

Only University is Enough? Sixty years of adolescent fertility and schooling expansion in Latin America & the Caribbean

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Abstract

Adolescent fertility in Latin America and the Caribbean (LAC) is a demographic puzzle. Despite the region's rapid fertility transition and dramatic educational expansion, adolescent fertility rates remain high. Previous research has found that only women with university experience have not seen an increase in the incidence of teenage childbearing. However, the research's education divisions of no school, primary, secondary and tertiary, mask important differences between lower- and upper-secondary schooling as well as between graduates and dropouts at each level. Additionally, previous research does not consider parity-specific patterns. This study uses 42 nationally-representative demographic surveys in six LAC countries, which span the region's experience of adolescent fertility and schooling profiles, to estimate cohort-based Poisson and logistic regression measures of country- and parity-specific teenage childbearing from women born from 1936-1998. The models estimate (1) the proportions of women with one to four adolescent births and (2) the average number of adolescent births per woman, within each major schooling milestone (no school, primary, lower secondary, upper secondary, and tertiary), as well as for the populations as a whole. The study also distinguishes between women with complete and incomplete schooling careers for each level below tertiary. The findings indicate that in some countries even university is not enough—tertiary attendees have seen long-term increases in adolescent first births. In other contexts, both upper secondary graduates and tertiary attendees have not seen the sharp increases in adolescent first births observed at other schooling levels. Second and higher-order adolescent births have generally, but not universally, fallen.

Extended Abstract

Statement of Research question

The persistence of Latin America and the Caribbean's (LAC) high levels of adolescent fertility over the region's demographic transition and impressive educational expansion is a demographic puzzle. Previous research has found that only women with tertiary schooling in LAC have been immune to increasing rates of adolescent fertility, but no research examines whether this finding holds under more granular schooling divisions, particularly for upper-secondary schooling graduates, nor does it look at patterns for higher-order adolescent births.

Underlying Theory

Previous research on adolescent fertility and schooling in LAC find that adolescent fertility in the regions has increased at all schooling levels except tertiary (Esteve & Florez-Paredes 2014, Alves & Cavenaghi 2009, Vignoli & Cavenaghi 2014, Batyra 2017), but no previous study has looked dynamically at parity-specific change, separated secondary schooling into lower- and upper-levels, distinguished between graduates and dropouts at all schooling levels, or examined the patterns across the entire demographic transition.

Parity-specific research in LAC adolescent fertility is important because recent declines in adolescents' age-specific fertility rates after increases of the 1990s, are now understood to reflect declines in high-order births rather than changes in the proportion of women entering motherhood in adolescence (Neal et al. 2018). In education research, now that LAC has largely achieved universal primary education, attention has turned to secondary schooling, with particular emphasis on differences in lower- and upper-secondary levels (Kattan & Székely, 2015). Demographic research lags behind this development. In the past, in low income countries, the greatest educational variation in fertility was seen between women with no schooling and some primary. Secondary school attainment, which was uncommon, made comparatively little difference for fertility outcomes (Axinn & Barber 2001, Cleland & van Ginneken 1988). However, after greater educational expansion, higher levels of education matter more than the primary years for fertility outcomes, yet secondary schooling remains considerably understudied (Patton et al. 2016). Evidence now suggests that, both in LAC and elsewhere, the most fertility variability occurs in the middle education groups, not the highest or lowest (Esteve et al. 2013; Shapiro 2012). Additionally, an increasing share of dropouts in LAC occur at upper secondary rather than lower secondary levels (Kattan & Székely 2015).

The study's framework for understanding population patterns of adolescent fertility and schooling borrows from research on the individual-level causal relationship between education and the timing of adolescent fertility. In the empirical studies, schooling's link to adolescent fertility encompasses two themes. One, an incarceration effect describes how time adolescent girls spend enrolled and present at school directly reduces fertility levels from what would otherwise happen if the adolescents were not in school (see Geruso & Royer 2018, Grönqvist & Hall 2013, Kruger & Berthelon 2009, Monstad et al. 2008, Silles 2011). Two, an aspirational effect, or the effect of changes brought about by a girl's schooling on her life goals and expectations, finds that adolescent fertility reductions can extend years beyond the ages at which the school attendance occur, and are attributed to school-inspired changes in adolescent's life plans and ambitions (see Baird et al. 2010, Black et al. 2008, Cygan-Rehm & Maeder 2013, Duflo et al. 2015, Kalamar et al. 2016, Monstad et al. 2008; Mason-Jones et al. 2016). In translating these themes to the macro-level, we no longer describe them as effects, but use them to categorize and explore population patterns of school-based incarceration and school-inspired aspirations in adolescent fertility changes.

Data and research methods

This study takes the only six LAC countries for which more than fifty years of nationally-representative, parity-specific adolescent fertility data is available. They form three pairs of contiguous countries and their variously high, medium and low adolescent fertility levels and schooling patterns span the region's trends: Colombia and Peru, the Dominican Republic and Haiti, and Guatemala and Mexico. The data come from 36 Demographic and Health Surveys, and, in the case of Mexico, from six National Surveys of Demographic Dynamics.

To look at measures of cohort-specific adolescent parity progression ratios and in-school conceptions, we use logistic regressions to estimate the probability, or, in this case, the proportion of women progressing from a specific parity to another as well as the proportion with conception of a first adolescent birth while the mother is still in school, for each schooling level. Poisson regressions estimate, for every schooling level, the average number of adolescent births each woman has just before her twentieth birthday. The result is a measure of cumulative adolescent fertility that is more informative than the more commonly used adolescent age-specific fertility rate. Ordinary least square regressions estimate the length of the interval from school leaving to a first adolescent birth based on imputation of the timing of each woman's school leaving. Estimates for each country are modeled separately.

Initial findings

Initial results indicate that in the two most-schooled countries (Colombia and the Dominican Republic), the likelihood of a first adolescent birth has increased at every schooling level, including tertiary, while in the two countries with more moderate improvement in schooling (Mexico and Peru), the risk has increased at all levels except tertiary. In the two least-schooled countries (Haiti and Guatemala), both upper-secondary graduates and university attendees have been protected from increasing risk (see Figure 1). In contrast, the incidence of higher-order adolescent births have declined in all countries and schooling levels except among lower-secondary and primary school goers in the most schooled countries (see Figure 2). The interval analysis suggests that in-school pregnancy risk is increasing for the highest schooling levels, where it is more common, while there is little change at lower levels, though with considerable cross-country variation. The most dramatic changes in rates are often in the middle schooling levels, such as primary and lower secondary, and for women with incomplete rather than complete schooling. Additionally, countries with less schooled populations see the least increase in adolescent first-births but also the least decrease in higher-order births.

Figure 1: Proportion of women with an adolescent first birth by schooling level and country (adolescent parity progression ratio a_0)

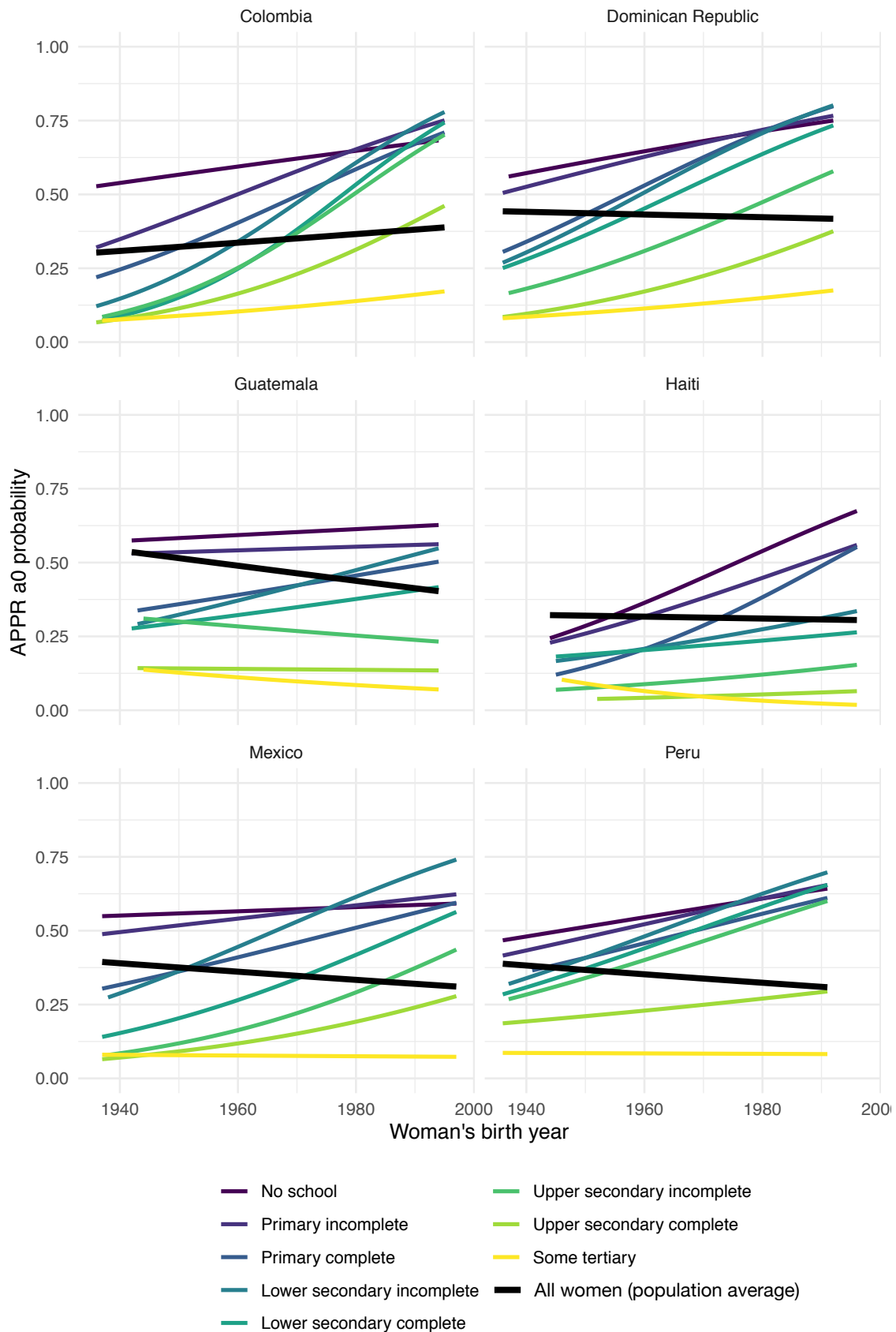
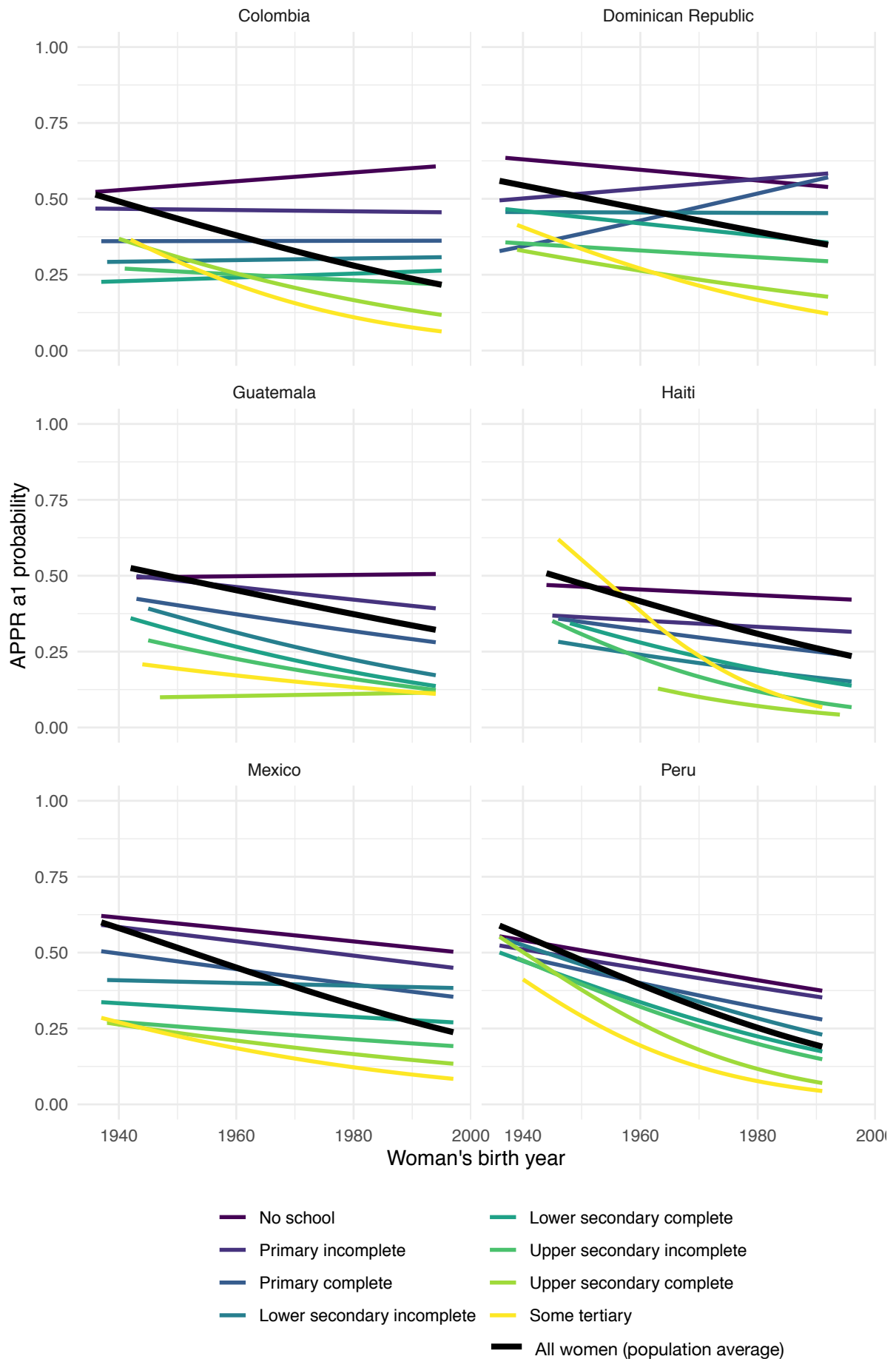


Figure 2: Progression ratio to second adolescent birth by schooling level and country



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