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The Child Health Disadvantage of Parental Cohabitation

This study uses Fragile Families data (N = 2,160) to assess health differences at age 5 for children born to cohabiting versus married parents. Regression analyses indicate worse health for children born to cohabiting parents, including those whose parents stably cohabited, dissolved their cohabitation, and married, than for children with stably married parents. The findings also suggest that stable cohabitation is no better for child health than cohabitation dissolution. Child health is better among those whose cohabiting parents marry than for those whose parents remain stably cohabiting, which indicates a possible health advantage of parental marriage, even if it occurs after the child's birth.

Recent research and social policy have emphasized the importance of parents marrying for children's well-being, as a result of findings that children fare better in married, biological-parent households than in other family structures (Hofferth, 2006) and that children have worse outcomes when living in cohabiting than in married-parent families (Brown, 2004). An important indicator of child well-being is health status, which may have important consequences for later health and socioeconomic status (Case, Fertig, & Paxson, 2005; Case & Paxon, 2006; Palloni, 2006). Although research has suggested that children's health is better in two-parent than in single-parent families (Wen, 2008), there is a dearth of research on the health consequences of having cohabiting versus married parents and on how stability and/or change in parental union status may be associated with health during early childhood.

This study aims to fill this gap in family structure research by assessing whether there is a child health disadvantage of parental cohabitation and whether stability or change in cohabiting parents' union status between birth and age 5 is associated with child health at age 5. In meeting this goal, three specific research questions are addressed: (a) Is parental cohabitation at birth associated with child health at age 5? (b) Are there health differences at age 5 between those children with cohabiting parents who dissolved their union and those with stably cohabiting parents? And (c) Are there health differences at age 5 between those children with cohabiting parents who got married and those with stably cohabiting parents? The data used to answer these questions come from the Fragile Families and Child Wellbeing Study, a longitudinal study of children born to married and unmarried parents in three major U.S. cities between 1998 and 2000. The focus on relatively disadvantaged urban families targeted by the Fragile Families study provides insight into whether family structure at birth is an important determinant of child health in this vulnerable population. Further, the information on prospective, longitudinal parental union status allows for an analysis of stability and

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change in parental union status during the first 5 years of the children's lives.

Child health status at age 5 is reported by the children's mothers and aims to capture the overall health status of children when other measures (e.g., diagnosed conditions) may not yet be apparent. In past research, parent-reported child health status has been associated with maternal health, family social and economic status, and health insurance status (Larson, Russ, Crall, & Halfon, 2008; Yoo, Slack, & Holl, 2008). However, no study to date has explored the implications of parental cohabitation or key cohabitation transitions for overall health status in early childhood.

Assessing whether cohabiting and married parent households provide distinct contexts for the development of physical health during the first 5 years of life is critical for understanding the implications of current family structure trends in the United States. It also lays the foundation for future research identifying specific family processes that contribute to health and other social inequalities during early childhood and across the life course (McLanahan & Percheski, 2008).

Background

The family structure environment of young children in the United States has been changing dramatically over the past 30 years, with potentially important implications for children's health. The number of households in the United States characterized by two cohabiting adults is at an all-time high (Fields & Casper, 2001), and many of those households have children. It has been estimated that 40% of U.S. children experience cohabitation before age 12 (Kennedy & Bumpass, 2008). Although children with cohabiting parents may have some advantages over those in single-parent homes, these increasingly prevalent informal unions may not carry the same benefits as marriage. Children with cohabiting parents are likely to have fewer economic and social resources compared with those living in married-parent families (Cavanagh & Huston, 2006; Heaton & Forste, 2007; W. Manning & Brown, 2006; W. D. Manning, Smock, & Majumdar, 2004; Osborne & McLanahan, 2007; Raley & Wildsmith, 2004). In the United States, cohabitation further suffers from a lack of social acceptance, and it has been described as an ''incomplete'' institution (Nock, 1995; Waite & Gallagher, 2000), which may reduce social support and increase stress for both parents and children. Under these conditions, researchers need to better understand whether the two most common forms of two-parent homes (cohabitation and marriage) produce distinct health outcomes for children.

Children in cohabiting parent households have been found to suffer from worse development and behavioral outcomes than those with married parents (Artis, 2007; Brown, 2002, 2004; Hofferth, 2006), but relatively little is known about differences in child health in these distinct family contexts. For several reasons, children born to cohabiting parents are likely to have less healthy household environments than those born to married parents. Children with cohabiting parents may experience more parental stress, more maternal depression, less social and economic support from fathers or other extended family members, and more parental conflict than those with married parents (Berger, 2007; Klausli & Owen, 2009; Osborne & McLanahan, 2007; Raley & Wildsmith, 2004). These factors may impact child health if cohabiting parents have insufficient time, money, or social support to adequately prevent and treat childhood illnesses.

Recent research also has suggested that the instability of cohabiting unions may be an underlying reason children living in cohabiting-parent households are worse off than those with married parents (W. D. Manning, Smock et al., 2004). Empirical work in this area has suggested that parental conflict and union dissolution are linked with worse child health, possibly because of increased stress and poor health behaviors that result from both child stress and altered parenting (Troxel & Matthews, 2004). Another study found that the probability of a child developing asthma increased if their unmarried parents separated rather than remained romantically involved (Heiland & Liu, 2006; Liu & Heiland, 2007a). This may be an effect specific to asthma, given the ties between asthma and exposure to household conditions (Harknett, 2005). Thus, it is important to consider whether a more comprehensive measure of children's health is associated with the separation of cohabiting parents and whether children whose cohabiting parents separate are worse off than those whose parents remain cohabiting but unmarried.

Although past research has addressed the implications of cohabitation and union

dissolution on child well-being, to date, there has been little empirical distinction between stable cohabiting and stable married couples and the consequences for children. The most recent research has suggested that stably cohabiting mothers are more depressed and less sensitive with their children than stably married mothers and that stably cohabiting parents have more conflict and ambivalence than do stably married parents (Klausli & Owen, 2009). However, the study had very few stably cohabiting parents ($N = 43$), considered stability only over the first 2 years of the child's life, and did not assess the implications of these stable unions for child well-being. No research to date has considered potential health differences between children living with stably married and stably cohabiting parents during early childhood.

There is also surprisingly little research related to the potential child health benefit of marriage among cohabiting parents. If cohabiting parents have fewer resources and parenting skills than married parents, marriage among those parents may do little to improve child health. However, if having cohabiting parents who marry increases father presence, relationship commitment, social support, and household stability, as some research has suggested (W. D. Manning, Smock et al., 2004), it may be that children are better off when their cohabiting parents marry than when they remain cohabiting. Given that parents who are cohabiting at the time of a child's birth are likely candidates for marriage (more so than dating or nonromantic parents), it is important to understand whether children benefit from subsequent marriage of their cohabiting parents. Empirical research on child well-being and parents' transition to marriage is limited, but the existing literature has suggested possible cognitive benefits for children whose unmarried parents marry by the time the child is 3 years old (Liu & Heiland, 2007b). Another study found no difference in children's risk of asthma or behaviors when their parents remained cohabiting versus marrying by the time the child was 1 year old (Heiland & Liu, 2006).

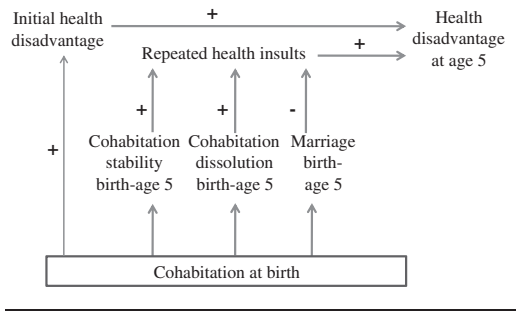
This study aims to advance research in this area by assessing health status differences at age 5 by children's parental union status at birth, as well as union stability and transitions between birth and age 5 for children born to cohabiting and married parents. The use of prospective longitudinal data on parental union status allows for an assessment of the importance of parental union status at birth for child health 5 years later, as well as of potential differences based on important postbirth transitions (e.g., marriage, dissolutions). The conceptual approach and specific research questions tested in this study are discussed further below.

Conceptual Approach

The goal of this research is to assess whether parental cohabitation is associated with health during early childhood. The first research question is as follows: Is parental cohabitation at birth associated with child health at age 5? Figure 1 indicates the main pathways through which this may occur—through initial health disadvantage at birth that lasts to age 5 and through family structure processes that occur between birth and age 5. Of particular interest here is assessing postbirth effects of parental cohabitation on child health to determine whether there are family structure processes at work between birth and age 5 that result in child health inequalities. As noted above, this may occur if cohabitation means less social support (as an incomplete social institution), less investment by fathers, more parental stress, or more instability in children's lives during these critical early childhood years compared with those in married parent homes.

This first research question is answered through the use of regression models that test whether parental cohabitation at birth (vs. having married parents at birth) is associated with worse child health at age 5. A control for low birth weight is included to focus on the development of postbirth health differences

FIGURE 1. POTENTIAL INFLUENCE OF PARENTAL COHABITATION AT BIRTH AND BIRTH TO AGE 5 ON CHILD HEALTH AT AGE 5.



with children's exposure to different parental union environments between birth and age 5. Although birth weight does not control for all initial health differences, a significant effect of cohabitation would indicate that being born to cohabiting parents is associated with child health beyond initial birth-weight inequalities and that important family structure processes may contribute to health inequalities during early childhood. Child health is also compared for those with stably married and stably cohabiting parents to test whether there is a health disadvantage of parental cohabitation if the parents remain stably cohabiting through age 5.

To further focus on postbirth family structure processes and the associations with child health, the longitudinal data on parental relationship status are used to distinguish children by two key cohabiting transitions during early childhood: those whose cohabiting parents dissolved their union and those whose parents formalized their union (see Figure 1). The two subsequent research questions are addressed with attention to these transitions: (2) Are there health differences at age 5 between those children with cohabiting parents who dissolved their union and those with stably cohabiting parents? And (3) are there health differences at age 5 between those children with cohabiting parents who married and those with stably cohabiting parents?

The second research question contributes to literature related to the instability of cohabiting unions and the effects on children. If child health at age 5 is worse for children experiencing a union dissolution than for those with stably cohabiting parents, it may be that instability is an important aspect parental cohabitation that contributes to children's physical health differences. Parental union instability may increase health problems in children through increased stress, exposure to multiple household environments, or fewer resources (of all types) available to support children's health when cohabiting parents separate.

The third research question contributes to research on the importance of parental marriage for children. Children whose parents marry may have better health at age 5 than those whose parents remain cohabiting if postbirth marriage means more resources and a less stressful environment for children than when parents remain in an informal union.

Biological parents who are dating or not romantic (e.g., divorced, separated) at the child's birth are excluded from this study because the focus is on cohabitation versus marriage. Initial analysis of the data suggests that single mothers make multiple and various types of transitions with the biological father, whereas cohabiting and married biological parents make only one transition with each other during this time. The effects of experiencing a key union transition (dissolution and marriage) can be more clearly evaluated by limiting the sample to cohabiting and married parents. Further, very few mothers who are dating or not romantic with the biological father at birth make the transition directly to marriage with the biological father, which is a key transition of interest here. Some cohabiting and married mothers did subsequently enter a new cohabiting or marital relationship with a partner other than the biological father, but doing so is not common (only 14% of the study sample had a new partner) and is not the focus of this study (repartnership is controlled for in the analysis). Of interest in this study is assessing how child health differs across two biological parent settings.

Method

Data

The data to be analyzed come from the Fragile Families and Child Wellbeing Study, a longitudinal birth cohort study of almost 5,000 children born in large U.S. cities between 1998 and 2000. The baseline sample of children born to unwed parents is representative of nonmarital births in U.S. cities with populations of more than 200,000, and there is an additional sample of children born to married parents in those cities. Both mothers and fathers were interviewed in the hospital shortly after their child's birth and again when the child was 1, 3, and 5 years old (for a detailed discussion, see Reichman, Teitler, Garfinkel, & McLanahan, 2001). These data are well-suited for considering the question of how children fare when born to cohabiting mothers because, in addition to having married parents in the sample, the study oversampled births to unmarried couples. Another strength of the data is that parental union status is assessed prospectively at multiple points during the first 5 years of children's lives.

A limitation of the data is that, because of the focus on ''fragile families,'' the subsample

of births to married parents is selective of births to lower social and economic status (SES) parents than the population of married-parent births in the United States. This may result in more conservative conclusions about the relative disadvantage of parental cohabitation and limits the generalizability of the findings to children in lower SES households. However, the focus on fragile families provides insight into how parental cohabitation and marriage may affect child health for a policy-relevant group (i.e., young children living in disadvantaged urban families).

The baseline sample consisted of 2,970 children born to married or cohabiting parents (60% of the 4,898 original children). Cases with missing variables were deleted from the sample: 416 were missing the dependent variable, 333 were missing one or more wave of marital status information, and another 61 were missing additional control variable information, for a final sample size of 2,160 children. In this sample of children born into two-biological-parent homes, 41% of the sample was born to married parents and 59% was born to cohabiting parents (Table 1). The large subsample of cohabiting parents allows for a comparison between children born to cohabiting- and married-parent households, as well as for a comparison of child health among subsets of cohabiting-parent households (i.e., those that were stable, dissolved their union, and got married).

Variables

Parental union status variables were created based on the mother's report of whether she was married or living with the father (all or some of the time) at the child's birth, age 1, age 3, and age 5. The data on union status at birth were used to create the variable of dichotomous married versus cohabiting parents at birth, whereas the multiyear data were used to develop five variables that represent parental union status between birth and age 5 (stably married, stably cohabiting, got married after cohabitation, dissolved a cohabiting union, and dissolved a marriage). Table 1 shows the percentage and number of children in each of the union categories. Consistent with the existing literature, in this sample, married parents are the most stable over time: 80% of those who were married at baseline (33% of the sample parents) remain married through age 5. The instability in children's lives when born to cohabiting parents provides a stark contrast to the stability of married parents: Only 20% of children born to cohabiting parents (12% of the total sample) had parents who remained stably cohabiting between birth and age 5. More than half of cohabiting parents had dissolved their union by the time the child was 5 years old (51% of cohabiting parents and 30% of the full sample). The remaining 29% of cohabiting parents (17% of the full sample) married after the child's birth and before age 5 (see Table 1).

Table 1. *Biological Parent Union Status for Fragile Families Study Children With Married or Cohabiting Parents at Birth (*N = *2,160)*

Variable	% of Sample Children	*n*
Parental union status at birth		
Married	41	893
Cohabiting	59	1,267
Parental union status birth – age 5		
Stably married	33	713
Stably cohabiting	12	253
Got married	17	368
Dissolved cohabiting union	30	646
Dissolved marriage	8	180

The dependent variable in this study is child health status at age 5, measured by the mother's report that the child is in excellent, very good, good, fair, or poor health. This reflects the same question asked of adults as a measure of self-reported health status, which is a reliable measure of overall health substantiated in the literature. Self-reported health status has been linked with mortality and multiple diseases (DeSalvo, Bloser, Reynolds, Jiang, & Muntne, 2006; Idler & Benyamini, 1997; Idler & Kasl, 1995), as well as socioeconomic conditions (Kunst et al., 2005) over the life course and across settings. Parental reported child health status has been associated with multiple social and economic status indicators, such as maternal mental health, parental race/ethnicity, health insurance status, parental education, unsafe neighborhoods, and poverty (Larson et al., 2008; Yoo et al., 2008).

As a result of a few cases being reported as fair or poor, the lowest three child health categories were collapsed into one, which yielded three health status categories (excellent, very good, and good/fair/poor). Table 2 provides the

Table 2. *Sample Descriptive Statistics (*N = *2,160)*

Variable	Sample Means		
	All Children	Cohabiting Parents	Married Parents
Child health: Age 5			
Excellent	63.75	59.12	70.32**
Very good	25.69	28.49	21.72**
Good, fair, poor	10.56	12.39	7.95**
Controls: Birth			
Low birth weight	0.08	0.10	0.06**
Child male	0.52	0.51	0.52
Mom health excellent/very good	0.68	0.63	0.75**
Mom depressed (assessed at age 1)	0.12	0.13	0.11*
Mom age	26.22	24.06	29.29**
Mom less than high school degree	0.29	0.38	0.15**
Mom high school grad.	0.28	0.35	0.20**
Mom some college	0.26	0.24	0.29**
Mom college grad.	0.17	0.03	0.36**
Mom religious	0.40	0.31	0.53**
Mom race: White	0.29	0.19	0.45**
Mom race: Black	0.37	0.45	0.25**
Mom race: Hispanic	0.29	0.34	0.23**
Mom race: Other	0.04	0.02	0.07**
Mom U.S. born	0.81	0.85	0.76**
No. of kids in household	1.15	1.17	1.11
No. of adults in household	2.40	2.51	2.25**
Income-to-poverty ratio	2.86	1.86	4.28**
Safe streets	0.85	0.81	0.89**
Controls: Age 5			
Child age in months	61.58	61.66	61.47
No. of kids in household	2.50	2.53	2.46
No. of adults in household	2.04	2.00	2.10**
Moved before age 5	0.75	0.83	0.64**
Mom ever married other	0.03	0.04	0.02**
Mom ever cohabited with other	0.11	0.15	0.04**
Income-to-poverty ratio	2.86	1.59	3.55**
Mom depressed	0.17	0.19	0.14**
Mom health excellent/very good	0.59	0.54	0.66**

*$p < 0.05$. **$p < 0.01$ (significant mean difference between cohabiting and married parents).

distribution of children's health at age 5 across the three categories. Although most children were reported to be in excellent health (64%), 36% were in less-than-excellent health, and more than 10% fell into the lowest health category. When comparing across parental union status at birth in this sample, children born to cohabiting parents had a clear health disadvantage by age 5: Only 60% of children born to cohabiting parents were in excellent health, compared with 70% of children born to married parents (see Table 2).

Table 2 also shows that, consistent with the design of the study, the sample children were born to relatively disadvantaged families in terms of social status (in the full sample, only 17% of the mothers had graduated from college, and 70% were non-White). The second and third columns illustrate that children born to cohabiting mothers began life at a disadvantage: They were more likely to be low birth weight, more likely to be born to younger, less educated, less healthy mothers, and more likely to be living in poverty than children born to married mothers (see Table 2). These mean differences reflect the structural disadvantages of cohabiting unions found elsewhere in the family structure literature (Brown, 2004). In estimating the effects of cohabitation on child health, it is important to control for these factors in the analysis, as is discussed below.

Analysis

Because of the categorical nature of the dependent variable, multinomial logistic regression models are used to assess the associations between child health at age 5 and parental union status at birth, and between birth and age 5. Because the main interest here is assessing any disadvantages of cohabitation, the reference group is cohabiting parents. Models are estimated, first, to assess the effects of married parents at birth (vs. cohabiting at birth) on child health at age 5, followed by a model that further differentiates cohabiting and married parents by their stability or transition between birth and age 5. The use of multinomial logit (as opposed to ordered logit models) allows for different effects of union status on health across the various categories. The resultant coefficients (expressed as relative risk ratios in the tables) show the associations between parental union status and child health for a given health category compared to the omitted health category

(excellent health). Statistical significance is assessed through two-tailed tests of $p < .05$. For a better sense of the magnitude of the effects, and to clarify differences across groups and categories, predicted probabilities of being in a given health category by key union status groups are also presented.

The models control for key confounders (listed in Table 2) based on past research that suggests that children from cohabiting homes have distinct social and economic circumstances from married-parent homes (e.g., they are more likely to be poor, come from minority groups, be located in unsafe neighborhoods). These variables also control for potential systematic differences and potential systematic differences in maternal reports of child health among mothers of different social groups. Controls for initial health status of the mother (physical health at the child's birth and depression at age 1 of the child) are included because they may induce both union instability and later child health disadvantages. The models also include a measure of health at birth (low birth weight) to focus on differences in child health at age 5, net of prebirth conditions. Although it may not fully capture health inequalities at birth, low birth weight is the best infant health measure available in these data and is a standard measure of health at birth. Finally, the models include the following age 5 variables to account for changing household conditions between birth and age 5: the number of people in the household, economic resources, residential mobility, mother has new partner, and maternal health.

Results

Table 3 shows the relative risk ratios for the models estimating the association between parental cohabitation at birth and child health at age 5. A relative risk ratio greater than 1 indicates a positive association, and a ratio less than 1 indicates a negative association. The results indicate that, controlling for child maternal, and household factors, children born to married parents were less likely to be in very good than excellent health by age 5 than were those born to cohabiting parents. The relative risk ratio for good/fair/poor health compared with excellent health was of similar magnitude but did not reach statistical significance.

Table 4 shows the predicted probabilities of being in each health category for the union status categories of interest (based on the coefficients from Tables 3 and 5). The largest difference in predicted probabilities by union status at birth was for the excellent health category, with children born to married parents having 7 percentage points greater chance of being in excellent health than those born to cohabiting parents (see Table 4). The advantage of being born to married parents was also evident in the very good health category (a 5-percentage-point advantage in predicted probabilities). The smallest difference was found in the lowest health category (good/fair/poor).

Table 5 provides the results from models that consider parental union stability and transitions between birth and age 5. The relative risk ratios show that children with stably married parents had a significantly lower risk of being in the poorest health category than children in stably cohabiting parent households (relative risk reduction [RRR] = 0.5). The predicted probabilities shown in Table 4 illustrate that this represents almost an 8-percentage-point difference in the probabilities of being in excellent health and a 5-percentage-point difference in the probabilities of being in good/fair/poor health between the two union status groups.

Surprisingly, children with parents who dissolved their union by the time the children were age 5 were not significantly different in health status from those living in stably cohabiting families (see Table 5). This indicates that stable cohabitation may be as risky for early childhood health as parental separation or divorce. Although not shown in Table 5, the results indicated (not surprisingly) that children whose parents dissolved their cohabiting union were significantly less healthy than children who had stably married parents. Children who experienced parental cohabitation dissolution were also significantly less healthy than those whose cohabiting parents married: There was a predicted 5.4-percentage-point increase in the probability of being in the worst health category for children whose cohabiting parents separated than for those whose cohabiting parents married (see Table 4). In summary, the health of children who experienced parental cohabitation dissolution was significantly worse than the health of those children whose parents either stayed married or married sometime after the child's birth, but it was no different from those children whose parents were stably cohabiting from birth to age 5.

Table 3. *Associations of Parental Union Status at Birth With Child Health at Age 5 (*N = *2,160)*

	Health Status at Age 5 (Ref.: Excellent)			
	Very Good		Good/Fair/Poor	
	RRR	*SE*	*RRR*	*SE*
Bio. parents' union status				
Married at birth (ref.: cohabiting at birth)	0.73*	(0.096)	0.72	(0.14)
Controls at birth				
Low birth weight	1.19	(0.23)	1.84*	(0.49)
Child male	1.14	(0.12)	1.18	(0.18)
Mom health excell./very good[a]	0.61**	(0.072)	0.58**	(0.096)
Mom depressed	0.84	(0.15)	1.03	(0.23)
Mom age	1.01	(0.011)	1.04*	(0.015)
Mom high school grad.[b]	1.05	(0.15)	0.80	(0.16)
Mom some college[b]	1.07	(0.17)	0.78	(0.18)
Mom college grad.[b]	0.74	(0.18)	0.59	(0.22)
Mom religious	1.21	(0.13)	1.15	(0.19)
Mom race: Black[c]	1.18	(0.17)	1.46	(0.35)
Mom race: Hispanic[c]	0.95	(0.16)	1.26	(0.33)
Mom race: Other[c]	1.54	(0.43)	0.73	(0.38)
Mom U.S. born	0.76	(0.13)	0.29**	(0.062)
No. of kids in household	1.02	(0.058)	0.96	(0.070)
No. of adults in household	0.96	(0.059)	0.86	(0.077)
Income-to-poverty ratio	0.98	(0.027)	0.95	(0.054)
Safe streets	0.75*	(0.11)	0.74	(0.14)
Controls at age 5				
Child age in months	0.98	(0.020)	1.01	(0.027)
No. of kids in household	0.97	(0.049)	1.11	(0.075)
No. of adults in household	1.07	(0.070)	1.04	(0.093)
Moved before age 5	0.92	(0.12)	1.16	(0.23)
Mom ever married other	1.35	(0.37)	0.62	(0.34)
Mom ever cohabited with other	1.05	(0.18)	1.19	(0.29)
Income-to-poverty ratio	1.02	(0.025)	0.92	(0.073)
Mom depressed	1.06	(0.16)	1.07	(0.22)
Mom health excell./very good[a]	0.58**	(0.066)	0.26**	(0.045)
Constant	4.20	(5.21)	0.40	(0.72)
Log-likelihood			−1,724	

Note: Relative risk ratios shown. Robust standard errors in parentheses.

[a]Ref.: Good, fair or poor health. [b]Ref.: Mom non-Hispanic White. [c]Mom less than high school degree.

*$p < 0.05$. **$p < 0.01$.

Table 5 also shows the results that address the question of whether marriage among cohabiting parents benefits child health. The results revealed some health advantage of parents marrying after a child is born: Children with parents who married during the first 5 years of life were significantly less likely to be in good/fair/poor health (compared with either very good or excellent health) than were those whose parents remained stably cohabiting. In terms of predicted probabilities, the difference was relatively small for the excellent health category: The model predicted a 1-percentage-point benefit if a child's parents married. A larger difference was evident for the probability of being in the worst health category: Children whose cohabiting parents married had a 5-percentage-point lower probability of being in good/fair/poor health than those whose parents were stably cohabiting (see Table 4). These results suggest that marriage among cohabiting parents may reduce the risk of children being in good/fair/poor health but

Table 4. *Predicted Probabilities of Child Health Status at Age 5 by Biological Parents' Union Status, Based on Models From Tables 3 and 5 (*N = *2,160)*

	Child Health Age 5		
Parental Union Status	Excellent Health	Very Good Health	Good/Fair/Poor Health
Status at birth			
Married	0.678	0.228	0.094
Cohabiting	0.611	0.277	0.112
Status birth – age 5			
Stably married	0.691	0.227	0.082
Got married	0.629	0.294	0.077
Stably cohabiting	0.616	0.257	0.128
Dissolved cohabitation	0.593	0.276	0.131
Dissolved marriage	0.651	0.234	0.115

Table 5. *Associations of Parental Union Stability and Transitions Birth – Age 5 With Child Health at Age 5 (*N = *2,160)*

	Health Status at Age 5					
Biological parents' union status birth – age 5	Very Good vs. Excellent		Good/Fair/Poor vs. Excellent		Good/Fair/Poor vs. Very Good	
	RRR	*SE*	*RRR*	*SE*	*RRR*	*SE*
Stably married	0.76	(0.15)	0.52*	(0.15)	0.69	(0.21)
Stably cohabiting	—	—	—	—	—	—
Got married	1.10	(0.22)	0.55*	(0.16)	0.50*	(0.15)
Dissolved cohabiting union	1.12	(0.22)	1.08	(0.28)	0.96	(0.27)
Dissolved marriage	0.85	(0.22)	0.83	(0.29)	0.98	(0.36)
Constant	4.10	(5.40)	0.49	(0.88)	0.12	(0.23)
Log-likelihood			−1,719			

Note: Relative risk ratios shown. Robust standard errors in parentheses. All control variables included in analysis but not reported for brevity.

*$p < 0.05$.

may have little effect on whether the child is in excellent health.

The analyses also indicated that the probability of being in excellent health was determined more by parental union status at birth than by whether the parents married after the child's birth. Table 4 shows that children with stably married parents were more likely to be in excellent health than were those whose cohabiting parents married (a predicted, statistically significant 6.2-percentage-point advantage for children with stably married parents). Although children born to cohabitors who later married experienced better health than those living with stably cohabiting parents, those children still had a lower probability of being in excellent health than children living with stably married parents.

Although not the focus here, it should be noted that child health among those who experienced a parental divorce during the first 5 years of life was not statistically different from those in any of the other stability or transition groups considered here. This may be in part because of the small number of divorce cases in the sample ($n = 180$) or because the divorces tended to occur after the age 3 survey (89% of parents who divorced by the time the child was age 5 were still together at the age 3 survey). (This contrasts with the cohabitation dissolution cases, of which there were many and most occurred in the first year of life. Of the cohabitation dissolutions, 51% occurred before age 1 and 77% before age 3.) It may be that having married parents up to age 3 or 4 has some advantage for child health, at least in the short run, even if those parents divorce by the time the child is age 5.

In summary, the results presented in Table 4 (based on the models from Tables 3 and 5) illustrate that children born to married parents

(regardless of their subsequent stability or transitions) had a higher probability of being in excellent health by age 5 than did those born to cohabiting parents. However, children born to cohabiting parents who eventually married (by age 5) did have a health advantage over those children who either remained living with stably cohabiting parents or transitioned into single-parent homes.

Discussion

This study assessed how young children's health fared across different family structures. Of particular interest here was investigating whether there is a health disadvantage of being born to cohabiting rather than married parents, similar to that suggested in the literature for development and behavioral outcomes. The use of longitudinal, prospective data from the Fragile Families study allowed for the comparison of health among children whose parents were stably married, stably cohabiting, dissolved their cohabiting union, or married between the child's birth and age 5.

The regression results illustrated that biological parents' union status at the child's birth and between birth and age 5 mattered for child health status at age 5. Children born to cohabiting parents were less likely to be in excellent health than those born to married parents 5 years later, and this difference was not due to low birth weight, maternal health at the child's birth or age 5, or other maternal and household controls included in the models. Given that economic and social status were controlled for, it may be that cohabiting fathers provided less time and commitment needed to protect children's health or that cohabiting parental relationships produced more stressful environments with consequences for children's health status. This is consistent with other family structure research that has found parental cohabitation to be worse for child well-being than married-parent family environments, even after controlling for key demographic, socioeconomic (Berger, 2007; Klausli & Owen, 2009; Osborne & McLanahan, 2007; Raley & Wildsmith, 2004), and unobserved differences across families (Hofferth, 2006).

Subsequent models further explored whether differences in child health existed between stable two-parent households, distinguished only by whether or not the union was formal (i.e., marital). The results showed that the child health disadvantage of parental cohabitation remained evident even when comparing children with stably cohabiting and stably married parents. There are no other published studies of child well-being in stably cohabiting versus stably married households to which these findings can be compared. However, a recent study showing that stably cohabiting mothers were less sensitive with their children than stably married mothers, and that stably cohabiting parents had more conflict and ambivalence than stably married parents, may indicate some of the processes that are associated with the health disadvantage found here (Klausli & Owen, 2009).

Consistent with the notion that unstable cohabiting parental homes are worse for children than stably married two-parent homes (W. D. Manning, Smock et al., 2004), children who experienced a parental cohabitation dissolution during the first 5 years of life had worse health status at age 5 than did those who lived in stably married households. However, surprisingly, cohabitation dissolution was no more detrimental to child health than stable parental cohabitation. This contradicts the finding from previous research that dissolution of a parental cohabiting union increased the risk of asthma among children more than when parents remained romantically involved (Heiland & Liu, 2006; Liu & Heiland, 2007a). The results found here indicate that cohabitation stability and dissolution are both worse for overall child health than being in stably married households and that instability (i.e., union dissolution) may not be the underlying source of the child health disadvantage associated with parental cohabitation.

The child health impact found when cohabiting parents transitioned to marriage provided evidence that married parent environments may be better for children than cohabiting parent environments. Children living with cohabiting parents who later married had better health than children living with parents who remained cohabiting to age 5 and those whose cohabiting parents dissolved their union. The disadvantage of parental cohabitation at birth, however, was not completely wiped out by later marriage: Those children living with stably married parents were more likely to be in excellent health at age 5 than those whose cohabiting parents married between the child's birth and age 5. The results suggest that, although marriage among cohabitors after birth may prevent children from

falling into the worst health status categories, it cannot provide children with the full health benefit of being born to married parents (at least in the short term).

The findings presented here must be interpreted with caution. Among the limitations of this study is the fact that it does not fully take into account unobserved differences between children and their families. These unobserved differences may bias the results (Fomby & Cherlin, 2007; Hofferth, 2006) and require that associative rather than causal conclusions be drawn. Although a measure of child health at birth was included as a control (i.e., low birth weight), it is possible that unmeasured health differences at birth remained in the models. Thus, it is not clear whether the emerging age 5 health differences were due to parental union status or to some underlying health condition at birth that affected both parental union status and child health. Using change in health status as a dependent variable would be an ideal way to deal with unobserved time-invariant differences among children and their parents, but this was not possible because child health was not assessed the same way at birth and age 5. Further, change models would not have allowed the estimation of the associations of child health with stable parental unions (marital vs. cohabiting), which is an important contribution of this study.

A second limitation is the use of mother-reported health status of the child, as it includes measurement error, recall bias, and subjectivity in the mother's interpretation of her child's health status. The control variables related to SES and race/ethnicity help alleviate some of the systematic biases in these responses, but the findings should be tested in future studies with multiple health indicators that are more objectively obtained. An advantage of this outcome over other health measures, however, is that it provides a global assessment of the child's health rather than focusing on one specific health condition that may be distinct in its association with family structure and living arrangements. The health status measure also may better detect child health issues that are apparent to the mother but that a physician has not yet diagnosed (this may be particularly relevant in this sample of fragile families who may have limited access to medical care).

As previously stated, the Fragile Families data is a sample of births in relatively low-income, disadvantaged families in large U.S. cities. Using this limited sample means that the results are not generalizable to the full U.S. population and may be biased downward (providing conservative estimates of the effects cohabitation on child health relative to marriage). The findings from this study, however, do increase our understanding of health among young children living in disadvantaged urban families, a vulnerable group that policy makers often target.

Further, children born to single parents were not included in this study because the purpose was to focus on differences between children in cohabiting and married-parent households and cohabiting parents' transitions. Because children born to single-parent households may have the highest risk of physical health disadvantages during early childhood, the results from this study, which excludes such children, may understate the differences in child physical health by parental union status during early childhood.

Finally, this study is able to assess only relatively short-term consequences of parental union status at birth (and changes between birth and age 5) for child health. When available, the next wave of Fragile Families data (collected at age 9) may be useful in providing a longer-term view of the health impact of early parental union status, union stability, and union transitions in cohabiting and married-parent households.

Despite these limitations, the findings from this study are important when considering the lack of research on child health and family structure during the critical developmental period of early childhood. Although recent research has emphasized the importance of instability and change in children's family contexts (Cavanagh & Huston, 2006; Fomby & Cherlin, 2007; W. Manning & Brown, 2006; W. Manning, Downing, Ostgaard, & Smock, 2005), the results found here suggest that instability is not the root cause of early childhood health inequalities between children with married and cohabiting parents. Also noteworthy is the evidence that children were healthier when their cohabiting parents married than when their parents remained stably cohabiting. Cohabiting parents who married, however, were unable to make up the full health disadvantage of cohabitation at birth, as the healthiest children were found in families in which parents were in stable marriages that began before the child's birth. Thus, children born to cohabiting parents should be targeted for health support even if their parents eventually marry.

Future research could build on these findings by exploring family processes underlying child health inequalities. Subsequent research would be particularly fruitful in establishing whether the cohabiting environment is worse for child health because cohabiting parents are less able to prevent or treat illness (Case & Paxon, 2006) or because of stress induced through lower levels of social support and higher levels of parental conflict in cohabiting- than in married-parent family contexts (Troxel & Matthews, 2004).

Note

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