

**Nonmarital fertility in Russia: Second Demographic Transition or Low Human
Capital?**

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Nonmarital childbearing is often considered one of the primary characteristics of the Second Demographic Transition (McLanahan 2004, Lesthaeghe and Neidert 2006, Surkyn and Lesthaeghe 2004, Sobotka et al 2003). Yet the circumstances leading to and consequences of nonmarital childbearing vary greatly depending on context. In Europe, particularly the Scandinavian countries, nonmarital childbearing primarily occurs among stable, cohabiting couples (Kiernan 2004). In the U.S., on the other hand, nonmarital childbearing is more often associated with single mothers and low-income minority populations (Wu and Wolfe 2001). Even when births occur within cohabitation in the U.S., the cohabiting relationships tend to be less stable than marital unions (Wu and Wolfe 2001). Thus, nonmarital childbearing in Northern Europe signifies a rejection of institutions and an increase in independence and autonomy, while nonmarital childbearing in the U.S. is associated with the inability to maintain healthy marriages and a descent into poverty.

This study investigates the circumstances surrounding nonmarital childbearing in Russia, which has experienced a dramatic increase in nonmarital childbearing since the disintegration of the Soviet Union. Nonmarital childbearing increased from 14.6% of all births in 1990 to 29.8% of all births in 2004 (Zakharov et al 2006). Although some of this proportional increase is due to decreasing marital fertility, no studies have investigated how the composition of nonmarital childbearing – births to cohabiting couples versus single-mothers - has changed over time. Nor have studies examined the characteristics of Russian women who have had a nonmarital birth.

Some demographers point to the increase in nonmarital childbearing in Russia as evidence of the Second Demographic Transition and assume that it is occurring

concomitantly with changing values and attitudes (Zakharov and Ivanova 1996, Lesthaeghe and Surkyn 2002, Zakharov forthcoming). However, given the instability of the economic situation following the transition to capitalism, the rise in nonmarital childbearing could be associated with economic hardship and general life instability. Studies have shown that single-parent families in Russia disproportionately suffered during the transition to a new economy (Klugman and Motivans 2001). The goal of this paper is to determine whether nonmarital childbearing in Russia is more closely associated with higher education and employment opportunities or lower human capital and poverty – in short, whether nonmarital fertility in Russia is part of the “Second Demographic Transition” or more similar to that of the disadvantaged populations in the United States.

Besides looking at a context with increasing nonmarital fertility, this study uses an innovative approach to decompose the effects of education and employment on fertility before and after conception. Three distinct processes affect a woman’s risk of bearing a child outside of marriage: entry to marriage prior to conception, conception prior to marriage, and entry to marriage following a conception outside of marriage. Gerber and Berman (2008b) show that education has positive and roughly linear effects on the rate of entry to first marriage among Russian women. Here we censor women from our analysis when they marry, and we estimate the effects of education on the rates of birth and conception among those who have not yet married. Then we examine whether education affects the transition to marriage among those who conceive a child outside of marriage. This approach yields insight into where exactly education exerts effects on the risk of nonmarital childbearing. In addition, we incorporate cohabitation into our analysis: we

perform our analyses on single women alone, then we add cohabiting women into the risk sets and control for differences between cohabiting and single women in the hazards conception and birth and in entry to marriage after nonmarital conception.

By distinguishing the effects of education on nonmarital conceptions from its effects on subsequent entry to marriage, we can determine where precisely education has had the greatest impact on nonmarital childbearing rates. Given that 68% of nonmarital conceptions in Russia end up as marital births - compared to 19% in the U.S. (Upchurch, Lillard, and Panis 2002) - this setting is particularly well-suited for studying the effects of education on the transition from nonmarital conception to marital birth.

THEORETICAL FRAMEWORK

Increases in nonmarital childbearing throughout the industrialized world

Nonmarital childbearing has been increasing in most countries of the industrialized world (Heuveline et al 2003). In the U.S., 30% of children are born out-of-wedlock, and in Europe nonmarital childbearing ranges from 5% in Greece to 55% in Iceland (Kiernan 2004). Much of the increase in nonmarital childbearing is due to the “decoupling” of marriage and fertility (Bumpass 1990). Since the 1960s, the meaning of marriage has changed, and marriage is no longer required as a prerequisite to childbearing (Axinn and Thornton 2000). Survey questions on attitudes and values show that over time Americans (Thornton and Young-DeMarco 2001) and Europeans (Kiernan 2004) have become much more accepting of nonmarital childbearing. This suggests that nonmarital childbearing is part of the global process of family change and unlikely to disappear.

Cultural perspectives on nonmarital childbearing, however, differ greatly and influence the way that researchers frame the issue. In the United States, nonmarital

childbearing is often considered a problem, and public policy aims to promote marriage with the goal of reducing welfare dependency and stabilizing low-income families (Lichter, Graefe, and Brown 2003). For example, the Bush administration has sought to encourage marriage by promoting the “Healthy Marriage Initiative,” which provides education services and counseling to unmarried couples. On the other hand, in Europe (with the exception of Britain) out-of-wedlock childbearing is not generally seen as a problem, and there are few attempts to encourage marriage (Kiernan 2004). Several European countries have made the rights of individuals within cohabitation indistinguishable from those in marriages, while others have created civil union arrangements, such as France’s PACS that fall in between the rights and responsibilities of single people and married people (Bradley 2001).

As a result of these conflicting views about whether nonmarital childbearing represents a social problem, researchers in Europe and the United States have followed different agendas when they study and theorize about the phenomenon. Throughout the literature and in public discussions, different family forms are often confused (Heuveline et al 2003). Scholars often use the term “nonmarital childbearing” loosely, without specifying whether births occur within stable cohabiting unions or to single-mothers. For example, US researchers combine births that occur within cohabitation and to lone mothers in a single category (e.g. Lichter, Graefe, and Brown 2003, Upchurch, Lillard, Panis 2002), while researchers in Europe tend to combine cohabitation with marriage, emphasizing the importance of the union, regardless of whether it is legalized. (e.g. Henz and Thomson 2005).

This loose terminology conceals the important distinction between births to single mothers and births within cohabiting unions. This distinction matters for our understanding of the social and economic implications of non-marital childbearing. Single mothers often lack the human or social capital to convince a potential partner to marry or live with them; alternatively, they are not sufficiently satisfied with the economic resources or characteristics of a potential partner to accept marriage or co-residence (Edin and Kefalas 2005, Gibson-Davis, Edin, and McLanahan 2005).

Cohabiting women or their partners may also lack the necessary resources to turn their relationship into a marriage, either because of inadequate funds to buy a house or hold a wedding, or insufficient emotional or financial resources to commit to a long-term relationship (Edin and Kefalas 2005, Gibson-Davis, Edin and McLanahan 2005). However, cohabitation could instead indicate a proclivity towards non-conformity: while cohabiting partners may have a serious commitment to each other, they may reject the institution of marriage just as they would reject society or the government meddling in their private lives (Lesthaeghe and Surkyn 2002). Thus, rather than material deprivation, childbearing within cohabitation could signify a new form of family behavior, practiced by those who are rejecting established norms and experimenting with new ideas (Lesthaeghe and Surkyn 2002).

To summarize, nonmarital childbearing could be the product of two very distinct social patterns: either the lack of human and financial resources that is associated with disadvantage and poverty, or the ideational change proposed by the second demographic transition. In the following sections, we compare these two explanations and outline the

hypotheses they imply about how certain observable factors are associated with nonmarital childbearing.

Second Demographic Transition

Nonmarital childbearing, particularly in Europe, is often considered one of the major elements of the second demographic transition (Lesthaeghe and Surkyn 2002, Van de Kaa 2001). At its simplest, the second demographic transition is conceptualized as a package of behaviors that are interconnected, including cohabitation, declines or delays in marriage, postponement of childbearing, and below-replacement levels of fertility (McLanahan 2004, Sobotka et al 2003, Lesthaeghe and Neidert 2006). Dirk van de Kaa (2001) further specified that the behavioral change of the second demographic transition occurs in a logical sequence, starting with declines in the Total Fertility Rate and progressing through 15 stages that lead to the disconnect between marriage and fertility and increases in extra-marital fertility, as cohabitation becomes an alternative to marriage.

Other conceptions of the SDT argue that changes in behavior are seen as the manifestation of new lifestyle choices related to ideational and cultural change (Sobotka et al 2003, Lesthaeghe and Surkyn 2006, Lesthaeghe and Neidert 2006). In particular, SDT is associated with an increase in individual autonomy, rejection of authority, and the rise of values connected to the “higher order needs” of self-actualization (Lesthaeghe and Surkyn 2002). Lesthaeghe and associates (2002, 2006) draw connections to Ron Inglehart’s theory of post-materialism, which posits that values change as material needs are met, not only through economic development, but also through investments in education. Lesthaeghe and Surkyn (2002) point out that some of the earliest innovators of

the SDT were the better educated young cohorts of the Low Countries during the late 1960s. Thus, implicit in these arguments of value change is that education is one of the main mechanisms leading to new behaviors.

Because of widespread cohabitation and gains in gender equality, Northern Europe is often held up as a model for the Second Demographic Transition. For example, in Sweden in 2004 nearly 55% of births occurred outside of legal marriage (Kiernan 2004). The vast majority of these nonmarital births were within cohabiting unions – of women aged thirty-five to thirty-nine, 53% of first births were within a first cohabiting union, 6% were to single mothers, 23% were within first marriage and 19% were after a first partnership (Kiernan 2004). Public attitudes and researchers view cohabitation in Scandinavian countries as nearly indistinguishable from marriage (Bernhardt 2007) and as having evolved into a stable family formation institution (Heuveline and Timberlake 2004).

The few Scandinavian studies that examine the association between education and marital status at the time of birth show there is little difference between cohabitators and married people (Kiernan 2004). Yet a difference may arise when marital intentions are considered: cohabitators who intend to marry have similar levels of education as married people, while cohabitators that do not intend to marry have less education than married people (Bernhardt et al 2007). Thus, even in Scandinavia, nonmarital childbearing within cohabitation may not be part of the second demographic transition.

This finding leads to several questions: Are cohabitation and nonmarital childbearing part of the second demographic transition? Can education be used as a proxy for ideational change? Do changes in values and beliefs underlie the second demographic

transition? If so, which beliefs have changed and how? What components of the second demographic transition go together? It is unclear whether there are even indicators (i.e. marriage rate, age at marriage, divorce rate, and unmarried cohabitation) that consistently reflect the concept of the “strength of marriage” (Kalmijn 2007), much less a series of trends that can be characterized as the second demographic transition. These questions bring us to the other perspective on nonmarital childbearing, which associates nonmarital childbearing not with higher education and the pursuit of higher needs, but with lower levels of education and economic deprivation.

The U.S. Perspective

Nonmarital childbearing in the United States primarily occurs among disadvantaged and less educated populations. Single and cohabiting unmarried mothers in the U.S. have higher rates of poverty and welfare dependency. Female-headed households with children – most of which began with a nonmarital birth – had a poverty rate six times higher than that of married couples with children (Lichter, Graefe, and Brown 2003). Previous U.S. research has consistently shown a negative association between nonmarital childbearing and education (Rindfuss, Morgan, and Offutt 1996, Ventura et al 1995, Upchurch, Lillard and Panis 2002).

Although nonmarital childbearing in the U.S. is often associated with single motherhood, 40% of nonmarital births in 1995 occurred within cohabiting unions (Bumpass and Lu 2000). Almost all of the recent increase in the percentage of nonmarital births has been due to births to cohabiting couples (Bumpass and Lu 2000). This increase in nonmarital childbearing within cohabitation may appear to be part of the second demographic transition, but most evidence indicates that cohabitation is not becoming an

alternative to marriage (Raley 2001). Cohabiting unions in the U.S. are less stable than marriages (Brines and Joyner 1999, Bumpass and Lu 2000) and are about twice as likely to dissolve as marital unions following a first birth (Wu, Bumpass, and Musick 2001). Cohabiters are more likely to be unhappy or dissatisfied with their current situation compared to married women (Brown 2003, Brown and Booth 1996), and cohabiting women suffer higher rates of physical violence and emotional abuse (Kenney and McLanahan 2006, DeMaris 2000). These findings cast doubt on the view that cohabitation in the United States reflects the ideational change or spread of “higher-order” values associated with the second demographic transition, as suggested by Lesthaeghe and Neidert (2006).

Russia-specific explanations

Russia is a particularly interesting case study for nonmarital childbearing, since the increase in this phenomenon has been so rapid, and yet little is known about the reasons for this increase. The nonmarital fertility ratio, or the number of births to unmarried women relative to all births, doubled within a decade. The increase in nonmarital childbearing has occurred in tandem with a series of other major changes to the family, for example, the rate of entry to first marriages declined by roughly 60% from 1985 to 2000 (Gerber and Berman 2008b) and the Total Fertility Rate fell from 1.7 in 1991 to a low of 1.2 in 1999 (Zakharov et al 2005). The majority of the decline in fertility has been due to the postponement or elimination of second births rather than first births, although there has been some postponement of first births, with the mean age at first birth rising from 22.6 in 1991 to 23.9 in 2003 (Zakharov et al 2005). Thus, part of the increase in

nonmarital childbearing is due to the decline in marriage and decrease in marital fertility, and this paper aims to disentangle these trends.

Explanations for fertility decline and other changes in the Russian family could be applicable to nonmarital childbearing. One of the main explanations is that couples have restricted childbearing and postponed or avoided marriage as a response to economic uncertainty (Kohler, Billari, and Ortega 2002, Kohler and Kohler 2002, Heleniak 1995, Khorev 1997). After the disintegration of the Soviet Union in the early 1990s, the country was plunged into economic turmoil, leading to increases in unemployment, poverty and general economic instability (Gerber and Hout 1998; Gerber 2002). For some couples, male unemployment or the lack of financial resources may have acted as a barrier to marriage or a wedding ceremony, as they do in the United States (Edin and Kefalas 2005). And, because Russian women are often reluctant to abort a first pregnancy due to fears of infertility and other medical concerns (Perelli-Harris 2005), they may have taken unplanned pregnancies to term, regardless of their marital status. Thus, according to the explanation of economic uncertainty, nonmarital childbearing should have increased most among those with poor economic prospects, namely those with the least education.

Another leading explanation for family change in Russia is that it is caused by anomie or societal-level stress (Philipov 2002, Perelli-Harris 2006). Beyond causing individual-level financial hardship, economic crisis and general uncertainty can lead to social anomie, or a breakdown in social norms (Durkheim 1984 [1893]). Negative macroeconomic change may cause individuals to feel they have lost control over their lives, resulting in high levels of stress and anxiety (Dooley et al 1996, Fenwick and Tausig 1994). The results of the widespread stress are evident in post-Soviet Russia in the

rapid increases in mortality and morbidity (Shkolnikov et al 1998, Walberg et al, 1998), accidents, injuries, alcohol poisoning, and male suicide (Gavrilova et al 2000).

Because Russian women are reluctant to abort a first pregnancy, the growth in nonmarital childbearing may result from an increase in unprotected sex, which is another form of risk-taking that seems to have increased after the collapse of the Soviet Union. University education increases condom use for Russian women (Gerber and Berman 2008a), indicating that more highly educated women are less likely to engage in risky sexual behavior. Thus, exposure to unintended pregnancy may be lower among university-educated women. However, anomie may have effects that go beyond simply engaging in unprotected sex: it may instead lead to nonmarital childbearing through unmeasured mechanisms such as poor relationship quality or other negative behaviors that would preclude marriage. Further, although the anomie explanation predicts that nonmarital childbearing is associated with lower education, it is impossible to disentangle this explanation from that of economic uncertainty with these data.

Finally, some demographers argue that Russia is on the threshold of the second demographic transition, part of the evolutionary trend towards the 'Western' model of family formation, although with a unique Russian twist (Vishnevskii 1996, Lesthaeghe and Surkyn 2002, Zakharov forthcoming). They posit that the shift is part of the natural process of modernization, a process that has always been met with some degree of resistance in Russia (Vishnevskii 1996). Nonmarital childbearing is held up as one of the main components of the second demographic transition, and some go so far as to say that "childbearing out-of-wedlock is becoming a universal social norm" (Zakharov forthcoming). These arguments claim that Russians are becoming more "westernized"

through ideational change, as young people become more exposed to the values and beliefs of capitalist, consumer-oriented countries. Education is one of the main mechanisms leading to the changes in values and beliefs associated with the second demographic transition. Thus, according to this perspective, higher education should be associated with nonmarital childbearing.

ANALYTIC STRATEGY

Our data are from the Survey on Stratification and Migration Dynamics in Russia (SMDR), which combines three nationally representative samples of adult Russians surveyed by the Moscow-based survey research firm, VTsIOM, in September 2001-January 2002 (Gerber 2006). The SMDR conducted 7167 interviews with respondents aged 15 and over and had a 61.2% response rate. The survey includes sections devoted to birth, relationship, migration, and employment histories dating back to December 1984. Of particular interest is the relationship history: along with asking respondents about the timing of marriage, the survey asked respondents when they “began to live with a partner without an official marriage.” These union histories are important for distinguishing between nonmarital births that occurred to single-women and women in cohabiting unions. The survey’s employment histories included measures identifying the start and end of spells of education. Combining this information with information on the highest level of schooling completed by the respondent at the time of the survey, we constructed a time-varying measure of each respondent’s education and also a time-varying dummy variable indicating when the respondent was currently in school. Finally, we use the information on the timing of births to estimate the time of conception at 8 months prior to birth. Unfortunately, we have no information on conceptions that ended in abortions or

miscarriages, nor are we able to identify conceptions that took place within 9 months of the time of the survey. Accordingly, our results with respect to conception should be understood as pertaining only to conceptions that eventually result in a birth, and we end the observation window for our analysis in December 2000.

In this analysis, we focus on first births, because nearly all women in Russia have a first birth, and first births have not been substantially postponed over the period. Also, twice as many nonmarital births are first births than second births: 7.6% of first births are within cohabiting relationships and 10.6% are to single mothers, while 4.6% of second births are within cohabiting relationships and 4% are to single mothers. We restrict our analyses to women aged 15 to 39 between the period 1985 to 2000. 1739 women end up in our sample.

We begin by analyzing how the composition of nonmarital births changes over time, focusing on the difference between births to single mothers and those within cohabiting unions. We also estimate the change over time in union status at the time of birth for nonmarital conceptions. We then turn to the question of whether nonmarital fertility in Russia has more in common with the second demographic transition or the disadvantaged populations of the United States by focusing on education. We first estimate discrete-time hazard models for births and conceptions among never married respondents – both excluding and including cohabiting women. We then estimate logistic regression models for marriage entry after nonmarital conception but prior to birth. This strategy allows us establish at what point education has the greatest impact.

Independent Variables

Educational attainment. Educational attainment is a time-varying covariate incorporated as dummy variables for university degree, specialized secondary degree (secondary or post-secondary training in semi-professions or technical fields), lower vocational schooling (i.e. formal training in manual trade), and less than secondary. The reference category is completion of general secondary school.

Educational enrollment. Educational enrollment is included as a dummy variable

Employment. Employment is measured at the time of the event. The dummy variable includes women who are on official maternity leave.

Age. We include age and age-squared to approximate the functional form of the age schedule for childbearing. Other specifications (such as higher order polynomials) did not fit as well.

Year. To capture change over time in the hazard of nonmarital birth, we include an interval variable representing years elapsed since 1985.

RESULTS

Changing composition of births by type of union.

An analysis of nonmarital births over the entire period shows that 82% of births occurred within marital unions; 8% occurred within cohabitation; 7% occurred to never married women; and the remainder occurred to women who were separated or divorced or had missing marital status information. In subsequent descriptive analyses, we include this remainder in the single mother category for simplicity. Figure one shows how the composition of births to all women has changed over time. Since the late 1990s, the proportion of births to women in cohabiting relationships steadily increased to over 10%

of all births. At the same time, however, the percent of births to single women also increased.

(Figure 1: All births by marital status)

Table one shows the union status of first births in three periods from 1985 to 2001. Overall, little change in the distribution of births by union status occurred from 1985 to 2001, but a shift from marriage to cohabitation is evident in the period 1996-2001. Of all first births, the percentage within cohabitation doubled during the period 1996-2001. The percentage of nonmarital births that occurred within cohabiting unions increased from 32% in 1990-1995 to 54% in 1996-2001. Thus, as in the U.S., the majority of the increase in nonmarital childbearing has occurred within cohabitation, but the overall percent of births within cohabitation is not nearly as high as in Northern European countries.

(Table 1: Union status at first birth by period for all women 15-39)

The role that conception plays in nonmarital childbearing is quite different in Russia than in Northern Europe or the United States. Marriage following an unplanned pregnancy has been a traditional pattern in Eastern Europe (Perelli-Harris 2005), and this response has changed little over time. In other countries shot-gun marriages have declined dramatically; for example in the United States, 45% of premarital conceptions were legitimated in the 1970s (Manning 1993), but by the 1990s only 19% were legitimated (Upchurch, Lillard, and Panis 2002). Our data supports the assertion that the legitimation of premarital pregnancies has remained common throughout the 1990s. Table two shows that the percent of first conceptions to single women declined slightly, from 36% to 32%, but approximately 68% of those women were married by the time of

birth in each period. The percent of first nonmarital conceptions that resulted in births to single mothers (27-30%) or within cohabitation (approximately 4%) also changed very little.

(Table 2: Union status at first conception and at subsequent birth for single or cohabiting women)

The percent of conceptions occurring within cohabitation more than doubled from 1985 to 2001, resulting in 15% of all first conceptions occurring within cohabitation. The pattern of unions by the time of birth, however, changed little. The vast majority of conceptions within cohabitation resulted in births within cohabitation – approximately 80%. Only 14% of women in cohabiting relationships at the time of conception were married by the time of the birth. Because of the small numbers, it is difficult to estimate changes over the period. The only conclusion that can be drawn safely is that women who conceive within cohabitation are most likely to give birth within cohabitation, suggesting that for these women, cohabitation is an alternative to marriage.

The important role cohabitation plays in nonmarital childbearing, draws our attention to the general characteristics of women who cohabit. According to our data, 9.5% of women 15-40 have ever cohabited. The percentage of women cohabiting has increased over time from 2.5% in 1984-89 to 5.7% in 1996-2001. There appears to be little difference in level of education at the time of the survey between those who have ever cohabited and those who have not. Logistic regression models of first cohabitation rates (not shown) do not indicate that education has any effect on the timing of entrance into cohabitation. Only school enrollment has an effect: women who are enrolled in school have cohabitation rates that are 39% lower than women not enrolled in school.

Thus, although it is clear that cohabitation has been the primary reason for the increase in nonmarital fertility, we cannot tell from this data why cohabitation has increased.

Models for first nonmarital births and conceptions

As in the descriptive analysis above, our discrete-time hazard models for first nonmarital births and nonmarital conceptions reveal patterns that do not completely follow the pattern of disadvantage or the second demographic transition (Table 4). We start by analyzing the overall effect of education on births to single women; women in these models are censored at birth, marriage, and cohabitation (column 1). Column 1 shows that higher education and current school enrollment are associated with substantially lower rates of nonmarital births. As in the United States, nonmarital childbearing to single mothers occurs less among university-educated women. Generally speaking, although the results are not significant for all levels of education, the beta coefficients show that the more education a woman has, the lower her nonmarital birth rates.

Including cohabiting women in the risk set, however, changes the effects (column 2). Not surprisingly, women who cohabit have substantially higher first birth rates than women who are single, but unlike in the previous model, the effect of higher education (relative to the baseline, secondary schooling) is no longer statistically significant. This indicates that cohabitation dampens the effect of higher education on nonmarital births. An interaction term between university and cohabitation is also not significant, suggesting that nonmarital births do not necessarily occur to highly educated cohabiting women, as predicted by the second demographic transition. Instead, women with lower vocational schooling stand out as especially prone to births that occur to single and

cohabiting mothers. This is a rather unexpected finding and further research is needed to know why women with vocational schooling have higher rates nonmarital childbearing.

(Table 4: Discrete-time hazard model estimates of first nonmarital conceptions and first nonmarital births.)

We now turn to models of nonmarital conception to see if the effects from the birth models are the same at the time of conception (column 3). Contrary to the findings above, women with higher education do not differ from women with secondary education. Instead, women with less than secondary education have nonmarital conception rates that are 50% lower than women with secondary school, even after controlling for school enrollment. Again, women with lower vocational schooling have even higher nonmarital conception rates than women with secondary education. These models are rather surprising in that they do not suggest that the most disadvantaged women are more likely to conceive nonmaritally, as in the United States. The findings also raise the question of whether more highly educated women are more able to control their fertility with contraception. Women who are employed and enrolled in school, however, have lower first conception rates. In any case, the overall pattern of births and conceptions suggests that women with higher education are more likely to marry once they conceive a child outside of marriage, while women with less than secondary education are less likely to do so.

Finally, the negative effect of year supports the above description of falling birth rates for single mothers and cohabiting and marital unions. The negative coefficient reflects the sharp decline in overall fertility in Russia during this period: the increase in

the proportion of nonmarital births resulted from a more rapid decline in marital fertility than nonmarital fertility, not an increase in rates of nonmarital fertility.

Models for marriage entry prior to birth following nonmarital conception

Table 5 shows the effects of education on the log-odds of being married at the time of birth for women who had a nonmarital conception. These results support the above findings that women with higher education are more likely to marry once they conceive a child outside of marriage. The relationship between education and marriage at the time of birth is linear: as women achieve higher levels of education, they are more likely to legitimate a nonmarital conception. However, only higher education has a significant effect: women with university degrees who were single at the time of conception are 4.48 times more likely to be married at the time of the birth than are women with secondary schooling who were single at the time of conception. When we add cohabiting women who conceived a child to the sample, the same results obtain, although the effect of higher education is somewhat weaker. Also, although the effect of “less than secondary” is not quite statistically significant (it is significant using a one-tailed test when we include cohabiting women), the parameter estimates suggest that women with the least amount of schooling are less likely to get married after a nonmarital conception than are women with secondary schooling.

(Table 5: Logistic regression models of marriage at the time of birth for conceptions to single women only and to single and cohabiting women)

Finally, women who are cohabiting at the time of conception are 95% less likely to be married at the time of the birth. This finding again suggests that cohabitation in Russia is more likely to be an alternative to marriage, because even conception does not

convince couples to marry. Interaction terms between cohabitation and university education and less than secondary education were not significant.

DISCUSSION

In this article, we have investigated the rise in nonmarital childbearing in a country that has undergone extensive social, political, and economic change over the past few decades. We have shown that nonmarital childbearing in Russia has not conformed to the prevailing patterns of nonmarital childbearing in the United States or Second Demographic Transition countries, but instead has adopted elements of each, while maintaining some aspects that are particular to its own context. By describing behavior and analyzing effects at multiple points in the childbearing process, we have been able to uncover the intricacies of the situation to better understand demographic change in Russia.

Descriptive analyses show that the increase in nonmarital childbearing in Russia is primarily due to increases in cohabitation, which has occurred both in the U.S. (Raley 2001) and in Second Demographic Transition countries (Kiernan 2004). Throughout 1984-1995, Russian crude birth rates for married, single, and cohabiting women fell, but because of the increase in the percent of the population cohabiting, the proportion of all births within cohabitation increased slightly. The main change occurred in the latter half of the 1990s, when the percent of the population cohabiting nearly doubled and cohabiting birth rates increased slightly. Single birth rates remained relatively stable throughout the entire period.

The increase in nonmarital childbearing among cohabiting couples, however, explains little about the underlying processes leading to this change. In order to better

understand these processes, we analyzed the relationship between education, employment, and nonmarital childbearing. Contrary to theoretical predictions of the Second Demographic Transition or the ideational change perspective, our results suggest that Russian women with university education are much less likely to experience nonmarital births than women with lower levels of education. This appears to be related to the U.S. pattern of disadvantage, as well as explanations of anomie and economic uncertainty. The main reason for the relationship between higher education and nonmarital births, however, is not that university-educated women are less likely to conceive a child outside of wedlock: they do not differ significantly from women with secondary schooling in this regard. Instead, university-educated women in Russia have significantly higher rates of entering marriage after a nonmarital conception, and for this reason their rates of nonmarital births are lower. Thus, Russia's tradition of marrying after an unplanned pregnancy is still overwhelmingly maintained by more highly educated women.

At the other end of the educational spectrum, our data suggest that unmarried women with less than secondary education are less likely to conceive a child than unmarried women with secondary schooling. This rather surprising finding cannot be explained by arguments related to disadvantage, anomie, or the Second Demographic Transition. It could be that women with less education are less exposed to sexual intercourse and therefore have lower conception rates. Those who do conceive a child appear to be less likely to marry subsequently (though this effect is, at best, only marginally significant statistically, probably because the sample of women with less than secondary who conceive a child is small and thus we have little statistical power to assess

this effect). This finding is consistent with patterns of disadvantage, economic uncertainty, and anomie. Finally, a finding which requires further research is the strong association between nonmarital childbearing and lower vocational school education, especially when cohabitation is included in the models.

Cohabiting women in Russia are much more likely to conceive a child than single women, and once they do they are much less likely to get married prior to having the child than are single women who get pregnant. In this sense, cohabitation does appear to be developing as a longer-term alternative to marriage in Russia rather than a temporary response to economic crisis and uncertainty, which is consistent with the portrayal of the second demographic transition. However, cohabitation does not seem to be associated with any level of education in first cohabitation models, measured at the time of birth or conception, or measured at the time of the survey for those who have ever cohabited. This lack of association could be due to small numbers, or it could mean that cohabitation in Russia does not reflect patterns in the U.S. or in second demographic transition countries.

Taken together, our results indicate that neither the Second Demographic Transition nor the United States pattern offer adequate accounts of nonmarital childbearing in contemporary Russia. The former perspective cannot explain why women with higher education are especially likely to enter marriage once they conceive a child out of wedlock – nor, indeed, why education is positively associated with entry to marriage in general in contemporary Russia (Gerber and Berman 2008a). On the other hand, Russia departs from the United States and resembles the Scandinavian pattern in that the risk of births is substantially higher for cohabiting women than for single women. The relatively high percentage of conceptions that are nonmarital and the very high

percentage of births that are subsequently legitimated are remnants of Russia's historical pattern of childbearing (Perelli-Harris 2005) and may persist due to inadequate access to contraception.

These results suggest that analyses of nonmarital childbearing should attend closely to differences between single and cohabiting women and should consider where exactly in the multi-stage process that leads to nonmarital births education exerts its effects. Further research needs to analyze the quality and persistence of cohabiting unions and nonmarital childbearing in Europe. Most studies that point to the diffusion of the second demographic transition rely on macro-level indicators for evidence, rather than conducting individual-level analyses to show that cohabitation and nonmarital childbearing are associated with certain values or ideas. Few European studies analyze the relationship between nonmarital childbearing and cohabitation and education or economic conditions. Only studies which attend to these relationships can determine whether the second demographic transition is spreading or even whether it is a salient concept at all.

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Figure 1: All births by marital status

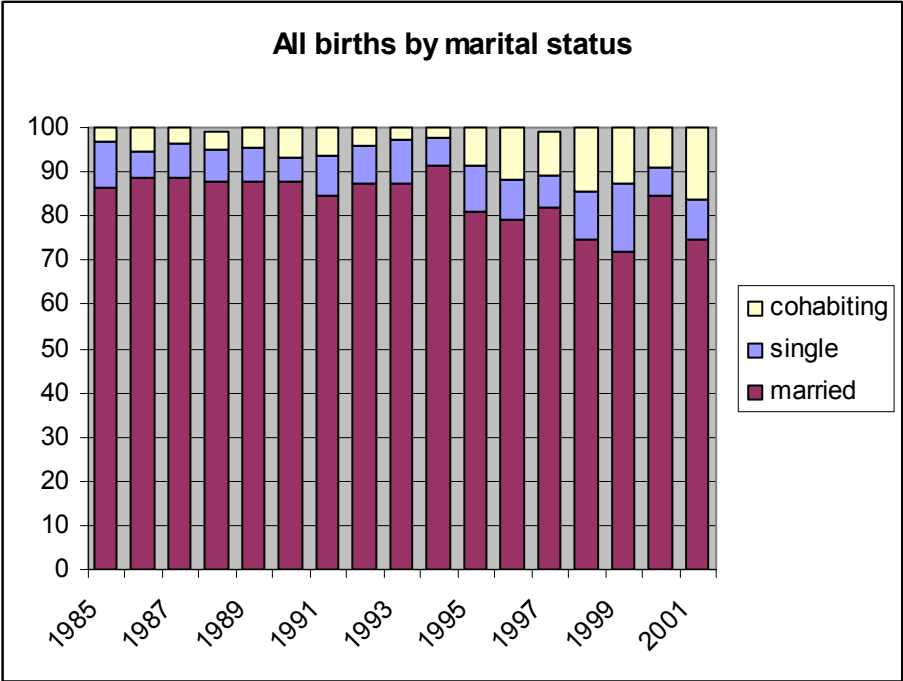


Table 1. Union status at first birth by period for all women 15-39

	Single	Married	Cohabiting
1985-1989	10.07	84.07	5.85
1990-1995	11.68	82.82	5.5
1996-2001	10.23	77.56	12.21
Avg. across pds.	10.58	81.78	7.64
N for all periods	108	835	78

Table 2. Union status at first conception and at subsequent birth for single or cohabiting women

	Single at conception	Single at birth	Married at birth	Cohabiting at birth	Cohabiting at conception	Single at birth	Married at birth	Cohabiting at birth
1985-1989	35.56	26.36	68.99	4.65	6.21	8.33	12.50	79.17
1990-1995	33.33	30.00	67.00	3.00	4.86	11.76	11.76	76.47
1996-2001	32.31	27.72	68.32	3.96	15.38	2.50	15.00	82.50
Avg. across pds.								
N for all periods	34.02	27.88	68.18	3.94	8.27	6.17	13.58	80.25
	329	92	225	13	80	5	11	65

Table 3. Descriptive Statistics, Women aged 15-40 at the time of the birth by union status

	Single	Married	Cohabiting
<i>Age (mean)</i>	23.51	23.12	23.10
<i>Education (percent)</i>			
University	12.04	22.16	16.67
Specialized secondary	20.37	27.54	34.62
Lower vocational	21.30	18.08	15.38
Secondary school	34.26	28.50	23.08
Less than secondary	12.04	3.71	10.26
<i>Main Activity (percent)</i>			
In school	17.59	14.13	11.54
Employed	64.81	71.62	71.79
<i>N</i>	108	835	78
<i>N (percent)</i>	10.58	81.78	7.64

Table 4. Discrete-time hazard model estimates of first nonmarital conceptions and first nonmarital births.

	Births to single women only^a	Births to single and cohabiting^b	Conceptions to single women only^c	Conceptions to single and cohabiting^d
Year	0.955* (-2.07)	0.956** (-2.83)	0.953*** (-3.91)	0.951*** (-4.60)
Age	2.005*** (3.47)	1.406* (2.29)	1.343* (2.43)	1.245* (2.03)
Age Squared	0.988** (-3.17)	0.994* (-2.28)	0.993** (-2.74)	0.995* (-2.51)
University	0.373* (-2.45)	0.742 (-1.08)	1.005 (0.02)	1.037 (0.19)
Specialized second.	0.644 (-1.36)	1.091 (0.39)	0.999 (-0.00)	1.140 (0.84)
Lower vocational	1.346 (0.98)	1.818* (2.52)	1.710*** (3.34)	1.871*** (4.25)
Less than secondary	1.166 (0.40)	0.855 (-0.54)	0.502** (-3.15)	0.499*** (-3.55)
In school	0.215*** (-3.96)	0.278*** (-4.30)	0.340*** (-5.31)	0.382*** (-5.16)
Employed	0.566 (-1.92)	0.753 (-1.28)	0.685* (-2.12)	0.830 (-1.16)
Cohabiting		13.77*** (15.53)		5.624*** (12.50)
P	5.98e-14	5.34e-67	2.05e-31	2.44e-64
rank	10	11	10	11
N	106284	111719	100430	104739

Notes: Estimates are presented as odds ratios, with t-statistics in parentheses.

*p<.05 **p<.01 ***p<.001 (one-tailed tests)

Note:

a Hazard model is censored at marriage and cohabitation

b Hazard model is censored at marriage

c Hazard model is censored at marriage and cohabitation

d Hazard model is censored at marriage

Table 5. Logistic regression models of marriage at the time of birth for conceptions to single women only and to single and cohabiting women

	Single women	Single and cohabiting
Year	1.005 (0.17)	1.020 (0.71)
Age	0.876*** (-3.57)	0.867*** (-4.08)
University	4.480** (2.80)	3.545** (2.74)
Specialized second	1.421 (0.85)	1.462 (0.98)
Lower vocational	1.391 (0.85)	1.685 (1.37)
Less than secondary	0.452 (-1.46)	0.399 (-1.75)
In school	1.508 (0.85)	1.628 (1.05)
Employed	1.312 (0.70)	1.532 (1.18)
Cohabiting at conception		0.048*** (-7.86)
p	0.0125	1.61e-22
rank	9	10
N	294	375

Notes: Estimates are presented as odds ratios, with t-statistics in parentheses.

*p<.05 **p<.01 ***p<.001 (one-tailed tests)