

# **Teenage Fathers' Resources and Coresidence and Child Outcomes: Evidence from a New National Survey\***

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## **Teenage Fathers' Resources and Coresidence and Child Outcomes: Evidence from a New National Survey**

Much is known about the influence of having a teenage mother on children's outcomes, but the relationship between having a teenage father and child development is less clear. Using new data from the Early Childhood Longitudinal Study-Birth Cohort, we explore this relationship in descriptive analyses. Univariate and bivariate findings show that teenage fathers and their children are a heterogeneous population with a wide variety of life situations. On average, teenage fathers provide fewer resources and sometimes have more negative parenting perceptions than adult fathers do. Several birth and developmental outcomes of teenage fathers' children are also compromised, especially by 2 years of age. Teenage fathers' coresidence with their children sometimes has positive associations with resource provision, but it is negatively related to motor development and health. Children whose teenage fathers are in school, report being better than average fathers, or participate in important decisions regarding the child, tend to have particularly high cognitive or behavioral scores at age 2.

## **Teenage Fathers' Resources and Coresidence and Child Outcomes: Evidence from a New National Survey**

Recent increases in the U.S. teenage birth rate (Hamilton, Martin, and Ventura 2007) have refocused public attention on the consequences of adolescent childbearing, but teenage fathers are often omitted from consideration. This descriptive study uses new national data to investigate the life situations and early development of adolescent fathers' children as a preliminary step toward better understanding the long-term consequences of teenage fatherhood. In particular, we focus on various types of resources, such as financial support and child care, that adolescent fathers may provide. Is having a teenage father associated with disadvantage, fewer resources, and worse developmental outcomes for children? Is the presence of an adolescent father in the household beneficial or detrimental to the child? Are there other factors that are associated with particularly positive or problematic outcomes for teenage fathers' children? These are our primary research questions.

Although the bivariate associations presented here cannot establish any causal links between teenage fatherhood and the provision of resources or child outcomes, our findings provide new information that can inform future research. Understanding the kinds of contributions teenage fathers make to their children and the areas in which these children may lag behind their peers developmentally can help policymakers identify possible areas for developing interventions. We address these issues in the discussion.

### **Background**

The United States has the highest rate of teenage childbearing in the fully industrialized world (National Campaign to Prevent Teen Pregnancy 2004), largely due to sporadic contraceptive use compared to other countries (Furstenberg 2003). Preventing teenage childbearing and reducing its negative consequences are two important social policy goals in the U.S. today (Furstenberg 2003). The effects of teenage parenthood on children are of special

concern because of frequently persistent social disadvantage; for example, 75% of single teenage parents in the U.S. bring their children up in poverty (Cherry, Dillon, and Rugh 2001).

Popular perceptions equate teenage parenthood with teenage motherhood. Most teenage parents are female because most teenage mothers' children are fathered by adult men (Alan Guttmacher Institute 1999), while few teenage boys date older women. Still, there are many teenage fathers who are largely invisible in public discourse. These assumptions are reflected in scholarly work: In most studies of teenage parenthood, scholars have focused solely on mothers (see Black, Papas, Hussey, Hunter, Dubowitz, Kotch, English, and Schneider 2002; Hardy, Shapiro, Astone, Miller, BrooksGunn, and Hilton 1997; see Hoffman 1998 for a review; Moore and Snyder 1991; Oxford and Spieker 2006). Most previous research agrees that the children of teenage mothers have substantially worse developmental outcomes in their preschool years in areas such as cognitive, language, physical, and social development than children of older mothers (Luster, Bates, Fitzgerald, Vandenbelt, and Key 2000), though the cause of this relationship may be preexisting maternal disadvantage before pregnancy rather than maternal age per se. Cognitive, verbal, and behavioral outcomes measured in early childhood predict success later when children start school (Baydar, Brooks-Gunn, and Furstenberg 1993; Duncan, Brooks-Gunn, and Klebanov 1994). In turn, children who start off doing well in elementary school tend to do better on later assessments of achievement, are more likely to complete high school, and attain higher levels of education than those who struggle at first (Luster, Bates, Vandenbelt, and Nievar 2004). Despite their importance, less is known about these early years of children's development than later periods (National Center for Education Statistics 2006).

Although 30% to 50% of children born to teenage mothers also have a teenage father (Roye and Balk, 1996), these young men are nearly invisible in public discourse. Research about the influence of teenage fatherhood on children is sparse. Is it reasonable to believe that teenage fathers' children are affected by having a young father? Past research suggests that

while most dads live apart from their children (Pirog-Good 1996), they are still involved as parents (Harris 1998) and provide financial support to their children (East and Felice 1996).

Beyond the financial realm, there may be other important types of resources that adolescent fathers contribute to their children. For example, fathers may contribute time and involvement in caring for their child or emotional support of both the mother and the child. When fathers are coresident with the child and mother, these types of contributions seem particularly plausible, potentially making coresidence beneficial for everyone. On the other hand, forming a household with mother and child may backfire in terms of the child's development because the presence of the father may reduce the likelihood of coresidence of grandparents, who may well be superior resource contributors at least on the financial front. For this reason, teenage fathers' resource contributions in general and their coresidence in particular may be understood differently than those of adult fathers.

Resources matter because they are critical to children's healthy development and tend to be particularly lacking in the households of teenage parents (Mollborn 2007). Previous research has demonstrated the importance of material resources for understanding the educational outcomes of teenage mothers and fathers (Mollborn 2007), but little attention has been paid to measuring the resources that these adolescents typically provide to their children. Both in this specific area and more generally, national-level quantitative research has rarely examined the effects of early parenthood on the life situations of teenage fathers or their children, largely because national surveys that identify large enough samples of teenage fathers for statistical analysis have been rare. Therefore, there is a vital need for research that uses recent, national-level quantitative data to draw conclusions that apply to teenage fathers and their children throughout the United States.

We conceptualize the resources that fathers may provide as fitting into two overarching categories. *Direct resources* are provided by the father for the child and include financial resources (such as child support or goods purchased) and caregiving resources (such as

involvement in taking care of the child and coresidence in the household). *Indirect resources* are resources available to the child's household that are likely influenced in part by the father's contributions, such as household SES, food security, the quality of the mother's parenting and the mother-child relationship, and the presence of grandparents in the household. *Parenting perceptions*, such as feeling attached to the child and reporting being a good father, may be seen as emotional resources when positive and represent the third category of resources examined here.

Overall, we expect that teenage fathers provide fewer resources to their children than adult fathers do, and these children's households are also likely to have fewer resources available to them overall. Due in part to lower resource levels, we expect these children's primary parents (usually their mothers) to display fewer supportive parenting behaviors, and we expect teenage fathers' emotional resources and perceptions of their own parenting to be lower. We do not have clear expectations about the association between teenage fathers' coresidence and their children's resources and development. Because this descriptive study relies on bivariate analyses, we cannot determine whether these relationships are causal, but we expect them to be present.

In terms of understanding the relationship between having an adolescent father and children's outcomes, we take a multifaceted view of child development. Direct measurements and assessments of the child yield considerable information about the child that, in combination with parent reports, allow us to broadly evaluate the child's progress. Our outcomes are measured at birth and in infancy (at about 9 months of age) and toddlerhood (at about 24 months). The health outcomes we measure include birth weight, number of injuries requiring medical care, and parent-reported health of the child. We capture motor development at two time points. Finally, we examine two outcomes that are directly salient for future academic success (Baydar, Brooks-Gunn, and Furstenberg 1993; Duncan, Brooks-Gunn, and Klebanov 1994), cognitive development and behavior.

## **Methods**

### *Data*

The Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) follows a sample of about 14,000 children born in 2001 from infancy through the start of kindergarten (U.S. Department of Education, 2006). It is the first nationally representative survey in the U.S. to follow children in this early developmental period, using parent interviews and direct child assessments. The sample was selected using a clustered, list frame sampling design based on births registered in the National Center for Health Statistics vital statistics system. Investigators sampled births from 96 core primary sampling units, which were counties and county groups. Babies whose birth mothers were younger than 15 years old when the child was born were excluded in response to state confidentiality and sensitivity concerns, so the findings from this study are not representative of children who have very young teenage mothers.

This study uses the first two waves of data, from when the children were about 9 months and 2 years old. The primary parent (overwhelmingly the mother) was interviewed in person, and resident and nonresident fathers who had contact with the child were asked to complete slightly different written questionnaires. All three of these data sources are used in this study to construct information about the life situations of fathers and their children. The Wave 1 and 2 weighted response rates were 74% and 93% for the primary parent interview, 76% and 78% for the resident father questionnaire, and 50% and 40% for the non-resident father questionnaire. Replication weights are provided to make responses to the father surveys representative of children born in 2001 whose fathers live with them or have regular contact with them.

About 500 of the children in the sample have a father who was younger than age 20 at their birth.<sup>1</sup> The statistical power afforded by the relatively generous size of this subsample, in combination with the newness of the survey and its detailed focus on the critical period of early

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<sup>1</sup> Because of ECLS-B confidentiality restrictions, all unweighted Ns are rounded to the nearest 50.

childhood, make the ECLS-B data one of the best data sources currently available for research on the children of teenage fathers. Because non-resident fathers who do not have regular contact with their children are excluded and because of the relatively low response rates for the non-resident father questionnaire, however, findings should not be considered representative of all non-resident fathers.

### *Variables*

Table 1 reports information about most of the variables used in this study. The exceptions are the direct assessments of parents and children, which are described below. This study focuses on the children's developmental outcomes at approximately 9 months and 2 years. There is a considerable psychometric literature on the advantages and limitations of various ways of measuring development at these ages. The developmental outcomes measured in the ECLS-B data are based on 60 minutes of one-on-one assessment based on reputable and widely used assessment measures in child development, and are intended to provide a comprehensive picture of each child's age-appropriate developmental progress (see Nord, Edwards, Andreassen, Green, and Wallner-Allen 2006 for more information on these assessments).

#### TABLE 1 ABOUT HERE

Three observation-based measures were used in both waves of the ECLS-B to measure developmental outcomes in children: The Bayley Short Form – Research Edition (BSF-R) motor and mental scales and the Interviewer Observations of Child Behavior. The BSF-R was developed by ECLS-B based on the Bayley Scales of Infant Development, Second Edition (BSID-II). The mental scale measures children's early cognitive development, including communication skills, expressive and receptive vocabulary, comprehension, and problem-solving skills. The motor scale measures psychomotor development, assessing children's fine motor skills such as grasping and manipulating small objects and their gross motor skills such as standing, walking, and balance. We use the t-scores here, which adjust for children's age at assessment by comparing them to the distribution of scores for others their age. While



administering the BSF-R, interviewers also completed the Interviewer Observations of Child Behavior, which are a subset of the Behavior Rating Scale, a supplement to the BSID-II. Interviewers observed and rated child behaviors such as attentiveness, affect, and interest, for a total of 9 items at Wave 1 and 13 items at Wave 2. We standardized each item and calculated the mean of all items, so a score of 0 is average behavior and each unit is one standard deviation.

Four other assessments measured the primary parent's (almost always the mother's) parenting behaviors and the quality of the parent-child relationship (see Nord et al. 2006 for more information on these assessments): The Nursing Child Assessment Teaching Scale (NCATS) at Wave 1, and the Toddler Attachment Sort, Two Bags Task, and parent behavior rating at Wave 2. The NCATS is a measurement tool designed to cover the social, emotional, and cognitive growth encouraged by parent and parent-child socioemotional communication. NCATS includes a child score, a parent score, and a total score, and was measured in Wave 1 of data collection (it was replaced by the Two Bags Task in Wave 2). The parent score was used in this study. No transformations were performed on the raw score, due to the normal distribution of the score over the entire population of mothers.

The Toddler Attachment Sort – 45 is a modification of the Attachment Q-Sort and measures how secure the attachment relationship is between the child and the primary caregiver. Interviewers scored the child's behavior after observing the child and primary parent interacting during the roughly two-hour home visit, rating them on such items as “seeks and enjoys being hugged” and “shows no fear, into everything.” The child's attachment relationship with the focal caregiver is then classified as secure (which is considered the preferable outcome), insecure avoidant, insecure ambivalent, or disorganized. The Two Bags Task is a simplified version of the Three Bags Task. In a videotaped interaction, the parent and child are given 10 minutes to play with two sets of toys, a small set of dishes and a children's picture book. Trained coders rated the quality of both parent and child behaviors. Our study uses the Parental Supportiveness Scale, which includes including parental sensitivity, stimulation of cognitive

development, and positive regard. In a final assessment, interviewers observed the primary parent's behavior over the course of the interview and coded whether or not the parent engaged in a variety of parenting behaviors such as smacking, kissing/hugging, ensuring a safe play environment, responding verbally to the child, providing toys to the child, and interfering with the child's actions during the task. We calculated a count of parenting behaviors where more "negative" parenting behaviors were coded as 1 and more "positive" behaviors as 0.

### ***Analyses***

Descriptive analyses compare means for demographic variables and resources provided by teenage fathers versus adult fathers, while accounting for weighting and complex survey design using Stata statistical software. Teenage fathers are then further split by their coresidence with the child. Further analyses compare children's mean developmental outcomes between those with adult and teenage fathers and between resident and non-resident teenage fathers. To move beyond a means-based paradigm, we examine the tails of the distributions of Wave 2 cognitive and behavioral child assessments among children with teenage fathers. These analyses compare the highest and lowest 25% of children on each measure by demographic information, fatherhood perceptions, and direct and indirect resources provided by fathers to examine how these two groups of children differ. In order to retain as much data as possible for descriptive analyses, missing cases are deleted listwise within each individual bivariate comparison, resulting in varying Ns for each row of the tables. We report significant differences at the  $p < .10$  level, but more cautious readers may prefer to focus only on results that are significant at  $p < .05$  and below. Because all analyses are bivariate, potential confounding factors are not controlled, so we cannot establish causality. Rather, we identify significant associations between variables.

## **Results**

### ***Is Having a Teenage Father Associated with Disadvantage, Lower Resources, and Worse Developmental Outcomes for Children?***

Sociodemographic measures. Is having a teenage father associated with disadvantage, lower resources, and worse developmental outcomes for children? The first comparison in Table 2 shows that teenage fathers' children differ from those with adult fathers on several sociodemographic variables. 42% of teenage fathers are white, compared to 64% of adult fathers ( $p < .01$ ). A higher proportion of teenage fathers than adult fathers are of Asian/Pacific Islander descent (2% compared to 3%;  $p < .05$ ), while lower proportions are African American (27% compared to 10%;  $p < .01$ ) and American Indian/Alaska Native (2% compared to 1%;  $p < .10$ ). There is no significant difference between the proportions of fathers of Hispanic descent.

#### TABLE 2 ABOUT HERE

Teenage fathers have about two years less education than adult fathers, with a Wave 1 average of 11.4 years compared to 13.6 years for adult fathers ( $p < .01$ ). It is important to note that the average adolescent father in this dataset does not have a high school degree, which is often considered to be a minimum requirement for most attractive employment opportunities (Upchurch and McCarthy 1990) and may affect the resources teenage fathers can provide. Adolescent and adult fathers do not have significant differences in their change in education between Waves 1 and 2, suggesting that the average teenage father's educational attainment is not on track to "catch up" to that of adult fathers.

Direct resources. The measures of direct resources in Table 2 show that teenage fathers do not contribute as many resources as adult fathers do in several key areas. At \$19,447 per year on average, teenage fathers' Wave 2 income is much lower than adult fathers' mean of \$48,954 ( $p < .01$ ). As might be anticipated given this difference in income, teenage fathers pay much less child support than adult fathers, with an average of \$20.54 per month compared to \$77.40 ( $p < .01$ ). Perhaps surprisingly, there is no significant difference in the amount of other monetary help, such as buying diapers and toys, provided by adolescent versus adult fathers.

Teenage and adult fathers also show strikingly different patterns of coresidence and contact with their children. 49% of teenage fathers lived with their children at Waves 1 and 2, compared to 89% of adult fathers at each wave ( $p < .01$ ). Another 48% of teenage fathers at Wave 1 and 40% at Wave 2 were non-resident but saw their child at least once in the last month, compared to 9% of adult fathers at each wave ( $p < .01$ ). There were no differences in the proportions of teenage versus adult fathers who were non-resident without regular contact with their children at Wave 1, but at Wave 2 11% of teenage fathers were in this category compared to just 2% of adult fathers ( $p < .05$ ). As expected given these findings, a higher proportion of teenage than adult fathers moved out of their child's home or lost regular contact with the child between waves (13% compared to 4%;  $p < .05$ ). This echoes past findings by Gee and Rhodes (2003) that fathers of teenage mothers' children tend to decrease contact with the child as time goes by. Perhaps surprisingly given their lower rates of coresidence, teenage fathers' reported involvement in playing with and caring for their children at Wave 2 is not significantly different from adult fathers'. This finding echoes Toledo-Dreves, Zabin, and Emerson (1995), who found that non-resident teenage fathers are frequently involved in child care.

Indirect resources. The indirect resources in Table 2 measure characteristics of children's households and primary parent relationships that may implicitly reflect fathers' resource contributions. The households of teenage fathers' children have much lower mean levels of socioeconomic status (SES) at both waves than those with adult fathers ( $p < .01$ ), though SES rises more quickly between waves in the former group than the latter ( $p < .01$ ). There are no significant differences in household levels of food insecurity with hunger, an indicator of extreme levels of socioeconomic deprivation.

The presence of grandparents in an infant's household may be a resource because of potential financial contributions from adults who may be near the peak of their earnings trajectory or child care contributions from those who may have some free time. Children of teenage fathers have an average of 0.84 grandparents in the household, compared to just 0.14 for

those with adult fathers ( $p < .01$ ). Despite this potential advantage, however, teenage fathers' children's positive home environment scores are lower than those of adult fathers' children ( $p < .01$ ).

Several variables measure the primary parent's (nearly always the mother's) parenting behaviors and relationship with the child, which may be influenced by the father's support of the mother and child. Interviewers observed that 53% of teenage fathers' children are securely attached to their primary parent at Wave 2, compared to 64% of adult fathers' children ( $p < .10$ ). 23% of children of adolescent fathers evidence disorganized attachment, compared to just 12% of children of adult fathers ( $p < .05$ ). There are no significant differences in ambivalent or avoidant attachment. Compared to those with adult fathers, the primary parents of children with teenage fathers have lower scores on the Wave 1 Nursing Child Assessment Teaching Scale parent score ( $p < .01$ ) and the Wave 2 Two Bags Task Supportive Parenting Scale ( $p < .01$ ), which analyze positive aspects of parents' interaction when working with their child on a learning task, but the count of their negative parenting behaviors at Wave 2 is not significantly different.

Fathers' parenting perceptions. The final category of variables in Table 2 is fathers' parenting perceptions. Adolescent and adult fathers do not differ at Wave 2 in their reported levels of proficiency with parenting or their positive attitudes about fatherhood, and teenage fathers report significantly higher levels of attachment to their child at Wave 1 ( $p < .01$ ). For the other measures, however, teenage fathers are more negative. Adolescent fathers report higher average levels of negative attitudes about fatherhood ( $p < .01$ ) and higher levels of depressive symptoms in general ( $p < .05$ ). Just 66% of teenage fathers report being at least a better than average father, compared to 79% of adult dads ( $p < .05$ ).

Child outcomes. Given teenage fathers' children's overrepresentation in disadvantaged demographic categories, their generally lower levels of direct and indirect resources, and their fathers' more negative mental states and parenting perceptions, we would expect them to have worse outcomes than children of adult fathers. Table 3 addresses this issue. In terms of

outcomes at birth, 10% of children with teenage fathers are born with moderately low birth weight (1500-2500 grams) and 2% are born with very low birth weight (< 1500 grams), compared to 6% ( $p<.05$ ) and 1% ( $p<.10$ ) of adult fathers' children. In infancy (at about 9 months), teenage fathers' children have a slight motor advantage ( $p<.10$ ) that is wiped out by the time they are toddlers (at about 24 months). The other significant difference at Wave 1 is that teenage fathers' children are reported by their primary parent to be in worse health than adult fathers' children ( $p<.05$ ). This health disadvantage is small at 0.14 points on a scale from 1 to 5, and it disappears in Wave 2. There are no significant differences in injuries at either wave.

The remaining measures, behavior and cognitive scores, may be the most relevant to understanding future academic outcomes. For each of these, there are no significant differences between teenage fathers' and adult fathers' children in infancy, but by toddlerhood a discernible developmental gap appears. At about age 2, adult fathers' children score 2.71 points higher on average on the cognitive scale ( $p<.01$ ), representing about 4% of the observed range of values on the scale, and 0.17 standard deviations higher on the behavior scale.

#### TABLE 3 ABOUT HERE

#### ***Is the Presence of a Teenage Father in the Household Beneficial or Detrimental to the Child?***

About half of the adolescent fathers in the sample live with their children, and half do not. The right-hand side of Table 2 addresses this question, revealing very few significant differences between the two groups. The only significant demographic differences between resident and non-resident teenage fathers are racial/ethnic. More than half of non-resident teenage fathers are African American, compared to 8% of resident adolescent fathers ( $p<.01$ ). 40% of resident teenage fathers are Hispanic, compared to 8% of non-resident teenage fathers ( $p<.01$ ).

Teenage fathers' coresidence is associated with several potentially beneficial factors as compared to non-resident teenage fathers. Coresident adolescent fathers' income is more than twice as high as non-resident fathers' (\$26,327 per year compared to \$11,014;  $p<.01$ ).

Coresident teenage fathers report lower levels of depressive symptoms ( $p < .01$ ), and 81% report being better than average fathers as compared to 49% of non-resident teenage fathers ( $p < .01$ ). Having a coresident father has a strong but marginally significant positive association with secure attachment to the primary parent ( $p < .10$ ) and a strong negative association with avoidant attachment ( $p < .05$ ). On the other hand, households with coresident teenage fathers have just 0.64 coresident grandparents compared to 1.04 grandparents in households with non-resident teenage fathers. Since in some cases grandparents could potentially be better contributors of material resources than the father himself, this is the single significant resource difference that may speak against teenage fathers' coresidence being beneficial.

Only two child outcomes are significantly different between coresident and nonresident teenage fathers, and surprisingly given the resource findings, they favor the children of nonresident teenage fathers. Children of nonresident teenage fathers are reported to be in somewhat better health ( $p < .10$ ) and have more advanced motor development ( $p < .05$ ) as toddlers at Wave 2. The lack of significance for the other developmental measures is quite striking and may suggest that the effect of coresident teenage fathers could be polarized: Some teenage fathers may be a real asset to their children's households and development, while others may be a resource draw.

### ***What Factors are Associated with Particularly Positive or Negative Outcomes for Teenage Fathers' Children?***

To further examine the relationship between paternal coresidence and the development of teenage fathers' children, Table 4 addresses whether patterns of teenage fathers' coresidence and contact influence children's unusually positive or negative cognitive and behavioral scores at Wave 2, which may be particularly important outcomes for driving future academic success. Knowing which factors are particularly protective or detrimental for this group of children may lead future research and policy in potentially productive directions. The top 25% of teenage fathers' children on each of these two measures is compared to the bottom 25%.

Fathers' coresidence and contact are not significantly associated with children's placement in the top or bottom 25% of cognitive scores, but behavioral findings are complex. 12% of teenage fathers' children who have behavior scores in the top quartile have non-resident fathers with no regular contact, while 0% of those in the bottom group have such fathers. Instability in paternal contact, however, is associated with behavior problems. 0% of the top behavior group includes children whose teenage fathers decreased contact between waves (resident fathers who moved out of the household or nonresident fathers who lost regular contact with the child), while 17% of children in the lowest-scoring behavior group have such fathers. This finding echoes the negative relationship between family structure transitions and behavioral outcomes documented among White children by Fomby and Cherlin (2007).

We have established above that teenage fathers' children are disadvantaged on several fronts and that adolescent fathers' coresidence is not a consistently important variable in understanding this disadvantage. Are there other factors that are associated with particularly positive or problematic outcomes for teenage fathers' children? The primary parent's (usually the mother's) parenting behaviors are the most consistent factor associated with children's placement in the top and bottom quartiles. 57% of teenage fathers' children with high cognitive scores are securely attached to their primary parent, compared to just 20% of those with low cognitive scores ( $p < .01$ ). The corresponding numbers for behavior scores are 84% and 20% ( $p < .01$ ). Children with disorganized and ambivalent attachment are overrepresented in the low-scoring groups for both cognitive and behavioral outcomes ( $p < .01$ , except  $p < .10$  for ambivalent-cognitive). Surprisingly, children with avoidant attachment are overrepresented in the high-scoring behavior group ( $p < .05$ ), but there are no significant cognitive differences. The primary parents of teenage fathers' children with high behavior ratings have higher average scores on the Nursing Child Assessment Teaching Scale parent score compared to those with low behavior ratings ( $p < .01$ ), and primary parents of children with low cognitive and behavior scores have much higher counts of negative parenting behaviors such as slapping or not keeping the child in



view than those with unusually high scores ( $p < .05$  for cognitive and  $p < .01$  for behavior). These strong relationships between positive parenting and positive child outcomes suggest that any resources fathers can provide that support mothers' supportive parenting may be particularly important for children's development.

Although most of the other, father-related variables are not significantly related to unusually high or low cognitive or behavior scores, there are a few factors besides the coresidence findings discussed above that are associated with these child outcomes. Children whose adolescent fathers are increasing their education between waves are strongly overrepresented in the high-scoring cognitive group, though significance is marginal (28% of this group compared to 2% of the low-scoring group;  $p < .10$ ). Fathers who report being better than average fathers at Wave 2 have children who are overrepresented in the high-scoring behavior group ( $p < .10$ ). Finally, children in the high-scoring cognitive group have teenage fathers who report greater influence in decisions regarding the child than those in the low-scoring group ( $p < .05$ ).

## **Discussion**

Based on descriptive analyses of national data from the Early Childhood Longitudinal Study-Birth Cohort, we find that children who have teenage fathers are more disadvantaged across a variety of domains, and their fathers provide fewer resources and have less positive parenting perceptions than adult fathers do. Not surprisingly given these results, many birth outcomes and developmental outcomes of teenage fathers' children are compromised compared to those of adult fathers' children. This developmental gap begins with lower birth weight, is largely nonexistent at 9 months of age except for general health, but by 2 years is established in the cognitive and behavioral domains.

Teenage fathers' coresidence with their children has just a few significant associations that are generally positive for resource provision but negative for child outcomes. Adolescent

fathers' decreased contact with their children between 9 months and 2 years of age is related to lower behavior scores, suggesting that a stable level of paternal involvement is desirable. In comparing the children of teenage fathers who have the best cognitive and behavioral outcomes at age 2 with those who have the worst, the factor that is most consistently related to developmental success is the primary parent's (overwhelmingly the mother's) high-quality parenting and attachment to the child.

Although causal associations cannot be established, this study's findings highlight the potential importance of both mothers' and fathers' contributions to children's development. Children whose teenage fathers are in school, report being better than average fathers, or participate in important decisions regarding the child tend to have particularly high cognitive or behavioral scores at age 2. Fathers' financial contributions, which have been many researchers' primary focus in trying to understand when and how fathers are important for children, are not significantly associated with especially high or low cognitive or behavioral scores. A multifaceted conceptualization of fathers' contributions to their children, as well as a general acceptance that adolescent fathers can provide support for their children in other ways beyond financial support, is warranted.

Perhaps above all, this study shows that teenage fathers and their children are a heterogeneous population with a wide variety of life situations. For example, teenage fathers come from three racial/ethnic groups in roughly equal numbers, and they are split evenly in their coresidence with their children. Because few past surveys have been able to capture large enough subsamples of teenage fathers and their children to allow for meaningful quantitative analysis, identifying patterns within this diversity of experiences that are beneficial or detrimental to children, as our analyses have done, is an important first step in directing future research in the area.

Future multivariate analyses using this survey can begin to disentangle multiple influences and causal pathways to better understand the dynamics of the relationship between

having an adolescent father and children's life outcomes. For example, how much of the negative association between having a teenage father and children's development can be explained by the strong likelihood that such children also have teenage mothers? How much has to do with lower levels of direct material support provided by fathers, found to be important for children's outcomes in past research (Argys, Peters, Brooks-Gunn, and Smith 1998; see Nelson 2004 for a review)? Understanding why teenage fathers' children's development is compromised and identifying factors that protect these children from negative outcomes are the most pressing goals of future quantitative work in this area. Performing similar analyses with teenage fathers split into those under age 18 and those ages 18 to 19 would be useful to identify potential paternal age differences in such processes.

Future qualitative research could address some of the puzzles identified in this study's descriptive findings. For example, why do teenage fathers and adult fathers report similar levels of involvement in terms of playing with and caring for their children, given that only half of teenage fathers live with their child compared to nearly 90% of adult fathers? Does this mean that non-resident, high-contact teenage fathers are deeply involved in their children's everyday lives, weakening the presumed strong link between paternal coresidence and involvement? Similarly, qualitative work could investigate why teenage fathers are more depressed than adult fathers, and why non-resident teenage fathers report higher levels of depressive symptoms than coresident adolescent fathers.

This study suffers from several important limitations that are quite common in research on teenage fatherhood. First, fathers who live with their children are more likely to participate in the study, and those who do not have regular contact with their children are excluded from the father questionnaire. This echoes problems from past surveys with parent-oriented rather than child-oriented sample designs, which asked fathers to self-identify and therefore excluded fathers who did not know of their paternity and perhaps those who rarely saw their child. Second, because of low response rates for the non-resident father questionnaires, findings for

non-resident fathers are not likely to be representative and should be treated as preliminary. Third and perhaps most importantly, we only conduct bivariate analyses, and the associations observed in this study should in no way be considered causal. Future multivariate analyses may show that bivariate relationships significant in this study can, in fact, be explained by other factors.

These new, nationally representative findings provide useful preliminary information about the life situations of both coresident and nonresident teenage fathers and their children in the United States today. Understanding the influence teenage fathers have on their children and the contributions they can make may help policymakers create appropriate types of father-inclusive intervention programs. Because this study focuses on early development, it provides new data to inform researchers and policymakers trying to close the early developmental gap between the children of teenage parents and their peers. If their developmental outcomes can be improved at an early age, then there is less opportunity for the gap to widen and lead to more entrenched disadvantage during the school years.

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Table 1. Variable information

Variable	Wave	Measurement	Range	Source
<i>Independent</i>				
Teen Fatherhood	1	Dichotomous	0-1	Biological dad < 20 yrs. at time of birth; Birth certificate, else constructed father's age measure, else father survey, else mother interview
<i>Demographics</i>				
<i>Race/Ethnicity</i>				
Non-Hispanic White	1	Dichotomous	0-1	Biological Father's Race: Child's birth certificate, or else ECLS-B constructed based on mother interview
Non-Hispanic African American	1	Dichotomous	0-1	Biological Father's Race: Child's birth certificate, or else ECLS-B constructed based on mother interview
Hispanic	1	Dichotomous	0-1	Biological Father's Race: Child's birth certificate, or else ECLS-B constructed based on mother interview
Non-Hispanic Asian	1	Dichotomous	0-1	Biological Father's Race: Child's birth certificate, or else ECLS-B constructed based on mother interview
Non-Hispanic Native American	1	Dichotomous	0-1	Biological Father's Race: Child's birth certificate, or else ECLS-B constructed based on mother interview
Years of Education	1	Continuous	8-20	For biological dad: ECLS-B constructed from mother interview (Highest grade or year of school that _____ has completed)
Change in Years of Education	1-2	Continuous	0-8	Change between Waves 1 and 2: ECLS-B constructed from mother interview (Highest grade or year of school completed)
<i>Direct Resources</i>				
<i>Yearly Income (Dollars)</i>				
	2	Continuous	0-300000+	Father survey (Total income last year?), else mother interview (Counting all jobs, how much does _____ make before taxes and other deductions?), top values excluded for confidentiality
Child Support Paid (Dollars)	1	Continuous	0-1000+	Mother interview (How much per month do you usually get for _____'s child support?); top values excluded for confidentiality
Other Monetary Help Given (Scale)	1	Continuous	1-3	Mother interview (Does father pay for certain things?): Includes paying for diapers/toys, child care, health care, etc. Mean of 4 items, 1=never, 4=all the time
<i>Residency Status</i>				
Co-Resident with Child	1&2	Dichotomous	0-1	ECLS-B constructed from mother interview
Non-Resident, Contact with Child	1&2	Dichotomous	0-1	ECLS-B constructed from mother interview: Father saw child at least once per month in the last year
Non-Resident, No Contact with Child	1&2	Dichotomous	0-1	ECLS-B constructed from mother interview: Father saw child less than once per month in the last year
Residency or Contact with Child Decreased	1-2	Dichotomous	0-1	ECLS-B constructed from mother interview
Involvement with Child (Scale)	2	Continuous	0-5	Father survey: In the past month, how often did you...? Includes playing games, helping brush teeth, bathing, and eating out with child. Mean of 13 items.
<i>Indirect Resources</i>				
<i>Child Household SES</i>				
Child Household SES	1&2	Continuous	-2.06-2.25	ECLS-B constructed from mother interview: Mother's and resident father's educ., mother's and resident father's occupation, and household income
Change in Child Household SES	1-2	Continuous	-2.35-2.89	ECLS-B constructed from mother interview: Mother's and resident father's educ., mother's and resident father's occupation, and household income
Child Household Food Insecurity with Hunger	1	Dichotomous	0-1	ECLS-B constructed from mother interview - categories are based on Department of Food and Agriculture Guidelines
Number of Grandparents in Child's Household	1	Polytomous	0-4	Mother interview household roster
Positive Child Home Environment (Scale)	2	Continuous	5-29	Mother interview: Different components of a supportive/unsupportive or dangerous household. Items include use of car seats, having smoke alarms in house, number of toys, whether child has set bedtime, whether there is an unlocked gun in the house, etc. Dichotomized 30 items and counted number of "positive" environmental factors.

Child's Attachment						
Secure	2	Dichotomous	0-1	See Text		
Disorganized	2	Dichotomous	0-1	See Text		
Ambivalent	2	Dichotomous	0-1	See Text		
Avoidant	2	Dichotomous	0-1	See Text		
Mother Score on NCATS	1	Continuous	15-49	See Text		
Mother Score on Two Bags	2	Continuous	1-7	See Text		
Mother Negative Behavior Index (Scale)	2	Continuous	0-7	See Text		
<i>Parenting Perceptions</i>						
Proficiency with Fatherhood/Discipline (Scale)	2	Continuous	1.4-5	Father survey (How much is this like you?): Includes items such as I do not allow my children to get angry with me, there are times when I don't have the energy to make my children behave as they should, I have little or no difficulty sticking with my rules for my children even when close relatives are there, etc. Mean of 6 items.		
Positive Attitudes About Fatherhood (Scale)	2	Continuous	2-4	Father survey (Do you agree with the following statements?): Includes items such as it is difficult for fathers to express their feelings, it is essential for a child's well being that a father spends time with his child, etc. Mean of 7 items.		
Attachment to Child (Scale)	1	Continuous	0-3	Father survey: How often do you feel this way or do these things? Includes talk about the child, carry pictures of the child, think about the child, etc. Mean of 5 items.		
Negative Attitudes About Fatherhood (Scale)	2	Continuous	1-4	Father survey (Do you agree with the following statements?): Includes items such as father feels trapped by responsibilities, expected to have closer and warmer feelings for child, child is able to do less than expected, etc. Mean of 5 items.		
Depressive Symptoms (Scale)	1	Continuous	1-4	Father survey (How often in the past week have you felt these ways?): Includes items such as could not get going, felt fearful, was depressed, slept restlessly, etc. Mean of 12 items.		
Reports Being Better than Average Father	1	Dichotomous	0-1	Father survey (Which of these best describes how you feel as a father - better than average or very good father vs. not)		
<i>Child Outcomes</i>						
Child Birth Weight	1	Dichotomous	0-1	ECLS-B constructed from birth certificate		
Child's General Health	1&2	Polytomous	1-5	Mother interview (Would you say that ___'s health was poor, fair, good, very good, or excellent?)		
Number of Child Injuries	1&2	Polytomous	1-3	Mother interview (How many times has child seen doctor or other medical professional, or visited a clinic or E.R. for an injury?)		
Standardized Child Behavior Index (Scale)	1&2	Continuous	-2.34-1.41	See Text		
Child Mental Assessment t-Score	1&2	Continuous	15.14-88.81	See Text		
Child Motor Assessment t-Score	1&2	Continuous		See Text		

Table 2. Descriptive statistics on fathers' demographics, resources, and parenting perceptions

Variable	Means for All Fathers		Means for Teen Fathers Only		
	Teenage	Adult	Coreresident	Non-Resident	
<i>Demographics</i>					
Non-Hispanic White	0.42	**	0.64	0.46	0.36
Non-Hispanic African American	0.27	**	0.1	0.08	** 0.54
Hispanic/Latino	0.27		0.22	0.40	** 0.08
Non-Hispanic Asian	0.02	*	0.03	0.02	0.01
Non-Hispanic Native American	0.02	†	0.01	0.02	0.01
Years of Education - Wave 1	11.37	**	13.56	11.27	11.47
Change in Years of Education - Wave 1 to Wave 2	0.17		0.19	0.22	0.15
<i>Direct Resources</i>					
Yearly Income (Dollars) - Wave 2	19446.57	**	48954.00	26326.69	** 11013.73
Child Support Paid (Dollars) - Wave 1	20.54	**	77.40	-	-
Other Monetary Help Given (Scale) - Wave 1	1.87		1.95	-	-
Resident - Wave 1	0.49	**	0.89	-	-
Non-Resident, Recent Contact with Child - Wave 1	0.48	**	0.09	-	-
Non-Resident, No Recent Contact with Child - Wave 1	0.03		0.02	-	-
Resident - Wave 2	0.49	**	0.89	-	-
Non-Resident, Recent Contact with Child - Wave 2	0.40	**	0.09	-	-
Non-Resident, No Recent Contact with Child - Wave 2	0.11	*	0.02	-	-
Residency or Contact with Child Decreased - Wave 1 to Wave 2	0.13	*	0.04	-	-
Involvement with Child (Scale) - Wave 2	3.17		3.11	3.35	2.97
<i>Indirect Resources</i>					
Child Household SES - Wave 1	-0.74	**	0.04	-0.76	-0.72
Child Household SES - Wave 2	-0.60	**	0.05	-0.67	-0.52
Change in Child Household SES - Wave 1 to Wave 2	0.14	**	0.01	0.08	0.20
Child Household Food Insecurity with Hunger - Wave 1	0.03		0.02	0.01	0.06
Number of Grandparents in Child's Household - Wave 1	0.84	**	0.14	0.64	* 1.04
Positive Child Home Environment (Scale) - Wave 2	17.10	**	19.34	17.45	16.76
Child's Attachment: Secure - Wave 2	0.53	†	0.64	0.63	† 0.43
Child's Attachment: Disorganized - Wave 2	0.23	*	0.12	0.20	0.26
Child's Attachment: Ambivalent - Wave 2	0.07		0.08	0.08	0.06
Child's Attachment: Avoidant - Wave 2	0.17		0.16	0.08	* 0.27
Mother Score on NCATS - Wave 1	32.24	**	34.85	32.45	32.02
Mother Score on Two Bags - Wave 2	4.05	**	4.45	4.20	3.91
Mother Behavior Index (Scale) - Wave 2	0.70		0.55	0.68	0.72
<i>Parenting Perceptions</i>					
Proficiency with Fatherhood/Discipline (Scale) - Wave 2	3.88		3.78	3.87	3.88
Positive Attitudes About Fatherhood (Scale) - Wave 2	3.45		3.50	3.37	3.51
Attachment to Child (Scale) - Wave 1	2.78	**	2.65	2.79	2.76
Negative Attitudes About Fatherhood (Scale) - Wave 2	2.11	**	1.89	2.08	2.13
Depression (Scale) - Wave 1	1.49	*	1.32	1.28	** 1.70
Reports Being Better than Average Father - Wave 1	0.66	*	0.79	0.81	** 0.49

Source: Early Childhood Longitudinal Study-Birth Cohort (2006).

N~500 teenage fathers, 10,050 adult fathers. Some rows have missing data.

† p<.10 \* p<.05 \*\* p<.01, design-based F tests

Table 3. Descriptive statistics on child outcomes by father's age and coresidence

Variable	Means for All Fathers		Means for Teen Fathers Only			
	Teenage	Adult	Coresident	Non-Resident		
<i>Child Outcomes</i>						
Child Born Very Low Birthweight	0.02	†	0.01	0.02	0.02	
Child Born Moderately Low Birthweight	0.10	*	0.06	0.14	0.07	
Child's General Health - Wave 1	4.37	*	4.51	4.30	4.42	
Child's General Health - Wave 2	4.37		4.50	4.24	†	4.51
Number of Child Injuries - Wave 1	0.08		0.07	0.07		0.09
Number of Child Injuries - Wave 2	0.24		0.19	0.24		0.24
Standardized Child Behavior Index - Wave 1	0.10		0.08	0.14		0.06
Standardized Child Behavior Index - Wave 2	-0.06	†	0.11	-0.07		-0.05
Cognitive Assessment - Wave 1 T-score	50.62		50.46	50.12		51.10
Cognitive Assessment - Wave 2 T-score	48.05	**	50.76	48.15		47.95
Motor Assessment - Wave 1 T-score	51.47	†	49.88	50.21		52.67
Motor Assessment - Wave 2 T-score	49.62		50.39	47.29	*	51.86

Source: Early Childhood Longitudinal Study-Birth Cohort (2006).

N~500 teenage fathers, 10,050 adult fathers. Some rows have missing data.

† p<.10 \* p<.05 \*\* p<.01, design-based F tests

Table 4. Highest and lowest cognitive and behavior score profiles for teen fathers' children

Variable	Means by Wave 2 Cognitive Score		Means by Wave 2 Behavior Score	
	Highest 25%	Lowest 25%	Highest 25%	Lowest 25%
<i>Demographics</i>				
Non-Hispanic White	0.58	0.40	0.48	0.39
Non-Hispanic African American	0.28	0.27	0.28	0.26
Hispanic/Latino	0.11	0.30	0.20	0.32
Non-Hispanic Asian	0.01	0.02	0.01	0.03
Non-Hispanic Native American	0.02	0.01	0.03	†
Years of Education - Wave 1	11.46	11.47	11.50	11.33
Change in Years of Education - Wave 1 to Wave 2	0.28	†	0.09	0.17
<i>Direct Resources</i>				
Yearly Income (Dollars) - Wave 2	29151.17	18343.78	15858.77	15697.26
Child Support Paid (Dollars) - Wave 1	20.72	0.59	22.54	14.72
Other Monetary Help Given (Scale) - Wave 1	2.00	2.04	1.61	2.05
Resident - Wave 1	0.53	0.55	0.51	0.52
Non-Resident, Recent Contact with Child - Wave 1	0.46	0.45	0.37	0.48
Non-Resident, No Recent Contact with Child - Wave 1	0.01	0.00	0.12	†
Resident - Wave 2	0.64	0.58	0.52	0.53
Non-Resident, Recent Contact with Child - Wave 2	0.35	0.22	0.36	0.29
Non-Resident, No Recent Contact with Child - Wave 2	0.01	0.20	0.12	0.17
Residency or Contact Decreased - Wave 1 to Wave 2	0.01	0.20	0.00	†
Involvement with Child (Scale) - Wave 2	3.60	3.30	3.05	3.18
<i>Indirect Resources</i>				
Child Household SES - Wave 1	-0.69	-0.78	-0.77	-0.84
Child Household SES - Wave 2	-0.60	-0.68	-0.56	-0.72
Change in Child Household SES - Wave 1 to Wave 2	0.09	0.10	0.21	0.11
Child Household Food Insecurity with Hunger - Wave 1	0.03	0.07	0.03	0.01
Influence on Decisions Regarding Child (Scale) - Wave 2	2.72	*	2.45	2.61
Number of Grandparents in Child's Household - Wave 1	0.92	0.83	0.61	0.77
Positive Child Home Environment (Scale) - Wave 2	17.64	17.00	17.08	17.08
Child's Attachment: Secure - Wave 2	0.57	**	0.20	0.84
Child's Attachment: Disorganized - Wave 2	0.10	**	0.52	0.03
Child's Attachment: Ambivalent - Wave 2	0.00	†	0.13	0.00
Child's Attachment: Avoidant - Wave 2	0.32	0.15	0.14	*
Mother Score on NCATS - Wave 1	32.70	32.02	33.94	**
Mother Score on Two Bags Task - Wave 2	4.35	4.10	3.84	3.71
Mother Behavior Index (Scale) - Wave 2	0.48	*	1.07	0.26
<i>Parenting Perceptions</i>				
Proficiency with Fatherhood/Discipline (Scale) - Wave 2	3.94	3.78	3.84	3.81
Positive Attitudes About Fatherhood (Scale) - Wave 2	3.47	3.47	3.48	3.52
Attachment to Child (Scale) - Wave 1	2.79	2.78	2.77	2.81
Negative Attitudes About Fatherhood (Scale) - Wave 2	2.19	2.03	2.05	2.14
Depression (Scale) - Wave 1	1.40	1.64	1.41	1.47
Reports Being Good Father - Wave 1	0.62	0.56	0.83	0.63
Reports Being Good Father - Wave 2	0.73	0.58	0.81	†

Source: Early Childhood Longitudinal Study-Birth Cohort (2006).

N~500 teenage fathers. Some rows have missing data.

† p<.10 \* p<.05 \*\* p<.01, design-based F tests