

A Cross-National Study of Virgin Births

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Fertility has long been a central focus of study within the demographic and health fields. Curiously, the phenomenon of virgin births — an event clearly related to fertility — has remained within the auspices of religious studies. This paper presents the first social scientific analysis of virgin births based entirely on empirical methods.

Data and Methods

To gain a cross-national perspective on virgin births, we selected the Demographic and Health Survey (DHS) as a data source. The DHS is an ongoing research effort being carried out in a number of developing countries and is coordinated by the Institute for Resource Development in Columbia, Maryland. Thirty-six surveys had been completed as of mid-1991. The DHS collected detailed infor-

mation about women's reproductive histories, socioeconomic status, and living conditions.

The DHS did not ask women directly whether they had had a virgin birth. To identify virgin births, we selected women whose age at first intercourse was greater than their age at first birth. For example, if a woman reported her age at first intercourse as 20 and her age at first birth as 18, then clearly a virgin birth had occurred.

Because the DHS measures age in years rather than months, this method misses a virgin birth if it occurred at the same age in years as first intercourse, that is, if conception occurred shortly after a birthday. Additionally, this method captures only unfertilized births that took place prior to first intercourse. Therefore this method is conservative in that it will, if anything, underreport the phenomenon.

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Figure 1 Number of women who have had a virgin birth.

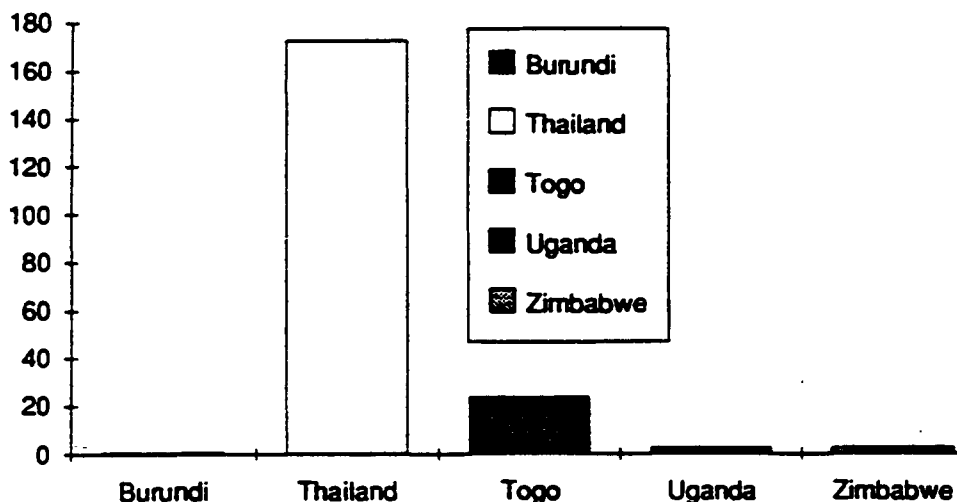


Table 1 Sociodemographic Correlates of Virgin Births

Variable	Burundi	Thailand	Togo	Uganda	Zimbabwe
Source of water	0.094	0.114*	0.115	0.013	0.083
Respondent's literacy	0.053	0.179**	0.170*	0.083	0.191**
Household size	0.003	0.103*	0.158*	0.156*	-0.003
Children ever born	0.090	0.358**	0.258**	0.054	0.102
Polygamous marriage	0.153		0.278**	-0.062	

Source: Demographic and Health Surveys.

* $0.01 < p < 0.05$

** $p < 0.01$

The DHS asked over 420 health- and fertility-related questions in each country. With this wealth of information on mothers, households, and communities, we chose the time-honored and most effective approach for analysis: a huge correlation matrix.

Analysis

From the thirty-six DHS countries, five had one or more identifiable virgin births. Figure 1 indicates the number of women who have had a virgin birth in each of these countries. Although the highest number occurred in Thailand, intercourse-free natality is also evident in several African nations to a smaller degree (perhaps indicating the beginning of a trend). Virgin motherhood did not appear to be a significant demographic phenomenon in Latin America, the other region covered in the DHS survey.

The correlation matrix yielded several statistically significant risk factors associated with virgin births (see Table 1). Risk factors included community, household, and individual level variables.

The most important community level risk factor was the source of drinking water. Women who had virgin births were less likely than other women to have piped or bottled water. Instead, they were more likely to get their water from a river or spring, to use rainwater, or to obtain water from a neighbor's well. The strength of this environmental factor suggests the possibility of alternative sources of fertilization.

Large households also serve as a fertile

context for virgin births, although the exact reasons that lead crowded living conditions to an elevated probability of a virgin birth remain unclear.

On the individual level, women who are literate have significantly higher chances of bearing an intercourse-free child — a finding that emerged in three of the five countries. Reproductive histories obtained from better-educated women are generally more complete than those of less-educated women. If the higher rates of virgin births observed among well-educated women simply reflect higher data quality, it is likely that rates for others are biased downward by omissions. Thus the actual prevalence of intercourse-free natality must then be considerably higher than the conservative figures we have reported here.

A most interesting result is with respect to *subsequent* fertility. Women identified as having had a virgin birth also reported unusually high numbers of total children born (i.e., total number of children to whom the mother gave birth during her lifetime). This relationship could indicate the condition of hyperfecundity, that is, the ability to conceive easily. On the other hand, this relationship could be an artifact of our limited definition of intercourse-free natality: we were able to identify only women who had their first births prior to their first intercourse; some of the later pregnancies may have been unfertilized as well.

This finding could also explain why

women who have virgin births have a greater likelihood of being involved in a polygamous marriage. Given that hyperfecundity may allow for fewer attempts before successful impregnation, the creation and maintenance of *several* marital unions becomes possible.

Conclusion

This study presents the first estimates of the prevalence of virgin births. The numbers may appear small to the untrained eye, but applying the known proportion of virgin births in Asia (2.6 percent in Thailand) to China proves that this phenomenon has serious implications for population growth: it is likely that at least 14.3 million Chinese women have had a virgin birth. Moreover, given that effective family planning programs reduce the number of biologically normal births (i.e., non-virgin births), intercourse-free births will play an increasingly important role in future fertility trends throughout the world. Clearly, the sociodemographic correlates discussed above must be incorporated into any future population policies.

Acknowledgments

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My paranormal
esophagus was so
stretched