THE MYTH OF THE MIDDLE-CLASS SINGLE MOTHER: DECOMPOSING DEMOGRAPHIC CHANGE IN NONMARITAL FERTILITY, 1988-2008

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Abstract: The rapid growth of nonmarital fertility in the second half of the twentieth century in the United States was largely concentrated at the lower end of the socioeconomic spectrum. Yet recent media portrayals have described a growth in successful professional women choosing to become single mothers. This article assesses the extent to which nonmarital fertility has shifted from disadvantaged to advantaged mothers. We use four waves of the National Survey of Family Growth (1988, 1995, 2002, and 2006-08) to assess the changing demography of nonmarital fertility in the U.S. Analyses explore changes in the proportion of unmarried mothers who are age 30 and over, the educational attainment of these mothers, and whether births to these mothers are planned. Results show that increases in the proportion of single mothers age 30 and over are primarily due to compositional changes in cohabitation, the race-ethnic composition of single mothers, and the parity distribution of nonmarital births. There is a slight increase in the proportion of college-educated single mothers that cannot be explained by compositional factors, and we find no evidence of an increase in wantedness among unmarried mothers 30 and older.

The proportion of births that take place outside of marriage has increased steadily in the United States since at least the 1940s (Ventura and Bachrach 2001). In 2009, 41% of U.S. births were to unmarried women (Hamilton, Martin, and Ventura 2010), up from 11% in 1970 and 28% in 1990 (Ventura et al. 1995). This increase has been accompanied by declining disapproval of childbearing outside of marriage, although surveys find that most people still agree that marriage is the preferred setting for childbearing (Morin 2011; Thornton and Young-DeMarco 2001). Proposed reasons for the increase in births outside of marriage include increasing economic independence for women, declining economic performance by men, the development of effective contraceptive technology, changes in divorce and abortion law, and general normative change (see Ellwood and Jencks 2004 for a comprehensive review of theory and evidence). Although there is little consensus as to which of these reasons has been most important or as to how they interact, there is substantial evidence that the decoupling of marriage and childbearing have been concentrated among less educated women (Ellwood and Jencks 2004; McLanahan 2004) and the majority of nonmarital births are unintended (Chandra et al. 2005). In this respect, family change in the United States has been distinct from the patterns of change in other developed countries. Known as the Second Demographic Transition, family change in much of Europe is exemplified by increased childbearing in stable cohabiting unions and change led by the most educated segments of the population (Lesthaeghe and Neidert 2006; Perelli-Harris and Gerber 2011; Surkyn and Lesthaeghe 2004). The concentration of nonmarital fertility among economically disadvantaged women in the U.S. has resulted in a compounding of disadvantage among the children of these women (McLanahan 2004), making nonmarital fertility perhaps a more pressing social problem in the United States than elsewhere.

While researchers consistently find increases in nonmarital fertility to be largest at the lower end of the socioeconomic spectrum, media accounts shine a persistent spotlight on single motherhood among the most advantaged women. The model of the older, professionally successful woman who willingly becomes a single mother has been a socially visible – and controversial – model at least since Murphy Brown, the eponymous main character of a long-running sitcom in the 1990s, became pregnant outside of marriage but chose not to marry her baby's father and was castigated by then-vice presidential candidate Dan Quayle for setting a bad example for other women. More recently, this controversy was echoed in talk show host Bill O'Reilly's response to comments by Jennifer Aniston during a press tour for her movie *The Switch* (2010). Aniston's character in the movie, a professional single woman in her thirties, has a baby using a sperm donor[1]. After Aniston told reporters that women didn't need to "settle" for a man to have children, O'Reilly labelled these comments "destructive to society" because they encouraged a growing trend of single motherhood (*O'Reilly Factor* 2010). Both Aniston's remarks and O'Reilly's criticisms (and, presumably, the production of *The Switch* and similar movies such as *The Back-Up Plan* (2010) and *Baby Mama* (2008)) are based on the assumption that the phenomenon of professional women in their thirties and forties choosing single motherhood has grown more common. Accounts in the popular press also suggest that older, professionally successful, unmarried women are increasingly likely to view single motherhood as an acceptable and even attractive way to become a parent, and that this trend is partly responsible for the rise in nonmarital fertility and has changed the composition of unmarried mothers (e.g., Bazelon 2009; Egan 2006; Glanton and Miller Rubin 2006; Clark-Flory 2010).

Given the historical pattern in the United States of a growing concentration of unintended fertility among economically disadvantaged women, an increase in professionally successful,

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[1] Or so it seems – as in Tina Fey's thematically similar *Baby Mama* (2008), insemination hijinks ensue.

financially stable "single mothers by choice"[2] would indicate a qualitative shift in the process of family change in the United States. This paper uses four cross-sectional waves of the National Survey of Family Growth (NSFG) (1988, 1995, 2002, 2006-08) to assess the degree to which recent changes in the demography of nonmarital fertility can be attributed to an increase in "choice motherhood." Specifically, we answer three questions about the changing demography of nonmarital fertility in the U.S.: Is the proportion of unmarried mothers who are age 30 and over increasing? Are unmarried mothers age 30 and over becoming more advantaged? And are births to unmarried mothers age 30 and over increasingly likely to be wanted births? Nested regression models assess the contribution of compositional changes to trends for each of these three questions. We find that increases in the proportion of unmarried mothers age 30 and over can be explained by changes in the proportion of single mothers who are cohabiting, the race-ethnic composition of unmarried mothers, the education distribution of single mothers, and the parity distribution of nonmarital births. A larger proportion of nonmarital births in the later surveys are to women with a college degree and higher than women in the earlier surveys, but this proportion appears to have declined in the most recent survey, and there is no clear linear trend in wantedness of nonmarital births to women over age 30. Overall, we find little evidence that economically advantaged women constitute a substantially larger proportion of unmarried mothers in the early twenty-first century than they did in the 1980s.

The changing demography of fertility in the United States

Since the 1970s, increases in nonmarital fertility in the United States have been accompanied by increasing divergence in family formation behavior according to socioeconomic status, as

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[2] The term comes from Mattes (1994). "Choice mom" (e.g., Hertz 2006, Morrisette 2006) is also used to describe the phenomenon of well-educated, financially successful single women in their thirties or older deciding to have children without marrying. Below we discuss the importance of the perception of individual choice in the social model of this family form.

generally measured by education. The average age at first birth increased across the population, but this increase has been much larger for women with more education (Martin 2004). Rates of marriage declined across the population, but this decline has been smaller for women with more education (Goldstein and Kenney 2001). As a result of these combined trends, women with lower education levels have experienced substantial changes in the rates and timing of marriage, but much smaller changes in the timing of childbearing, producing a steady increase in nonmarital fertility for this subgroup (Ellwood and Jencks 2004). Among better-educated women during this time period, conversely, family change has been experienced as an increase in delayed marriage and delayed childbearing within marriage (Martin 2004). An increase in nonmarital births among older, well-educated women would constitute a major shift from earlier patterns of change, one with implications for the well-being of children born to single mothers as well as norms and values about family formation.

Existing evidence clearly shows a change in the age distribution of unmarried mothers. Births to teenage mothers made up half of all nonmarital births in 1970, but only about one in five births in 2009 (Hamilton et al. 2010; Ventura and Bachrach 2001), with an increasing share of nonmarital births occurring among twenty-something women (Solomon-Fears 2008). From 1990-2005, the proportion of nonmarital births to women 30 and older increased, but only slightly, from 15% to 17%, with the proportion of nonmarital births to women 35 and older increasing only from 5 to 6% (Solomon-Fears 2008).

The reasons for this shift are less clear. One possible explanation for the growing proportion of nonmarital births to women beyond their teen years is an increase in the acceptability and feasibility of single motherhood among women in these age groups. Over time, disapproval of parenthood outside of marriage has declined in the United States (Thornton and

Young-DeMarco 2001). The proportion of women obtaining a bachelor's degree has increased steadily, and labor force participation and salaries among college-educated women have also increased (DiPrete and Buchmann 2006). Thus, more women, especially college-educated women, are financially independent and able to support a child economically. In addition, as marriage is postponed to increasingly older ages – again, especially among those with a college education – women are spending a larger proportion of their reproductive years unmarried, perhaps experiencing growing pressures as they age and feel the "biological clock" ticking. According to the "single mother by choice" argument, increasing nonmarital fertility and the changing age distribution of unmarried mothers are explained by the growing acceptance of nonmarital fertility and the rising number of single women in their thirties who are financially able to support a child. This type of explanation has been proposed by journalists in mainstream media outlets (e.g., Bazelon 2009; Egan 2006; Glanton and Miller Rubin 2006; Clark-Flory 2010).

According to this model, nonmarital fertility is increasing among women in their thirties and older. Although births outside of marriage are becoming more accepted, marriage is still the first choice for a context in which to bear children (Morin 2011; Thornton and Young-DeMarco 2001). Well-educated women who choose single motherhood do not make this choice until they have reached an age at which they believe marriage is unlikely before the end of their reproductive years, so we would expect that women in their late thirties and early forties would be most likely to follow this model. The concept of choosing single motherhood is also important in this model. New terminology such as "single mother by choice" (Mattes 1994) or "choice mom" (Morrissette 2006) underscores the importance of fertility planning in social conceptions of acceptable single motherhood to older, higher socioeconomic status women seeking to

distinguish themselves from negative stereotypes of unwed motherhood (Bock 2000). If this form of motherhood has become more prevalent, we would expect to see more nonmarital births to women in their thirties and older; we would expect this change to be associated with increasing education levels among these mothers; and we would expect higher proportions of nonmarital births to older mothers being reported as planned.

Social science research, to the extent that it has addressed the reasons for the shifting age distribution of nonmarital fertility, has focused on other explanations. For instance, the parity composition of births to unmarried mothers has changed. Half of all nonmarital births occur to women who have already had one or more child, with these births usually occurring outside of marriage as well (Terry-Human, Manlove, and Moore 2001). The high proportion of nonmarital births that are second-order or higher is partly because single mothers have become less likely to marry after a nonmarital birth (Gibson-Davis 2011; Graefe and Lichter 2008), so their higher-parity births are more likely to be outside of marriage. That is, the increase in high-parity nonmarital births may result from the same women having more nonmarital births, not necessarily an increase in the number or proportion of women who have nonmarital births (Hoffman and Foster 1997). All other things being equal, an increase in the parity distribution of births will also produce an increase in the age distribution of births. This explanation would suggest an increase in the average age of unmarried mothers associated with a shift to higher parity, but no increase in the educational attainment of older single mothers or the proportion of nonmarital births that are planned.

Other changes in the composition of unmarried mothers may also have influenced the age distribution of mothers. Much of the increase in nonmarital fertility since 1990 is attributable to an increase in births in cohabiting unions (Bumpass and Lu 2001; Kennedy and Bumpass 2008).

Since cohabiting mothers are older on average than lone mothers (i.e. mothers not in a coresidential union) (Mincieli et al. 2007), this change would produce an increase in the average age of unmarried mothers, absent other changes. An increase in births in cohabiting unions has been used as a central indicator of the Second Demographic Transition (SDT) (Raley 2001). However, cohabiting parents in the United States differ from the SDT model. Cohabitation in the U.S. tends to be short-lived and unstable, and children born in cohabiting unions experience more family transitions than children born to married parents (Osborne, Manning, and Smock 2007; Kennedy and Bumpass 2008; Wu and Musick 2008). In addition, cohabiting parents have lower education levels and lower incomes on average than married parents, though they are more advantaged than non-coresiding parents (Manning and Brown 2006; Mincieli et al. 2007). Cohabiting births are also between married births and births to lone mothers in the proportion of births that are planned (Hayford and Guzzo 2010). If the shift in the age distribution of nonmarital fertility were primarily due to increases in cohabiting fertility, we would expect modest positive changes in the educational composition of unmarried mothers and the proportion of nonmarital births that are planned.

In this paper we assess whether there has been a change in the composition of unmarried mothers toward more 30-something educated "choice moms." We first examine changes in the proportion of births to unmarried women that are to women age 30 and over and attempt to identify the factors driving change. We then analyze change in the proportion of nonmarital births to women age 30 and over that are to women with a bachelor's degree. Our third analysis assesses whether nonmarital births to women in their thirties are increasingly likely to be planned. If changes in the demography of nonmarital fertility have been driven by an increase in economically advantaged "choice moms," we would expect increases in the age of unmarried

mothers, the educational attainment of older single mothers, and the proportion of births to these mothers that are intended; and we would expect these changes to be joint changes, such that controlling for one factor accounts for changes in other factors.

Data and methods

The National Survey of Family Growth (NSFG) is a series of repeated cross-sectional surveys designed to produce comparable information on fertility and family formation in the United States over time. We use data from the surveys conducted in 1988 (N=8450), 1995 (N=10847), 2002 (N=7643 women), and 2006-08 (N=7356 women). These surveys are nationally representative of women aged 15-44 at the time of the survey. In 2002 and 2006-08, men were also interviewed; we limit our analyses to women in order to facilitate comparison across all four surveys and because our substantive interest is in single motherhood. In addition to sociodemographic data (e.g., race-ethnicity, age, education), each survey collects full birth histories as well as marriage histories and cohabitation histories. Respondents are asked about current fertility intentions, fertility intentions at the time of previous pregnancies, and past and current contraceptive use. These data are largely comparable over time; in our description of variables we discuss measures that vary across surveys and the implications of the variation for our analysis.

In order to estimate conditions in a finite time period and minimize recall bias, the sample for these analyses is restricted to births in the five years prior to the survey in each NSFG cycle. In most analyses the sample is further limited to nonmarital births or nonmarital births to women age 30 and over (see below). Multivariate analyses pool data from all four surveys and use dummy variables for survey year to assess change over time. All bivariate and multivariate

statistics use SAS SURVEY procedures to account for the complex survey design of the NSFG[3].

The multivariate analyses of dichotomous outcomes use logistic regression.

We conduct three sets of analyses to answer our three research questions; sample sizes
for these analyses are shown in Table 1. The first set assesses the contribution of compositional
changes to the increasing proportion of nonmarital births to women age 30 and over. These
analyses use all nonmarital births in the five years prior to each survey as a sample and predict
whether the mother is age 30 or over as a dependent variable. The second set of analyses
examines whether unmarried mothers age 30 and over have become more advantaged, as
measured by holding a bachelor's degree. For these models, the sample is nonmarital births to
women age 30 and over at the time of the birth and the dependent variable is whether the mother
has a college degree. The third set of analyses looks at the prevalence of "choice moms" among
unmarried mothers age 30 and over by predicting whether a birth was wanted. The sample for
these analyses is births to unmarried mothers age 30 and over.

<Table 1 about here>

For each of the three sets of analyses, results are presented as a series of nested models.
In each set of analyses, the first model includes only dummy variables for time period. These
models show unconditional trends over time. Subsequent models add explanatory variables.
Reduction in the coefficients for time trend variables as controls are added would indicate that
time trends are partially explained by compositional changes. Results from these analyses
describe associations only and do not attempt to establish causality. Assuming there is an
increase in the likelihood of an unmarried new mother being age 30 or older over time, if models
including the educational composition of unmarried mothers attenuate the association between

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[3] Survey design variables for the 1988 NSFG were never released. Thus, we treat the 1988 cycle as a simple random
sample, and standard errors for this survey are likely to be underestimated.

the age distribution and period, age and education changes can be considered joint changes, indicating an increase in well-educated older single mothers as proposed in the media accounts describe above. On the other hand, if compositional changes in education are not associated with changes in the age distribution over time, these trends would be considered largely independent and suggest that other changes (such as ideational change or a concentration of repeat nonmarital childbearing) are driving trends in the age distribution.

Measures

The samples for our analyses are constructed on the basis of age and marital status at the time of birth. We construct these measures for births within the five years prior to the survey using data from the birth history files and individual files from the four surveys. Age and marital status data are completely comparable with the exception of the marital history variables in the 2002 survey. Because of a routing error in the questionnaire in 2002, marriage end dates are missing for some divorced and separated women. These dates, and by extension marital status for these births, were imputed by NCHS staff. We conducted sensitivity tests excluding these births (N=107) from the analysis; results were almost identical, and the results presented here include births with imputed marital status. In addition to age and marital status, we also use measures of cohabitation, race-ethnicity, education, parity of the birth, and whether the birth was wanted. These variables were chosen because they are key stratifying factors in fertility in the United States that showed substantial change over the period under study.

Education Our measure of education is whether the respondent has a bachelor's degree or more. This information was collected differently in the four surveys. In 1988, the NSFG asked women how many years of education they had completed and the timing (in years) of their last school attendance. In 1995, a full education history was collected including attendance, degrees

received, and timing. In 2002 and 2006-08, women reported the highest degree they had received and the date they received a high school degree. For consistency, we measure education at time of survey in all four surveys. For the 1988 data, we use 16 years of completed education as the equivalent of a bachelor's degree. Education at the time of the survey may differ from education at the time of the birth if women return to school after having a child. The possibility for this type of error is reduced by the restriction of our sample to births in the five years before the survey. Additionally, the restriction in most models to births to women aged 30 and over means that most women have completed their education. In recent years, relatively few bachelor's degrees (16% of degrees) were awarded to individuals 30 and older (Bradburn et al. 2003). Furthermore, Goldrick-Rab and Sorenson (2010) showed that mothers have low rates of college attendance, and unmarried mothers have even lower rates of college completion. As such, it seems likely that few mothers would obtain a college degree within five years after the birth, and for most mothers education at the time of survey is the same as education at the time of birth.

Wantedness A birth is classified as wanted in the NSFG if the mother responds affirmatively to the question "At the time you became pregnant, did you yourself actually want to have a(nother) baby at some time?" (1988, 1995) or "Right before you become pregnant, did you yourself want to have a(nother) baby at any time in the future?" (2002, 2006-08). Although question wording changed slightly in 2002, the measure of wantedness appears to be consistent across the two questions (Abma and Mosher personal communication 10/7/2008).

Cohabitation status Complete cohabitation histories were collected in 1995, 2002, and 2006-08. In 1988, questions about cohabitation were more limited. Information was collected about all cohabiting relationships that were followed by marriage and up to one additional cohabitation that did not lead to marriage. Despite the difference in data collection methods,

cohabitation data collected in 1988 appear to be comparable to those from the later surveys in the period 5 years before each survey (Hayford and Morgan 2008).

Race-ethnicity Respondents in all four surveys reported their race (white, black, other) and Hispanic origin (Hispanic or non-Hispanic). We combine these variables to create four categories of race-ethnicity: non-Hispanic white, non-Hispanic black, non-Hispanic other, and Hispanic.

Parity Measures of parity are taken from the birth histories and are fully comparable in all four surveys. In these analyses parity is measured by a dichotomous variable indicating whether the birth was the respondent's first birth or not. Exploratory analysis showed that including additional parity categories did not improve explanatory power of the models.

Results

Table 2 shows trends across the four surveys in the average age of unmarried mothers and the percent of nonmarital births that are to mothers age 30 and over. For comparison, the table also includes similar figures for marital births. The average age of unmarried mothers increases across the four surveys. In the five years before the first survey, 1984-1988, the average mother was 23.0 years old; in the period before the final survey, 2002-2008[4], the average mother was 24.2 years old. Between wave differences are at most marginally statistically significant. The total change represents an increase in the average age of unmarried mothers of more than one year over a period twenty years long. During the time period described here, the proportion of nonmarital births taking place to mothers age 30 and over also increased, from 13.5% (1984-88) to 18.5% (2002-08). Between-survey increases are not statistically significant.

<Table 2 about here>

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[4] The time period before the final NSFG survey covers more than five years because the survey was carried out continuously over 2006-08. For each woman surveyed, births in the five years prior to her interview were included in the sample.

For mothers of marital births, the increase in average age between the 1988 and 2006-08 NSFG is greater than for mothers of nonmarital births, going from 27.1 years old in 1984-88 to 29.1 years old in 2002-08. The increases between the 1988 and 1995 and between the 1995 and 2002 surveys are statistically significant (t-tests, p<.001) for both the average age of married mothers and the percent of marital births to mothers age 30 and over. Because the increase in the average maternal age was greater for married mothers than for unmarried mothers, the age gap between married and unmarried mothers grew during the period described here.

The characteristics of single mothers age 30 and over are shown in the top panel of Table 3. As in Table 2, characteristics of married mothers are presented for comparison. Table 3 shows an increase between the 1988 and 2006-08 surveys in the proportion of older unmarried mothers who have a bachelor's degree or more education (from 5.7% to 13.8%) and an increase in the proportion of births to these women that are first births (from 15.0% to 22.9%). Note that the parity shift for older unmarried mothers is in the opposite direction as the parity shift for unmarried mothers of all ages combined. An increase in the proportion of births to older mothers that are first births is consistent with the "single mother by choice" explanation for demographic change. The proportion of nonmarital births to older mothers that were intended increased in the 1995 and 2002 surveys relative to the 1988 survey, but declined in the most recent survey. For all three of these measures (proportion of mothers with a bachelor's degree, proportion of first births, proportion of births intended), the figures were higher for married mothers than for unmarried mothers throughout the time period. For education and intendedness, increases were also larger for marital than for nonmarital births, suggesting that changes in the characteristics of nonmarital births over time may simply reflect general societal changes rather than changes in particular behaviors and attitudes related to nonmarital fertility.

We proceed to multivariate analysis to assess the relationship between the changes shown in Tables 2 and 3. To test the contribution of compositional changes to the increase in the proportion of unmarried mothers who are 30 or over, our first set of analyses predicts the likelihood that a nonmarital birth is to a mother age 30 or over as a function of time period and sociodemographic characteristics. Results from these models are shown in Table 4. The analytic sample for these analyses consists of nonmarital births in the five years before the survey, and the dependent variable is whether the mother was age 30 or over at the time of birth.

<Table 4 about here>

Model 1 replicates the results from Table 2: the positive coefficients for the 1995, 2002, and 2006-08 surveys indicate that a higher proportion of unmarried mothers were age 30 and over in the later years. The difference between the 2006-08 survey (births in the years 2002-08) and the 1988 survey (1984-88) is statistically significant; other between-year differences are not statistically different from zero, but the magnitude of the coefficients suggest a reasonably steady increase in the proportion of nonmarital births that were to mothers age 30 and over. Models 2 through 5 control for compositional factors (cohabitation, race-ethnicity, education, parity) singly, and Model 6 includes all of the compositional factors.

Models 2 through 5 each show a slight attenuation in the coefficients for survey year – that is, each compositional factor explains some portion of the change over time. In particular, controlling for education (Model 4) reduces the coefficient for the difference between the earliest and latest surveys to 0.33 (compared to 0.38 in the unconditional model), and the difference is only marginally statistically significant (p=.07). That is, some of the increase in the proportion of unmarried mothers who are age 30 and over is joint variation with the increase in educational attainment. However, more variation in the age composition of unmarried mothers is explained

by the changing racial composition of unmarried mothers (Model 3). In particular, the increase in the proportion of single mothers who are Hispanic appears to play a role in the increasing age of single mothers. Some evidence suggests that Hispanic women are more likely than non-Hispanic women to have children in long-term cohabiting relationships that function as a substitute for marriage (Landale and Oropesa 2007). Women in this type of stable cohabitation may have children at older ages; this association might explain why the increase in the Hispanic population is associated with an increase in the proportion of unmarried mothers age 30 and over.

In Model 6, where all factors are included, the differences between the 1988 survey and the 2002 and 2006-08 surveys are reduced to half the unconditional differences, and the increase between 1988 and 2006-08 is no longer statistically different from zero. That is, the increasing proportion of nonmarital births to mothers age 30 and over is primarily attributable to compositional changes. Other coefficients in Model 6 are essentially unchanged from earlier models, with the exception of the coefficient for cohabitation. Once race-ethnicity, education, and parity are taken into account, cohabiting mothers are not more likely to be age 30 or over than non-cohabiting single mothers. Together, there is some limited support for the idea that increase in nonmarital births to women thirty and older over time is driven by rising education levels, but the negative association with first births also suggests that few first births are occurring among women thirty and older. Thus, the emergence of a large group of "choice moms" driving the increasing age of women having nonmarital births is only weakly supported at best.

To further examine the argument that economically advantaged women have become a larger proportion of single mothers, the next set of models examines whether unmarried mothers age 30 and over have become more educated over the past 20 years. The sample for these models

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is nonmarital births to mothers age 30 and over in the five years before each survey, and the

dependent variable is whether the mother has a bachelor's degree. Results are shown in Table 5.

As in Table 4, the first model is an unconditional model, subsequent models add variables singly,

and the final model includes all covariates. These analyses include measures of mother's age

within the 30 and over group.

<center><Table 5 about here></center>

Table 5 shows that the proportion of unmarried mothers age 30 and over with a

bachelor's degree increased between the 1988 NSFG and the 2006-08 NSFG. Coefficients for

survey year are larger than in the models for age composition, indicating that changes in

educational composition are larger. Because the sample is smaller, standard errors are also larger,

and the differences are only marginally statistically significant. Coefficients are attenuated

somewhat when other sociodemographic changes are included, but remain substantial in size in

all models. The difference between 2006-08 and 1988 is not statistically significant in the full

model (Model 6) and is about 15% smaller than in the unconditional model (0.82 vs. 0.97).

Again, the relatively small sample sizes in these models reduce statistical power to detect

differences. Still, these results suggest that older unmarried mothers are becoming more

educated, and that compositional changes in cohabitation, race/ethnicity, and parity among the

population of women having nonmarital births explain some of this increase in educational

attainment. In particular, controlling for shifts in the parity distribution of births (Model 5)

reduces the difference between the 2006-08 survey and the 1988 survey by about 10% (0.87 vs.

0.97). This pattern is consistent with the "single mother by choice" model: because advantaged

single mothers wait to have children, they are more likely than less advantaged mothers to be

having a first child in this age group. Thus, the joint increase in the proportion of first births and

the proportion of births to women with bachelor's degrees is suggestive of an increase in "choice moms." Most of the increase in educational attainment, however, is unexplained by these models, and may be attributable to general increases in education across all women in the period rather than factors related to patterns of single motherhood. In additional analyses (not shown), we estimated similar models for all births (marital and nonmarital) to women age 30 and over. These models showed a similar trend in educational attainment, and interactions between time period and marital status were not statistically significant. These results suggest that increases in the proportion of unmarried mothers age 30 and over who have a bachelor's degree or higher result from general trends in the population as a whole rather than specific changes in the behavior of mothers in this group or selection of women into this group.

Looking at the coefficients for the explanatory factors in Model 6, few of these factors are strongly associated with the educational attainment of older single mothers. If the increase in educational attainment of unmarried mothers was attributable to an increase in advantaged choice mothers at older ages, we would expect to see that the oldest mothers were the most advantaged and the most educated. However, there is no pattern of association with age and education within the group of unmarried mothers age 30 and over – the coefficients for age 35-39 and age 40-44 are opposite in direction, and neither is statistically different from zero. Cohabiting mothers are less likely to have a bachelor's degree than mothers not in a coresidential relationship (b=-0.58). Among this group of older single mothers, once other sociodemographic differences have been taken into account, race-ethnic differences in the proportion of women with a bachelor's degree or higher are not statistically significant. First-time single mothers are more likely to have a bachelor's degree than mothers of higher-parity births in this age group (b=1.40).

The final analyses address the question of whether births to unmarried mothers age 30 and over are becoming more likely to be wanted (Table 6). These models test directly the proposition that "choice" motherhood – single women in their thirties and forties deliberately having children outside of marriage – is becoming more common. The sample for these analyses is nonmarital births to women age 30 and over in the five years before each survey; the dependent variable is whether the birth was wanted. As in the previous analyses, Model 1 shows the unconditional trend and subsequent models account for compositional changes in single mothers.

<Table 6 about here>

No clear linear trend in wantedness among births to older single mothers is apparent in these models. The unconditional model (Model 1) shows that births in the 1995 and 2002 surveys were more likely to be reported as wanted than in 1988, but births in the 2006-08 survey were slightly less likely to be wanted than in 1988. None of these differences are statistically significant at the p<.05 level. The coefficients measuring the time trends do not change substantially when additional independent variables are added to the model, and most of the explanatory factors are not significantly associated with birth wantedness. Births to the oldest unmarried mothers (age 40-44) are *less* likely to be wanted than births to women age 30-34 – to the extent that single mothers by choice exist, they are most common among mothers in their early 30s. Women in their early 30s, though, are not yet facing sharply declining fecundity or rapidly declining marital prospects – theoretically, this group would be far less likely to fit the profile of a "choice mom." Finally, as with the last analysis of education, parity is important. First births in this age group are more likely to be wanted than higher-parity births (b=1.38), again suggesting that among the women who have not yet had a child by age thirty, a nonmarital

birth at this age is more likely to be wanted than among women who have already had children. This pattern suggests that there is some aspect of the "choice mom" argument that holds true, but the lack of overall trends in wantedness over time demonstrates that these mothers do not represent a growing proportion of the population of women having nonmarital births. Notably, the association between education and wantedness is not statistically significant, and the coefficient for bachelor's degree is negative. That is, more educated single mothers in their thirties are not more likely to be "choice moms" than less educated single women.

Discussion and conclusions

These analyses show that the proportion of nonmarital births that were to women age 30 and over increased between the mid-1980s and the early 21st century, but that this increase is small and primarily explained by compositional changes. These unmarried mothers who were age 30 and over did not become more likely to have wanted their births, and although they became more likely to have received a college degree, this increase was not statistically different from zero. Thus, we find limited evidence that shifts in the age distribution of unmarried mothers are driven by an increase in economically advantaged single women choosing to become mothers.

The analyses presented here are macro-level analyses of births that take place outside of marriage. It is possible that an individual-level analysis would find that single women in their thirties with a college degree are more likely to choose single motherhood in the early twenty-first century than they were in the 1980s. Our analysis shows that, if this type of change is taking place, it is being balanced by an increase in single motherhood among less advantaged single mothers as well. That is, changes in individual behavior are not producing changes in the composition of nonmarital births as a whole. This article addresses this population-level phenomenon.

Understanding the changing demography of single motherhood is important not just for evaluating the truth of media portrayals or criticism by social pundits. On average, being born to an unmarried mother is associated with social disadvantage for children, and the concentration of nonmarital fertility among younger, less educated women compounds this disadvantage (McLanahan 2004; Brown 2010). If single mothers are becoming older and better educated, this disadvantage might decline or even disappear. Given the decades of social and policy concern over nonmarital fertility, it is important to know if this is the case. This analysis confirmed that single mothers are getting older, but otherwise did not show a clear increase in the socioeconomic status of unmarried mothers. Generally, maternal age is associated with greater child well-being, but for single mothers, this may not be the case if the older age of unmarried mothers reflects a concentration of disadvantage marked by family instability.

The results of these analyses do not support the popular perception that the increase in births outside of marriage has been accompanied by an increase in births to older women who plan single motherhood and can support children alone. These is support for a distinctive pattern of single motherhood among women having a first birth in their thirties: these women are more educated on average than women with higher-parity births in this age group, and these births are more likely to be wanted. However, there is no evidence that an increase in the proportion of this model is driving increasing education and age trends over time among women having nonmarital births. Why, then, is the idea of the "Murphy Brown" mother, the "choice" mother, or the "Jennifer Aniston" mother[5] so persistent in the mainstream media? The small number of financially established women choosing to bear children outside of marriage may, like Murphy Brown, be important more for their social visibility than their overall proportion in the

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[5] It is perhaps worth noting that Kassie Larson in *The Switch* is Aniston's third single mother role. She also played a professionally successful, financially stable single mother in her thirties on the 2002 season of the television show *Friends* and in the movie *The Object of My Affection* (1998).

population. Studies of family change in diverse settings have suggested that personal exposure to new family formations has a strong influence on decision-making in contexts where norms are changing or in flux (e.g. Agadjanian 2005; Rindfuss et al. 2004). Well-educated, professionally accomplished "choice moms" may be more likely to appear in national media because they are more likely than young, low-income single mothers to be in the personal networks of the journalists who create news stories (Ludtke 1997). The generally positive portrayal of these single mothers provides examples of successful single mothers and guidelines for the situations in which choosing single motherhood is appropriate. However, they are also likely to provide an inaccurate perception of the reality of the lives of most women who bear children outside of marriage.

The cultural model of the well-educated older single mother emphasizes that this type of parenthood is the product of individual choice. In presenting single motherhood in this light, there is an implicit condemnation of other types of nonmarital childbearing. The underlying comparison is with young, poor women having children outside of marriage, who are also making a "choice" but doing so for the wrong reasons and thus making a bad decision. Though both academic and non-academic sources speak of the growing acceptability of nonmarital childbearing, it may be more accurate to say that there is a growing *recognition* that nonmarital fertility exists, but most people still do not believe it is acceptable and appropriate except under a very limited set of circumstances. If a woman cannot find an appropriate spouse before she is unable to have children *and* she is financially secure enough to support a child, then *maybe* single motherhood is acceptable. The repeated negative responses to media portrayals of single motherhood, from Dan Quayle to Bill O'Reilly, demonstrates that a subgroup of Americans does not view childbearing outside of marriage as acceptable in those situations, either.

Media portrayals of nonmarital childbearing, whether Murphy Brown-type mothers or young welfare mothers, frame childbearing as both an individual choice and an individual responsibility. Empirical studies of nonmarital fertility among low-income women, in contrast, demonstrate that these births are often the result of accident or chance rather than deliberate decision-making and highlight the role of structural constraints in producing high levels of births outside of marriage (Edin and Kefalas 2005; Edin, England, Fitzgibbons Shafer, and Reed 2007). Similarly, media portrayals of the "opt-out revolution" (Belkin 2003), by presenting work-family decisions as purely individual choices, elide the social conditions that force these decisions (Percheski 2008; Stone 2008). The fact that one cultural model of single motherhood – the "choice mom" model – gets significantly more attention in the media than its low prevalence would warrant suggests a need to make sense of aggregate change in the language of American individualism.

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Table 1: Sample sizes

	Number of women	Births in 5 years before survey	Of births in 5 years before survey:	
			Nonmarital births	Nonmarital births to mothers age 30+
1988 NSFG	8450	3115	1033	132
1995 NSFG	10874	4575	1586	247
2002 NSFG	7643	2818	1186	181
2006-08 NSFG	7356	2734	1320	230
Total	34323	13242	5125	790

Table 2: Changing age patterns of fertility

	Nonmarital births		Marital births	
	Average age of mother	Percent to mothers age 30+	Average age of mother	Percent to mothers age 30+
1988 NSFG	23.0	13.5	27.1	30.2
1995 NSFG	23.3	14.7	28.0 ***	38.4 ***
2002 NSFG	23.8 †	16.1	28.9 ***	46.6 ***
2006-08 NSFG	24.2	18.5	29.1	49.6

Data: NSFG as noted in table. T-tests were conducted on between wave-difference. Results of the t-test are listed next to the later wave. † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3: Changing characteristics of births to married and unmarried women age 30 and over

	Percent of mothers age 30 and over with the following characteristics:								
	Less than HS	BA or more	First birth	Cohabiting at birth	Intended birth	White	African American	Hispanic	Other race
	Nonmarital births								
1988	34.8	5.7	15.0	59.5	47.8	35.2	39.4	19.8	5.7 **
1995	28.8	7.8	20.1	33.2 **	64.7 †	32.1	33.8	28.0	6.2
2002	17.9	14.2	17.3	37.9	63.4	44.6	25.1	23.8	6.5
2006	28.7	13.8	22.9	64.0 **	54.2	34.3	20.4	38.6	6.7
	Marital births								
1988	8.9	41.1	21.9		74.0	77.1	6.5	10.9	5.5
1995	6.8	37.8	26.5		81.9 *	77.9	5.0	11.2	6.0
2002	3.0 **	48.6 *	30.1		81.3	78.6	5.2	10.7	5.6
2006	7.8 †	55.6	26.7		84.3	68.3 †	7.2	14.2	10.3

Data: NSFG as noted in table. T-tests were conducted on between wave-difference. Results of the t-test are listed next to the later wave. † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$.

Table 4: Logistic regression of whether mother is age 30 or older of nonmarital births

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	b	SE		b	SE		b	SE		b	SE		B	SE		b	SE	
NSFG survey year																		
1988 (omitted)																		
1995	0.10	0.15		0.16	0.15		0.10	0.15		0.07	0.15		0.14	0.15		0.12	0.16	
2002	0.21	0.17		0.24	0.17		0.16	0.17		0.15	0.17		0.22	0.17		0.06	0.18	
2006	0.38	0.18	*	0.37	0.18	*	0.31	0.18	†	0.33	0.18	†	0.37	0.18	*	0.17	0.19	
Cohabitation																		
No (omitted)																		
Yes				0.21	0.10	*										0.16	0.11	
Race-ethnicity																		
White (omitted)																		
Black							-0.02	0.14								-0.15	0.15	
Hispanic							0.37	0.15	*							0.39	0.16	*
Other							0.54	0.29	†							0.42	0.30	
Education																		
No high school degree										-0.44	0.12	***				-0.67	0.13	***
High school degree																		
BA or higher										1.19	0.22	***				1.64	0.24	***
First birth																		
No (omitted)																		
Yes													-1.50	0.13	***	-1.70	0.14	***
Intercept	-1.86	0.13	***	-1.98	0.13	***	-1.95	0.15	***	-1.75	0.14	***	-1.35	0.13	***	-1.22	0.19	***
2LL	3305.254			3300.102			3287.276			3229.152			3074.975			2930.090			
N	5125			5125			5125			5125			5125			5125			

Data: 1988, 1995, 2002, and 2006-08 NSFG. Nonmarital births in the five years before each survey. † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Two-tailed tests.

Table 5: Logistic regression of whether mothers of non-marital births at age 30 and over have a bachelor's degree

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	b	SE		b	SE		b	SE		b	SE		B	SE		b	SE	
NSFG survey year																		
1988 (omitted)																		
1995	0.33	0.51		0.34	0.51		0.23	0.51		0.32	0.51		0.25	0.52		0.04	0.52	
2002	1.00	0.51	†	0.99	0.50	*	0.93	0.51	†	0.96	0.52	†	0.99	0.53	†	0.78	0.52	
2006	0.97	0.58	†	0.98	0.58	†	0.99	0.58	†	0.92	0.57		0.87	0.58		0.82	0.55	
Age group																		
Age 30-34 (omitted)																		
Age 35-39				-0.50	0.39											-0.49	0.38	
Age 40-44				0.06	0.91											0.40	0.91	
Cohabitation																		
No (omitted)																		
Yes							-0.36	0.26								-0.58	0.28	*
Race-ethnicity																		
White (omitted)																		
Black										-0.32	0.35					-0.05	0.35	
Hispanic										-0.09	0.43					0.20	0.44	
Other										0.41	0.72					0.55	0.71	
First birth																		
No (omitted)																		
Yes													1.27	0.31	***	1.40	0.32	***
Intercept	-2.80	0.43	***	-2.69	0.44	***	-2.60	0.45	***	-2.70	0.52	***	-3.10	0.43	***	-2.74	0.55	***
2LL	398.507			598.638			396.829			396.546			379.726			371.790		
N	790			790			790			790			790			790		

Data: 1988, 1995, 2002, and 2006-08 NSFG. Nonmarital births in the five years before each survey to mothers age 30 and over. † $p <0.1$, * $p <0.05$, ** $p <0.01$, *** $p <0.001$. Two-tailed tests.

Table 6: Logistic regression of wantedness for nonmarital births to mothers age 30 and over

	Model 1		Model 2		Model 3		Model 4			Model 5		Model 6		Model 7		
	b	SE	b	SE	b	SE	b	SE		b	SE	b	SE	b	SE	
Survey year																
1988 (omitted)																
1995	0.35	0.29	0.39	0.30	0.43	0.31	0.34	0.28		0.33	0.29	0.301	0.29	0.37	0.30	
2002	0.29	0.32	0.38	0.33	0.36	0.33	0.20	0.31		0.25	0.31	0.27	0.32	0.34	0.32	
2006	-0.08	0.36	-0.04	0.36	-0.09	0.36	-0.16	0.35		-0.09	0.36	-0.17	0.38	-0.21	0.36	
Age group																
Age 30-34 (omitted)																
Age 35-39			-0.18	0.28										-0.19	0.27	
Age 40-44			-0.96	0.52	†									-0.87	0.49	†
Cohabitation																
No (omitted)																
Yes					0.30	0.25								0.18	0.24	
Race-ethnicity																
White (omitted)																
Black							-0.69	0.25	**					-0.53	0.27	†
Hispanic							-0.30	0.33						-0.17	0.36	
Other							0.12	0.68						0.35	0.75	
Education																
No h.s. degree																
H.s. degree										-0.22	0.24			-0.04	0.26	
BA or higher										0.02	0.52			-0.25	0.56	

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	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
First birth																					
No (omitted)																					
Yes																		1.50	0.50	**	1.38	0.47	**
Intercept	0.91	0.24	***	0.97	0.25	***	0.73	0.28	**	1.25	0.29	***	0.98	0.25	***	0.75	0.25	**	1.00	0.37	**
2LL	678.767			673.179			676.441			668.609			677.606			652.701			640.496		
N	790			790			790			790			790			790			790		

Data: 1988, 1995, 2002, and 2006-08 NSFG. Nonmarital births in the five years before each survey to mothers age 30 and over. † $p <0.1$, * $p <0.05$, ** $p <0.01$, *** $p <0.001$. Two-tailed tests.