University of Novi Sad | Faculty of Sciences
**DEPARTMENT OF GEOGRAPHY, TOURISM AND HOTEL MANAGEMENT**

# THE 5TH SERBIAN CONGRESS OF GEOGRAPHERS, 2021

## INNOVATIVE APPROACH AND PERSPECTIVES OF THE APPLIED GEOGRAPHY

*Collection of Papers*



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# FEMALE EDUCATION LEVEL
# AND ITS IMPACT ON FERTILITY IN NOVI SAD

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### Abstract

Fertility in the modern world is influenced by many factors, from the individual, through the influence of the environment, to perennial changes in lifestyle and also population policy in countries. The delay in starting a family significantly affects the demographic picture of birth rates. Reduced number of children per person in the fertile period, emigration of young generations from Serbia, and large losses during the war in these areas can lead to the depopulation of one state, and thus one nation. The task of the paper is to investigate and analyze the fertility of highly educated women in the area of Novi Sad, primarily the level of education, the number of children, the desired number of children, the number of children, and the factors that influenced this achievement. The results showed that the majority of respondents want a larger number of children, two, three, or four, with only six respondents having three children and two respondents having four children. Lack of housing, incomes that are not enough to provide basic needs for one child, working hours, especially for women employed in private companies, certainly affect the realization of the desired number of children.

**Keywords:** fertility, female education, children, Serbia

## INTRODUCTION

Fertility represents the average number of children born to one woman in their reproductive age. The basic determinants of fertility include the following factors: modernization (education, urbanization) - a connection is established between quantitative fertility indicators and various aspects of modernization; cultural factors (religious and ethnic affiliation) - birth control, sterility, fetal mortality, genetic factors of parents also play a major role in fertility (Đurđev et al., 2016). The total fertility rate represents the number of children that a woman will give birth to if she lives until the end of the reproductive period. The reproductive period represents the time period from the age of 15 to the age of 49, although she will give birth at the same specific fertility rates by age as the woman in a given year. To ensure the level of simple population renewal, a woman must give birth to between 2.1 and 2.5 children, depending on mortality (Đurđev et al., 2016). We decided to represent the data we collected and analyzed to get a better insight into the relationship between the decision-making process of the number of children and different levels of education in women living in Novi Sad. We offer some possible solutions that could have an impact on women's ability, readiness, and willingness to have more children. The main reason why we opted for Novi Sad as a specific place while implementing this research is the fact that Novi Sad is a city that is recognized as a fruitful ground that offers a lot of opportunities for future academic work, due to the high quality of education that

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the University of Novi Sad provides. The city of Novi Sad has been a destination city for students and young professionals from all over Serbia, but Bosnia and Herzegovina, Montenegro, and Croatia as well. All this contributed to the creation of a multiethnic environment, which has been shown and proven as a desirable factor in the decision-making process regarding the future place of living. With this being said, a large number of young people coming to Novi Sad to study end up staying permanently upon completion of their studies is a common scenario. While writing the assignment, we came up with the questions for the survey together, Aco did the statistical analysis in SPSS, and Amra did the theoretical part.

According to Kovaček-Stanić G. (2014), population policy is a policy conducted at the state level and represents a policy aimed at the population. It can be a pro-natal policy that is represented in countries with low natural increase, and a policy aimed at limiting the birth rate that is conducted in countries with extremely high birth rates. Population policy is a policy pointed towards population aging, population mortality, and migration. We have cases of countries in certain regions facing different needs regarding population policies, and in those cases, the differential population policy is being introduced. Measures to encourage childbirth are reflected in the provision of child allowances, financial benefits for the family, maternity leave for women and men, flexible working hours, tax breaks, childcare subsidies, household subsidies, promoting equal participation of both spouses in parenthood and household chores. Measures to reduce births are the integration of family planning and safer motherhood programs into the primary health care system, providing easy and simple access to reproductive health services, promotion of men's responsibility in sexual and reproductive health, raising the lower limit for legal marriage, educating women and introducing cheap and safe contraception. Measures of population policy towards births are prescribed by the Labor Law, the Law on Financial Support to the Family, and the Law on Health Insurance. When we talk about birth control strategies, it is necessary to mention the 2008 Strategy. In Serbia, two different measures of population policy towards fertility were being implemented: parental allowance and full salary compensation to an employed mother during maternity leave for one year. The policy towards the mortality of the population in Serbia is reflected primarily through health care. Parental allowance is progressive; the highest is for the fourth child, states Kovaček-Stanić G. (2014), and it does not depend on the social status of the family, so it is a pro-natal measure. If a woman gives birth to a third child, a special length of service of two years is calculated, according to the Law on Pension and Disability Insurance1 (Kovaćević-Stanić, 2014).

## METHODOLOGY AND RESEARCH

The research was conducted through an online survey. The first part (7 items) was consisted of collecting demographic data. The second part (5) contained statements/questions where respondents provided their attitudes regarding the number of children they have, they think it is ideal in Serbia, and their preferences regarding the number of children. For the examination of the third part, the Likert scale was used - the scale of attitudes, which is consisted of 7 statements related to different aspects of attitudes about population policy measures that would contribute to a higher birth rate. The content of the survey is original and is not modeled on any previous research survey on the topic of Fertility of highly educated women in the area of Novi Sad. It was assumed that women of different marital statuses, work experiences, and levels of education have different opinions about the proposed population policy measures and benefits that would encourage them to have more children. The hypotheses set during the research are that there are statistically significant differences in the attitudes of respondents of different ages, marital status, work experience, and level of education according to the proposed measures and benefits. It is assumed that older women evaluated the claims differently than younger respondents. Due to such assumptions, one of the hypotheses is that there are statistically significant differences in the opinions of respondents who are in a marital union according to the stated measures, which makes the null hypothesis of this research, assumptions are that there is a statistically significant difference between employed and unemployed persons. Also, it was assumed that there is no statistical significance between women of different levels of education.

## RESULTS AND DISCUSSION

Educational status:

- – master's degree holders – 71 (38%)
- – bachelor studies – 62 respondents (33.2%)
- – Doctor of Science – 28 respondents (15%)
- – high school graduates – 21 respondents (11,2%)
- – specialization- 5 respondents (2,6%)

On the question about the number of live births, 24.8% of respondents do not have children, and these are the ones who stated that they had not established a marital union by the time of the survey, the other 17% are married, but do not have children yet. A total of 28.4% have one child, while those who have two children represent 23% of the total number of surveyed women in the city of Novi Sad. A total of six women stated that they have three children, which is 5.1% of the total number of respondents, and only two women (1.7%) have four children. Đurđev (2004) in his work concluded that in the most optimal scenario, women would give birth to 2.1 children by the end of the fertile period, and half of them could give birth to three children each. On an annual level, 105.000 babies should be born, and the fertile period should be longer than 10 years.

When asked, most of the respondents - 63 out of total stated that they desire to give birth to three children, while 115 expected two children, and 9 surveyed women did not want to have children at all. These results follow the optimal number of children in their opinion, 63 of them think that it is *two children per family,* and a total of 36 think that it is *three children.* A significant number of respondents believe that the optimal number of children per family is four, as stated by 12 respondents.

The reasons why the respondents did not achieve the desired number of children are reflected in the following. The largest number of respondents, 48.2% stated that it is because of the residential space, followed by answers related to the disagreement with the partner, 31.6%. Serbia, still being a developing country does not provide the necessary safety net for the future parents who plan on having larger families, besides the policy regarding longer maternity leave for women who are having their third and fourth children. Considering the fact that the costs of living in cities such as Belgrade and Novi Sad are significantly higher than in the rest of Serbia, families with average jobs and incomes often face financial struggles. Unlike Central and Western Europe, the Balkan area has the custom of not renting but buying the properties to live in and start a family. This might also contribute to the ''non-readiness'' factor in terms that couples often do not want to start the family unless they have secured living space in terms of an apartment or a house. Owning a property often comes with a financial burden of a bank loan and mortgage, which greatly affect their readiness and ability to start and expand the family. Owning a property of a certain size puts a limit on the size of the family since there are no conditions for a larger family in a small and limited living space. The respondents had the opportunity to state the other reasons why they did not achieve the desired number of children, as well. The fact that young professionals decide to settle in Novi Sad, a city that is not their hometown, in a way also might influence fertility rates. Living in a city that does not provide the safety net regarding close family members and friends willing and able to help out with the children, in terms of babysitting, weekends with grandparents, and others. These benefits of close family and friends living in the same city are extremely appreciated and acknowledged, especially in the Western Balkans area, where besides formal daycare of children in the kindergarten - grandparents and/or close friends often help out with children due to the parent's long working hours. This help represents free of charge help, where a different situation, such as hiring a nanny or additional help in the house, represents an additional financial burden on the budget.

The most common reasons given by the respondents were that both partners are young, and they do not want children yet. When discussing the age of the first marriage in Serbia, WorldAtlas (2017) says that it is 31 for men and 28.1 for women, which is 29,6 on average. This number is relatively low comparing it with Sweden's average age of 34,6, Iceland's 33,7, and Spain's 33,4. If we take into consideration that the level of education has increased in countries such as Serbia, where we have growing numbers of highly educated individuals, unlike in the past, when the majority of the population had completed secondary education, found employment, and worked on starting the family.

## T-TEST RESULTS

While conducting the research, we asked our respondents about the factors that could influence their decision- making process regarding the number of children, that could be introduced on the state level.

The results of the t-test showed that there is no statistically significant difference between the answers of

By looking at Table 2, the results of the t-test among the answers of the respondents who are employed or unemployed are very interesting. These results show a statistically significant difference between the answers of the respondents (at the level of significance $p<0.05$) is observed in three out of seven statements.

**Table 1.** Mean values of respondents' answers and t-test results depending on different marital status (married or unmarried)

| Statement | Marital status | N | Mean values | F | p |
|---|---|---|---|---|---|
| Higher amount of child allowance | married | 91 | 3.96 | 6.562 | 0.012 |
| | unmarried | 77 | 4.38 | | |
| Discounts in housing loans | married | 91 | 4.02 | 11.752 | 0.001 |
| | unmarried | 77 | 4.41 | | |
| Increasing the mother's pension coefficient for each child | married | 91 | 3.78 | 12.103 | 0.001 |
| | unmarried | 77 | 4.14 | | |
| Economic stimulus | married | 91 | 4.10 | 20.329 | 0.000 |
| | unmarried | 77 | 4.70 | | |

respondents who have different marital statuses on a specific example of married and unmarried women (at 95% confidence interval). A statistically significant difference was observed in three of the seven claims. For respondents' responses to the statements listed in

This is noticed among unemployed persons who rated these three statements represented in Table 2 higher than the employed respondents. The reasons for such results can be found in two facts, the first, there were 25 unemployed respondents while all the oth-

**Table 2.** Mean values of respondents' answers and t-test results on different employment status (employed or unemployed)

| Statement | Employment status | N | Mean values | F | p |
|---|---|---|---|---|---|
| Benefits that are reflected in the form of faculty scholarships for more than one child at the same time | employed | 139 | 4.14 | 4.527 | 0.035 |
| | unemployed | 48 | 4.60 | | |
| Partial working hours | employed | 139 | 4.37 | 4.952 | 0.028 |
| | unemployed | 48 | 4.64 | | |
| Increasing the mother's pension coefficient for each child | employed | 139 | 3.97 | 3.391 | 0.068 |
| | unemployed | 48 | 4.24 | | |

Table 1, there is a statistically significant difference. Respondents who declared themselves as married in the survey rated these statements with a higher score than respondents who declared themselves as unmarried. In other claims, the answers of all respondents are similar and do not have a statistically significant difference. These results indicate that the null hypothesis that there are significant differences in the attitudes of women with different marital statuses has been confirmed, as statistical significance is observed in four of the seven claims.

ers, i.e., 94 of them at the time of the survey, were employed. Therefore, their answers are lower, and the average score is higher. Another reason for these results may be that the employed respondents were satisfied with the working hours and benefits provided to women during pregnancy and maternity leave. The hypothesis is that there is a statistically significant difference between the dependent variables, in this case, employed and unemployed. is partially confirmed because statistical significance is observed in three of the seven statements.

## RESULTS OF THE ANALYSIS OF VARIANCE (ANOVA)

The application of a one-factor analysis of variance, ANOVA, was used to examine whether there was a statistically significant difference between dependent variables (items related to respondents' attitudes) and independent variables (respondents' social characteristics). One-way ANOVA showed that there are statistically significant different levels of education, which confirms the alternative hypothesis presented in this paper that there is a statistically significant difference at the value $p<0.05$ for respondents with different levels of education. Seven claims were tested, and a statistically significant difference was established for two at the level of significance $p>0.05$. The difference can be seen in the statements about increasing the mother's pension coefficient for each child and economic stimulus (Table 3).

The analysis of ANOVA shows that there are statistically significant differences in only one response

**Table 3.** Results of analysis of variance, ANOVA, for respondents according to the level of education

| Statement | F | p |
|---|---|---|
| Increasing the mother's pension coefficient for each child | 3.031 | 0.019 |
| Economic stimulus | 2.724 | 0.033 |

of respondents from different places of employment (state-owned company, private company, and self-employment). Seven claims were tested, and a statistically significant difference was established for one, at $p<0.05$. The difference can be seen only in the statement about *Increasing the mother's pension coefficient for each child* (Table 4). The initiation of application of this population measure in the population policy of Autonomous Province of Vojvodina and thus of Serbia would significantly increase the overall birth rate which is the goal of every nation.

## CONCLUSION

By writing this assignment we wanted to present the findings we got from the research implemented in Novi Sad, Serbia. Novi Sad is one of the biggest economic, political and cultural points in Serbia and it represents a unique place for living. With a great circulation of people - the local population emigrating to the Western European countries, and the population from more rural areas of Serbia, but surrounding countries as well, migrating to the area of Novi Sad. As the times are changing, the requirements on the labor market are changing as well, which has brought the necessity of having a degree of higher education. Through this research, we wanted to find out how the level of education influences the preferences regarding the actual number of children, an optimal number of children, and what might influence their ability and willingness to decide on having more children. 115 respondents stated that the optimal number of children in their opinion is two, followed by 63 of them thinking that three children are optimal, and the rest 9 of them do not want to have children at all. When asked what the main obstacles are preventing them from reaching the optimal number of children,

the main reasons were disagreement with their partner and the lack of opportunities regarding financial status and housing.

After completing the research, the results showed that the respondents do want a higher number of children regardless of their level of education and employment, but that they cannot achieve the given number due to several reasons such as low financial incomes into their family budget, disagreement with the partner regarding the number of children, and the biggest problem for the respondents is housing. In the respondent's response to the statement: A higher amount of child allowance; Relief in housing loans; An increase in the mother's pension coefficient for each child and an Economic incentive a statistically significant difference was shown. The adoption of the Civil Code, as well as the laws it envisages, which have been awaited since 2006 (when the commission was formed) and greater investment of funds for the indicated population policy measures, would increase mothers' incomes for each newborn child, and thus the general birth rate of the city of Novi Sad.

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