.22	–3.30	3.63	–0.35	0.41	–0.26
Constant	74.39**	31.1**	8.21	10.82**	9.47**	9.67**
Adjusted R^2	0.20	0.13	0.21	0.03	0.05	0.05

a. PPVT-R = revised Peabody Picture Vocabulary Test.
b. BPI = Behavioral Problems Index.
c. AFQT = Armed Forces Qualification Test.
*Significant at .05 level; **significant at .01 level.

Among Black children, a positive effect of early partial coresidence emerged when other child characteristics were controlled (Model 1). As with Hispanic children, this effect disappeared when controls for maternal characteristics were added (Model 2). Maternal IQ and education (but not mother's age at the child's birth) had significant effects in Model 2, potentially accounting for the removal of the father-presence effect.

Behavioral adjustment. Mean behavior problem scores for children with different levels of father-presence are presented in Table 3. Using one-way ANOVAs within each ethnic group, a significant effect of father-presence was found only for White children. Follow-up *t* tests indicated

that White children whose fathers were continuously present exhibited fewer behavior problems than did those whose fathers were never present.

Results of the multiple regressions predicting behavioral problems are presented in Table 4. For White children, the initial effect of continuous father-presence was reduced to a trend ($p < .06$) once maternal variables were controlled. Maternal IQ appeared to account for this change.

ANALYSES BY AGE OF MOTHER AT THE CHILD'S BIRTH

The impact of father-presence on the well-being of children born to mothers of differing ages was examined in a parallel set of analyses. Separate analyses were conducted for children born to mothers under 18, mothers aged 18 or 19, and mothers aged 20 or more. In the multiple regression models, the effects of race were controlled by including two dummy variables reflecting Black and Hispanic ethnicity.

Verbal functioning. Mean PPVT-R scores for children with different patterns of father-presence are presented in Table 5, by maternal age category. One-way ANOVAs revealed effects of father-presence for children in every maternal age group. Among children born to mothers under 18 years, follow-up tests indicated that children who experienced partial coresidence with the father (early or late) received higher scores than did those whose fathers were never present. In addition, partial coresidence with early onset was associated with higher PPVT-R scores than was continuous coresidence. Among children born to older teen mothers (ages 18–19), those with continuous father-presence or partial coresidence with early onset performed better than did those whose fathers never coresided. Finally, among the children born to mothers aged 20 and older, those experiencing continuous father-presence or partial coresidence with early onset received higher scores than did children who never coresided with their fathers or who experienced partial coresidence with late onset.

Results of the regression models predicting PPVT-R scores are given in Table 6. Once maternal control variables were included (Model 2), no effects of father-presence were significant for children in any maternal-age category. For children of the youngest mothers, maternal IQ was significant in Model 2; for children of older teenage and young adult mothers, both maternal IQ and educational attainment were significant. Thus all initial effects of father-presence on verbal functioning appear to be attributable to associated maternal characteristics.

TABLE 5
Mean Differences in PPVT-R[a] and BPI[b] Scores, by Pattern of Father-Presence and Age of Mother at Birth of Child

	< 18		*18-19*		*20+*	
Pattern	*Mean*	SD	*Mean*	SD	*Mean*	SD
PPVT-R scores						
Father never present (1)	80.2	15.3	85.2	15.8	85.4	18.7
Partial coresidence: early onset (2)	104.3	15.4	94.1	16.0	95.7	18.6
Partial coresidence: late onset (3)	94.9	11.8	87.5	17.2	84.7	16.8
Father continuously present (4)	93.6	17.8	92.2	19.4	96.1	21.0
F	15.17*		5.05*		19.32*	
BPI scores						
Father never present (1)	8.8	1.5	8.6	1.6	8.7	1.5
Partial coresidence: early onset (2)	8.5	1.8	9.0	2.0	8.5	1.6
Partial coresidence: late onset (3)	9.1	1.3	8.9	1.7	8.5	1.1
Father continuously present (4)	8.3	1.6	8.6	1.5	8.3	1.7
F	1.64		0.57		2.91*	

a. PPVT-R = revised Peabody Picture Vocabulary Test.
b. BPI = Behavioral Problems Index.
*Significant at .05 level.

Behavioral adjustment. A final set of analyses examined the relationship between father variables and behavior problems for children of young teen, older teen, and adult mothers. Means and standard deviations are provided in Table 5. As can be seen in the table, no significant effects of father-presence were found among children born to younger or older teenage mothers. Effects were found, however, among the children born to mothers aged 20 or more. For children in this group, those who experienced continuous coresidence with the biological father had fewer behavioral problems than did those who never resided with their fathers.

Results of the multiple regression analyses are summarized in Table 6. For the children of mothers over age 20, addition of other maternal variables (notably AFQT scores) reduced but did not remove the effect of continuous father-presence. Introduction of the family resource variables (Model *3),* however, reduced the father-effect to nonsignificance. Poverty status appeared to be responsible for this result. Thus, once again, the effects of father-presence appear to operate through other background variables, specifically family economic status.

TABLE 6
Ordinary Least Squares Models of Father Presence on PPVT-R[a] and BPI[b] Scores, by Mother's Age at Child's Birth

	PPVT-R Scores			*BPI Scores*		
	< 18 (N = 146)	*18-19* (N = 389)	*20+* (N = 950)	*< 18* (N = 139)	*18-19* (N = 288)	*20+* (N = 649)
Age of child	5.20**	1.37	1.56**	–0.09	–0.20	–0.06
Male	–3.96	–2.44	0.06	0.31	0.05	0.01
Birth order	–1.45	–2.15	–0.47	0.49	–0.06	–0.10
Race						
Black	–13.24**	–16.69**	–14.87**	–0.20	–0.64	–0.20
Hispanic	–6.33	–11.19**	–15.23**	0.02	–0.14	–0.25
Mother's AFQT[c] score	0.04**	0.02*	0.03**	–0.00	–0.001	–0.001
Mother's education	0.79	1.79*	1.49**	0.05	–0.02	–0.04
In poverty	1.96	–2.77	–5.24**	–0.08	0.30	0.42**
Adult/child ratio	2.30	2.30	0.82	–0.12	–0.23	–0.05
Patterns of father						
Partial: early	4.38	2.13	2.19	0.38	0.04	–0.06
Partial: late	4.95	2.29	–0.17	0.42	–0.16	–0.26
Continuous	–2.02	–0.71	–1.58	0.01	0.05	–0.19
Constant	34.67*	61.89**	57.06**	9.18**	11.44**	9.97**
Adjusted R^2	0.32	0.26	0.36	0.001	0.05	0.03

a. PPVT-R = revised Peabody Picture Vocabulary Test.
b. BPI = Behavioral Problems Index.
c. AFQT = Armed Forces Qualification Test.
*Significant at .05 level; **significant at .01 level.

DISCUSSION

The primary purpose of the current investigation was to examine the impact of father-presence for children in distinct subgroups related to ethnicity and maternal age at the child's birth. Because the timing and duration of a father's presence may have differential meaning for children in these different groups, we anticipated that father-effects not observed when groups are pooled might emerge in the subgroup analyses. In fact, different patterns of father-effects were observed among different groups of children in the initial analyses. Among Hispanic children, father-presence affected verbal performance only, whereas among Whites, father-presence affected both verbal performance and behavior problems. No effects were found for African-American children. Furthermore, among the children of teenage mothers, only verbal functioning was associated with

father-presence, whereas for children born to older mothers, both verbal and behavioral functioning were affected. The pattern of findings suggests that early and continuous father-presence had a positive impact primarily for White children and children born to older mothers. For children in other subgroups, the effects of father-presence were less consistent and less in line with the traditional assumption that earlier and more enduring father-presence leads to healthier children.

The emergence of father-presence effects for children born to mothers in their 20s suggests that fathers may be more important in normative family ecologies. This finding appears counterintuitive because younger mothers (and their children), for whom family formation is assumed to be premature, are thought to experience increased stress resulting from a lack of resources and inadequate preparation for parenthood. It is possible, however, that the vulnerability of young mothers is recognized and often compensated for through the existing family network or social services, although, the evidence for this is mixed (Eggebeen & Hogan, 1990; Hogan, Hao, & Parrish, 1990). Older mothers may be presumed competent and thus accorded less family support. Under these circumstances, the support of the child's father may be of greater importance. A second explanation concerns the skills and resources the father is able to bring to the family. It is possible that the fathers of children born to teenage mothers represent, on average, a less-able or less-interested group of males who may contribute relatively little to the well-being of the family and the child.

Similarly, the lack of father-presence effects for Black children may reflect subgroup differences in family forms. The majority of African-American children in the present study (58%) experienced continuous father-absence during the first 3 years of life, compared to less than 20% of White and Hispanic children. The greater prevalence of father-absence among Black families would minimize any stigma associated with mother-headed families and could also stimulate the development of compensatory forms of social and economic support both of which could reduce the negative impact of father-absence. In short, father-presence may be less important in African-American families because father-absence is more normative for this ethnic group.

The second major issue addressed in the present analyses involved the nature of father-presence effects. Specifically, Is a father's contribution to his young children's well-being largely a function of economic support, or are other unique effects of fathering discernable? The present data provide little evidence of unique effects: All of the initial effects of father-presence disappeared once maternal characteristics and family resources were con-

trolled. Most of the father-effects appeared to operate through their association with maternal IQ and educational attainment. An association with maternal IQ suggests a selection process: More intelligent mothers raise better-functioning children and are also more likely to experience continuous coresidence with the child's father. In this case the initial relationship between father-presence and child functioning would be considered spurious. An association with maternal educational attainment, however, could potentially reflect a real father-presence effect if, for example, the father's presence in the household enabled the mother to continue her education. Of course, the direction of causal influence is not clear in the present analyses: More educated mothers may simply be better at selecting a compatible mate and maintaining continuous coresidence.

Only two father-presence effects could not be accounted for by maternal characteristics: the effect on verbal scores for White children and the effect on behavior problem scores for the children of mothers aged 20 and older. These two effects appeared to operate through an association with family poverty status. Thus they may be interpreted as an indirect contribution of father-presence to children's well-being: Resident fathers may provide additional economic resources to the family, thereby reducing the likelihood that the child will be raised in poverty. In turn, growing up in more-advantaged circumstances has benefits for the child's cognitive and socioemotional development. In short, the only discernable impact of father-presence on children's well-being appeared to result from the coresident father's economic contribution to the family. These results are in keeping with prior findings that father-presence effects on young children's cognitive and behavioral adjustment are minimal once family economic status is controlled (e.g., Baydar, 1988; Svanum et al., 1982). They are also consistent with findings indicating that maternal characteristics such as IQ and educational attainment are important to children's well-being (Brooks-Gunn & Furstenberg, 1986).

Our failure to find additional father-effects should not be dismissed as statistical artifact. Other research using the same data set has demonstrated that some contextual factors do show persistent effects despite the inclusion of statistical controls (Baydar & Brooks-Gunn, 1991; Belsky & Eggebeen, 1991). Moreover, examination of the correlation matrix in the present study revealed little evidence of multicollinearity. Thus the disappearance of father-presence effects in the current analyses appears to reflect the absence of unique father-effects rather than a general result of applying statistical controls.

This is not to say that fathers are unimportant in children's lives. The present analyses focused on two measures of child well-being: verbal performance and behavior problems. Although these are two standard measures of functioning, additional dimensions of well-being should be considered in future research. In addition, the present analyses were restricted to children of relatively young mothers; somewhat different results might have obtained if mothers in their late 20s and 30s had been included. Moreover, we considered the impact of the father's presence during the first 3 years of life, with outcome variables measured at ages 4 to 6. It is possible that the impact of father-presence would be greater for older children, either because small effects of early experience become magnified over time or because the importance of the father is enhanced as children face the challenges of later childhood and adolescence. For example, Parke has observed that the quality of father-child play may influence children's social competence with peers (Parke et al., 1989). Furthermore, Elder has documented the crucial role of the father in mediating the impact of financial hardship on older children's well-being within two-parent families (Elder & Caspi, 1988; Elder, Caspi, & van Nguyen, 1985; Elder, Conger, Foster, & Ardelt, 1992). Thus it is possible that father-presence affects adjustment at other ages (or in other domains) than those examined here. At the same time, it is important to note that the studies by Parke and Elder did not include the set of statistical controls used in the present study. Implementation of these controls might have diminished the effect of fathering in those studies as well.

The possibility of age differences in the impact of father-presence is supported by findings from the long-term follow-up of Black teenage mothers and their children conducted by Furstenberg and his colleagues (Furstenberg, Brooks-Gunn, & Morgan, 1987). In that study, mother's marital status (an indicator of father-presence) had few effects on the adjustment of the children at preschool age but large effects on adjustment in adolescence. Thus father-presence appears to play a greater role in the well-being of older children.

It is also possible that studies employing more sensitive measures of the father's involvement would uncover greater evidence of the significance of fathers in young children's lives. The present study focused on whether the father resided in the household at the time of each interview—a relatively crude measure of the father's contact. Mott (1990) for example, has noted that nonresident fathers may live in close proximity to their children and see them on a regular basis. Furthermore, nonparental

males may provide fathering to children whose biological fathers are absent (Hawkins & Eggebeen, 1991; Hetherington, 1988). For the children of teenage mothers, for example, the maternal grandfather is often present in the household (Eggebeen et al., 1990) and could assume the paternal social role. Such arrangements would serve to reduce the differences observed between father-present and father-absent children. Studies using more sensitive measures of children's interaction with both the biological father and other important males may be needed to understand the precise nature and extent of father-effects on children's well-being.

The impact of father-presence would also be muted if fathers who do reside with their children are not highly involved in child care. Highly involved fathers may play a beneficial role in their children's development by providing cognitive and social stimulation, or, indirectly, by alleviating strain on the mother, thereby improving family dynamics. They may also exemplify a more egalitarian division of roles, which could benefit children in the long run. Highly involved fathers, however, appear to be relatively rare. In fact, resident fathers typically spend relatively little time interacting with their young children (Pleck, 1985; Rexroat & Shehan, 1987; Shelton, 1990). Although an involved father may have an important positive impact, available evidence suggests that too few fathers show the high degree of involvement needed for a reliable difference to emerge in studies that simply contrast father-absent and father-present children.

NOTE

1. Child's age is included as a control variable in the models predicting behavior problems because the Behavioral Problems Index forms contained additional questions for those children in school. Age of child is included as a control variable in the models predicting the revised Peabody Picture Vocabulary Test scores to take into account age variations not accounted for in these standardized scores. Child's race and mother's age at the birth of the child were also included as control variables in some analyses.

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