

## ***Religion and Fertility:***

### ***Understanding adolescence pregnancy and family religion at São Paulo State administrative micro-regions.***

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#### **Adolescent pregnancy and social vulnerability**

Adolescent pregnancy issues are currently becoming more important and significant all around the world and there are too many efforts to understand this process. During the last 50 decades, at least, the academic community has been worried about high levels of fertility in developing countries and the negative effects around it. But, in many of these countries, Total Fertility Rates (TFR) declined to “acceptable” levels, mainly in the Latin America’s countries and especially in Brazil. The Brazilian TFR have passed from 4,4 children *per* woman to 2,3 between 1980 and 2000, but the proportion of the Age-Specific Fertility Rates (ASR) for the women between 15 and 19 years old have passed from 9,1% of the TFR to 19,4% at the same period. Although this process has reduced recently, we cannot discard the importance of this issue in the political and social agenda.

Nowadays the complexity of society systems has been posting another challenges to understand the decline of TFR. The Brazilian case is a good example, because in countries where the fertility has declined recently – such as Brazil – adolescents have been posted an important role to equity and gender like an opportunity window. But we must look carefully to this opportunity window don’t be changed into a vulnerability window.

As a consequence of the demographic transition process, adolescents have never reached such social importance before and policy makers are facing a huge challenge.

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Because this process represents that if on one hand we have the decline of TFR, for another one we have an increase of the ASR. It also increases the relative importance of the 15-19 ASR on the TFR, changing the picture of the fertility in Brazil. The ASR for 15-19 years old women has increased all around the São Paulo State and where this increasing was not occurred, must of them presented an increase on the participation of the 15-19 ASR on the TFR. This indicates that the TFR have declined but the 15-19 ASR have declined in a slower degree. The São Paulo State is one of the most important states in Brazil and in this paper it is especially important because it is one of the lower TFR in Brazil.

Another important change in the Brazilian social context in recent years is the religious confessions' new profile. We are observing an important reduction of the number of catholic women between 15-49 years old and it has its consequences, but none of them seems to be part of any study yet. In fact, the traditional catholic hegemonic family is changing in Brazil. As a matter of fact, the number of Catholics experienced a reduction from 80% to 70%, but the number of Catholic families (it means that all the family members are catholic) have been reduced from 73% to only 40% between 1991 and 2000 Censuses.

All of these changes – *i.e.*, the increasing ASR of 15-19 years old women and the great reduction of the proportion of catholic families in São Paulo State – are parts of an important social change. What are the relations between these two important recent changes? Other researches have been conducted to understand the social relationships related with TFR's decline, but is it possible to say that there are the same relationships around the increasing of the ASR? More than give the answers of these questions, this paper focuses on a revision of the relationships between fertility and religion in the recent Brazilian context. Another major effort in this paper is the use of spatial statistics to reach more detailed ASR to all the administrative micro-regions of the state, because the data samples are mostly not significant to all of them for each religion categories. To achieve this objective we used an empirical Bayesian smoothing method to deal with the problems and to reduce the random variations across contiguous spatial areas.

Thus, the main aim of this paper is to explore these relationships, considering the changes on the religion of the families and the impacts of these changes on the ASR. All the discussion looks for a perspective where this group of changes is an evidence of another risk

situation that the adolescents should be aware of. The better we understand the problems related with these age groups the better we will know how to deal with the adolescent difficulties and to help to turn the passage to adulthood socially and individually easiest than currently it is for those kids.

Pregnancy in younger age groups – 15 to 19 years, for instance – wasn't always considered as a problem. We know from our grandmothers' generation experience that in the beginning of 20<sup>th</sup> century, marriages at young ages were the pretty common. However, the declining fertility rates and the increasing marriage average age along the 20<sup>th</sup> century changed the social relationships inside the families. Nowadays there is almost a consensus about the idea that it is preferable that marriage and pregnancy do not occur in the young ages. It is a hard issue to deal with because any generalization can easily become a conservative discourse trying to say what people have or not have to do in their private life.

For the UNICEF, this life stage is an important rule for the development of a society. It has been understood as an "opportunity window", because it can be an opportunity for the families and the society to face the challenges of the social and political determinations. Therefore, younger ages bring with them the potential for the social revolution. But it only can happen if there are political institutions that can support the specific needs of these age groups.

Brazil is one of the countries that has above the world-wide average rates of adolescence pregnancy. The numbers are of 50 births for each thousand women. Studies tend to argue that the adolescence pregnancy would cause school abandonment, formation of fatherless families and a more effective situation of vulnerability added to conditions of social exclusion. In fact, according to Berquó and Cavenaghi (2003), the biggest increase of the fertility rates (42%) happened among young people with *per capita* family income below ¼ of minimum wage for month; among young people with family income above five minimum wages, the growth was of 15%. Welfare policies generally do not reach these social groups and the absence of an educational policy that helps the young mothers to keep studying, makes it even much more complicated to avoid school abandoning.

But these groups are exposed not only to risky conditions related with social conditions. There is a lot of health issues related with teenage pregnancy. Premature birth,

low weight at birth, respiratory diseases, infant mortality and other medical factors are more frequently among younger mothers. Thus, to understand the adolescent pregnancy is not a moral question about the conduct rules of the individual life. It is important as a way to avoid the increase of social vulnerability between the low incoming families. More than support public policies to avoid the young pregnancy, it's about offering adequate conditions to people take its own choices, supporting and avoiding the increase of the social risks.

The vulnerability side of adolescent pregnancy is more related with the family than with the individual (adolescent) at all. This way, if there is not a public protection for these adolescents, their families will be the only available support for them to take account of their adulthood responsibilities. So, if by one side the individualization process of the modern society is leading to the fragmentation of the family, by the other side there is an increasingly importance of this institution to support the social reproduction.

### **Religion: social changes in 'late modernity'**

Brazil is one of the largest catholic countries in the world, but the recent social change processes are changing the faith framework in Brazil. The number of catholics in Brazil experienced an important decrease, from about 95% of total population in 1940 to about 70% in 2000 (see Table 1). In terms of the individualization and institutionalization process of the second half of the 20<sup>th</sup> century, this changes shows that there is a rescue of the integralization paradigm, in a movement against the one-dimensional culture imposed by the post-modern capitalist order (GOUVEA, 2001).

It's not about a societies' organizational forms crisis, it's about a crisis of all the forms (HOBBSAWN, 1995). There is a search for new paradigms that make sense to the rationality of contemporary life. The increasing of the new Protestantism and of the number of people that do not express any kind of religious affiliation all around the world brings to the social and political agenda a new challenge related with social diversity and inequity issues. It is an important signal of complexification and individualization of society and it reaches not only the developed countries. The Brazilian situation, as the Latin American, is the symbol of the huge social transformation related with the globalization of culture and new forms of social reproduction in the every day life.

**Table 1 Population (%) by religious group, 1940-2000 – Brazil.**

Grupos religiosos	1940	1950	1960	1970	1980	1991	2000
Católicos	95,2	93,7	93,1	91,8	89,2	83,3	73,6
Evangélicos	2,6	3,4	4,0	5,8	6,6	9,0	15,4
Sem religião	0,2	0,5	0,5	0,8	1,6	4,8	3,4
Outros	1,9	2,4	2,4	2,3	2,5	2,9	7,3
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Source: IBGE, Demographic Census 1940-2000.

From this point of view, the social institutions (like family or state) assume a never seem rule inside the “late modernity” (GIDDENS, 1991). The potential of social transformation leaves inside the possibility of these institutions to take advantage of this moment. The reduction in the number of Catholics in Brazil can be attributed to two different but related processes, in one hand the growth of evangelical groups (the evangelical branch of Christianity that centers its faith on the power of the Holy Spirit, representing about 15%) and of the groups called "without religion" (with 3,4%).

Social, political and economical changes are unavoidable in this process, because there is an important cultural change coming together with those religious transformations. The Pentecostal churches seem to carry on the political heritage from the protestant reform and became an important component of the political arena by holding some federal and local governmental political positions. Moreover, the increasing number and popularity of religious television programs, called **e-church**, bring some important transformations inside the family and the religious affiliations at all (FREESTON, 1996).

A series of researches shows that television's impacts and its forms of social representation are important rules for cultural changes. The cultural impacts inside the families are the most evident, but there are some evidences of impacts on the TFR's in Brazil<sup>4</sup>. This way, the families' religious fragmentation's impacts can be more expressive than

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<sup>4</sup> FARIA, V.E. (1989) Políticas de governo e regulação da fecundidade: conseqüências não antecipadas e efeitos perversos. Ciências sociais hoje, p.62-103.

FARIA, V.E. e POTTER, JE. (1990) Development, government policy and fertility regulation in Brazil: the social impact of television on reproductive behavior. Brazil Working Paper Series, n.2, Population Research Center. Austin: The University of Texas.

GUPTA, N. E LEITE, I.C. (1999) Adolescent fertility behavior: trends and determinants in northeastern Brazil, International Family Planning Perspectives, n.25, v.3, pp.125-130.

a general impact of the individual religious affiliation in TFR, because some cultural restrictions are more effective inside the family, as the religious dogmas.

Choosing the familiar perspective to look for religious changes, we can see a more important social transformation. The reduction of the number of Catholics in Brazil is about 80% to 70% in the 90's, but in this same period if we look through a familiar perspective, the reduction of catholic families, have been reduced from 73% in 1991 to only 40% in 2000. So, in this period we could see the increasing of the number of families with no homogeneous religious affiliation, which was about 20% in 1991 and passed to about 50% in 2000. What we can show here, is the fact that people doesn't live isolated, and the religious constrains can be faced in different forms inside the family. And the religious fragmentation inside the family might be an important rule to understanding part of the adolescent fertility recent changes.

## **Methods**

Adolescence is a difficult age group for analysis, because its subjective component may be understood in different way through different cultures. But the demographic approach of the fertility trends is not arguing about the adolescence pregnancy at all. It is about the increasing of the youngest ASFR, like 10-14 years old and "15-19". So what we have considered in this paper is – for a methodological approach – that the adolescence is represented for the age group from 15 to 19, because in this group are the most important increase of ASFR in the São Paulo State.

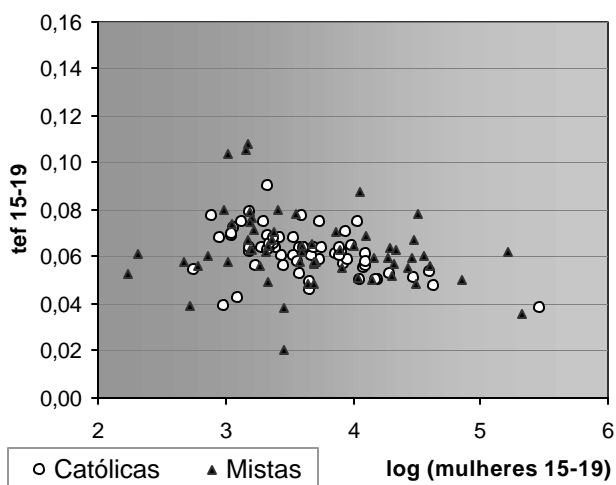
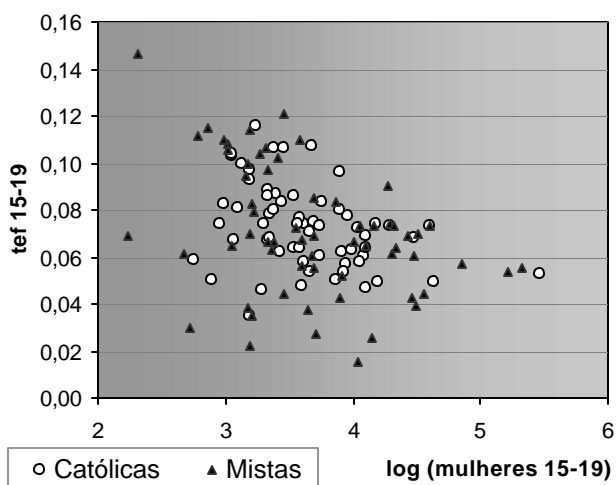
São Paulo State is one of the most developed regions in Brazil and its TFR is the lower in the country. The institutional sub-division of the state in 63 economical and political micro-regions helped us to organize the data because the analysis of the religious category is a captured by the Census in a sample survey. The basic unit of survey is the municipal one and grouping them into micro-region can avoid random variations.

For processing the data sample we used a combination of two methods, one of them is the Brass P/F ratio method for an estimation of fertility based on information about children ever born by the national census. After the calculation of the ASFR and the TFR for each

region we applied an Empirical Bayes “shrinkage” estimation<sup>5</sup> to smooth and correct the problems of working with small groups of age in a sample data. Using this combination of methods we are able to work with the religious categories and the age groups that are too little to analyze in this scale of aggregation, *i.e.*, the sample organization in many cases presents a huge random variation in way that it can’t be used for such small groups.

**Graph 1 – TEF 15-19 distribution (not adjusted),** micro-regions by log of female population (15-19 years old) living in catholic and mixed families, São Paulo (2000).

**Graph 2 - TEF 15-19 distribution (adjusted),** micro-regions by log of female population (15-19 years old) living in catholic and mixed families, São Paulo (2000).

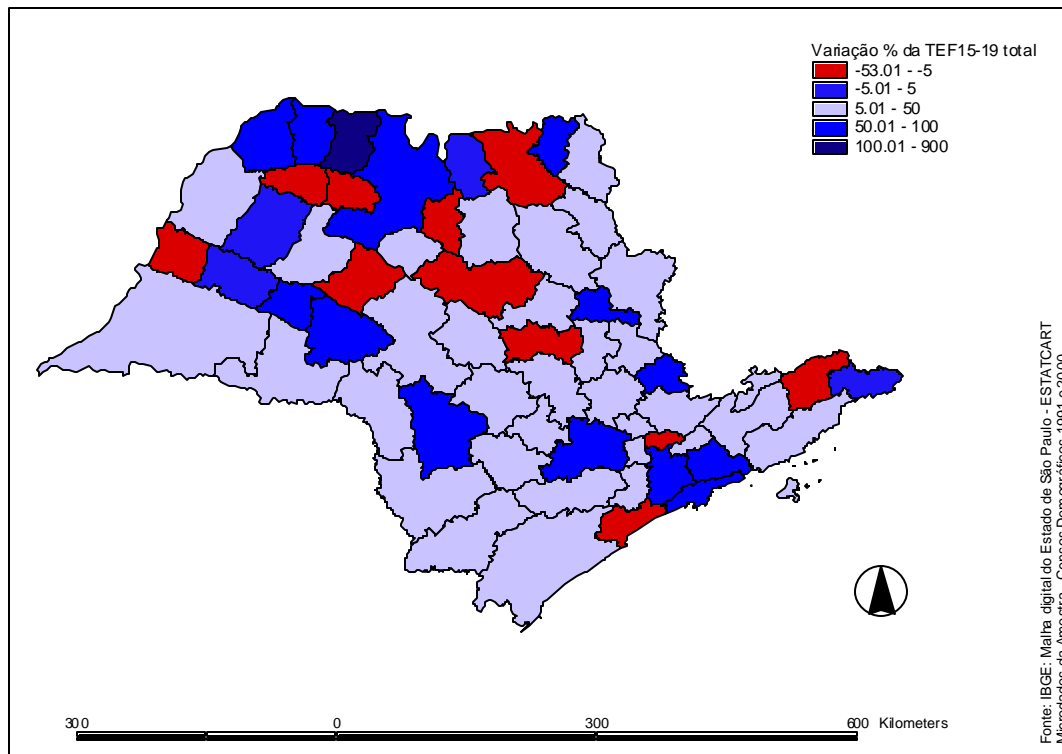


Source: IBGE, Demographic Census 2000.

As we can see in Graph 2, the random variation observed in Graph 1 was spatially smoothed “borrowing” force from the spatial neighborhood. So, the information about the fertility levels for each religious category can be used with more accuracy than if only used the P/F Brass method.

<sup>5</sup> Cavenaghi, S; Potter, J.E.; SCHMERTMANN, C.P.; ASSUNÇÃO, R.M.. **Estimating Total Fertility Rates for Small Areas in Brazil.** Annual Meeting of the Population Association of America, Session 63 – “Methodological Issues in Fertility Measurement”, Boston, Massachusetts, April 1-3, 2004.

As seen in Figure 1, the variation of the ASFR (15-19) isn't a worldwide event. It has a diversity range in the State of São Paulo, with micro-regions that presented a reduction of these rates. But, in general terms, the variation of the adolescent pregnancy is positive for most of the regions considered here.



**Figure 1 – Variation of the ASFR (15-19) by micro-regions of the São Paulo State, 1991-2000 period.**

It's important to identify the closer relation to the increasing of those rates to the raising participation of the ASFR (15-19). Therefore, in the São Paulo State case, the elevation of the adolescence pregnancy is a *phenomenon* that occurs not only in relative terms, but it is a real increase of the levels of fertility in this age groups. The relationship with religious affiliation can be shown through the important divergence from the variation by each religious category. Between the adolescents living in catholic families the variation of the ASFR and the participation of the ASFR in the TFR are the lowest.



**Table 2 – Variation of the relative participation of the ASFR in the TFR and variation of the ASFR (15-19), São Paulo State (1991-2000).**

<b>Religious Groups</b>	<b>% variation of ASFR in the TFR</b>	<b>% variation of the ASFR 15-19</b>
<b>Catholics</b>	23,9	18,3
<b>Mixed</b>	41,9	40,0
<b>Evangelical</b>	51,0	58,5
<b>No religion</b>	75,3	113,7

Source: IBGE, Demographic census.

Adolescents living in Evangelical and “no Religion” families represent only 10% of the total amount of women 15-19 aged. This is why any affirmation about these groups must be seen carefully, because despite all the methods of correction, these age groups by religious categories are low representative to any inference. This way, we are looking to the interpretation of the other majority groups, *i.e.*, Catholics and mixed families. Table 2 shows the differences between the ASFR (15-19) in terms of participation in the TFR and in terms of level. These numbers suggests that there is important differences between the fertility levels in terms of familiar religion when we look in a temporal analysis, because there is differences in the degree of the variation in each religious group. Catholics seems to be more conservative in terms of this fertility elevation if compared to the mixed families, but there are no evidences (until this moment of this research) that can prove a particular relationship with the familiar religion to the elevation of the ASFR (15-19).

Therefore, this paper is a draft work to capture the framework of the fertility in São Paulo State, using spatial analysis to smooth the data of small areas and small population groups. More than reach answers, the main focus of this paper was to put some light in a family approach to the relationship between fertility and religion because none of the studies have worked to this perspective, using only the individual religion affiliation. This way, this paper tried to show that it is possible to understand it by a family approach using some smoothing methods at small areas’ and small groups’ data.

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