# Comparing Fertility in Brazil and Mexico: Does Policy Matter?

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### What motivated this exercise?

- A recent controversy in the Brazilian press
- Previous work with Brazilian census data
- We realized that the 2000 census samples had a lot in common:
  - 10% samples
  - date of last live birth
  - many other household and individual variables

### FOLHA DE SÃO PAULO—Newspaper 23 August 2003

### "Back to Fertility" by Dráuzio Varella

- One of Brazil's most pressing problems is the high fertility rate among the poor. I know this statement is considered politically incorrect among intellectuals, and it may even get me in trouble, but I'll spend some words on it...
- Even in such a modern age as ours in which effective contraception methods are available, there are still a huge number of undesired pregnancies among the poor. This difference is so striking that it's quite reasonable to ask: Why do policy-makers keep avoiding this issue?
- According to IBGE (Brazilian Institute of Geography and Statistics), Brazilian women holding a bachelor's degree have a fertility rate of 1.4 (*similar to developed countries*). On the other hand, among the "illiterate" women who studied for only one year, the fertility rate is 5.6 (*same rate of Namibia, Africa*).

### MARIA JOSÉ DE OLIVEIRA ARAÚJO— Coordinator of Woman's Health, Brazilian Ministry of Health

- Q: What do you think about the return of this debate, linking the control of poverty and criminality with family planning?
- A: I believe it's an extremely important issue. Many years ago, the women's movement, along with other social sectors in Brazil—demographers and parliamentarians concerned with women's health—were able to demystify this link between poverty and the number of children. This relation doesn't exist because Brazil, in the last 20 years, was one of the countries whose fertility rates fell most rapidly. We are talking about IBGE data, public data. On the other hand, poverty is still a reality; social exclusion is still out there; misery is still out there. So, I believe it is a grave contradiction that social sectors—governmentally-owned or not—re-start the debate over poverty, social exclusion and violence as an issue that requires fertility control!

# MARIA JOSÉ DE OLIVEIRA ARAÚJO cont'd

- Q: What would be the role of social movements—specifically the role of the feminist movement—concerning this topic?
- A: The Women's Movement and the social movements in general play a fundamental role. Thanks to the union with forward thinking sectors of Brazilian society during the 1980's and 90's, the women's movement has been able to undo this neomalthusian (*controlista*) discourse. It is imperative that women return to this struggle once again, considering the existence of legal tools to do so. Brazil has signed the Plans of Action of Cairo and Beijing; we have the constitution and the Federal Law of Family Planning.
- As incredible as it may seem, the women's movement must now...look for allies in Brazilian society with which to return to this debate...

# On the Thoughts of President Lula—from his speech, March 2003

I went to Irma Dulce village in Piaui state, along with Secretaries Emilia Fernandes, Benedita, and Dilma. We visited a poor neighborhood where approximately 70 thousand people live, and in this village, we visited 17 or 18 homes—we entered the house, talked with the people. In all the homes, the women were no more than 21 years old, had two, three or more children, and were without a husband.

I wonder how we can solve such a serious problem—which is no longer a legal problem. It's a cultural problem, and ultimately, a matter of individual responsibility, for this young lady most likely has not had any sexual education during her childhood, teenage years, and even adult years.

# Contrast with respect to FP/RH services and policies

**Mexico**: Programs of SSA, IMSS and **IMSS-Solidaridad for** both insured and uninsured with promotion of IUD and Female Sterilization. Postpartum, but also via clinics.

**Brazil**: Much less emphasis on the supply of methods, restrictions on female sterilization, especially postpartum, frustrated demand, abortion, and exchange of sterilization for votes.

# What we know already

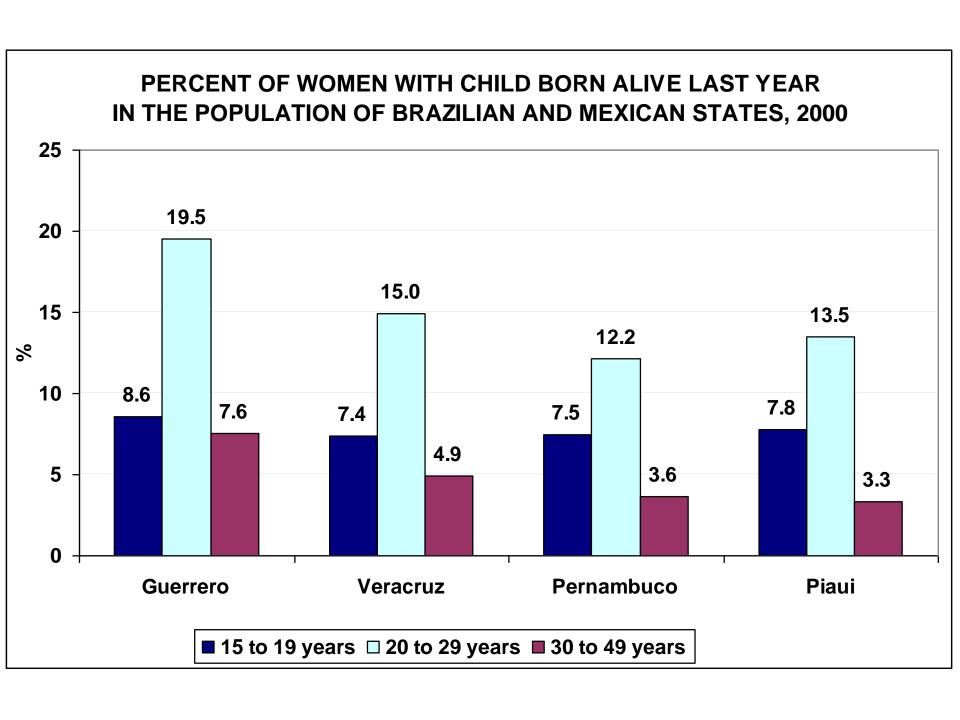
- *Brazil*: The TFR in a municipality is well predicted by the degree of electrification and the average level of women's education.
- *Mexico*: The use of female sterilization and the IUD in a community is strongly associated with the proportion of births taking place in public hospitals.

## Question we address here

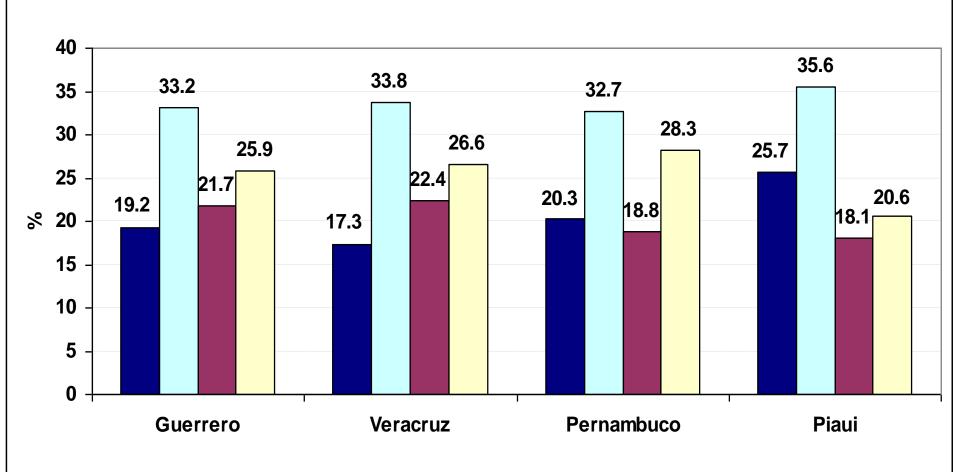
- Within a municipality, will fertility differentials by economic and social status be smaller in Mexico than in Brazil?
  - So long as the demand for children is approximately equal between the very poor and the not so poor in both countries

### Data

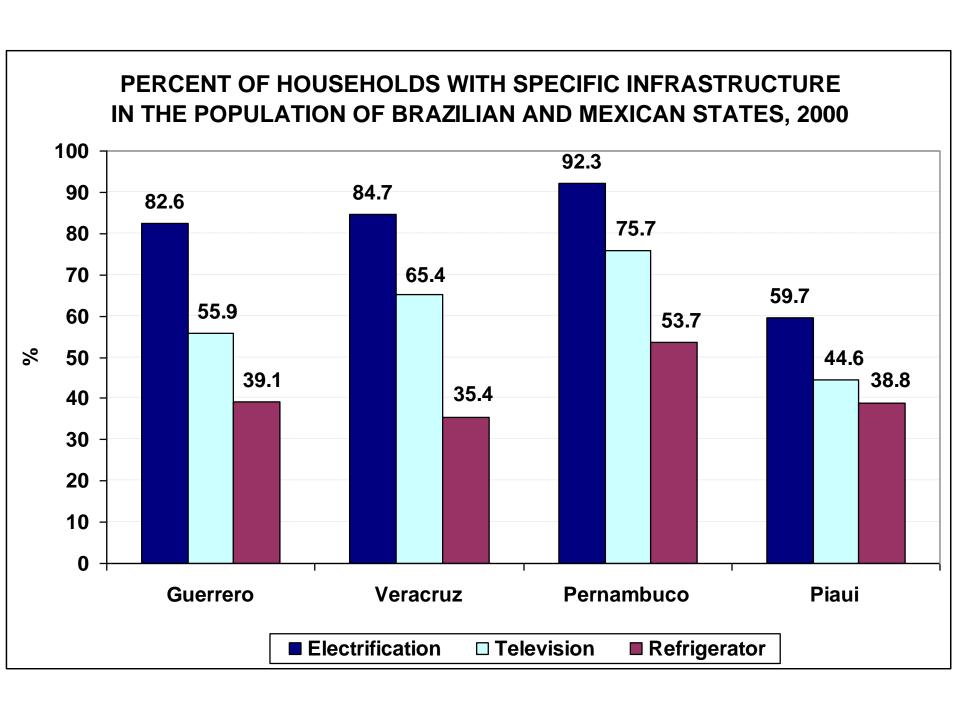
- 2000 Censuses, 10% (15%) of four states: Piauí, Pernambuco, Guerrero y Veracruz, using individual data on date of last live birth
- Four categories of educational attainment: 0-2, 3-6,7-9, and 10+ years
- Municipal development factor based on the percentage of households with electricity, refrigerators, and TV
- Data on fertility desires from 1996 DHS and 1997 ENADID



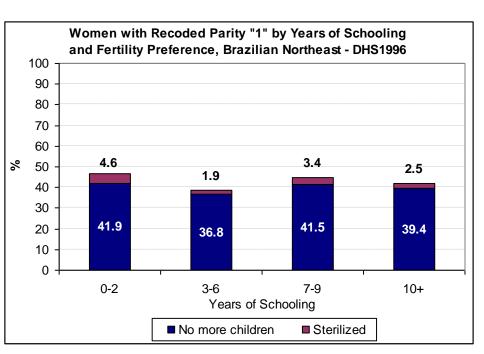


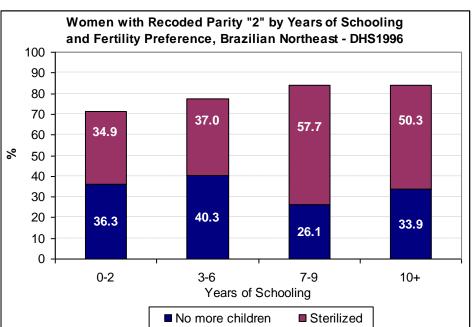


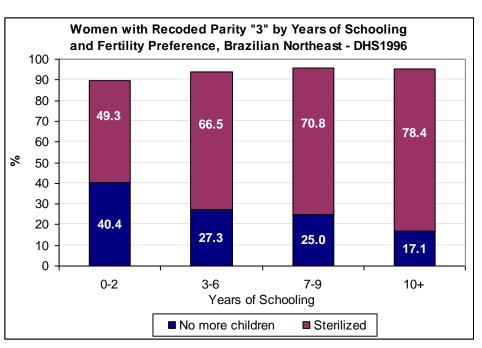
■ 0 to 2 years/school □ 3 to 6 years/school ■ 7 to 9 years/school □ 10 years/school or more

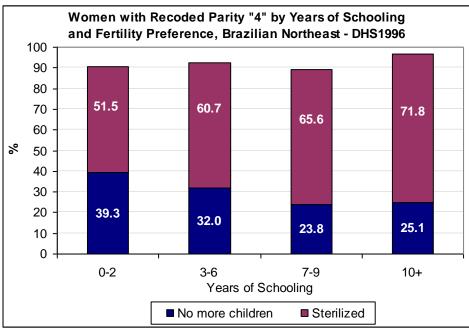


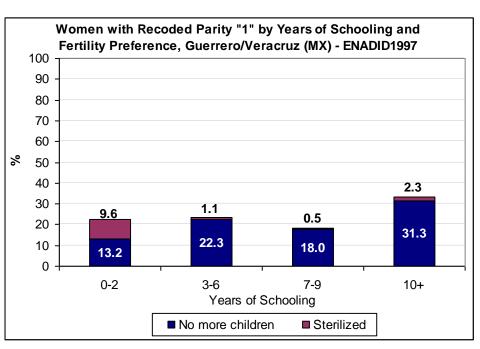
Municipalities variables (n)	<b>Guerrero</b> 76	<b>Veracruz</b> 210	Pernambuco 185	<b>Piauí</b> 221
<b>Electrification</b> Mean	0.83	0.85	0.92	0.60
Standard deviation	0.18	0.15	0.08	0.21
5th percentile	0.43	0.56	0.74	0.20
25th percentile	0.76	0.80	0.91	0.46
Median	0.91	0.89	0.95	0.62
75th percentile	0.95	0.94	0.97	0.75
95th percentile	0.98	0.99	0.99	0.92
IQR	0.20	0.14	0.06	0.29

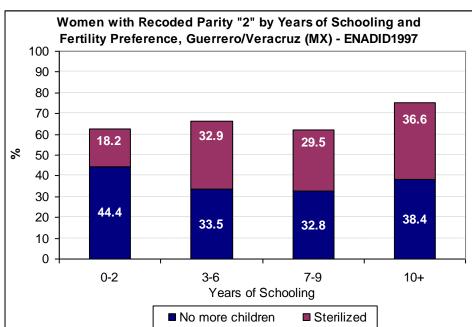


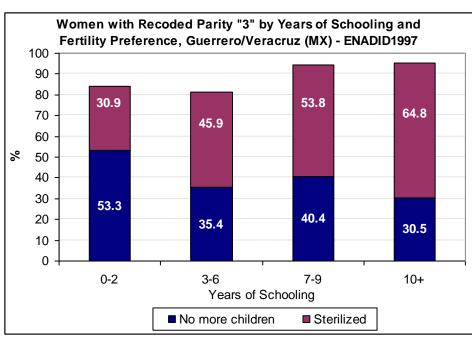


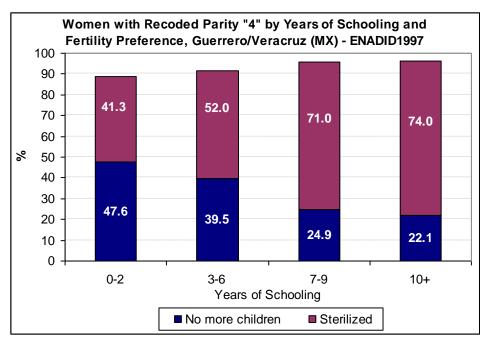


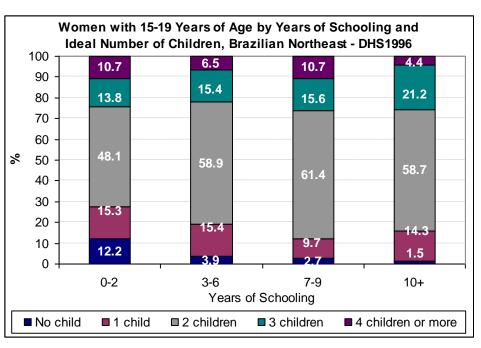


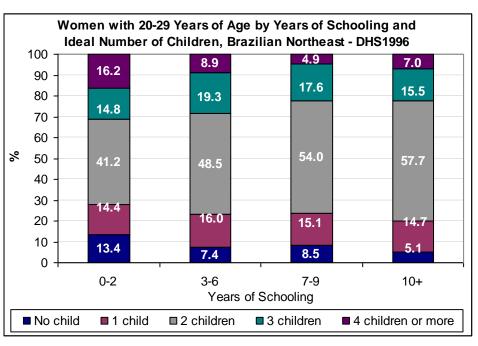


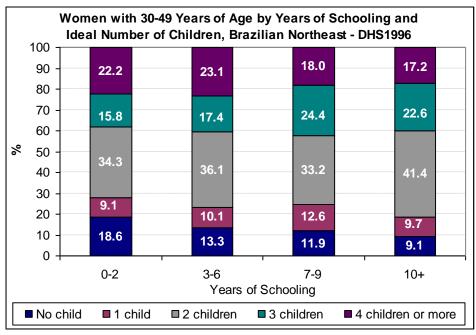


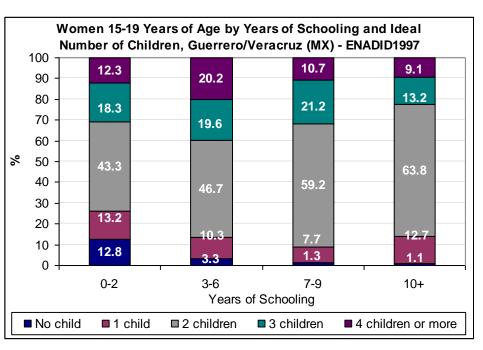


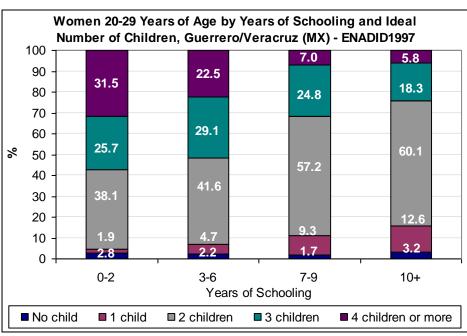


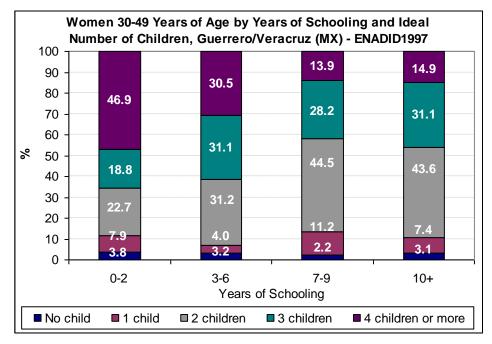


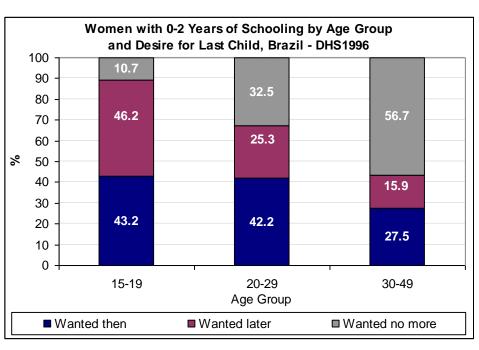


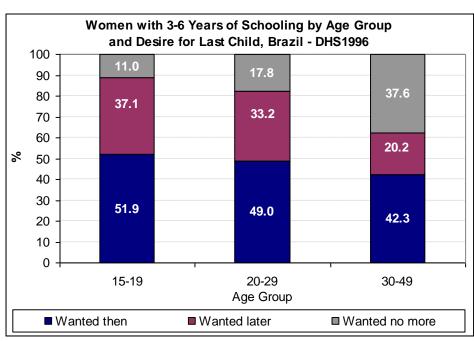


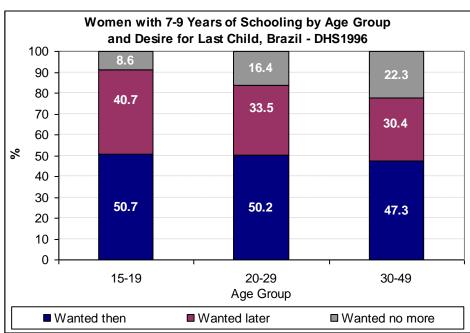


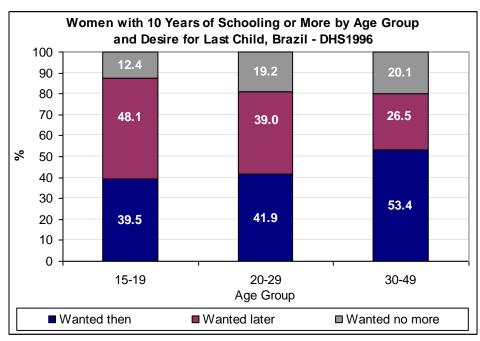


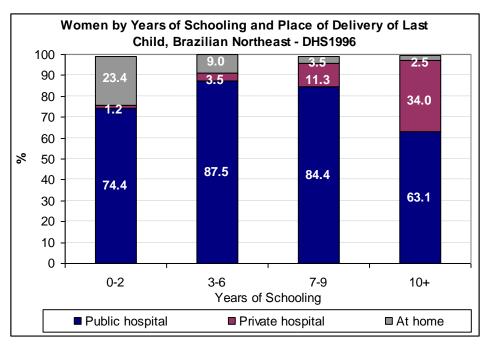


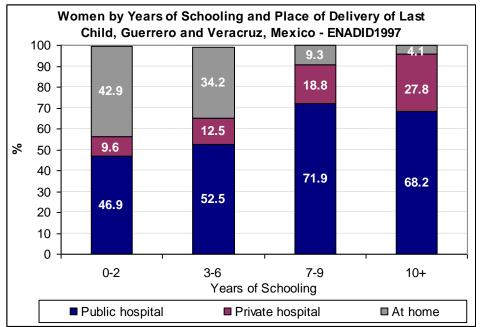












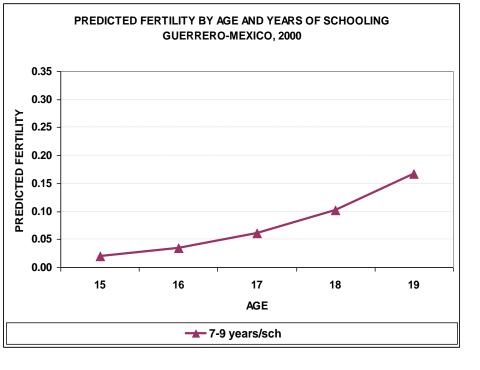
### Summary of the model specified

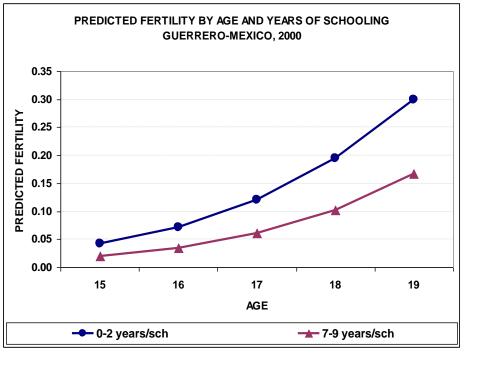
FOR EACH OF THREE LARGE AGE GROUPS: 15-19, 20-29, 30-49

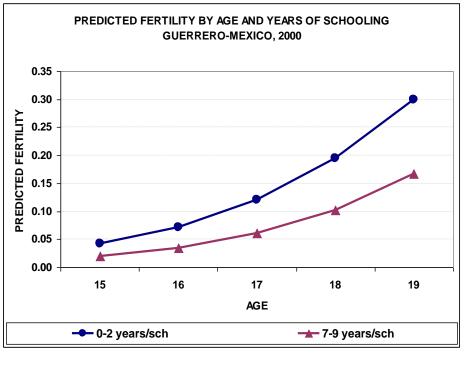
#### Level-1 Model

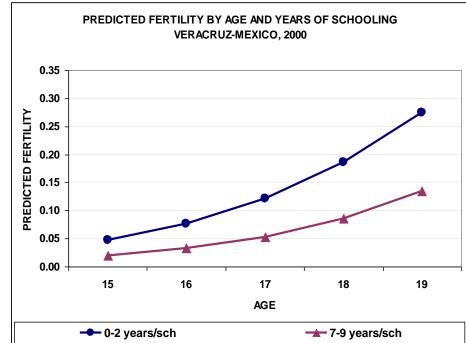
$$\begin{split} Prob(Y=1|B) &= P \\ log[P/(1-P)] &= B0 + B1*(AGE) + B2*(INDIG) + B3*(CATHOLIC) + B4*(ED0\_2) + \\ &\quad B5*(ED3\_6) + B6*(ED10\_17) \end{split}$$

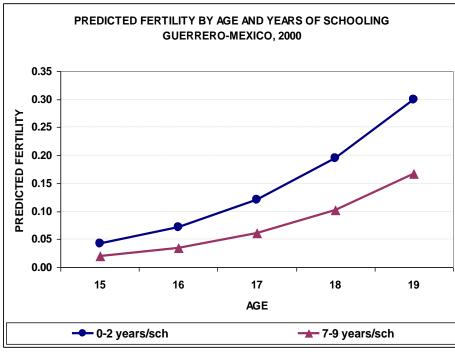
#### Level-2 Model

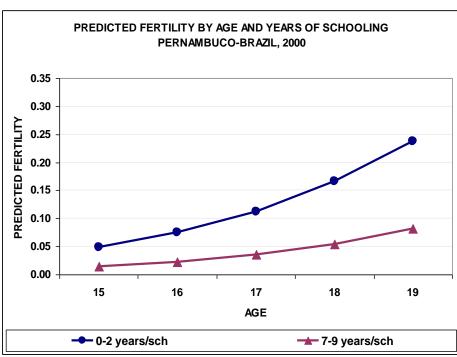


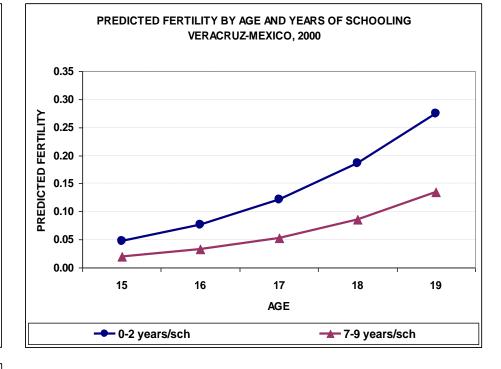


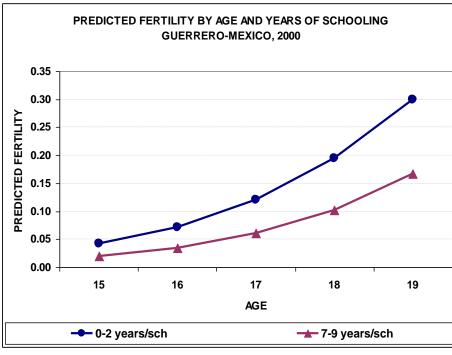


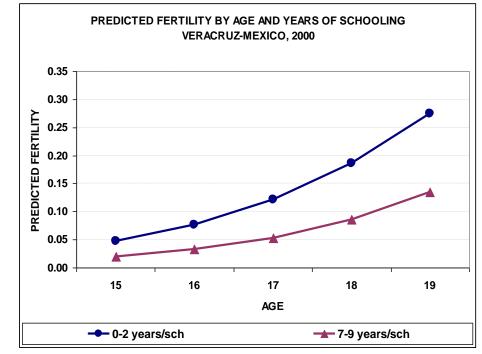


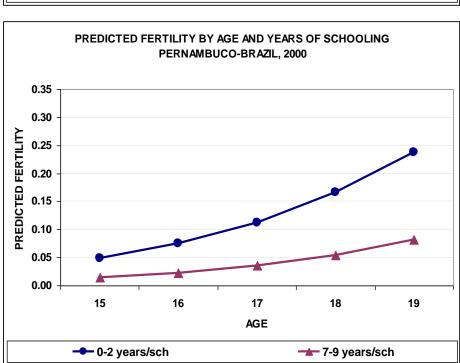


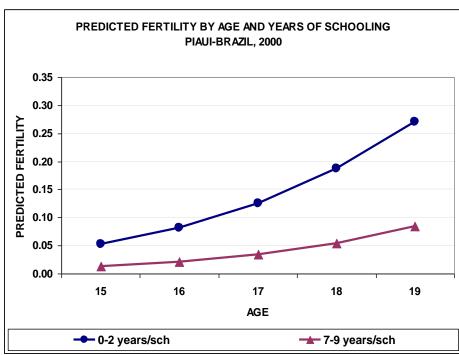


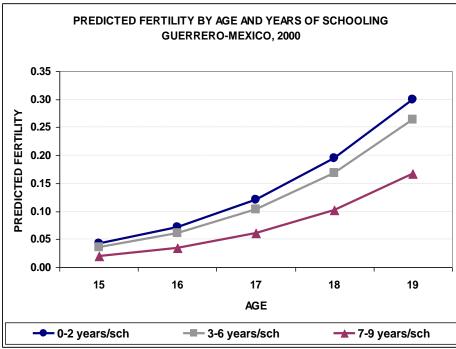


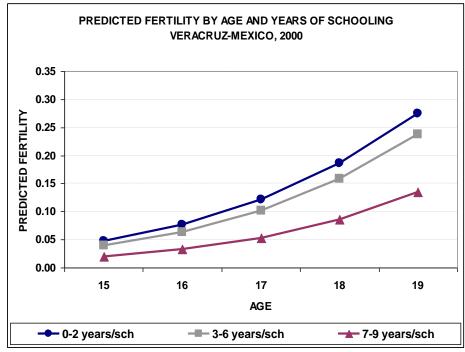


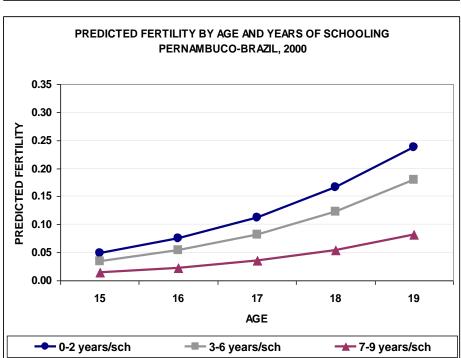


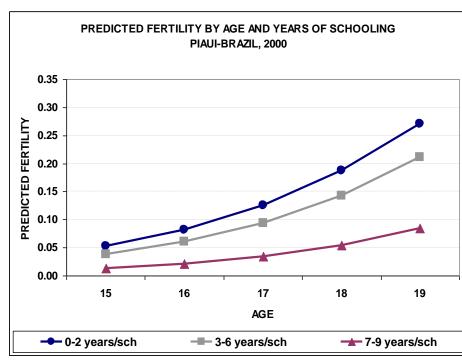


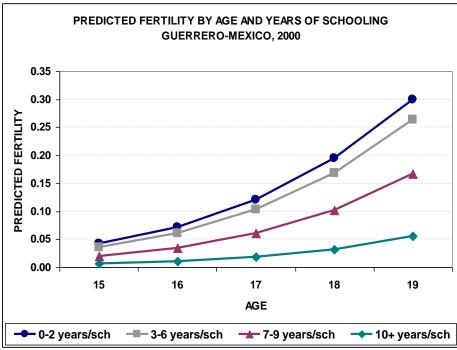


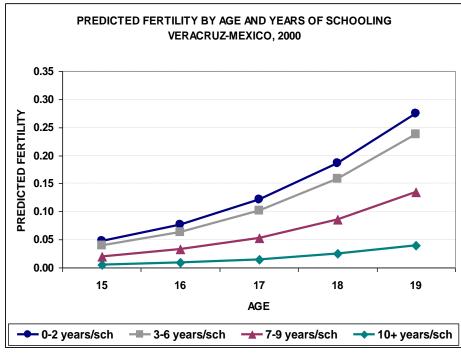


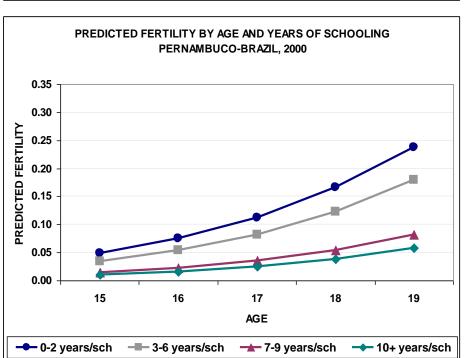


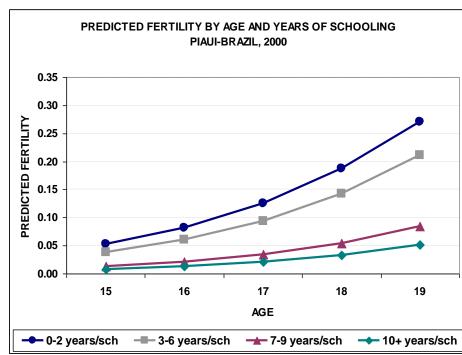


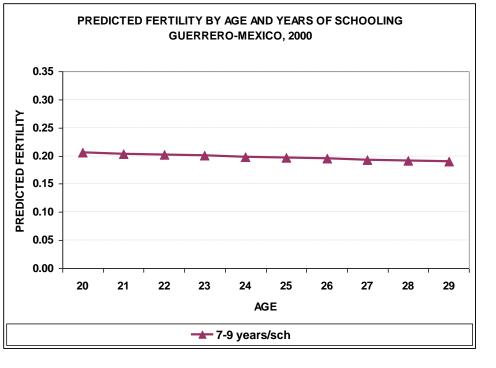


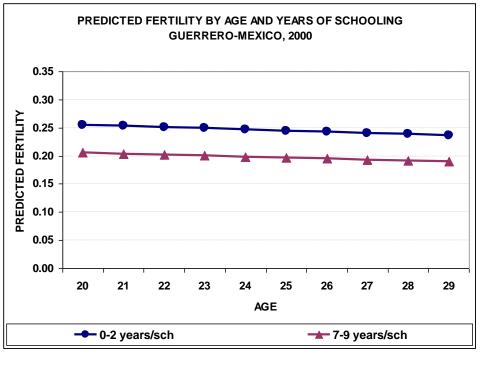


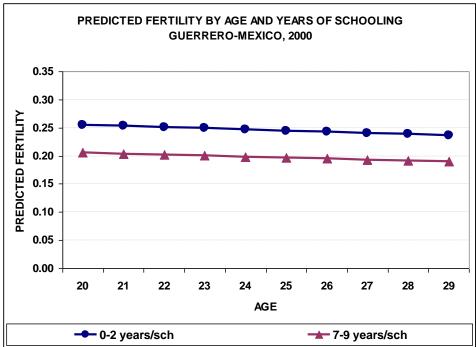


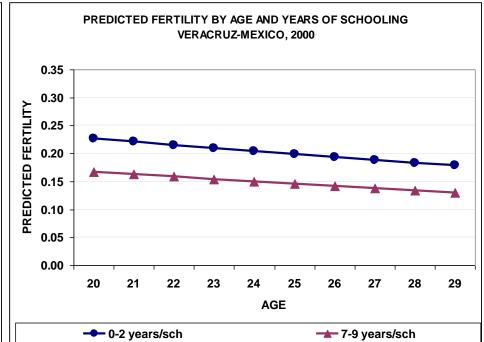


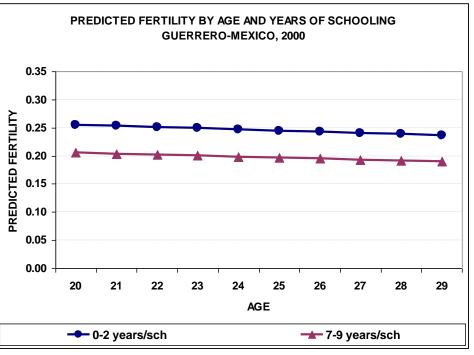


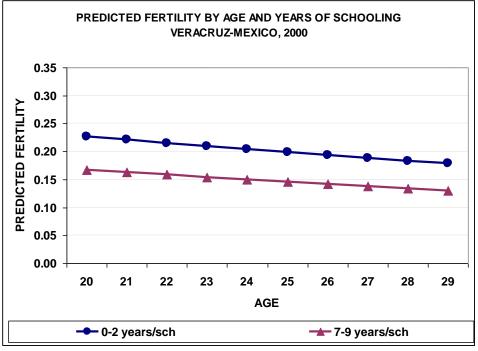


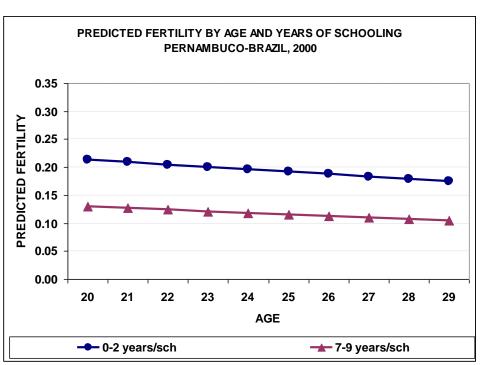


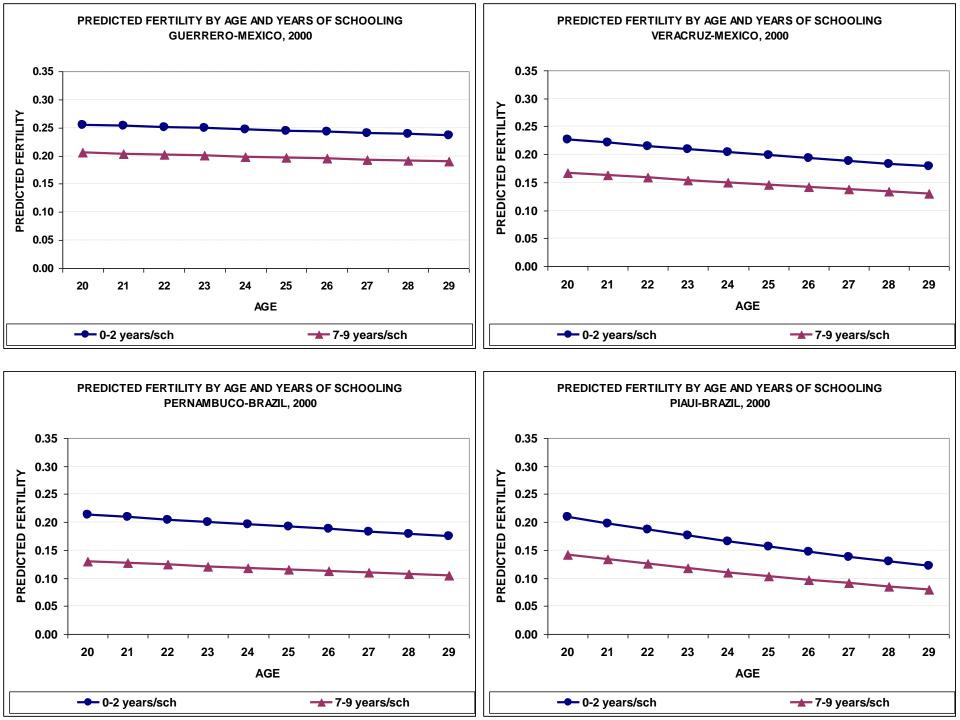


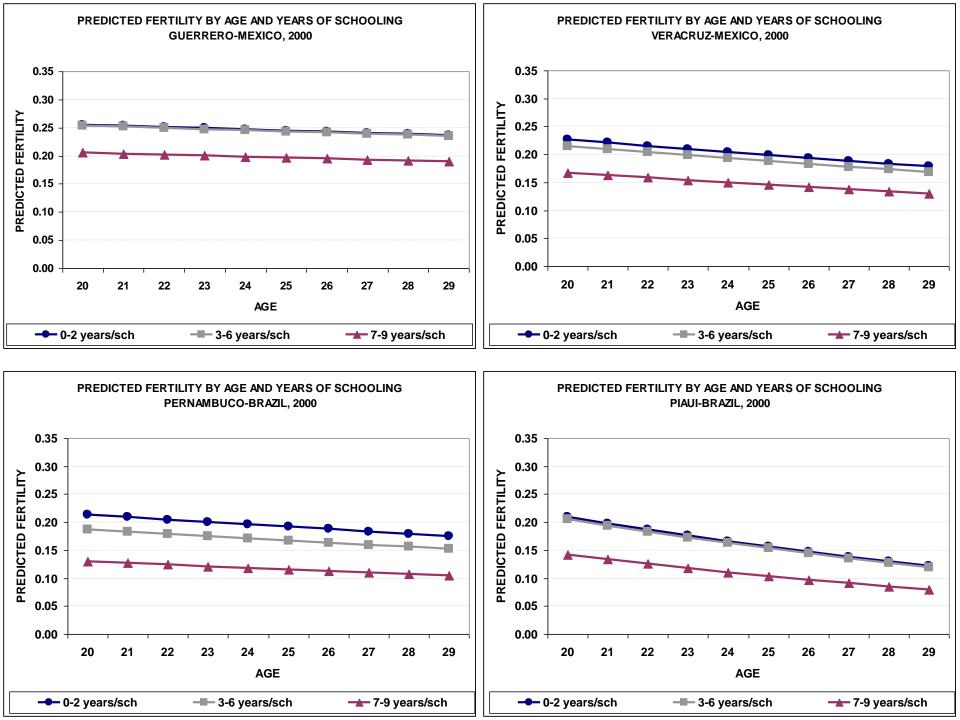


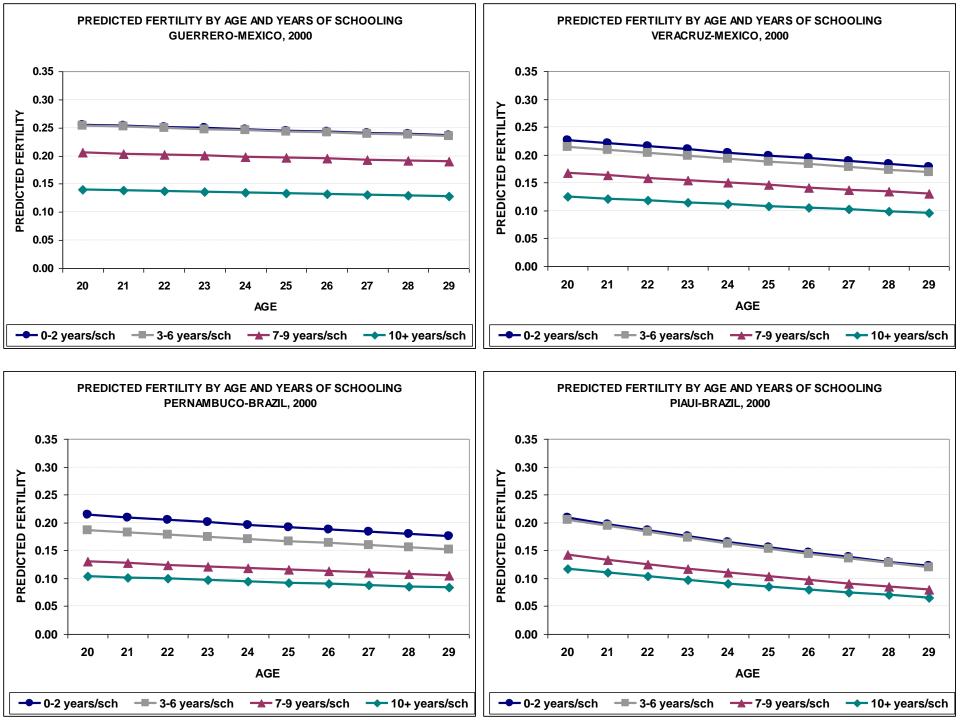


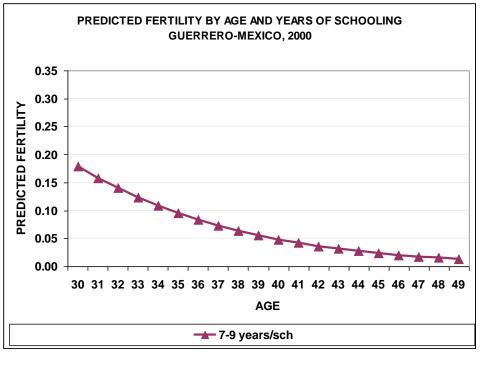


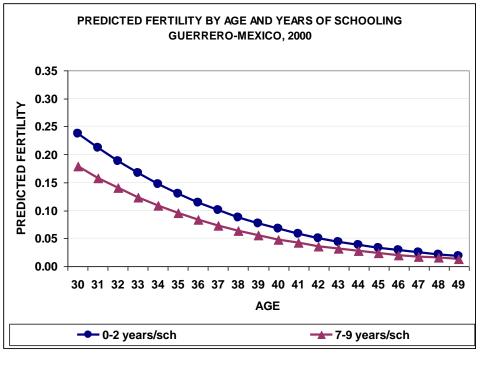


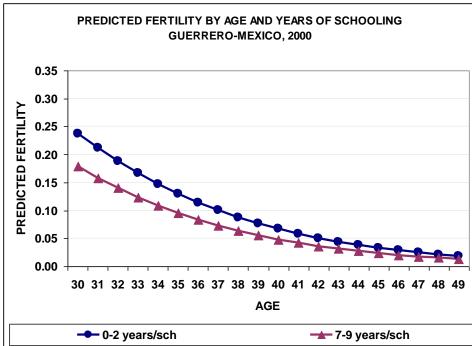


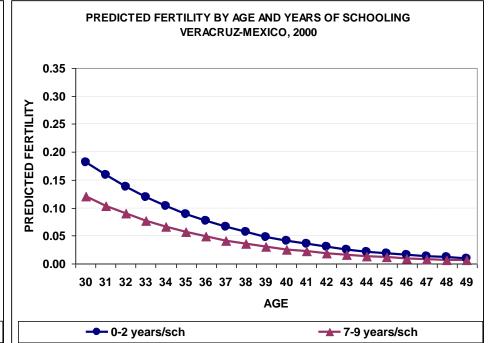


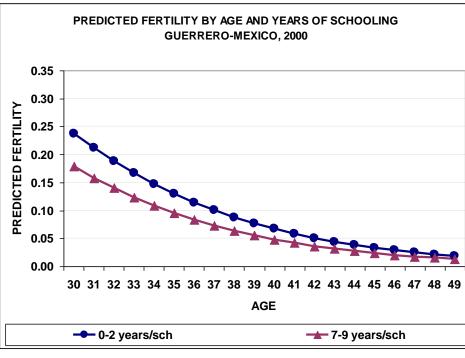


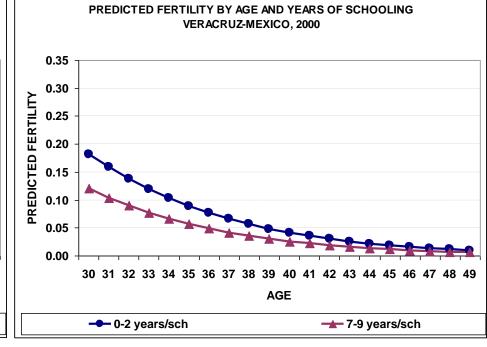


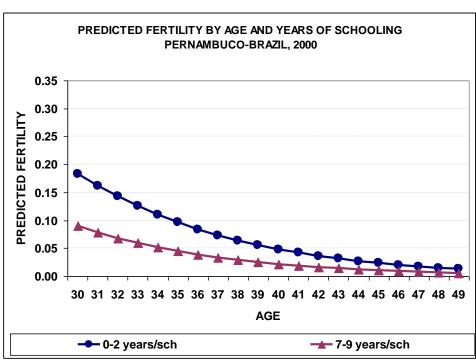


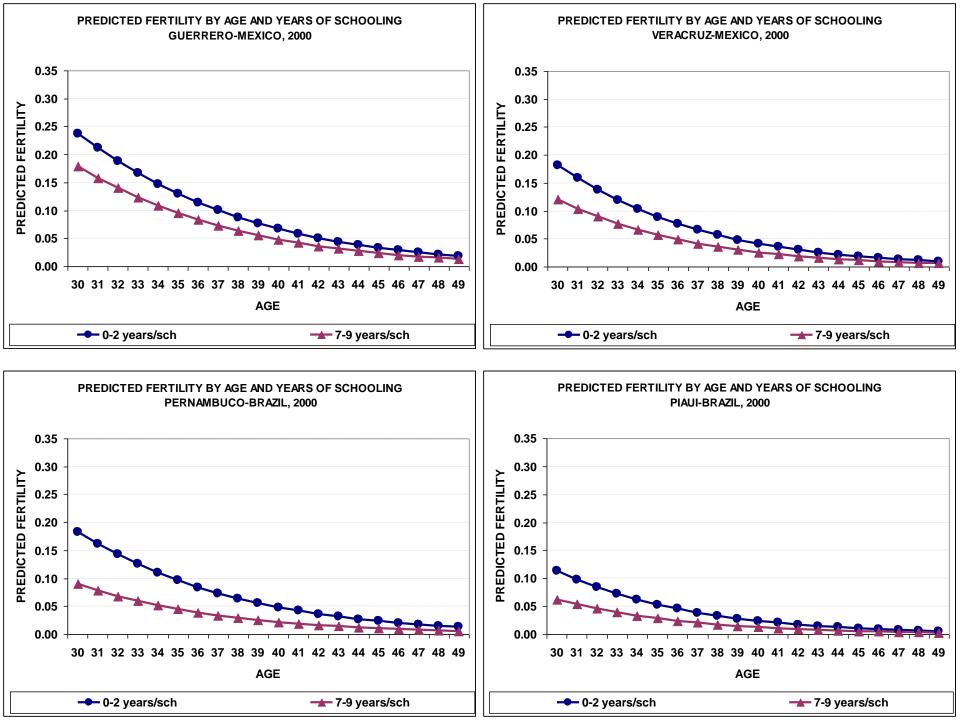


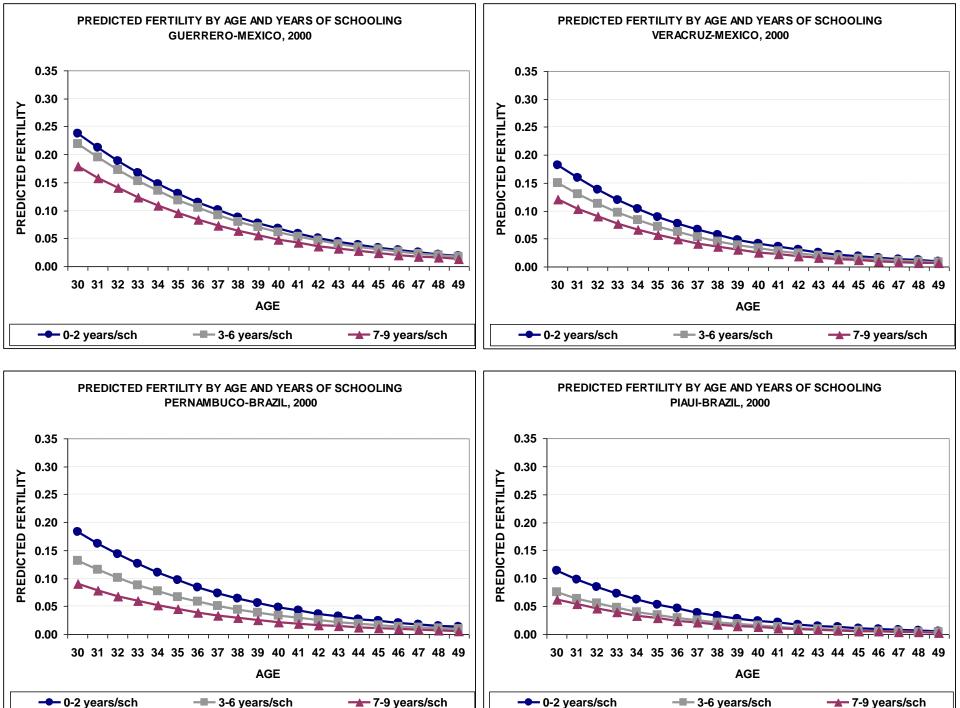


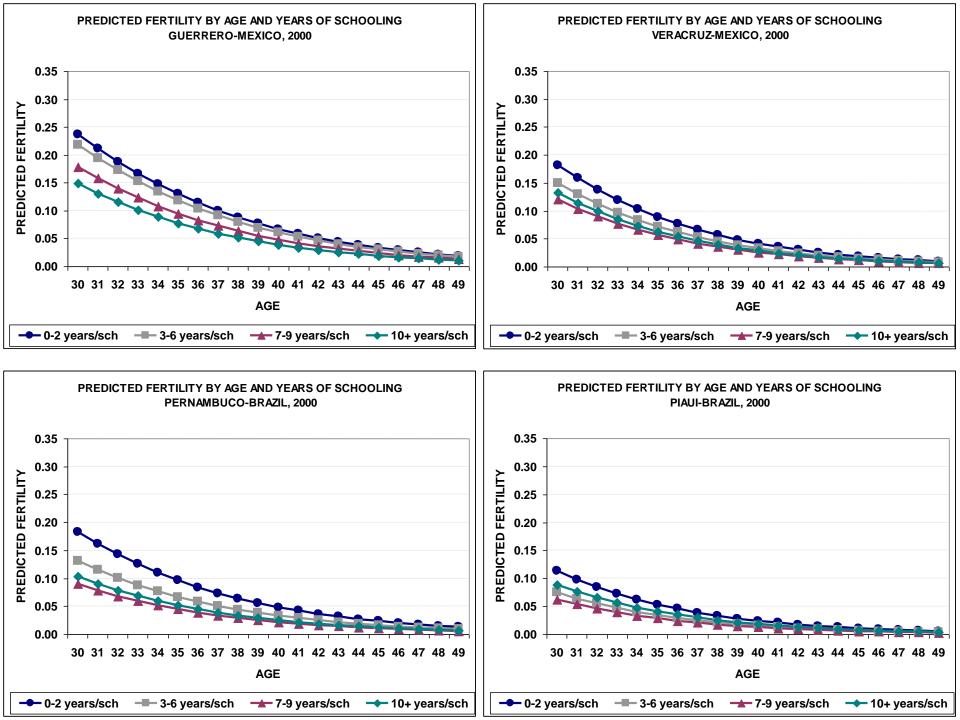


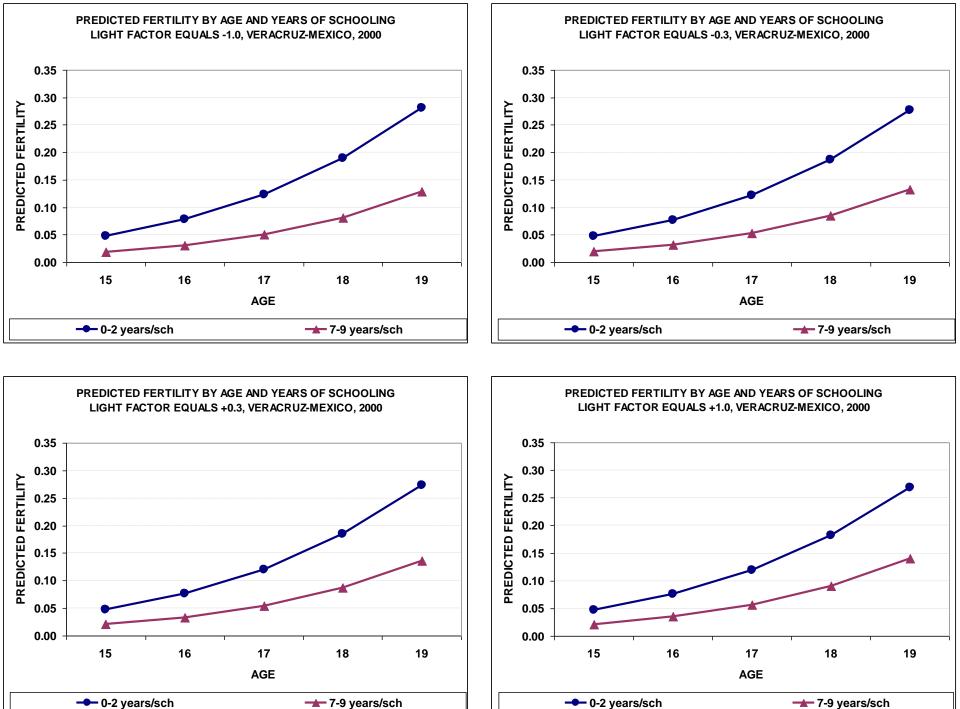


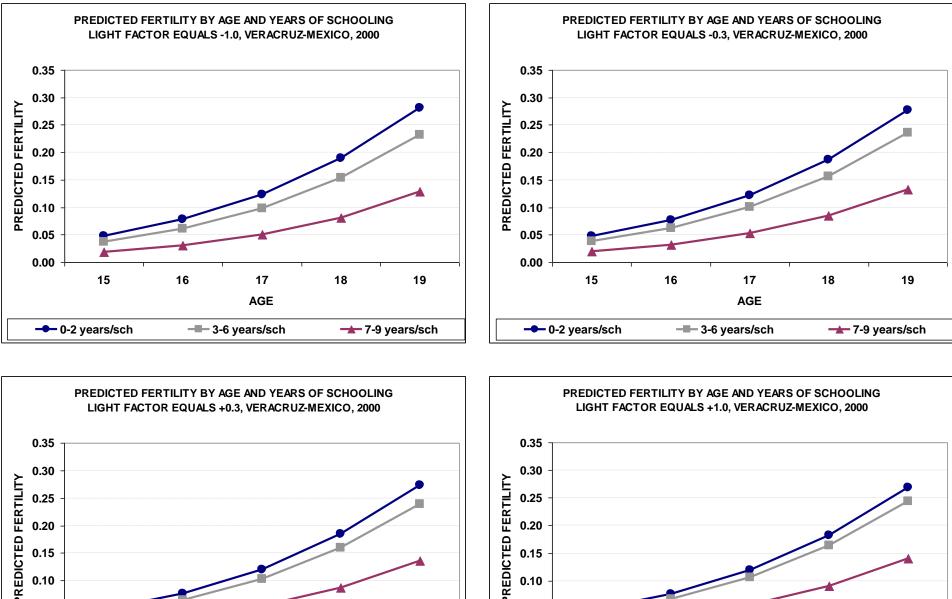


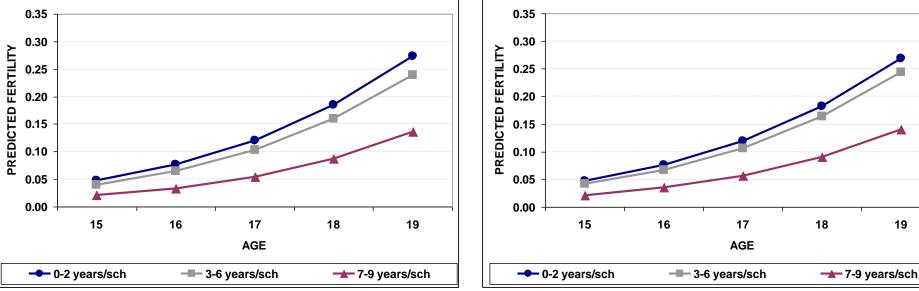


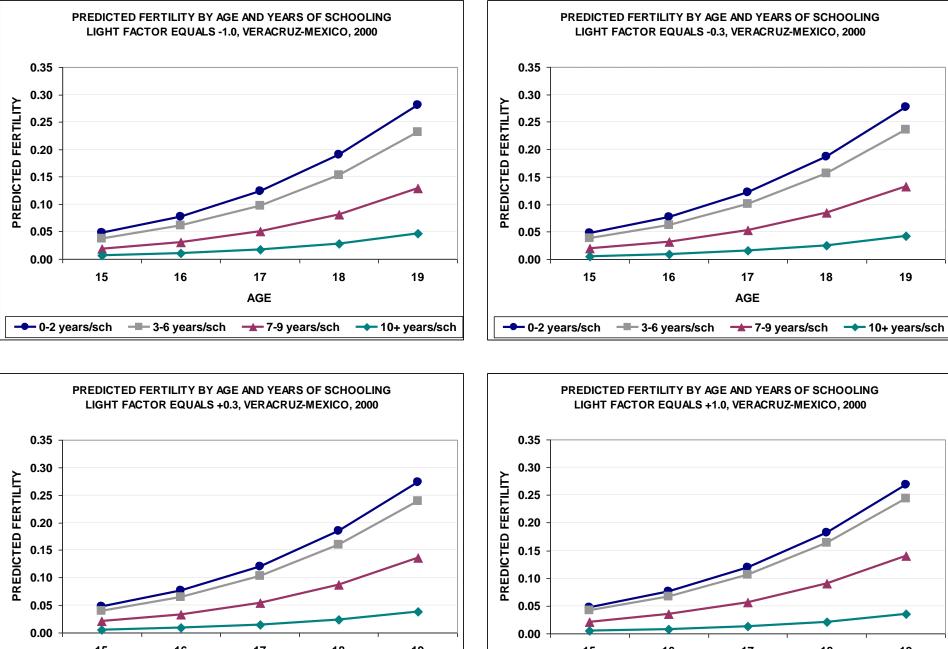


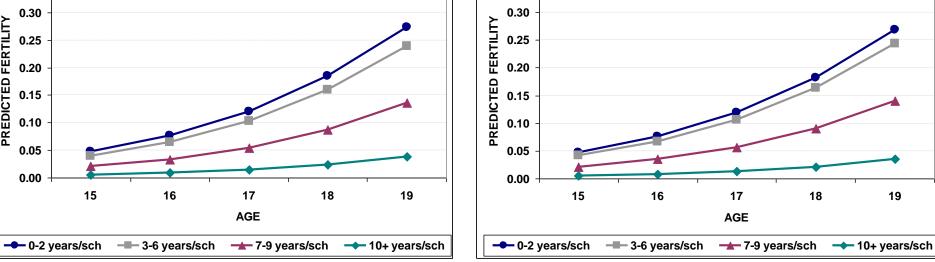


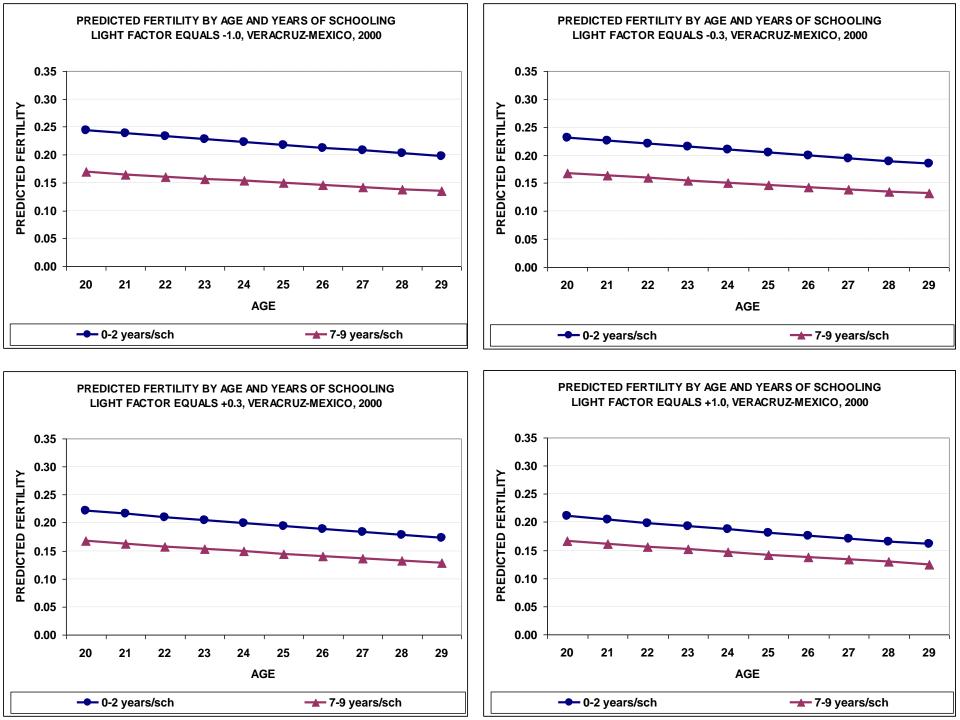


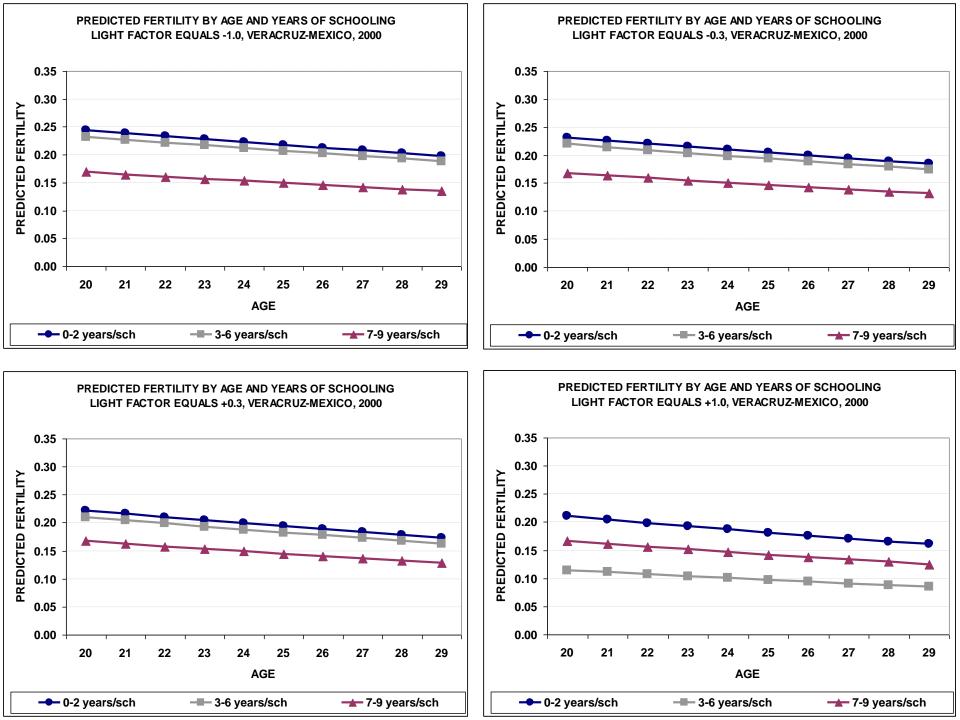


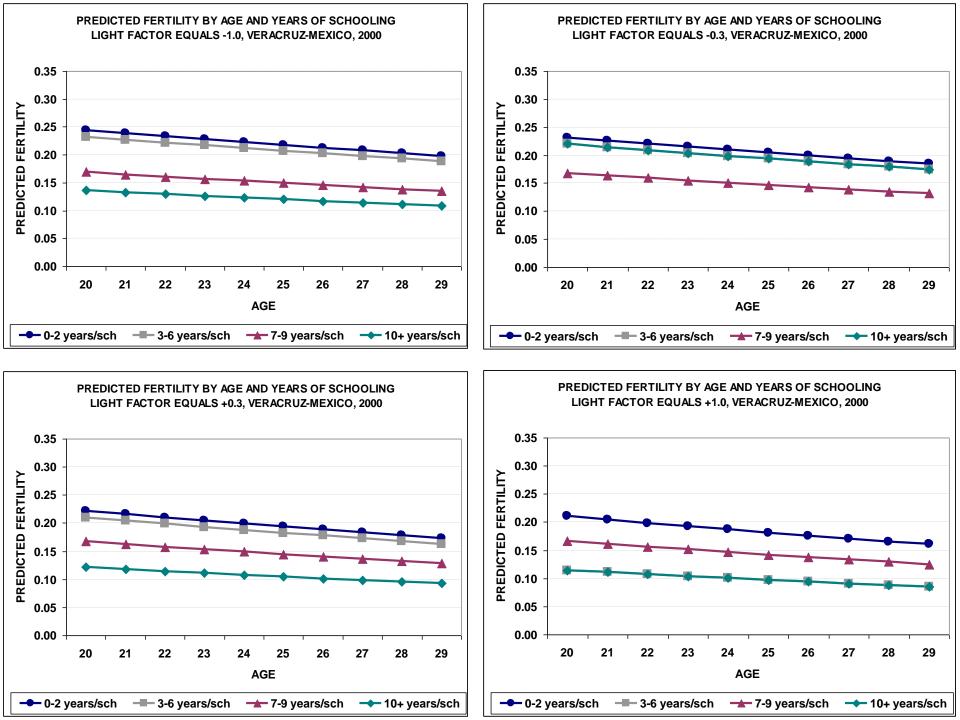


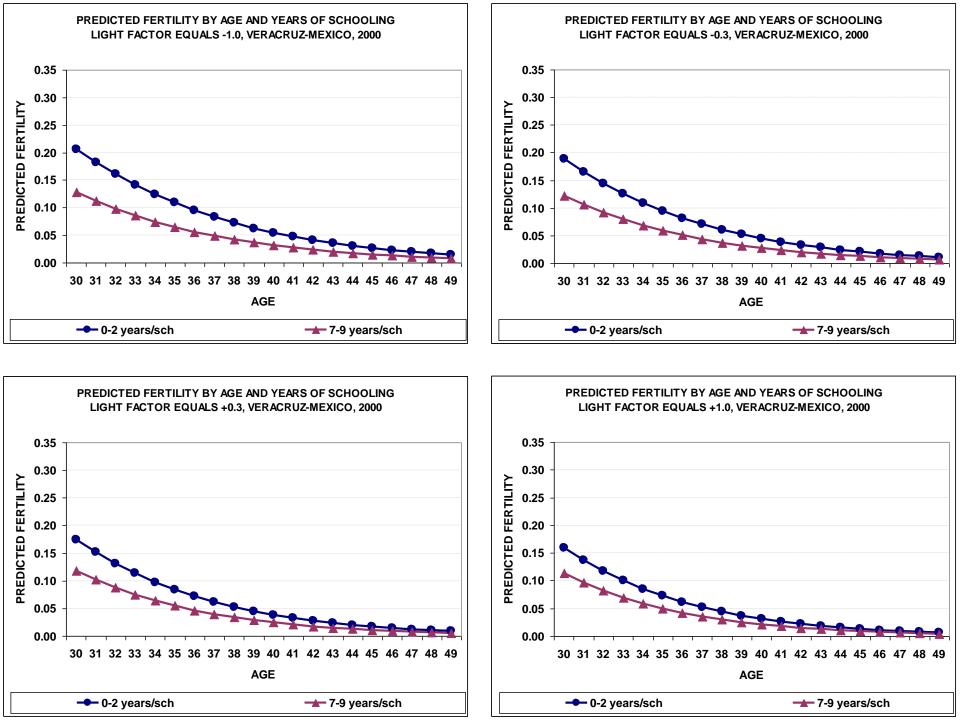


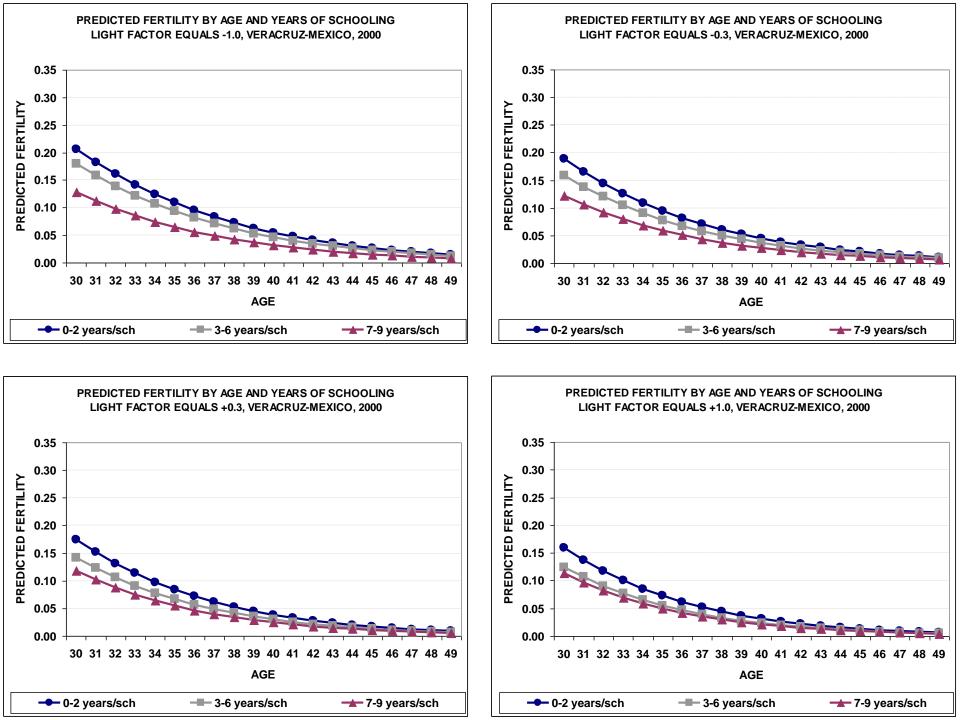


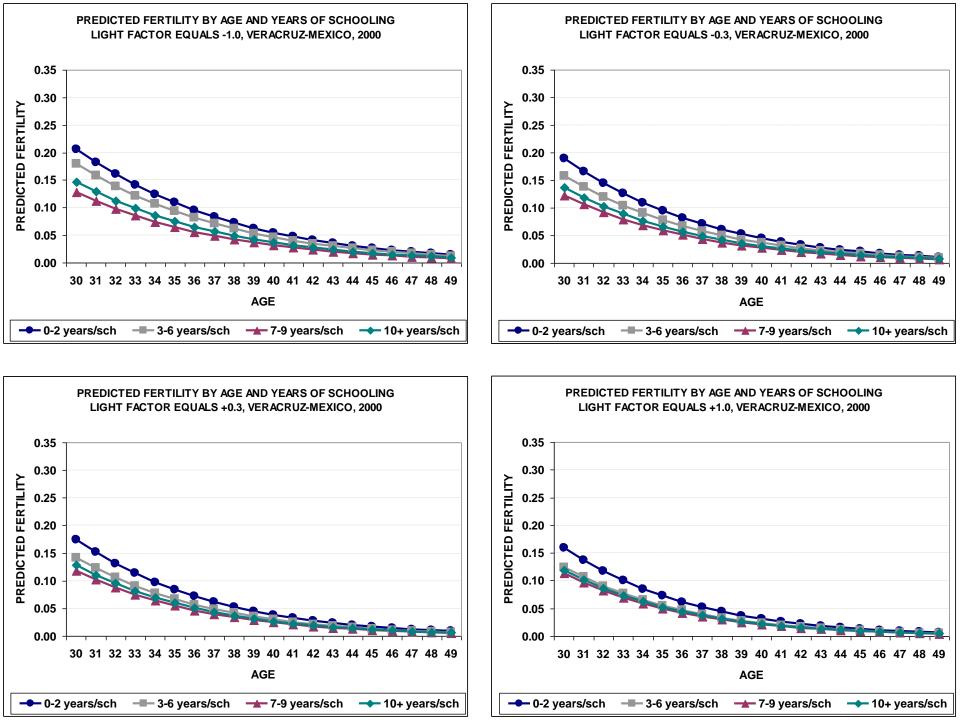












## Discussion

- Drauzio Varella is not correct indicating that the level of fertility among poor women is the same one as in Namibia
- The findings are consistent with the hypothesis that public family planning programs decrease fertility differentials among women with different socioeconomic status