

The Changing Relationship Between Fertility Expectations and Educational Expectations: Adolescents in the 1970s Versus the 1980s

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Abstract

This article examines the relationship between young women's fertility expectations and educational expectations in late adolescence and at the outset of adulthood. Given progressive macro-level changes in the United States beginning in the 1960s, we compare the expectation patterns of youth from two cohorts using data from the National Longitudinal Surveys. We find that the relationship between education and fertility expectations is statistically negligible for those born in the height of the baby boom (1950s) and yet statistically positive for those born at the tail end of the baby boom (1960s). The crux of the change, however, is not driven by an increase in those who pair high educational expectations with normative or above-norm fertility expectations but rather an increase in young women who pair modest educational ambitions with low fertility expectations.

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Introduction

In the United States, the discussion about work and motherhood among academics and the popular press alike is often motivated by the question of women “having it all:” to what extent are women able to successfully combine work and family (e.g., Blair-Loy, 2003; Goldin, 1997; Rindfuss, Guzzo, & Morgan, 2003), what barriers do women face in this endeavor (e.g., Budig & England, 2001; Correll, Benard, & Paik, 2007), and to what degree do family friendly policies ease work–family conflict (e.g., Glass, 2004; Weeden, 2005)? The ability to successfully combine career and motherhood is considered an indicator of women’s economic well-being (Blau, 1998), and longitudinal studies show that women growing up in the late 1900s are more likely to “have it all” compared with women who came of age in the early 1900s (Goldin, 1997; see, however, Vere, 2007).¹

Amid all the interest in studying what women face when trying to combine work and family, very few studies have directly examined the extent to which women *want* to have it all. In 1998, Blau wrote that “the desire to . . . successfully pursue a career and have a family appears to have become an increasingly common goal among women [in recent decades], especially among the college educated” but that “there is no way of knowing precisely how prevalent [this goal] is” (p. 159). In this article, we address the issue of goals with a study of the relationship between fertility expectations and educational expectations among American youth. We focus on educational expectations given the rising incentives associated with college completion for women in recent decades (DiPrete & Buchmann, 2006); while educational expectations are clearly not synonymous with career aspirations, it is well understood that career trajectories are highly contingent on educational attainment. By comparing two different cohorts of youth who came of age in the 1970s versus the 1980s, we explore the idea that women increasingly desire to invest seriously in their own education but also want to have children.

We focus specifically in this article on the relationship between fertility and educational goals in late adolescence and at the outset of adulthood. The young adult years are a remarkably dynamic period in the life course (Rindfuss, 1991), and most individuals amend their plans and goals in light of an unpredictable set of opportunities, constraints, and situational contingencies that accompany labor market and marital transitions (Gerson, 1985). But even though aspirations and expectations are imperfect proxies for future

behavior,² social scientists have long been interested in their social psychological importance in the goal attainment process (Morgan, 2005; Sewell, Haller, & Portes, 1969). Researchers have also shown how studying the (mis) match between expectations and outcomes provides insight into the significance of those outcomes (e.g., Quesnel-Vallée & Morgan, 2003; Rindfuss, Cooksey, & Sutterlin, 1999; Schneider & Stevenson, 1999). Even if youth cannot articulate the origins of their preferences or the implications of their desires, initial expectations reveal a frame of mind that contextualizes future actions (Walker, 2001). Rindfuss, Bumpass, and St. John (1980), for example, describe the relationship between completed education and fertility as having “roots at some unspecified point in adolescence, or perhaps even earlier” (p. 432).

This article is concerned with these roots: At a point in late adolescence, what do youth say they will pursue in adulthood with regards to their education and childbearing? And importantly, have youth expectation patterns changed across cohorts? While there has been much recent interest in understanding family size preferences (e.g., Bongaarts, 2001; Hagewen & Morgan, 2005; Quesnel-Vallée & Morgan, 2003), we know relatively little about how the relationship between education and family preferences has changed over time. Studying cohort change in the second half of the 20th century is important given the sweeping changes in the macro-social context of the United States with regards to work and motherhood, including the marked shift in attitudes toward gender equality (Bolzendahl & Myers, 2004) and noteworthy changes in education, marriage, and fertility patterns (e.g., Goldin, 1997; Sweeney, 2002).

In this article, we analyze the relationship between fertility expectations and educational expectations for two cohorts of American youth using two sets of nationally representative data: the National Longitudinal Study of Young Women of 1968 (NLS68) and the National Longitudinal Survey of Youth of 1979 (NLSY79). For the subset of data analyzed in this study, women of the NLS68 were born in the period 1952-1954 and entered their prime childbearing years in the early 1970s, whereas members of the NLSY79 sample were born in the period 1963-1965 and came of age in the early 1980s. This article therefore addresses the possibility that adolescent ideas about education and family differ between the 1968 and 1979 NLS cohorts given the contextual differences in which each cohort came of age.

Preference Patterns: Previous Findings

Traditional rational actor theories argue that those who invest in their education will most likely have a stronger commitment to their subsequent career;

thus, those with ambitious educational plans or strong career orientations will likely have lower-fertility preferences (Becker, 1981, 1985; Mincer & Polachek, 1974). To the extent that a woman is socialized into this traditional division of labor, she is expected to invest less in her education and seek jobs that offer more flexibility and fewer penalties for labor force interruptions. Women who are more work-centered—that is, women who are less inclined to follow traditional gender roles—are expected to desire fewer children because of career-related opportunity costs.

Empirical research supports the idea that fertility preferences and career plans are related, although the majority of studies focus on labor force participation plans as opposed to educational plans. Based on nationally representative data, Waite and Stolzenberg (1976) and Stolzenberg and Waite (1977) find that, among childbearing women in the 1970s, labor force participation plans significantly curtail fertility plans (more than in the opposite direction) for married and never-married women.³ Barber (2001) studies a Detroit-based cohort of 18 year olds in 1980 and finds that career preferences reduce rates of premarital births. Among a nonrepresentative sample of undergraduates in the late 1980s, Blau and Ferber (1991) find that young women with higher-childbearing preferences expect reduced labor force participation compared with those with lower-childbearing intentions.

Recent studies that focus on fertility preferences and educational attainment, however, suggest that educational investments are *positively* related to fertility preferences. Heiland, Prskawetz, and Sanderson (2005), for example, find that higher educated women in Germany compared with women with average schooling or less are (a) more likely to prefer a family of three (or more) children compared with a family of two children and (b) less likely to favor childlessness and one-child families compared with two-child families. Using the NLSY79 data, Musick, England, Edgington, and Kangas (2009) report that White and Black (non-Hispanic) women who graduated from college typically desired more children initially than those who dropped out of high school. Similarly, with respect to completed education, Kravdal (1992) documents the emergence of a positive relationship between mother's educational *attainment* and the third birth rate by the end of the 1970s (in both America and Norway). Kravdal (2001) suggests that the anticipated costs of combining work and children may be lower for higher than lower educated women; because education is a pathway to jobs with more flexible work schedules, paid work and motherhood may be perceived as being more compatible activities among more-educated women (see also Budig & Hodges, 2010). This is consistent with evidence from Western Europe and Australia showing that the motherhood penalty (e.g., loss of lifetime earnings, years

out of labor force) is proportionally lower for higher educated women than for lower educated women (see Schellekens, 2009, p. 452).

In sum, traditional theories predict that women will invest in either careers or family, but not both. If opportunity costs drive youth expectations, then we should find an inverse relationship between family and educational goals, which would indicate the *prioritization* of goals (i.e., “family over career” vs. “career over family”). Recent evidence of completed education and fertility preferences, however, suggests that fertility plans and educational activity may not be at odds with one another but actually rise in tandem (e.g., Heiland et al., 2005, Musick, et al., 2009). The goal of this study is to examine the relationship between fertility expectations and educational expectations (as opposed to educational attainment or labor force participation plans) among American youth. And as noted earlier, a key feature of this study is that we explore the possibility that expectation patterns may not remain constant across generations. A major limitation of prior research is the focus on only a single cohort of women using survey-specific measures of preferences and plans. As we discuss below, macro-level changes taking place in the United States in the second half of the 20th century gives us reason to suspect cohort change in youth outlook.

Exploring Cohort Change: The United States in the 1970s Versus 1980s

The 1960s and 1970s ushered in several major macro-level changes with respect to women, work, and family, and we suspect that these changes may have affected how adolescents developed expectations regarding their adulthood. To the extent that adolescents see and hear of older women who are able to attain high levels of education and successfully combine work and family, their expectations are likely to differ from those who grew up with fewer role models of this kind. Although the data we use here cannot be used to directly gauge the interpersonal influences that shape the formation of expectations, one can clearly document that young women in the late 1970s were in fact coming of age in a context that was markedly different from those coming of age in the late 1960s.

Broadly speaking, women born in the 1960s (and later) compared with women born in the 1950s (and earlier) grew up with more “open doors” in terms of labor market opportunities and the ability to combine work with family (Goldin, 1997). When the NLS68 entered their 20s in the early 1970s, their “older sisters”—that is, American women in their 30s—were predominantly mothers who did not work outside the home. In the early 1970s, 50%

of American women in their 30s were “traditional” stay-at-home mothers, whereas 30% were employed mothers. In contrast, the NLSY79 cohort entered their 20s at a time when mothers in their 30s were more likely to be employed than not (40% vs. 25%, respectively, in the early 1980s; McLaughlin et al., 1988, p. 166).⁴

Researchers studying macro-level fertility rates in different countries and time periods attribute some of this change to the fact that the United States made headway in reducing conflict between work and family in the last half of the 20th century (Rindfuss et al., 2003). In the United States, women’s labor force participation rose steadily between 1960 and 1995, but the total fertility rate did not steadily decline as expected (see Rindfuss et al., 2003, table 4b). The fertility rate dropped from slightly more than 3.5 children in 1960 to slightly below two children in the mid-1970s but then rose slowly again from roughly 1980 through 1995. The timing of this trend corresponds to the marked growth in the number of formal work/family initiatives beginning in the early 1980s (Glass & Estes, 1997, p. 298).⁵ Similarly, changing cultural beliefs about the role of women in society have reshaped the popular discourse around the appropriateness of combining work and family (Rindfuss & Brewster, 1996; Rindfuss et al., 2003). In the United States, men and women have increasingly adopted gender progressive attitudes over the past half century (see Bolzendahl & Myers, 2004 for a review); beginning in the mid-1970s, researchers find a monotonic increase in the percentage of people who approve of women’s labor force participation, support the idea of women in leadership roles, and believe in gender equality in the workplace.

But even for young women with weak career orientations and/or little interest in combining work and family, we suspect that those in the 1980s likely felt the need to invest more in their education than their 1970s counterparts given (a) changing norms around “baseline” levels of education and (b) the rising importance of women’s employment to household income. First, for young women, the 1970s was a time in which they were rapidly gaining a foothold in the educational arena. In 1960, women were awarded only 35% of all bachelor’s degrees; by 1982, women and men had reached parity (Buchmann & DiPrete, 2006). Similarly, in the early 1970s, women earned roughly 5% of the law degrees and 8% of medical degrees awarded in the United States, whereas in the early 1980s, when the NLSY79 cohort entered their twenties, women were earning 33% and 25% of law and medical degrees, respectively (McLaughlin et al., 1988, p. 37-38). Overall, there has been a dramatic increase in youth educational expectations beginning in the 1970s through the 1990s regardless of gender (Jacob & Wilder, 2010).

Apart from the fact that it was increasingly common for women to attain higher levels of education, other factors suggest that even the most

family-oriented young women in the 1980s had reason to invest more in their education than had they come of age a decade prior. Changes in the relationship between education, employment, and marriage may have led young women to perceive family desires as being contingent on educational *success*. The stagnation of male wages that began in the 1970s (Levy, 1995) and the decline in demand for semiskilled labor (Juhn, 1992) redefined the importance of post-secondary education for both women and men. To the extent that men with low levels of education were thus becoming less attractive in the marriage market (see White & Rogers, 2000), young women coming of age in the late 1970s and early 1980s were more likely to perceive educational attainment as a way to increase their labor market opportunities and, through assortative mating processes, find a mate with similar educational credentials. Moreover, to the extent that marriage is a strong pro-natalist force, youth may have come to perceive educational attainment as a pathway that complements fertility. Overall, the 1970s was a decade in which it was becoming relatively harder to count on “marrying well” and thus arguably more important to cultivate economic independence—and hence invest in education—even for those who were more interested in raising a family than pursuing a career.

On balance then, there is reason to believe that young women coming of age in the early 1980s versus in the early 1970s were less likely to engage in an “either or” mentality with regards to education and family. Given changes in the macro-context in the 1970s and 1980s, we suspect that women in the 1980s were less likely to feel as though they needed to sacrifice fertility in order to pursue a career, which suggests that the pairing of high educational expectations with low-fertility expectations should decrease in the 1980s relative to the 1970s. We also suspect that family-focused woman in the 1980s were less likely to forego higher education plans relative to their 1970s counterparts, which suggests a decrease in the pairing of high fertility expectations with low educational expectations. Taken together, as young women move away from thinking in terms of family “over” career and vice-versa, the extent to which education and family are negatively correlated should decrease from the 1970s to the 1980s.

Data and Analytical Approach

We use data from a set of comparable, nationally representative surveys to estimate the relationship between education expectations and fertility expectations among two cohorts of American youth. Data for this study come from the NLS and the NLSY, a national probability sample of 14- to 22-year-olds first surveyed in 1968 and 1979, respectively. The analytic sample used in

this article consists of respondents who were between 14 and 17 years of age at the time of each base-year survey. By studying only the youngest members of each cohort, we are able to examine attitudes and expectations prior to family formation for a large sample of youth. The NLS subsample consists of females born within 1951 and 1954 at the height of the baby boom ("boomers").⁶ The NLSY subsample consists of females and males who were born roughly a decade later (1962-1965) at the end of the baby boom ("late boomers"). To study goal formation prior to marriage and childbearing, our analysis is limited to 14- to 17-year-olds who are unmarried and childless in 1968/1979.⁷ The analysis is also limited to non-Hispanic White and Black respondents given the very low number of respondents who identified as "Other" in the NLS68 survey.

To explore cohort change in the relationship between education and fertility expectations, we compare the expectation patterns of the NLS women and the NLSY women and expect to find a stronger negative relationship between the two for the boomers (NLS68) compared with the late boomers (NLSY79). We also compare the expectations patterns of the NLSY79 females to the NLSY79 males given that male counterparts provide another benchmark from which to interpret the expectations of young women in the 1980s. It is possible, for example, that goal prioritization decreases among women from the NLS68 to the NLSY79 but remains higher for NLSY79 females than NLSY79 males.⁸

Our analysis consists of a series of five models that estimate the correlation between educational expectations and fertility expectations (net of various control factors). First, for the NLSY males and females, we compare expectations patterns as stated in the base-year survey (1979) when the respondents are 14 to 17 years old. We also compare expectations patterns stated in the third wave of the survey (1982) when the respondents are 17 to 20 years old. We use both the base year and third wave to explore whether female and male expectation patterns began to show signs of divergence within the cohort during the transition to adulthood. Finally, we explore the expectation patterns of the NLS68 women in 1971, which corresponds to the third wave of the NLS survey when the respondents are 17 to 20 years old. This third-wave follow-up analysis is used to compare the NLSY79 with the NLS68. Unfortunately, we were not able to construct a base-year model for the NLS68 cohort given that these respondents were not asked about their fertility expectations prior to the third-wave follow-up in 1971.

Note that in contrast to previous studies (e.g., Cramer, 1980; Waite & Stolzenberg, 1976), our primary interest is not in the causal underpinnings of preference formation but simply the strength and direction of the correlation

between fertility and education expectations across cohorts. We begin by analyzing the bivariate association between fertility and education preferences and then incorporate several covariates that have been previously shown to affect fertility expectations, including marriage plans, gender attitudes, religion, and family background.

First, studies show that fertility intentions and behavior are positively aligned with marriage expectations as marriage continues to be a strong pro-natalist factor in women's lives. Not only does marriage typically lead to childbearing, but early marriage is also associated with early childbearing (Rindfuss, Morgan, & Swicegood, 1984), and preferences for marriage are similarly associated with early childbearing (Barber, 2000). We expect that those who wish to enter marriage at a later age will also have lower fertility preferences. Second, women who value a traditional division of labor in the household, by and large, desire and give birth to more children over their lives (Budig, 2003; Kaufman, 2000; Thornton, Alwin, & Camburn, 1983).⁹ Third, as is the case with most life goals, family members and childhood experiences play a significant role in shaping adults' childbearing preferences (e.g., Rindfuss et al., 1984). Three aspects of family are included in this analysis: mother's education, number of siblings, and religious affiliation. With regard to religious background, Pearce (2002) finds that youth who are exposed to Catholicism early in the life course tend to hold more pro-natalist views. Finally, Duncan, Freedman, Coble, and Slesinger (1965) theorize that young adults prefer to recreate the size of family in which they grew up for reasons of familiarity and efficiency: By replicating their parents' behavior, young adults can "mobilize familiar resources, relationships and roles" (p. 514; see also Anderton, Tsuya, Bean, & Mineau, 1987; Axinn, Clarkberg, & Thornton, 1994).

Measures

Fertility and Educational Expectations

Fertility and educational expectations come from the base year of the NLS79 (i.e., 1979) when the respondents were 14 to 17 years old and the third-year follow-up for each survey (1971 for the NLS68 and 1982 for the NLSY79). With respect to fertility plans, respondents were asked "How many children do you expect to have?" With respect to educational expectations, both NLS and NLSY respondents were asked a version of this question: "As things now stand, what is the highest grade or year you think you will *actually* complete?" (emphasis in original survey question).¹⁰ Theorists have suggested

that educational aspirations reflect idealistic goals whereas expectations refer to realistic plans or intentions (Jacob & Wilder, 2010; Morgan, 1998, 2007). Typically, respondents' aspirations are higher than their expectations (Jacob & Wilder, 2010), which is the case with the NLS79 and NLS68 cohorts. The correlation between expectations and aspirations, however, is greater than $r = .85$ for each cohort in our sample and the substantive results of the analyses are the same regardless of the measure used. Given that expectations have become a relatively standard covariate in the sociology of education (see Morgan, 2007), we use expectations in the analyses below.

Marriage plans. For both cohorts, respondents were asked about their marital expectations in each base-year survey. The NLS68 women were asked to report on their ideal age of marriage and the reported ages were recorded verbatim. The NLSY79 respondents were given five possible response categories: less than 20 years, 20 to 24 years, 25 to 29 years, after age 30 years, or never. These responses were recoded to reflect the median of each category or a similarly representative age (i.e., 18, 22, 27, and 35 years). Those who said "after 30" or "never" suggested that family formation was not expected until later in the life course and thus were grouped together in the 35-year category.

Gender attitudes. Gender attitudes are measured using attitudinal question about the employment of wives. In the NLSY79, a gender attitude index is created using a battery of six attitudinal questions on the appropriateness of women working outside the home (see Appendix A for details). The higher the score (4-point scale), the more the respondent believes that mothers can be gainfully employed without detriment to their families or society at large. One index was constructed from the base-year questionnaire ($\alpha = .76$), and a second index was created using the third-year follow-up survey ($\alpha = .81$). In the NLS68, attitudes regarding women and work are measured with the following question:

Now I'd like you to think about a family where there is a mother, a father who works full time, and several children under school age. A trusted relative who can care for the children lives nearby. In this family situation, how do you feel about the mother taking a full-time job outside the house: if she prefers to work, but her husband doesn't particularly like it.

The response was reverse coded on a 5-point scale (5 = *definitely all right*) and then rescaled to a 4-point scale to match the NLSY79 scaling.

Family background. Mother's highest grade completed is recorded for both the NLS68 and NLSY79 respondents from the base-year survey. Similarly, both cohorts were asked in the base-year survey about the number of living siblings at age 14 years. Religious background is available only for the NLSY cohorts, for whom exposure to Catholicism was measured using the religious background variable from the 1979 base year ("... in what religion were you raised?"). Unfortunately, data on religious background was not collected for the NLS68 cohort prior to the third-wave follow-up and so exposure to Catholicism could not be controlled when analyzing the boomers.

Results

Table 1 summarizes the distribution of responses (for all variables used in the analysis) by cohort. Not surprisingly, we find that the boomers (at age 17-20 years) expected more children on average (2.8, $SD = 2.6$) compared with the late boomers (women, mean = 2.4, $SD = 1.39$; men, mean = 2.6, $SD = 1.53$). When truncated into five categories (0, 1, 2, 3, 4+), the least desired category for both cohorts is one child, which is consistent with prior research on fertility intentions (Hagewen & Morgan, 2005). The "heaping" in this distribution suggests that fertility intentions at the outset of adulthood reflect a normative bias or consensus regarding the appropriateness of two children (Hayford, 2009). With respect to educational expectations, the average respondent (at age 17-20 years) in both cohorts expected roughly 14 years of education, which corresponds to about 2 years of postsecondary education.

Figure 1 plots the relationship between the mean number of desired children by educational expectations (in categories) for each cohort and gender. It illustrates how the bivariate correlation between fertility expectations and educational expectations (as expressed at the ages of 17-20 years) is negative for the boomers but positive for the late boomers (both men and women).¹¹ The gradient is not steep for any of the groups and yet surprising given that the majority of respondents express a desire for two children. In terms of absolute fertility levels, figure 1 suggests that women and men with lower educational expectations in the 1980s desire *fewer* children on average than their 1970s counterparts while those in the 1980s who expect a relatively high level of education have roughly the same level of fertility desires as their counterparts in the 1970s.

Table 2 illustrates the bivariate relationship between education and fertility expectations in more detail. The left hand column of Table 2 provides a cross-tabulation of expectations (based on collapsed categories) with row

Table 1. Descriptive Summary of NLS68 and NLSY79 Cohorts.

Characteristics	Boomers (NLS68)				Late Boomers (NLSY79)						
	Women		Men		Women		Men				
	Survey Year	Mean or %	SD	% Missing	Survey Year	Mean or %	SD	% Missing			
Expected number of children					1979	2.4	1.43	1%	2.6	1.53	2%
0						9%			9%		
1						5%			9%		
2						43%			43%		
3						22%			19%		
4 or more						21%			19%		
Expected number of children	1971	2.8	2.58	10%	1982	2.4	1.39	1%	2.6	1.56	2%
0		5%				8%			8%		
1		5%				6%			10%		
2		41%				43%			44%		
3		25%				22%			20%		
4 or more		23%				21%			18%		
Expected years of education	1971	13.9	2.08	3%	1979	13.8	2.15	0%	13.6	2.23	0%
Progressive work-family attitudes	1968	2.6	0.69	1%	1979	3.0	0.51	0%	2.7	0.49	0%
Expected age of marriage	1971	21.5	2.32	2%	1979	24.3	5.26	0%	25.9	5.85	1%
Number of siblings at age 14 years	1968	3.8	2.64	1%	1979	3.6	2.46	0%	3.6	2.55	0%
Raised as Catholic					1979	23%		0%	22%		0%
(1 = yes, 0 = no)											
Mother's highest grade completed	1968	10.6	3.00	8%	1979	11.4	2.53	5%	11.4	2.59	1%
Black, non-Hispanic	1968	31%		0%	1979	32%		0%	33%		0%
(1 = yes, 0 = no)											
Age (14-17 years)	1968	15.6	1.07	0%	1979	15.6	1.05	0%	15.6	1.05	0%
Married and/or with children in 1982	1971	48%		7%	1982	27%		3%	12%		3%
(1 = yes, 0 = no)											
n		1,866				2,123			2,335		

Note: NLS68 = National Longitudinal Study of Young Women of 1968; NLSY79 = National Longitudinal Survey of Youth of 1979. Summary statistics are based on unweighted data.

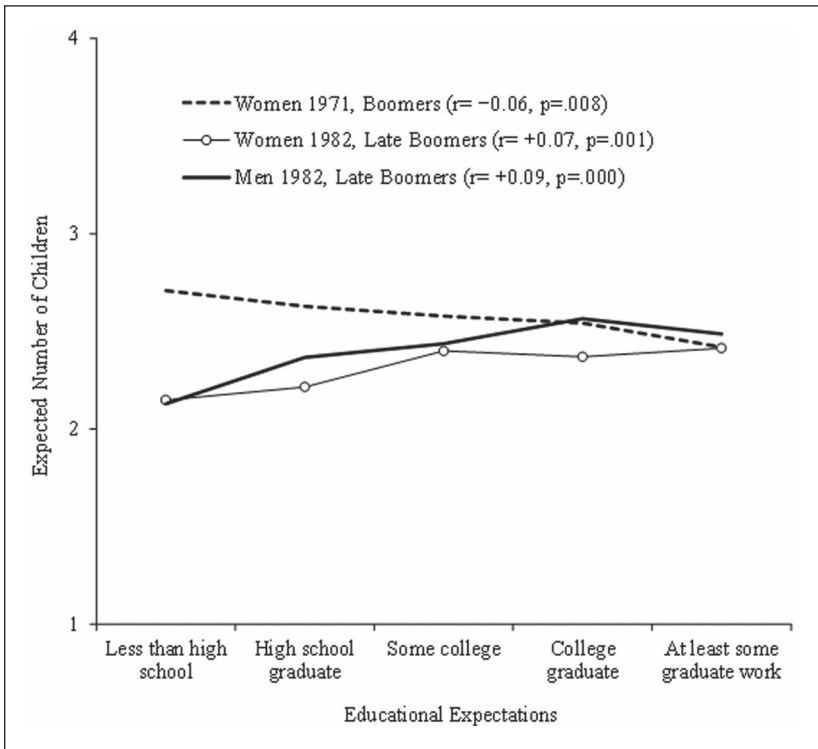


Figure 1. Mean number of expected children by educational expectations, 17- to 20-year-olds.

percentages (i.e., percentage contingent on level of expected education), whereas the right-hand column shows cell percentages (i.e., percentage of total sample). With respect to the relationship between fertility and educational expectations, gamma is slightly positive ($\gamma = +0.114$, $p < .000$) and significant for the late boomers (males and females) but slightly negative ($\gamma = -0.074$, $p < .018$) for the female early boomers, which is consistent with the bivariate correlations.

Table 2, however, illustrates how the flip-flop from negative to positive is primarily because of the reduction of young women pairing “high” fertility desires with “low” educational ambitions: Specifically, 51% of those with only high school expectations expected three or more children in 1971 versus only 34% in 1982 (see row percentages in Table 2). In contrast, we see a jump in 1982 in the number of young women who now pair low educational ambitions with below-norm fertility desires. In 1971, only 9% of women who desired no more than a high school graduation expected below-norm fertility

Table 2. Cross Tabulation of Fertility Expectations by Educational Expectations, 17- to 20-Year-Olds.

	Row %			Cell %			Total %	<i>n</i>
	≤1	2	≥3	≤1	2	≥3		
Women 1971, boomers ($\gamma = -0.074, p = .018$)								
≤High school graduate	9%	40%	51%	4%	17%	21%	41%	<i>690</i>
Some college	10%	39%	51%	2%	8%	11%	21%	<i>356</i>
College graduate	10%	44%	46%	3%	13%	14%	30%	<i>499</i>
At least some graduate work	15%	42%	43%	1%	3%	3%	7%	<i>124</i>
Total	10%	41%	49%	<i>164</i>	<i>688</i>	<i>817</i>	100%	<i>1,669</i>
Women 1982, Late Boomers ($\gamma = +0.114, p = .000$)								
≤High school graduate	20%	46%	34%	8%	19%	14%	41%	<i>829</i>
Some college	14%	46%	40%	3%	10%	8%	21%	<i>418</i>
College graduate	17%	42%	41%	5%	11%	11%	27%	<i>549</i>
At least some graduate work	13%	42%	45%	1%	5%	5%	11%	<i>232</i>
Total	17%	44%	38%	<i>350</i>	<i>902</i>	<i>776</i>	100%	<i>2,028</i>
Men 1982, Late Boomers ($\gamma = +0.138, p = .000$)								
≤High school graduate	19%	42%	40%	9%	20%	19%	48%	<i>1,069</i>
Some college	12%	44%	44%	2%	6%	6%	14%	<i>314</i>
College graduate	8%	44%	48%	2%	11%	12%	26%	<i>570</i>
At least some graduate work	9%	46%	45%	1%	5%	5%	12%	<i>257</i>
Total	14%	43%	43%	<i>305</i>	<i>954</i>	<i>951</i>	100%	<i>2,210</i>

Note: Figures in italics denote number.

expectations versus 20% in the late-boomer cohort. There is also an increase in the percentage of women who have high expectations for both education and fertility, although the magnitude of change is quite small. In 1971, 43% of those expecting to complete some graduate work express above-norm fertility expectations compared with 45% in 1982. Overall, the women in 1982 show a preference distribution that is more similar to the men in 1982 than the women in 1971.

Tables 3 and 4 summarize the relationship between fertility and educational expectations using a multinomial logit approach. We truncate fertility expectations to five categories (0, 1, 2, 3, 4+) in light of the limited number of responses above five children.¹² Given the heaping in the outcome distribution around two child expectations, a multinomial logit approach allows us to analyze the propensity to depart from the two-child norm, without making the assumption of proportional odds. For example, the factors associated with the odds of expecting three versus two children likely differ from the factors that predict the odds of wanting no children (vs. two). Models thus include four contrasts: the likelihood of wanting (a) no children versus two (b) one child versus two, (c) three children versus two, and (d) four

Table 3. Multinomial Logit Estimates for Fertility Expectations, 14- to 17-Year-Olds.^a

	NLSY Women, 1979		NLSY Men, 1979	
	<i>b</i>	Robust SE	<i>b</i>	Robust SE
None versus two children				
Expected years of education	-0.101**	0.046	-0.143***	0.04
Progressive work–family attitudes	-0.008	0.183	-0.035	0.16
Expected age of marriage	0.145***	0.013	0.160***	0.01
Number of siblings at age 14 years	0.057	0.037	0.056	0.03
Raised as Catholic (1 = yes, 0 = no)	-0.166	0.228	0.065	0.21
Mother's highest grade completed	0.022	0.039	0.010	0.04
Age	-0.130	0.082	0.087	0.08
Black, non-Hispanic (1 = yes, 0 = no)	0.344*	0.187	-0.595***	0.22
Constant	-2.407	1.508	-5.692***	1.61
One versus two children				
Expected years of education	-0.178***	0.044	-0.125**	0.05
Progressive work–family attitudes	-0.108	0.169	-0.372*	0.19
Expected age of marriage	0.069***	0.016	0.064***	0.01
Number of siblings at age 14 years	-0.040	0.041	-0.020	0.04
Raised as Catholic (1 = yes, 0 = no)	-0.123	0.240	0.009	0.27
Mother's highest grade completed	-0.057	0.035	-0.030	0.04
Age	-0.082	0.082	0.027	0.09
Black, non-Hispanic (1 = yes, 0 = no)	0.781***	0.180	0.500**	0.21
Constant	1.219	1.443	-1.294	1.71
(Baseline = Two children)				
Three versus two children				
Expected years of education	0.052	0.032	0.085***	0.02
Progressive work–family attitudes	-0.238*	0.121	-0.179	0.11
Expected age of marriage	-0.040**	0.018	-0.019	0.01

(continued)

Table 3. (continued)

	NLSY Women, 1979		NLSY Men, 1979	
	<i>b</i>	Robust SE	<i>b</i>	Robust SE
Number of siblings at age 14 years	0.028	0.028	0.037	0.02
Raised as Catholic (1 = yes, 0 = no)	0.382***	0.144	0.428***	0.13
Mother's highest grade completed	0.050*	0.028	0.019	0.02
Age	-0.054	0.057	-0.089*	0.05
Black, non-Hispanic (1 = yes, 0 = no)	-0.101	0.151	0.374***	0.13
Constant	0.227	1.032	-0.064	0.95
Four versus two children				
Expected years of education	0.046	0.033	0.041	0.02
Progressive work-family attitudes	-0.227*	0.133	-0.172	0.12
Expected age of marriage	-0.025	0.016	-0.024**	0.01
Number of siblings at age 14 years	0.169***	0.026	0.192***	0.02
Raised as Catholic (1 = yes, 0 = no)	0.787***	0.140	0.728***	0.14
Mother's highest grade completed	0.061**	0.029	0.000	0.02
Age	-0.121**	0.058	0.007	0.05
Black, non-Hispanic (1 = yes, 0 = no)	0.217	0.146	0.722***	0.13
Constant	0.090	1.031	-1.487	0.95
<i>n</i>	2092		2279	

Note: NLSY = National Longitudinal Survey of Youth.

a. Results based on $M = 20$ imputations for missing values; cases with imputed Y are excluded from the analysis (see von Hippel, 2007).

* $p < .10$. ** $p < .05$. *** $p < .01$.

children versus two. Estimates are obtained using multiply imputed values for missing data.^{13,14}

Table 3 presents estimates of fertility expectations expressed by 14- to 17-year-old youth during the base year (1979) of the NLSY (late boomers). Separate estimates are shown for females and males. Similar to the bivariate analysis, the results of the multinomial logit models overall show that youth with higher educational expectations tend to have higher fertility

Table 4. Multinomial Logit Estimates for Fertility Expectations, 17- to 20-Year-Olds.^a

	NLS Women, 1971		NLSY Women, 1982		NLSY Men, 1982	
	<i>b</i>	Robust SE	<i>b</i>	Robust SE	<i>b</i>	Robust SE
None versus two children						
Expected years of education	-0.019	0.073	-0.089*	0.052	-0.138***	0.044
One versus two children						
Expected years of education	0.045	0.064	-0.080*	0.045	-0.223***	0.054
(Baseline = Two children)						
Three versus two children						
Expected years of education	-0.020	0.034	0.069**	0.033	0.043	0.027
Four versus two children						
Expected years of education	-0.041	0.037	0.036	0.035	0.027	0.028
<i>n</i>	1,675		2,092		2,279	

Note: Estimates are based on model with several additional covariates. NLS = National Longitudinal Study of Young Women; NLSY = National Longitudinal Survey of Youth.

a. Results based on $M = 20$ imputations for missing values; cases with imputed Y are excluded from the analysis (see von Hippel, 2007).

* $p < .10$. ** $p < .05$. *** $p < .01$.

expectations even after accounting for basic demographic differences (age and race) as well as marriage expectations and gender attitudes. The pattern of coefficients, however, suggests that this is the case because those with higher-educational expectations are significantly less likely to express below-norm fertility expectations. For adolescent women, the model estimates that for every year increase in expected education, the odds of wanting one child versus two children decreases by about 17% and then odds of wanting no children versus two children decreases by roughly 10%. Educational expectations, however, do not appear to statistically affect the odds of wanting above-norm fertility for women, although the coefficients are both positive. For adolescent men, the educational gradient is slightly steeper insofar as educational expectations both significantly decrease the odds of stating below-norm fertility preferences *and* significantly increases the odds of wanting three children versus two.

Other factors that are associated with fertility expectations generally correspond to past research results. For example, for both men and women, growing up with more siblings and identifying with a Catholic upbringing both increase the odds of wanting above-norm fertility; especially with respect to the odds of wanting four versus two children. On the other hand, expecting to get married later in life is statistically associated with lower fertility expectations; expected age of marriage increases the odds of wanting no children or only one child (vs. two). And for females in this cohort, progressive work attitudes are also associated with lower fertility expectations to the extent that they significantly decrease the odds of wanting three or more children (vs. two). Interestingly, having a highly educated mother increases the odds of expecting above-norm fertility for young women but has no effect on the expectations of young men.

Table 4 summarizes the results for these same NLSY respondents (late boomers) 3 years later in 1982 as well as the results for the early boomer respondents in 1971. All three models in Table 4 estimate fertility expectations, conditional on the same set of covariates presented in Table 3, collected during the third follow-up survey when the respondents were 17 to 20 years old. Because some respondents have become married and/or have had children between the base year and the third follow-up, these models include an additional dummy variable that indicates whether the respondent started a family prior to the third follow-up interview (1 = *yes*, 0 = *no*). Given the large number of coefficients, Table 4 presents only the coefficients for educational expectations.

The results of the NLSY models (females and males) show that the relationship between educational expectations and fertility expectations is still "positive" 3 years later though in different forms for men versus women. When the female NLSY respondents were 14 to 17 years old, to have educational expectations was, in a sense, a stronger buffer against low-fertility expectations. In 1979, the model estimates that the odds of wanting one child (vs. two) decreases by roughly 17% ($p = .000$); in 1982, those odds were expected to decrease by only 8% ($p = .073$). That said, for women, 3 years of growing up seems to have distilled the positive effect of educational expectations on the odds of wanting three versus two children. For men, educational expectations in 1982 are no longer statistically associated with wanting three versus two children as they previously were in 1979. However, the extent to which high educational expectations buffer against the desire for only one child seems to have increased substantially: $b = -.125$ ($p = .020$) and $b = -.223$ ($p = .000$) in 1979 and 1982, respectively.

Importantly, there does appear to be a notable difference between the late boomers and the early boomers. For the NLS68 women in 1971, the odds of wanting below-norm or above-norm fertility (vs. two children) is not statistically related to educational expectations (for any of the four contrasts) once gender attitudes, marriage expectations, and family background are included. In sum, the results suggest that fertility and educational plans were positively related for men and women coming of age in the 1980s but that there was neither a net positive nor negative relationship for those coming of age a decade earlier.

Discussion and Conclusion

Motivated by the popular and scholarly interest in women “having it all,” this study is concerned with young women’s expressed expectations for fertility and education as they come of age. We specifically examined the relationship between educational expectations and fertility expectations among adolescents who entered adulthood in the early 1970s versus the early 1980s. To the extent that the macro-context became more supportive of combining work and family during that period, we hypothesized that women in the 1980s who were career driven would be less likely to curtail their fertility desires compared with young women in the 1970s. At the same time, the rising significance of higher education likely increased normative expectations regarding what should be considered an appropriate investment in education; this may have led to raised educational expectations among women with stronger family desires but weaker career orientations.

The data reveal that in 1971 (which corresponds to birth cohorts 1952-1954), there was some evidence to support the idea that young women thought in terms of education “over” children and vice versa, although a multivariate analysis showed that the education-fertility link for this cohort is statistically negligible once gender attitudes, marriage expectations, and family background are included. However, for the late boomers in our sample (i.e., birth cohorts 1962-1965), there is evidence that educational expectations and fertility expectations rise in tandem. For the late-boomer cohort, young women with higher educational expectations were significantly less likely to desire fewer than two children and also, by late adolescence, more likely to desire three versus two children. Overall, the expectation pattern of the late-boomer females resembles their male contemporaries more so than young women from a decade earlier.

Although technically speaking our data support Blau's (1998) intuition that women are increasingly interested in pursuing children and careers, our analysis suggests that change between the 1970 and 1980 cohort had more to do with women with lower educational goals wanting fewer than two children than women with higher education goals wanting more than two children. As illustrated by Table 2, the change does not hinge on an increase in those who pair high educational expectations with normative or above-norm fertility expectations but rather an increase in young women who pair modest educational ambitions with low fertility expectations.

Thus, a central question that emerges from this study is why we see this new pairing of low education goals with low fertility expectations among adolescents in the 1980s. We had expected that women would move away from low-high and high-low preferences for education and fertility, but we did not anticipate that this would lead to an increase in low-low expectations per se. We hypothesized that the increasing proportion of women attending and graduating from college (Buchmann & DiPrete, 2006) would not only lead to an overall increase in young women's educational expectations in the 1980s versus the 1970s but specifically higher educational expectations for those with high-fertility preferences. The low-low pattern that we observe in the data, however, leads us to speculate that youth who do not see higher education in their future are youth who in fact anticipate low educational prospects as a constraint on their future activity.

It is possible, for example, that women with low educational expectations in the 1980s perceived a less favorable marriage market than their counterparts in the 1970s, which led to lower fertility expectations.¹⁵ Moreover, if education is predictive of economic potential and if economic potential is increasingly tied to marriage potential for women (Sweeney, 2002; Sweeney & Cancian, 2004), then women with low educational prospects may have felt that they simply could not keep up with the rising cost of child care. Such a rationale could lead to an interest in below-norm fertility. In a similar vein, the low-low pairing could reflect the fact that young women with low educational ambitions perceive a greater incompatibility between raising children and the *kind* of work they will likely engage in their adulthood. It is generally acknowledged that institutional changes designed to ease the conflict between motherhood and market work have generally affected only higher paying occupations. While such changes appear to have made little difference in the way that high-paying job seekers develop work and fertility preferences, the attention brought to work-family conflict may have heightened the awareness of conflict among those who do not anticipate being employed in higher-end occupations. Overall, this suggests that young women in the 1980s with low educational prospects (who are likely women from lower income

families) may have felt more “trapped” or “left behind” than in previous generations, thus pulling away from high parity expectations.

Future research is clearly needed to explore these speculations regarding why expectation patterns changed. While we can document patterns of expectations to infer motivations, a major limitation of this study is that we are unable to study directly the motivations and rationales behind youth expectations. Specifically, future studies should explore the rationales that youth give for their expectations regarding adulthood, which would shed light on the extent to which youth actually engage in rational, cost–benefit-based calculations about their future. Researchers studying educational expectations have begun to study the issue of rationality in expectations closely (e.g., Morgan, 1998, 2005), but this has received little attention in the fertility literature (see, however, Shreffler, Pirretti, & Drago, 2010).

Hayford (2009), for example, argues that fertility preferences in the late teenage and early adult years largely reflect cultural norms regarding women and motherhood. Our data are consistent with this notion with roughly two-thirds of adolescents expressing a desire for two to three children. If, however, educational expectations do indeed reflect cost-benefit-based choices about educational investments, then a systematic relationship between educational expectations and fertility expectations suggests that fertility expectations—even at a fairly young age—are at least somewhat informed desires.

This, of course, raises the important question about the eventual mismatch between intentions and actual childbearing behavior. Based on studies of actual childbearing behavior, we know that those with less education are likely on a pathway toward “overachievement” in fertility. This means that young women with modest educational ambitions tend to enter adulthood with below-norm fertility expectations but then end up with above-norm parity. While demographic studies have carefully mapped out the timing and correlates of the transition to motherhood, a closer examination of how and why young women (and men) develop and modify fertility intentions through adolescence and young adulthood will help us understand the significance of expectations over the life-course.

Finally, future research is needed to map out the extent to which this “trend” continues among more recent generations. An obvious limitation of this study is our inability to extend the scope of our analysis beyond the 1980s. Vere (2007), for example, in an article titled “‘Having It All’ No Longer,” finds that the women of Generation X are having more children but working less than their baby boomer counterparts and suggests that this is evidence of a significant generational shift away from having it all. Research that looks directly at youth expectations for later cohorts (e.g., Generation X, Generation Y) is needed to better understand this new behavioral shift.

Appendix A

The following six items were used to construct the gender attitudes index for the NLSY79:

1. "A woman's place is in the home, not in the office or shop."
2. "The employment of wives leads to more juvenile delinquency."
3. "A wife who carries out her full family responsibilities doesn't have time for outside employment."
4. "It is much better for everyone concerned if the man is the achiever outside the home and the woman takes care of the home and family."
5. "Women are much happier if they stay at home and take care of their children."
6. "Men should share the work around the house with women, such as doing dishes, cleaning, and so forth."

Responses to each question were scored on a 4-point scale (1 = *strongly agree*, 4 = *strongly disagree*). Item 6 was reverse coded before constructing the index measure.

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Notes

1. Goldin (1997) defines “all” as having at least one child a “career,” which is defined as consecutive years of labor force participation coupled with earnings that surpass a certain threshold (p. 44).
2. With respect to education, youth tend to overestimate the number of years of schooling they eventually receive (Hanson, 1994; Reynolds, Stewart, Macdonald, & Sischo, 2006). With fertility behavior, intentions are a strong but imperfect predictor of actual childbearing behavior (Quesnel-Vallée & Morgan, 2003; Rindfuss, Morgan, & Swicegood, 1984; Westoff & Ryder, 1977). Those with high expectations tend to overestimate their fertility, whereas those with low expectations tend to underestimate their fertility.
3. Presumably, career plans “constrain” fertility preferences more so than the other way round because post-secondary schooling (for those who pursue it) typically precedes the transition to motherhood in the life course.
4. Statistics are based on National Longitudinal Surveys of Labor Market Experience (Mature Women and Young Women) and are not distinguished by race.
5. Most also agree, however, that work–family policies in the United States are not yet pervasive, comprehensive, nor fully accommodating (e.g., Weeden, 2005).
6. The U.S. Census considers the population born between 1946 and 1964 as the Baby Boom generation.
7. In the base year of the NLSY79, there were 4,598 White and Black (non-Hispanic) respondents (male and female) who were within the ages of 14 to 17 years. Of this universe, 64 respondents were already married and an additional 76 already had children. Thus, 97% of the 14- to 17-year-olds were unmarried and childless at the time of the base-year interview. With regard to the NLS68, there were 1998 White and Black (non-Hispanic) respondents in 1968. Of this universe, 90 were already married and an addition 42 respondents already had children. Thus, of the original 14- to 17-year-olds sampled in the NLS women’s cohort, 98% were unmarried and childless.
8. Unfortunately, the NLS Young Women’s cohort could not be compared with the NLS Young Men’s cohort given that questions regarding fertility expectations were not asked of the men until 15 years after the base-year survey, when respondents were roughly 30 years old. Also, it is not possible to track education and fertility expectations of the “Generation Y” 1979 to 1985 birth cohorts surveyed in the most recent National Longitudinal Survey of Youth, which began in 1997.

NLS97 respondents were asked in Round 5 about either their long-term fertility expectations or their educational preferences, but not both.

9. Although progressive gender attitudes tend to be anti-natalist at the micro level, progressive gender attitudes are considered a pro-natalist force at the macro level (McDonald, 2000). That is, the population as a whole has become more gender progressive in their attitudes, which is why we expect to find that the late boomers in our analysis exhibit less goal prioritization than the boomers. However, at the individual level (i.e., within a cohort), we expect those who espouse less progressive attitudes to express a desire for more children. Put another way, we expect the coefficient for educational expectations to become less negative (i.e., closer to zero) across cohorts given cultural changes in gender attitudes; however, we expect the coefficient for the gender attitudes covariate to be negative.
10. In both surveys, this question was preceded by a question about aspirations: "What grade or year of regular school would you like to complete?"
11. The bivariate correlation is based on educational expectations measured in years and fertility expectations measured in number of children. Neither variable is truncated.
12. The results are substantively similar when we model the raw (i.e., untruncated) fertility expectations using Poisson regression.
13. Multiplied imputed values are obtained using the "mi impute" routine in Stata with $M = 20$ imputations.
14. Specifically, we use the multiple imputation, then deletion (MID) strategy developed by von Hippel (2007), which is argued to be more efficient compared with the conventional multiple imputation approach.
15. Interestingly, although Edin and Kefalas's (2005) interviews of young women in the 1990s suggest that women from low-income families place a higher value on having children, their findings do not shed light on the issue of parity per se. It is possible that women with low-economic potential see marriage as a luxury, but motherhood is a concrete pathway toward establishing self-worth—and yet, simultaneously, desire fewer children than women with higher-economic potential.

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