

Length Interval between second and third births as an indicator of failure in the implementation of reproductive preferences in the context of Latin American fertility decline - the case of Bolivia, Brazil and Colombia

Laura L. R. Wong*
Gabriela M. O. Bonifácio†

INTRODUCTION

It is widely known that Latin America is experiencing a fast fertility decline process, portrayed by reducing the women's parity at high orders. While the Region's total fertility was nearly 6 cpw in the 50s, this value declined to around 2.2 (Atualizar) in the current five-year period (2010 - 2015), (UN estimates; 2011). There are many explanations for this sharp fertility decline in Latin America. They cover aspects such as socio-economic development and urbanization, the changing role of families and children in society and the diffusion of the means to implement the reproductive preferences. However, it deserves attention the fact that, contrary to what was observed in Europe, which currently have low fertility levels, in Latin America, in general, the change in reproductive behavior was not accompanied by delaying age at motherhood. Until very recently, decreases in the mean age at motherhood was observed. Latin Americans have their first child on average at a fairly young age, which may reflect in their final parity and births intervals (BI). Women who enter into their childbearing at young ages would reach, on average, a larger family size than those who enter later (Hobcraft and McDonald, 1984; p. 38). Ford (1984), finds that the age at first birth affects the timing of the second birth, and that in general, women who have their first child younger are more likely to have a second child soon, compared with women who have their first child at older ages (p. 11). Bonifácio (2011) proves this findings to be true for Bolivia, Brazil and Colombia around the year 2000: those who had a high parity started childbearing earlier and their birth intervals were, effectively, shorter than those starting at later ages. The opposite was found for those with low parity (1 or 2 children) and with intermediate parity (3 children). (See table 1). Women with intermediate parity present, in the 2000s, a significantly higher birth intervals between orders two and three (BI₂₋₃) than between the first and second child, and the former is quite close to the BI of women who had only two children.

This evidence suggests that, in a scenario of falling fertility, where the ideal number of children oscillates around 2.0, the third child tends to be an unwanted (or unplanned) birth. Note also that BI₂₋₃ among women with completed parity of order 3, tends to be higher among urban and high schooling women (TAB. 1).

Casterline and Mendoza (2009) findings support this hypothesis: Latin America is characterized by a high incidence of unwanted births, Bolivia being one of the countries with the highest proportions (60% in 2000s). Moreover, they demonstrate that the desired fertility rate is below replacement level in most countries of the Region in the 2000s, and in Bolivia, Brazil and Colombia, this rate was below 1.5 children (p. 205). Also the ideal number of children among the younger cohorts analyzed was between 1.9 and 2.1 in the three countries (p. 212).

In this sense, it is importante to measure the desirability of the third child as an index of women's incapability to implement their reproductive preferences. In addition, women who have finished their childbearing with just 3 children are those who were on the threshold between low and high parity. Because they have low fertility, we expected that they would have access to better information and contraception.

* Associate Professor, Department of Demography – CEDEPLAR/FACE/UFMG, Brazil. lwong@cedeplar.ufmg.br

† Doctoral student in Demography – CEDEPLAR/FACE/UFMG, Brazil. gabriela.o.bonifacio@gmail.com

Table 1. Birth intervals (in years) of each order, conditioned by completed parity for the cohort of women of 40-49 years, according to household situation and years of schooling of the mother. Bolivia, 2008; Brazil, 2006 and Colombia, 2005.

Bolivia - 2008	Completed parity														
	2		3		4			5				6			
	1 > 2	1 > 2	2 > 3	1 > 2	2 > 3	3 > 4	1 > 2	2 > 3	3 > 4	4 > 5	1 > 2	2 > 3	3 > 4	4 > 5	5 > 6
Total	5,9	3,9	5,6	3,1	3,4	4,7	2,9	2,9	3,3	4,6	2,5	2,6	2,7	3,2	4,1
Household															
Urban	5,8	3,8	5,8	3,1	3,5	4,9	3,0	2,8	3,5	5,2	2,3	2,6	2,7	3,4	4,3
Rural	6,2	4,0	5,0	3,2	3,1	4,3	2,8	3,1	3,1	3,8	2,8	2,6	2,7	2,8	4,0
Years of schooling															
Until 7 years	5,6	3,7	5,4	3,1	3,2	4,6	3,1	3,0	3,2	4,1	2,6	2,6	2,7	3,2	4,0
8 or more years	6,1	4,0	5,8	3,1	3,7	4,8	2,5	2,7	3,4	5,7	2,3	2,7	2,8	3,2	4,6

Brasil - 2006	Completed parity														
	2		3		4			5				6			
	1 > 2	1 > 2	2 > 3	1 > 2	2 > 3	3 > 4	1 > 2	2 > 3	3 > 4	4 > 5	1 > 2	2 > 3	3 > 4	4 > 5	5 > 6
Total	5,2	3,6	4,7	2,7	3,6	4,1	2,2	2,8	2,8	3,7	2,1	2,9	2,4	2,7	4,2
Household															
Urban	5,1	3,7	4,7	2,7	3,7	4,2	2,2	3,1	3,0	3,8	1,9	3,0	2,5	2,7	4,5
Rural	5,9	3,0	4,8	2,7	3,0	3,9	2,4	2,1	2,4	3,4	2,5	2,4	2,0	3,0	3,3
Years of schooling															
Until 7 years	5,7	3,4	4,5	2,5	3,5	4,4	2,1	2,5	2,6	3,5	2,2	2,9	2,6	2,9	3,8
8 or more years	4,9	3,8	5,0	3,0	3,6	3,6	2,7	3,2	3,7	3,1	1,8	2,5	2,4	3,6	4,0

Colômbia - 2005	Completed parity														
	2		3		4			5				6			
	1 > 2	1 > 2	2 > 3	1 > 2	2 > 3	3 > 4	1 > 2	2 > 3	3 > 4	4 > 5	1 > 2	2 > 3	3 > 4	4 > 5	5 > 6
Total	5,4	3,5	5,4	2,7	3,8	4,8	2,4	3,0	3,8	4,1	2,3	2,4	2,9	3,2	3,6
Household															
Urban	5,4	3,5	5,4	2,8	3,9	5,0	2,4	3,2	3,9	4,3	2,3	2,4	2,7	3,1	4,0
Rural	5,7	3,1	5,3	2,5	3,5	4,3	2,4	2,7	3,6	3,8	2,2	2,5	3,0	3,3	3,3
Years of schooling															
Until 7 years	5,8	3,3	5,2	2,7	3,8	4,7	2,3	3,0	3,8	4,2	2,2	2,5	2,8	3,2	3,6
8 or more years	5,2	3,6	5,6	2,8	3,8	5,0	2,6	3,3	3,8	3,9	2,8	2,4	2,9	2,9	4,3

Source: Bolivia: ENDSA, 2008 – Brasil: PNDS, 2006 – Colômbia: ENDS, 2005.

The objective of this paper is to understand the extent to which longer BI_{2-3} are indicators of failure to implement reproductive preferences in a context of declining fertility among LDC (less developed countries). The focus are women 35 years and older in three Latin American countries (Bolivia, Brazil and Colombia) in the 2000s, segmented by household area (urban and rural) and schooling. For this purpose, we will make a descriptive analysis of the variables related to unwanted fertility using data from the DHS alike surveys.

At the same time, we will point out some of the reasons why the debate on unwanted fertility is important, both for the population dynamics and for the welfare of society besides the implementation of public policies, since the social and economic costs arising from having an unwanted child became larger than the cost to prevent a pregnancy.

THE UNDESIRE FERTILITY IN A SHORT LITERARY REVIEW

Bolivia, Brazil and Colombia are neighbors, but they are in different stages of the fertility transition process. Schkolnik and Chackiel (2004) and Vargas (2006), among other classify Bolivia as a country with high average fertility; Colombia as low average fertility, and Brazil as a country with low fertility. The level of unwanted fertility also differs with Brazil showing lower rates than the other two countries and Bolivia the highest rates. These differences are expected according to Bongaarts (2003), since the undesirability of children is related to the country's stage of transition.

For Bolivia, data shows that approximately 61% of births in the five years prior to the survey were unwanted (ENDSA, 2008), a similar percentage found in the previous survey in 2003. For Colombia, nearly half of births in the five years prior to 2005 were desired, and no-schooling women had, on average, two more children beyond the desired size, while the more educated had a number of children very close to the desired size (ENDS, 2005). In Brazil, data show that between 1996 and

2006, the prevalence of undesirability decreased from 23% to 18 % (Berquó e LIMA, 2009, p. 139). Furthermore, there was a significant drop in the proportion of both undesirability of the last child born and pregnancies reported as non-desired in the five years preceding the 2006 survey (Berquó e LIMA, 2009, p. 148).

One of the main causes of the incidence of unwanted fertility is the failure in access to and use of contraceptives, according to Hakkert (2001). His study indicates that women who know more about sexual and reproductive health and have access to fertility planning methods are those least likely to have an unwanted pregnancy and exceed their reproductive goals (p. 24). Casterline and Mendoza (2009) emphasize the role of contraception in unwanted fertility by claiming that the latter is inversely related to the prevalence of contraceptive use among women who want no more children, and positively correlated, therefore, with the unmet need for means to stop childbearing (p. 195-196). The prevalence of contraception, in turn, is related to a range of obstacles to the contraceptive use, including access to family planning services and psychological, social and cultural factors (p. 196).

The fact that Bolivia and Colombia presented a high prevalence of unwanted fertility, added to a relatively longer $BI_{2,3}$, would be linked to the failure in the implementation of reproductive preferences. This goes against the Lightbourne (1985) argument, who suggests that in a population in which the efforts of fertility control are null or ineffective, women should progress from parity to parity in the same pace, regardless of their reproductive preferences (p. 36). Thus, the longer interval between the last children of women who had completed parity of order three, would be associated to the difficult access to contraception as long as it was not the women's desire to postpone according to the time indicated by the birth interval.

It is important to remember, finally, that unwanted fertility differs according to socioeconomic characteristics of women. Bongaarts (2003) emphasizes the role of education in determining both the total and unwanted fertility levels. He noted the difference according educational levels, and found that most of the times, the highest incidence of non-desired fertility is between the less educated women.

So, it is possible to understand that unwanted fertility comes from the gap in access to family planning services, and indicates the need for more focused social policies in groups of poor women, who are the ones who suffer most from lack of access or its ineffectiveness.

METHODOLOGY

As said, data are from the latest DHS alike surveys carried in these three countries. The paper has a descriptive analysis of the intervals by birth order associated to undesirability, comparing women of different parity and focusing on the last child or pregnancy of order three. It will focus on women aged 35 years or more in the 2000s, according to schooling and household situation.

The birth interval (BI) between births, which relates to the period of time between the birth of order i and subsequent birth (of order $i + 1$), will be measured by the mean age of the mother at each birth order. This measure provides the timing of the cohort fertility, i.e., provides a detailed idea of when women had their children and what were the given BI. Obtaining information about the mean age of mother follows the technique described in Lutz (1984), for whom the average interval between two subsequent birth orders is not limited to the difference between the average ages of the mother to these orders, since they include women who do not experience an additional birth (or that is, birth order $i + 1$). He argues that the correct interval measure should consider the average age of woman at birth of each order related to full parity of this mother, that is, the total number of children she had (Completed Parity).

As regarding to the reproductive profile, essentially for women of completed parity of order 3, we will consider: if the woman wanted to have the baby / pregnancy at the time, later, or did not want to have children in the three years preceding the date of the interview; $BI_{2,3}$ and differences between the number of live births and desired; ideal number of children, and information about contraceptive use and prospective preferences.

EXPECTED OUTCOMES

It is expected that the estimate of the undesirability of the third child for women who only had three children, is high and higher than the estimate for the last child of women with different parity.

The association of this indicator to the size of the BI_{2-3} , and reproductive profile based on the variables mentioned above will confirm that the longest BI_{2-3} measures the inability of women to implement their reproductive preferences.

Moreover, it is expected that this measure is well differentiated according to household areas and schooling. Contrary to what is indicated in the literature, it is believed that the aspirations of the first birth orders are higher than the last orders, and therefore, the third child would be less unwanted for women living in rural areas and with low education. Moreover, the opportunity cost of having an additional child when you do not want, is much higher for urban and high school women, which makes the statement that was unwanted the most common among them.

Finally, with the obtained results, we hope to contribute to the discussion on unwanted fertility and insert a new discussion on public policies for women who are unable to implement their reproductive preferences. It is intended to show that women who suffer from unwanted fertility are not so much those with high parity and who live on the edge of society, but even those with low parity (three children) and are socially privileged.

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