How Much of Fertility Intentions Are Realized in Two Years?

Predictive Power of Short-Term Fertility Intentions and Variation over the Life Course

Sam Hyun Yoo

Wittgenstein Centre (IIASA, VID/ÖAW, WU), International Institute for Applied Systems Analysis

yoosam@iisas.ac.at

Abstract

Fertility intentions have been considered one of the important determinants of fertility behaviors, but their predictive power remains obscure. This study is to explore the predictive strength of fertility intentions and how it changes over the life course. With the National Longitudinal Survey of Youth 1979, I analyze repeated short-term fertility intentions that predict an actual childbearing outcome in two years. In this study, the two-year time frame of the intention-behavior sequence is repeated until the end of reproductive span, representing the dynamic decision-making process for childbearing through the life course. The predictive validity of fertility intentions systematically changes with age, probably due to behavioral patterns, economic resources, and biological fecundity. The explanatory power of fertility intentions may also differ by social strata, such as level of educational attainment. It is expected that the most educated predict subsequent behaviors more precisely, resulting in fewer unintended births.
Extended abstract

Fertility intentions are strong predictors of fertility behaviors (Bankole and Westoff 1998; Morgan 2001; Rindfuss, Morgan and Swicegood 1988; Schoen et al. 1999; Testa and Toulemon 2006; Westoff and Ryder 1977). Accordingly the relationship between fertility intentions and subsequent fertility behaviors is essential to understand the process of reproductive decision-making and the reasons for unintended births. In developed countries, such as the United States, the difference in fertility intentions contributes to fertility differentials across social strata to a great extent. Given that fertility projections relies heavily on a simple extrapolation of recent trends, understanding the predictive validity of fertility intentions and change over the life course can significantly improve the ways of population projections.

Literature suggests that fertility intentions at earlier ages predict lifetime fertility at the end of the reproductive span at the aggregate level (Liefbroer 2009; Testa and Toulemon 2006). However, the results varied with the country, and the findings cannot also be applied to the micro-level relationship. At the individual level the inconsistence between fertility intentions and behaviors is rather common (Quesnel-Vallée and Morgan 2003).

People revise childbearing intentions in response to changes in life experience, such as age, education, and marriage (Monnier 1989; Udry 1983). These changes in life experience also make a difference in the relationship between intentions and behaviors (Schoen et al. 1999). For instance, the predictive validity of fertility intentions is higher among married women than unmarried women, and more educated group than less educated group (Musick et al. 2009; O’Connell and Rogers 1983; Schoen et al. 1999; Testa and Toulemon 2006). Age, education, and union status are also important in determining involuntary childlessness and unintended births (Mosher, Jones and Abma 2012; Musick 2004). Changes in economic resources and fecundity
according to the stages of life-course, also influence individual ability to realize fertility intentions. Nonetheless, surprisingly little is known about how well people achieve their fertility intentions and how that changes over the life course.

In this study I explore the predictive validity of short-term fertility intentions and its variation over the life course. To be specific, I examine how well short-term fertility intentions predict fertility behaviors, and whether the intention-behavior link systematically changes with age. I also test the tie between fertility intentions and behaviors differs by other individual characteristics, primarily by level of educational attainment. To achieve these goals, I use prospective fertility intentions for the next two years and compare them with actual childbearing outcomes, taking advantage of repeated measures of both intentions and behaviors. Due to data availability this study only focuses on the United States, but it also has strong possibility to carry out a comparative research with other countries later. This study provides new insights in a way to develop better fertility projections based on short-term fertility intentions, which can be easily obtained in most social surveys.

Data and methods

For this study, I use the National Longitudinal Surveys of Youth (NLSY) 1979-2012, a nationally representative cohort study in the United States that has comprehensive information on fertility intentions and outcomes as well as other covariates. The NLSY79 has been frequently used in previous studies (Hagewen and Morgan 2005; Hayford 2009; Quesnel-Vallée and Morgan 2003), primarily for the relationship between fertility expectation and lifetime fertility, but short-term fertility intentions have rarely been used in the literature. Being interested in the predictive strength of fertility intentions over the life course rather than its periodical change, I prefer the NLSY79 to other data. The dependent outcome is whether or not respondents have a
(another) child in the last two years, which is derived from responses to the following question: “has R ever had any children since last interview?” The question on childbearing is repeated in even years for all respondents, so the outcome is measured every other year, from age 18 to 44 without overlapping periods.

The key independent variable is fertility intentions, measured from a set of questions. Both male and female respondents are asked, “altogether, how many (more) children do you expect to have?” If respondents say any number other than zero, then the following question is asked, “In how many months or years do you expect to have your (first/next) child?” Responses to these questions are together transformed into three categories: intentions to have a child in two years (positive intentions), intentions to have a child later, and intentions to stop childbearing (negative intentions). Women who are currently pregnant, sterilized or infertile at the time of interview will be censored for corresponding periods.

I consider the Generalized Linear Mixed logistic regression model (GLMM), which is a method to analyze repeated measures of discrete responses accounting for clustered data, because the outcome variable, whether or not the respondent has a child in the past two years, is repeatedly measured for each individual, standard techniques would not yield unbiased estimates. Detailed procedures and other complicated issues will be discussed later.

I examine the direct effect of short-term fertility intentions—positive and negative—on childbearing. The age-specific pattern of fertility intentions is reviewed for the sake of comparison with previous studies that assumed fixed fertility intentions over the life course. I also investigate whether the effect of fertility intentions is mediated by other covariates, such as educational attainment, employment, and marital status. Other background factors and life-course events that might influence fertility, such as parental education, number of siblings, and
current parity, are also considered in the empirical models. All models are estimated separately by race (white/black) and sex to account for their distinct patterns of childbearing. In addition, special attentions should be paid to whether the predicted power of fertility intentions varies with level of education. Findings of this study will provide a better explanation for the relationship between fertility intentions and reproductive behaviors.

**Contribution of this study**

This study is unique and innovative in several ways. First, this study uses the repeated measure of short-term fertility intentions that predict childbearing in two years, which is distinguished from prior studies that used long-term fertility intentions. The repetition of the two-year interval between intentions and outcomes not only includes the gestation period but also capture the interesting feature of fertility intentions that frequently change through the life course for diverse reasons. As fertility intentions are more accurate when the time period is short and clearly specified, using short-term fertility intention also has great advantages over using lifetime fertility expectation.

Second, this study focuses on the validity of fertility intentions and its variation over the life course. Again, people frequently adjust their fertility intentions according to life experience while individual capability to realize such intentions also changes with age. Nonetheless, the systematic change in the intention-behavior link has not yet been explored much in the literature. This study fills the research gap and also contributes to our understanding of the relationship between fertility intentions and outcomes.

Third, I use two different types of fertility intentions: intentions to have a child and intentions to stop childbearing. Fertility intentions include both types of different intentions, which often conflict with each other. Ambivalence toward childbearing is rather common for
women although many studies missed it (Miller, Barber, and Gatny 2013; Yoo, Guzzo, and Hayford 2014). In order to understand unintended births and involuntary childlessness, this study considers two opposite directions of fertility intentions and analyze them separately.

Lastly, this study has considerable policy implications. The findings of this study will provide empirical evidence that the predictive strength of fertility intentions systemically changes with stages of life course. A better understanding of the connection between fertility intentions and childbearing offers an opportunity to improve ways to forecast possible changes in fertility in the near future with short-term fertility intentions that can be obtained from most social surveys. The factors associated with the validity of fertility intentions can also directly contribute to establishing policy interventions. In this sense, the results of this study and its variants will attract much attentions from scholars in other disciplines and policy makers as well as demographers.

**In the final paper…**

It is expected that the predictive validity of fertility intentions on behaviors varies with age. The effect of negative intentions on childbearing would be higher among older adults due to their better resources, knowledge, and access to contraceptives than younger counterparts, probably acquired by learning process through the life course, and because of declining biological fecundity with age. Young adults are also liable to be impulsive so more likely to be exposed to unprotected sex, in terms of higher risk of casual sex, coital frequency, and number of partners. In contrast, the age-specific trends in the validity of positive intention would be opposite. Childbearing is more likely to happen among young adults in a short period once they decide to do so. Young adults are healthy enough to get pregnant or to get his partner pregnant while as
they age people often have difficulty getting pregnant due to ‘biological clock.’ It is also expected that the predictive strength of fertility intentions differs by level of education. The most educated are more likely to predict subsequent behaviors more precisely, resulting in fewer unintended births. Union status is also an important factor determining involuntary childlessness and unintended births. I hypothesize that the tie between fertility intentions and behaviors is stronger among married women than never-married or cohabiting women. The results of this study will contribute to the literature by providing empirical evidence for reducing unintended births, delayed childbearing, and involuntary childlessness, which may be useful for both developing and developed countries.
References


