UNDERACHIEVING FERTILITY:

EDUCATION, LIFE COURSE FACTORS, AND COHORT CHANGE

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September 22, 2006

ABSTRACT. We use data from the National Longitudinal Surveys of Young Women and Youth to examine cohort change in the relationship between fertility intentions, completed fertility, and education. While all women tend to fall short of their childbearing intentions, the gap between intended and realized fertility is greatest among the college educated. We examine what accounts for women's inability to meet their childbearing intentions, focusing in particular on how such factors differ by women's education, and whether these factors have changed over time. A common explanation of the education gap in fertility is the better employment opportunities of the more educated, which make time out of the labor force for children more costly. Increasingly, however, more educated women can substitute income for time in child care; their better marriage market opportunities may also mean more help from spouses. Have these changes led to increases the ability of college-educated women to meet their fertility intentions?

Women consistently "underachieve" when it comes to meeting their fertility intentions, and this is particularly true of women at the top of the education distribution (Quesnel-Vallee and Morgan 2003). Perhaps the most important set of factors accounting for the gap between intended and achieved fertility relate to competition between fertility intentions and other goals (Bongaarts 2002; Morgan and Hagewen 2005). These may include incompatibility between work and family roles and difficulty finding a suitable partner. Institutional responses to incompatibilities, including the acceptability of nonmarital childbearing, child care options, labor market accommodations, and gender role flexibility can make it easier to be a parent (Rindfuss, Guzzo, and Morgan 2003). Increasingly, such institutional factors may be especially important to women with college degrees, who are more likely to hold jobs offering autonomy, flexibility, and family-friendly benefits. Are college-educated women better able to meet their fertility intentions now than in the past, relative to their less educated counterparts? We address this question, using data on fertility intentions, childbearing, schooling, marriage, and employment collected over twenty years in the lives of two cohorts of women, one reaching the end of their childbearing years in 1991 and the other in 2002.

BACKGROUND

U.S. class differences in levels of fertility are longstanding (Freedman et al 1959; Whelpton and Kiser 1950; Blake 1968), with the poor and less educated generally having more children. A common explanation of the education gap in fertility is the better employment opportunities of the more educated, which make time out of the labor force for childbearing and child rearing more costly (Pollak and Watkins 1993; Becker 1991). In this view, women are seen to be deciding between alternative uses of their time—in child rearing or market work. The higher their education, the higher their potential wage, and the higher the opportunity cost to

them of having a child, on the assumption that they will reduce their labor force participation for child rearing. The higher educated will thus choose fewer children because children are more expensive for them in terms of earnings lost for employment withdrawal.

In contrast to the opportunity cost perspective, Joshi (2002, p. 461) notes: "As options emerge to combine motherhood and employment, the grounds to expect women's employment to have a large negative effect on fertility have weakened." Childcare has become more available and acceptable, and the more educated are able to pay for it (Rindfuss and Brewster 1996). Martin (2000) argues that there may be a growing positive correlation between women's work status and family formation. Indeed, he finds that while first birth rates before age 30 are declining for all women, first and second birth rates (among those childless at age 30) are increasing at older ages for college graduates only. In short, while higher education may provide strong incentives to delay fertility during career-building years, it may also increase women's ability to purchase services not available to the less educated, giving them more flexibility to optimally time births without necessarily limiting fertility.

More educated women's access to higher earning spouses may further facilitate the combination of work and family. Declining wages and more difficult career trajectories of less educated men have deterred marriage formation at the lower end of the socioeconomic distribution (Goldstein and Kenney 2001; Oppenheimer, Kalmijn, and Lim 1997). Moreover, more educated women are not only more likely to marry, but their spouses spend more time in child care (Bianchi 2000). Marriage increases fertility, although the strength of association depends on education (Rindfuss and Parnell 1989). Marriage is strongly associated with fertility among college graduates, and is less so among those with little education. Delays in marriage

are occurring across all education groups, but college graduates appear to be the most likely to postpone childbearing in anticipation of a good match on the marriage market (Martin 2004b).

OUR ANALYSIS

We examine cohort change in the relationship between fertility intentions, completed fertility, and education. Career opportunities and the meaning associated with them compete with fertility goals, while marriage eases the transition to parenthood. Reduced work-family incompatibilities and better marriage opportunities may make it easier for college-educated women to meet their fertility goals relative to less educated women over time. We address this question, comparing fertility intentions as stated early in adulthood to childbearing at the end of the reproductive years. Late age at first birth, late marriage, and school enrollment are associated with the underachievement of fertility (Quesnel-Vallee and Morgan 2004). We expect employment and wages to compete with fertility, as well, but we expect their effects to diminish over time, particularly for college-educated women. Moreover, we expect marriage to be more positively associated with fertility among the college educated (e.g., Morgan and Parnell 1989). And given improving prospects on the marriage market for the higher educated, we hypothesize that the link between marriage, fertility, and education is tightening over time, with marriage becoming a more important factor in the ability of college-educated women to attain their fertility goals relative to others.

DATA AND METHODS

National Longitudinal Surveys (NSL). We rely on two panels from the National Longitudinal Surveys (U.S. Bureau of Labor Statistics 2005): the NLS Young Women (NLSYW) and the NLS Youth (NLSY). The NLSYW is a nationally representative sample of over 5000 women ages 14-24 when first interviewed in 1968. The NLSY provides nationally

representative data on a more recent cohort of about 6300 women ages 14-21 in 1979. We follow these cohorts over an approximately 20-year period, until 1991 for the NLSYW and 2002 for the NLSY, until sample members are 40 years old on average. The NLS started as a national probability sample, representing all people of a particular cohort living in the United States at the initial survey date. NLS response rates have been relatively high: in the last survey years used here, retention rates were 63 and 78 percent for the NLSYW and NLSY, respectively.

Intended fertility. We construct intended parity by adding current achieved parity to stated expectations for additional births (see Hagewen and Morgan 2005 for a discussion of this measure, p. 517). We first examine intentions in 1971 for the older cohort (NLSYW) and 1983 for the younger cohort (NLSY), when women are about 21 on average. Fertility intentions are asked another 9 times of the older women and another 12 times of the younger women. These repeated measures allow us to track intentions and how they relate to other major life events. We compare intended fertility as stated in early adulthood to achieved fertility by last survey, when women are reaching the end of their reproductive years.

PRELIMINARY ANALYSIS

As a first look into this question and these data, we analyzed intended parity from 1971 for the older cohort and 1983 for the younger cohort. We examined: 1) change over time in intended parity by education; 2) change in the proportion of women underachieving actual vs. intended fertility by education. We restricted our sample to women 35 and older at last interview (N = 6562). We measured education and completed fertility at last interview, and we tested the sensitivity of our results to respondent characteristics at the time intentions were recorded, namely age, marital status, and parity.

Table 1 reports our findings. In contrast to our predictions, we find no evidence in these preliminary tabulations that the more educated are getting closer to their fertility intentions over time, relative to the less educated. In part, this is due to changes in women's intentions over time. Women in all education groups report lower fertility intentions over time, but declines are weakest among the college educated. For example, in the earlier cohort, white college educated women intended nearly .4 fewer children than high school dropouts; in the later cohort, they intended the same number. This pattern is the same for blacks. Related to declines in intended parity, a smaller share of all women are having fewer births than they intended, although declines over time are weakest for the college-educated. The college-educated are much less likely to achieve their intended fertility; indeed, over half have fewer children by the end of their reproductive years than they report intending in young adulthood. This is true in all race and cohort groups. Compared to high school dropouts, college graduates are 2 to 3 times more likely not to have the births they intend, and this difference has only gotten stronger over time. While the actual fertility of more educated women may be rising relative to less educated women, their intentions are changing as well, leaving them just as far behind in terms of their fertility achievement.

-- Table 1 about here --

NEXT STEPS

Competing goals and life events. Rich histories collected nearly every year or every other year in the NLS will allow us to look in great detail at what might come between intended and achieved fertility. We will incorporate information on the life histories of our two cohorts, including age at first birth, age at school completion, age at marriage, years married, years employed, and average wages.

Descriptive analysis of change over time. We will map change in intentions against changes in parity, schooling, marriage, and employment in an effort to understand what factors compete with childbearing. This will be a first step in understanding how competing factors differ by education and the extent to which they have changed over time.

Multivariate analyses. We will run multinomial logistic models predicting underachievement of fertility (having fewer births by age 40 than intended) vs. overachieving (having more than intended) vs. meeting fertility intentions (see Quesnel-Vallee and Morgan 2004 for a similar approach). We will run models separately by cohort and test interactions between education, employment, and marriage. Do employment and marriage have different effects on the likelihood of underachieving fertility by education? And have these effects changed over time?

SUMMARY

This analysis is aimed at understanding what produces underachievement of fertility, particularly among college educated women, for whom the incongruence between reproductive intentions and behavior is greatest. We focus on life course factors that might compete with or ease the transition to parenthood, including employment and marriage. Because the structural constraints to childbearing that women face depend very much on institutional response, such as changing norms about child care and nonmarital fertility, the availability of child care, and workplace accommodations to family life, we explore change over time in the ability of women to meet their fertility intentions.

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Table 1: Fertility Intentions by Final Education

	<HS	HS	S. Coll	Coll	<HS / Coll
White					
NLSYW					
Mean intended parity	2.92	2.69	2.66	2.55	1.15
Percent having fewer than intended	30.62	48.47	55.06	58.08	0.53
NLSY79					
Mean intended parity	2.42	2.18	2.19	2.38	1.02
Percent having fewer than intended	25.89	37.31	40.91	52.48	0.49
Black					
NLSYW					
Mean intended parity	3.23	2.73	2.50	2.57	1.25
Percent having fewer than intended	29.90	45.79	45.87	62.10	0.48
NLSY79					
Mean intended parity	2.41	2.07	2.09	2.25	1.07
Percent having fewer than intended	18.71	27.97	32.87	58.24	0.32

Notes. Sample restricted to women 35 and older at time of last interview (N = 6562).