The Effects of Teen and Early Fatherhood on Educational Attainment and Labor Market Outcomes

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Extended Abstract

Background. A 2006 report from the National Campaign to Prevent Teen Pregnancy (Hoffman, 2006) concluded that the public cost of teen births reached \$9.1 billion in 2004. Much of the scholarly literature on the consequences of teen childbearing has focused on women, although the size of the estimated effects varies widely depending on the statistical techniques used to control for endogeneity and the datasets from which the samples were drawn.

Despite the fact that men's role in fertility and parenting is receiving increasing attention, there is very little empirical work estimating the consequences of teenage or early fatherhood. In this paper, we estimate the schooling and labor market consequences for men, utilizing many of the same empirical techniques that have been used for women. We compare the consequences for men and women across three different data sets—the 1979 and 1997 cohorts of the National Longitudinal Survey of Youth (NLSY79, NLSY97) and the National Educational Longitudinal Survey (NELS88)—that enable us to analyze changes in the effect of teen parenthood over time (spanning birth cohorts from 1957-1984).

Prior Literature. Most studies in the economics and sociology literature find evidence of a negative relationship between teenage childbearing and a wide set of economic outcomes for mothers (school attainment, academic performance, wages, and employment), but estimates of the size of this relationship vary widely across studies. There are several explanations for this negative correlation. Early childbearing may have a negative causal effect on schooling for women because childrearing is time intensive, raises the opportunity costs of investing in human capital, and reduces market productivity. Alternatively, selection may explain part, or all or the association, if observed and unobserved factors are associated with both early sex/childbearing and schooling. A number of studies have attempted to distinguish between selection and causation using a variety of empirical strategies: controlling for observables in OLS regression models, propensity score matching, family fixed effects models, instrumental variables, natural experiments, and structural dynamic models (see Geronimus and Korenman, 1992, 1993: Grogger and Bronars, 1993; 1994; Ribar, 1994, 1999; Hoffman, 1998; Hotz et al., 1997, 2005). The findings suggest that failing to control for measured and unmeasured heterogeneity results in substantially biased estimates. Empirical evidence on the economic effects of early *fatherhood* is less developed than in the literature for women, and the results for men are more variable than are the results for women

There are a number of reasons why we might expect the processes that relate early parenthood with schooling to differ for men and women. First, men are on average about two years older than women at the time of their first birth, and the proportion of all births to teen fathers is much lower than for teen mothers (Children's Defense Fund, 1988). Thus selection may be a greater factor for teen fathers than for teen mothers. In addition, the gender difference in consequences of early parenthood could depend on whether we define early parenthood by a fixed age, (e.g., less than 20) or relative to the gender specific age distribution. For example, if we were to define early parenthood as the youngest 20th percentile, more young fathers will have already completed their schooling than young mothers, so the schooling and subsequent labor market consequences that are related to schooling would be smaller for men than women. Second, men are much less

likely to be the primary caretaker of children, so opportunity cost arguments are less central for men than for women. Third, many fathers are non-resident, so some of them may be able to avoid the responsibilities (and subsequent consequences) of parenthood altogether. Fourth, work on fatherhood suggests that the breadwinner role is important to the identity of men as being 'good fathers' (Park 1996). Thus fatherhood may lead to increased work effort and less education. Finally, some research has suggested the marriage and fatherhood may act as a 'civilizing force' for men and may lead them to reduce risky behavior and adopt more mature adult roles (Popenoe, 1996, Nock, 1998). Altogether, there is some reason to expect that the consequences of early fatherhood may be less severe for men than for women, and there may even be positive outcomes.

Contributions. Our paper contributes to the existing body of literature in four important ways. First, the sophisticated methodologies employed in the teen motherhood literature to account for selection on unobservables have rarely been used in studies of the economic consequences of teen and early fatherhood. Carefully considering the role of family- and individual-level heterogeneity remains an important gap in the fatherhood literature that our paper will fill.

Second, teen childbearing effects may be sensitive to choice of sample and dataset. Thus, our analyses will test the robustness of findings across three datasets: the NLSY79, the NLSY97, and the NELS88. By employing a variety of methodological techniques, we will be able discern the extent to which differences in estimates can be explained by differences in methodologies versus differences in samples. Moreover, unlike much of the literature, we will do parallel analyses for men and women within datasets, using the same methodological strategies. This will allow us to more cleanly estimate differences in the treatment effect for men and women.

Third, the descriptive evidence from the existing teen fatherhood literature suggests that marriage decisions may influence the schooling and labor market effects of early fertility. The role of marriage in ameliorating or exacerbating the consequences of teen fatherhood has not been theoretically well-fleshed out or empirically well-established. Our project will consider the role of marriage in two ways: (a) conditioning the sample on marital and living arrangements and examining whether economic effects of teen fatherhood differ across sub-samples and (b) controlling for the aggregate propensity to have a marital birth in a pooled sample (e.g., using data on non-marital fertility ratios by state or county and year).

Finally, the existing literature has not examined changes in the effects of teen parenthood over time, yet there are many theoretical reasons to suggest that changes over time are likely. For example, increases in non-marital childbearing over time increase the likelihood that men can avoid the responsibilities of fatherhood, but stricter child support enforcement over time will mitigate that possibility. Our project will examine the role of changes in marriage probabilities and child support policies on the schooling and labor market effects of teen parenthood.

In summary, our results will contribute to the research that estimates the consequences of teen and early childbearing for parents. Results from the project can help us understand the differential consequences of early childbearing for men and women and how changes in marriage propensities and public policies such as child support enforcement can affect those consequences. **Preliminary Findings.** Below we report preliminary results for two sets of analyses—one where the dependent variable is high school graduation and the other where the dependent variable measures whether the respondent had attended any college by age 25. For high school graduation we see that the effects of teen parenthood generally fall as we add controls, but are still significant in the family fixed effects models. In the earlier cohort, effects are larger for women than for men, but these effects have converged over time and there is even some evidence that the effects are larger for men in the NLSY97. When consequences are measured as any college, we see larger effects for women than for men for both cohorts.

	OLS	OLS	OLS	Family Fixed
	[Full Sample,	[Full Sample,	[Sibling Sample,	Effects
Cohort	Basic Controls ¹]	Extended Controls ²]	Basic Controls]	[Basic Controls]
NLSY79				
Females	-0.344***	-0.282***	-0.306***	-0.263***
	(0.016)	(0.016)	(0.021)	(0.038)
N	3104	3104	1755	1755
Males	-0.266***	-0.187***	-0.236***	-0.163***
	(0.025)	(0.023)	(0.032)	(0.058)
N	3067	3067	1864	1864
NLSY97				
Females	-0.315***	-0.244***	-0.372***	-0.165***
	(0.014)	(0.015)	(0.023)	(0.040)
N	4162	4162	1699	1699
Males	-0.294***	-0.240***	-0.332***	-0.203***
	(0.020)	(0.023)	(0.030)	(0.050)
N	4385	4385	1868	1868

 Table 1a. Estimated Effect of Teenage Parenthood on High School Graduation by Age 25

Table 1b. Estimated Effect of	f Teenage Parenthood on	College Attendance b	y Age 25 ¹
	0	0	. 0

	OLS	OLS	OLS	Family Fixed
	[Full Sample,	[Full Sample,	[Sibling Sample,	Effects
Cohort	Basic Controls ²]	Extended Controls ³]	Basic Controls]	[Basic Controls]
NLSY79				
Females	-0.296***	-0.208***	-0.278***	-0.165***
	(0.019)	(0.018)	(0.026)	(0.044)
N	3104	3104	1755	1755
Males	-0.195***	-0.105***	-0.193***	-0.093
	(0.026)	(0.023)	(0.034)	(0.058)
N	3067	3067	1864	1864
NLSY97				
Females	-0.318***	-0.223***	-0.298***	-0.157***
	(0.017)	(0.019)	(0.028)	(0.047)
N	4162	4162	1699	1699
Males	-0.235***	-0.147***	-0.220***	-0.072
	(0.023)	(0.025)	(0.033)	(0.055)
N	4385	4385	1868	1868

¹Respondents with only a GED are classified with high school dropouts; respondents with a GED and some college attendance are categorized as having some college attendance.

²Basic controls include race, family structure at age 14, mother's educational attainment, mother's employment status, and whether the respondent is the oldest child. Indicator variables are created for missing observations on each of the control variables.

³Extended controls include the basic controls plus an indicator of whether the respondent smokes and and achievement test score (AFQT/ASFAB).

***Significant at 1% level ** Significant at 5% level * Significant at 10% level

Next Steps. Our full paper will explore results across other outcomes (years of schooling completed by age 25, earnings and labor force participation at age 25), across an intermediate cohort of teenagers (NELS88 data), and using other estimation strategies designed to control for common support on observables (propensity score matching) as well as community- and individual-level unobservables (school fixed effects and instrumental variables using state- and county- family planning and abortion policies as instruments).

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