

EDUCATIONAL PATTERN OF CHILDLESSNESS IN SERBIA

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APSTRACT

The author investigate the general pattern of childlessness by woman's educational level, with the addition of regional analysis of educational pattern of childlessness at the level of NUTS 3 areas. Analysis which is based on data from the Census of Population and Households (2011) includes women who are above or at the end of reproductive age (45-49, 50-54, 55-59). According to International Standard Classification of Education ISCED-97, cohorts of women born between 1952 and 1966 are classified into five modalities of the educational structure: without education, primary-educated, secondary-educated, low-tertiary educated and high-tertiary educated. The main conclusions of an analysis are following: first, voluntary childlessness is typical for tertiary-educated women which indicates a dominant negative effect of opportunity costs; second, pattern of childlessness by woman's educational level spatial differentiate.

Keywords: childlessness, women's educational level, regional analysis, Serbia, Census 2011.

INTRODUCTION

Like most European countries, Serbia has faced with the problem of low fertility. According to the latest data, the total fertility rate (TFR) is 30% below replacement level. Although, Serbia as a whole has been characterized by insufficient reproduction, studies have shown the regional differences of quantum of fertility in term of lower fertility in the region of capital city than other regions [7] [8] [9]. Direct cause of regional differences of completed fertility is precisely spatial unequal level of childlessness. According to the last Census (2011), the share of childless women above reproductive age is about 30% higher in the Region of Belgrade in compared to in other regions in Serbia.

Parallel to this, Serbia has witnessed a transformation of the women's educational structure in term of expansive growth of the share of high-educated women. According to the Census 1981, 5.5% of women in reproductive age were highly educated, while the latest Census 2011 has shown that $\frac{1}{5}$ of women in reproductive age were highly educated.

Also, regional unequal educational structure of women in Serbia is largely opted authors for an analyse of this topic. It is evident that the region of capital city is characterized by twice higher share of high-educated women in the total female population in relation to the other regions of Serbia. Almost $\frac{1}{3}$ of total female population (15 and more years) in the Belgrade region is highly educated. This fact should not be surprising given that the Belgrade is the largest university center in the country. This share is below average in the rest part of Serbia, even in some areas of the Region of Eastern and Southern Serbia and below 10%. It can be assumed that the above-mentioned unequal spatial model of

childlessness has been determined by the regional unequal educational structure of women.

In accordance with the presented facts, the objection of this paper implies a response to the following questions: Whether female education can be considered an important factor of frequency of childlessness in Serbia? Whether female education can be considered as an important factor of spatial differentiation of childlessness?

THEORETICAL BACKGROUND

The link between education and fertility has occupied a very important place in the scientific literature. Kravdala & Rindfussa (2008) have stated that education and fertility have been two fundamental processes in the social metabolism [4]. In the literature, the increasing of education has been associated with the expansion of post-materialist values and norms that shape the low fertility preferences [5], as well as an increasing of opportunity costs of childbearing [1],[2]. Thus, both theoretical approaches, culturally and economically, suggest that women's educational level and frequency of childlessness have positive correlation.

In the context of the Second Demographic Transition Theory, high-educated women have left traditional norms and they are "less prone" to family life which result in fewer children or childlessness. Van de Kaa (2001) has indicated that the „higher-order needs“ have been appeared by the expansion of post-materialist values which has reflected in the postponement of parenthood which can result in childlessness [10].

In the context of Economic Theory of Fertility, positive correlation between female education and childlessness is explained by "price effect" which implies higher opportunity costs of childbearing among high-educated women. On the one hand, the increasing of women's education affects to their activation on the labor market and higher income, but on the other hand it causes the increasing of costs of time which woman spends on "non-market" activities and costs of children. Thus, the "price effect" implies that the need for children is reduced by increasing of opportunity costs among high-educated women which can result in childlessness.

METHODOLOGY AND SOURCE OF DATA

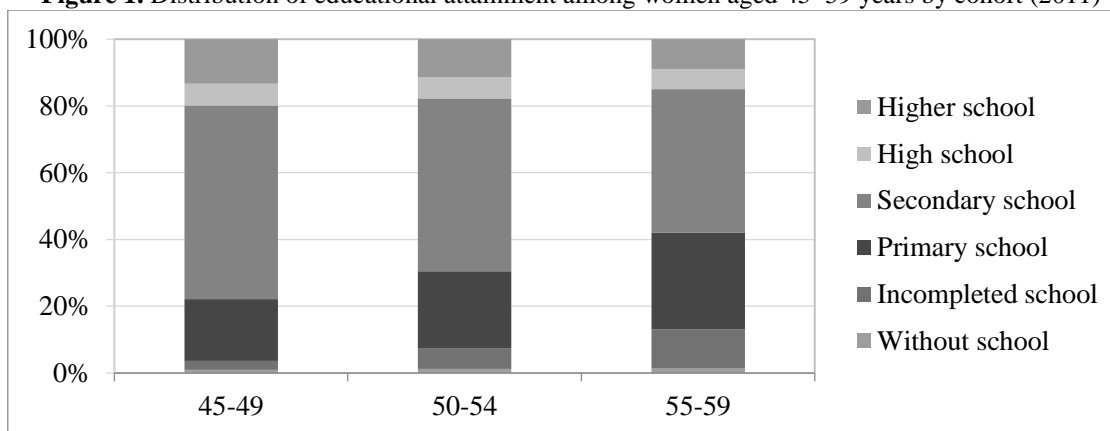
Cohort method of demographic analysis based on the data of the Census of Population and Households 2011, was used in this research. In order to analysis of permanent childlessness, this analysis included women who aged between 45 and 59 years at the moment of conducting the Census (2011) or birth cohorts of women between 1952-1956, 1957-1961 and 1962-1966 (total 808 033).

Measure of education is based on highest educational qualification at the time of the Census 2011, and author uses *five* categories of education in this analysis: women without education, primary-educated women, secondary-educated women, low-tertiary educated women, high-tertiary educated women, in addition to women with academic title (MA and PhD).

As shown in Figure 1, the percentage of high-educated women in total female population ranges from 15% in the oldest cohort (55-59) to almost 20% in the youngest cohort (45-49). On the other hand, the proportion of low-educated women is the lowest among the youngest women (about 20%), while among the oldest cohort exceeds 40%. The proportion of secondary-educated women is the most represented category in all three age cohorts, namely more than half of women aged 45-49 and 50-54 and about 43% of women

aged 55-59 had completed secondary school at the moment of conducting the Census 2011.

Figure 1. Distribution of educational attainment among women aged 45–59 years by cohort (2011)



Source: Census of Population and Households (2011)

The rate of childlessness (percentage of women without children in total women) which is calculated on the basis the census's question about *Number of live born children*, is the main indicator in this analysis.

Applied method in this research involves two phases. The first phase indicates a general educational pattern of childlessness in Serbia by calculating the rate of childlessness by their education. The second phase indicates the spatial pattern of childlessness by women's educational level, at the level of NUTS 3 areas.

RESULTS

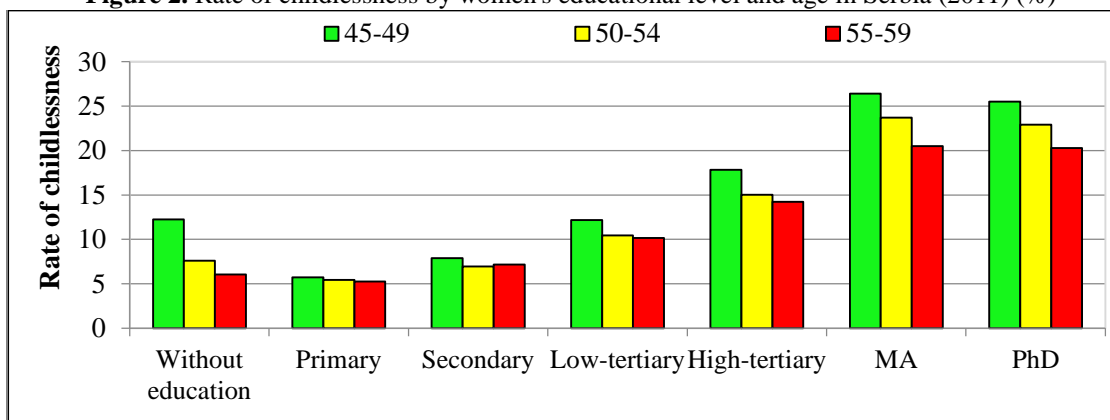
EDUCATIONAL PATTERN OF CHILDLINESS

The results have shown a clear educational pattern of childlessness which implies its the largest share among tertiary-educated women especially women with academic title, which is consistent with the studies in other countries [3] [6] [11]. The highest rate of childlessness is recorded among women with academic title, while women without education and primary-educated women are characterized by the lowest rate of childlessness. Precisely, almost 30% of women with academic title are childlessness in compared to 6% of primary-educated women. The portion of childless women is twice higher among tertiary-educated women in compared to less educated women. In other words, every seventh tertiary-educated woman (15.6%) has been childless (23.1%), in compared to 6.1% and 7.3% of primary-educated and secondary-educated women (Figure 2).

Comparison of age cohorts indicates a growing trend of childlessness in Serbia. The intensity of increase of childlessness is different with regard to the woman's educational level. On the one hand, a slight increase among primary-educated and secondary-educated women, and on the other hand, an intense increase among tertiary-educated women. So, comparison of the youngest and the oldest cohorts indicates that the proportion of childless tertiary-educated women has increased by almost 30%, without significant differences between low-tertiary educated, high-tertiary educated and women with academic title. Surprisingly, women without education are also characterized by a intensive growing trend of childlessness, therefore about 15% of the youngest cohort does

not have children. This finding suggests that the gap in the frequency of childlessness between the tertiary-educated and the other women has increased in Serbia (Figure 1).

Figure 2. Rate of childlessness by women's educational level and age in Serbia (2011) (%)

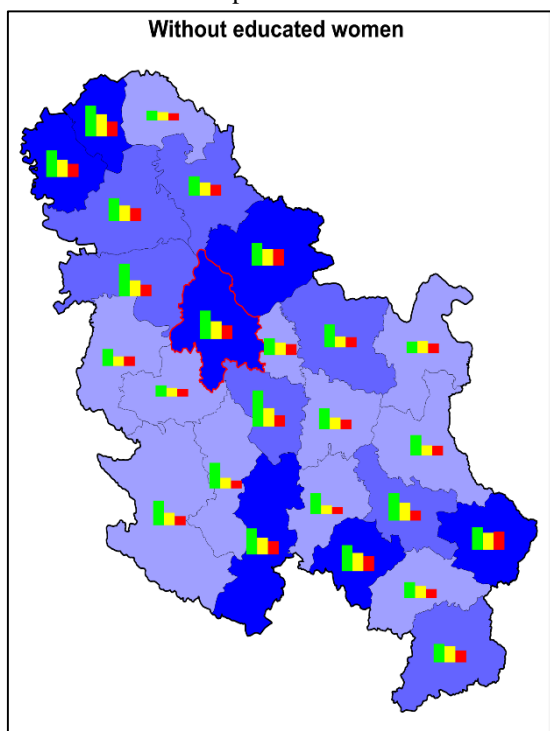


Source: Census of Population and Households (2011)

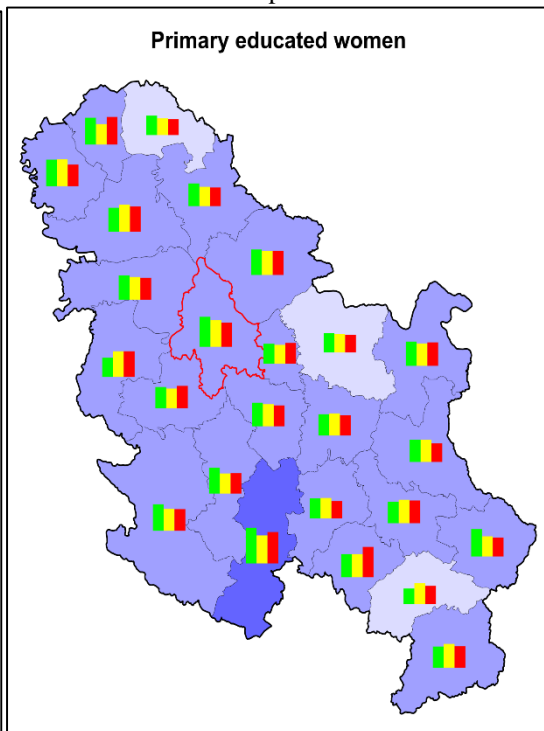
REGIONAL ANALYSIS OF EDUCATIONAL PATTERN OF CHILDLISSNESS

Spatial analyse has indicated that the model of childlessness by women's educational level varies between the areas of Serbia. First difference in the model is related to the level (per cent) of childlessness, and the second difference is related to an intensity of increase of childlessness among some educational categories of women. Overall, analyse has showed that the region of capital city is an area of the most frequent childlessness which can be the basis of lower quantum of fertility in compared to the other regions. In contrast, some areas within the Region of Southern and Eastern Serbia is distinguished by the smallest share of women without children. However, the difference in the rate of childlessness between NUTS 3 areas intensifies with an increase of the women's educational level. On the one hand, the rate of childlessness among primary-educated women is almost same in all areas. On the other hand, area of Belgrade is distinguished by more frequent childlessness among secondary-educated especially among tertiary-educated women in compared to the other areas. Regarding to the second "spatial" difference, area of capital city is distinguished as an area of the most intensive growth of childlessness among all educational categories of women. Besides Belgrade, in South Bačka and Nišava areas whose centers are large regional centers (Novi Sad and Niš) also exists growing trend of childlessness among women regardless of their education. An exception in this regard are only primary-educated women who are characterized by stagnation or a slight change in all areas. Unlike to the Belgrade, the growing trend of childlessness is typical only for tertiary-educated women in all other areas, while women without tertiary education are characterized by stagnation in the rest part of the Serbia, particularly in the areas within the Region of Southern and Eastern Serbia (Map 1; Map 2; Map 3; Map 4; Map 5 – Per cent of childless women by educational level).

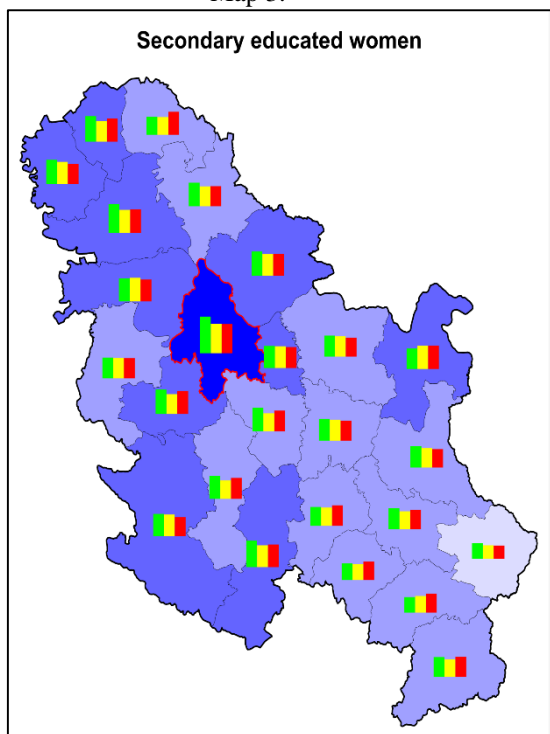
Map 1.



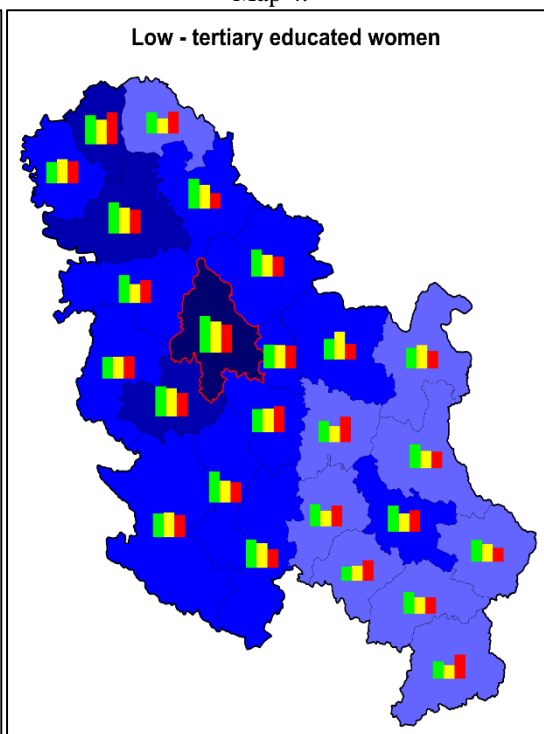
Map 2.



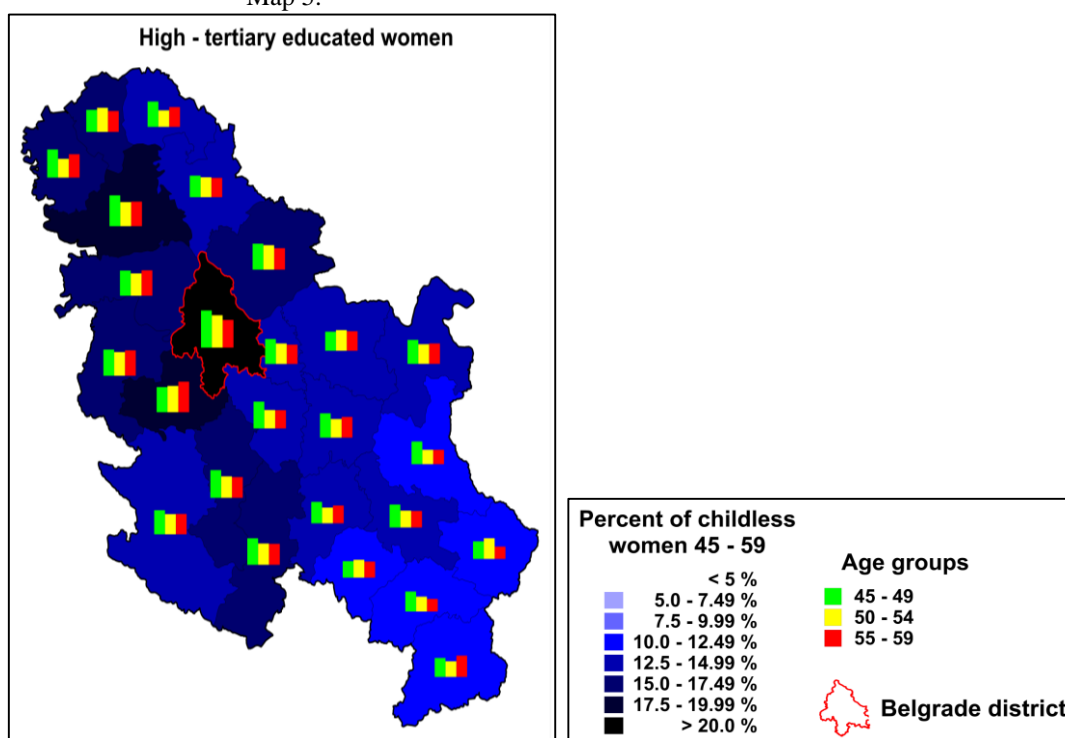
Map 3.



Map 4.



Map 5.



Source: Census of Population and Households (2011)

CONCLUSION

In accordance with research aims, the main conclusions of analysis are follows.

First, the findings of analyse suggest that women's education can be considered as very important factor in the deterministic basis of childlessness in Serbia. Bearing in mind that physiological sterility is between 7% and 9% in each population [7], it can be argued that the voluntary childlessness is typical only for tertiary-educated women.

Secondly, the results have shown that female education can be considered as an important factor of spatial differentiation of reproductive behavior (in this case childlessness). Therefore, unequal-educational model of childlessness can be considered as a direct cause of regional differentiation of the completed fertility in Serbia.

This findings suggest that the impact of unequal socio-economic development on the reproductive behavior intensifies with an increase of women's educational level. The general conclusion is that significant regional disproportions in development as a feature of transitional Serbia, has the greatest impact on the reproductive behavior of tertiary-educated women. The phrase "Belgrade and other regions" which otherwise can be expressed as "developed and underdeveloped or modern and traditional areas" has the most impact on the reproductive behavior of tertiary-educated women in Serbia. It has been shown that the Belgrade region can be considered as "leader of modernistic views" that largely determine the regional differences in the rate of childlessness, especially among tertiary-educated women. This confirm their the highest propensity to the modern lifestyles in which different needs and interests are high-valued, in addition to motherhood.

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