# IRRESPONSIBLE PARENTING AS A FACTOR IN REDUCING THE QUALITY AND QUANTITY OF HUMAN CAPITAL: THE SPECIFICS OF REGIONAL SITUATIONS IN RUSSIA

**Oksana Shubat – Irina Shmarova**

**Abstract**

The phenomenon of irresponsible parenting is still often manifested in Russia. The aim of the study is to identify typological groups of Russian regions in which a similar situation in the sphere of irresponsible parenting is observed. Hierarchical cluster analysis was applied. Clustering variables: number of abortions; the number of children whose parents were deprived of parental rights; the number of reported crimes committed against children. The result is the identification of 4 clusters of Russian regions. The first cluster represents the most problematic situation in relation to irresponsible parenting. Three other clusters were formed on the principle of improving the situation in this area. Additional profiling shows that the clusters also differ in fertility, the number of large families, the number of illegitimate births and the frequency of divorces. The main conclusions are as follows. First, an effective pronatalist policy should take into account the variety of demographic situations that have developed in the country, including in the sphere of irresponsible parenting. Secondly, the problems of low fertility are observed in combination with other social problems, therefore, such measures of state policy are needed that will be aimed at solving such problems in a complex.

**Key words:** irresponsible parenting, human capital, Russian regions, cluster analysis

**JEL Code:** C38, J11, J13

## Introduction

Since 2016, Russia has experienced a natural population decline again. The Federal State Statistics Service does not produce any optimistic forecasts regarding the population: in 2021-2035, it may decrease by more than 12 million people (Estimated Population Size, 2021). Despite implementing state pronatalist policy measures aimed at increasing the number of children in Russian families, demographic tendencies remain negative.

We believe that to enhance the current demographic situation, it is necessary not only to increase the birth rate, but also to improve the health and life quality of the children born. A significant impact on fulfilling these conditions will have a desire of the population in childbearing age to have children, raise, and develop them.

Foreign scholars consider various factors that can influence people's desire to have children and subsequently develop their human capital. For example, Becker (1981) points to the impact of the cost of raising children; Duvander et al. (2019) examine the practice of providing paid parental leave in different countries; Kiernan & Mensah (2009) study a combination of such factors as family income and status, and psychological climate in the family; Thomson, Hanson & McLanahan (1994) analyse economic resources and parents' desire to develop children, and so on.

Russian scholars also study factors that influence the demographic situation in the country. For example, I.S. Luneva et al. (2019) believe that factors affecting the birth rate in modern Russia include changing social attitudes towards family and women and a changing role of a child in the family, a trend for a smaller number of children, abortions, low family income, and others. Kozlova & Sekicki-Pavlenko (2020) claim that factors negatively affecting the birth rate and further development of children include changes in fertility models and women's reproductive behavior.

Indeed, it is still common in Russia to intentionally terminate pregnancy (perform abortions) which entails the risk for deterioration of reproductive health; to take insufficient care of a child that leads to the deprivation of parental rights; to commit crimes against children, and so on. We believe that all these phenomena can be attributed to irresponsible parenting – a special type of behavior characterised by a full or partial renunciation to perform parental responsibilities. This, in turn, leads to a decreasing quality and/or quantity of children's human capital. Therefore, demographic policy measures should include initiatives aimed at reducing irresponsible parenting practices.

Our study aims to identify typological groups of Russian regions with a similar irresponsible parenting situation.

## 1 Data and methods

In our research, we applied hierarchical cluster analysis based on the Ward method and the Squared Euclidean distance. These measures have the best differentiating capacity; they

allowed us to clearly divide sets of regions into homogeneous clusters. To decide on the number of clusters, we applied a dendrogram and coefficients of the agglomeration schedule.

We selected the following variables for clustering:

- Var 1: the number of abortions (per 1000 women in childbearing age);
- Var 2: the number of children whose parents were deprived of parental rights (per 1000 population);
- Var 3: the number of crimes against children reported (per 1000 population).

In our opinion, these parameters in combination allow us to characterise irresponsible parenting not only in relation to children already born, but also to unborn ones. As a source of information, we used the data from the Russian Federal State Statistics Service for 2018-2019. We analysed the indicators in all 85 regions of the Russian Federation.

In our study, all clustering variables were represented in relative terms. At the same time, their dimension varied significantly, which could influence clustering results and lead to clusters being divided mainly according to the differences in the variable with the highest dimension. To avoid it, we applied cluster analysis using both original and standardised data.

Interestingly, specialised literature still discusses the importance of standardising (or normalising) original data and the impact of different standardisation methods on clustering results. For example, Edelbrok (1979) applied a Monte Carlo method and did not find any substantial differences in the classification by normalised and non-normalised data. Milligan (1980) presents data showing insignificant impact of normalisation on clustering results. Aldenderfer & Blashfield (2006) provided an extensive review and critical analysis of applying cluster analysis in various studies. In addition, they presented the results of methodological studies, where they advocated both for and against standardisation (normalisation) of the original data in a cluster analysis. In our case, we conducted clustering based on the original and standardised data, and they showed the same results.

We described cluster centroids with median values of clustering variables. We conducted the following nonparametric tests for the significance of differences: Kruskal-Wallis Test, median test. The scientific literature does not present an unequivocal opinion on the possibilities and usefulness of a particular test. The authors prove the greater effectiveness of using various tests based on their own experiments and simulation studies. Therefore, we applied both tests in our study.

To profile the clusters identified, we used a number of additional variables. In our view, they helped conduct a deeper analysis of the irresponsible parenting level in Russian regions and determine problems associated with irresponsible parenting in the socio-demographic

sphere of these regions. In particular, we examined how the clusters identified differ by divorce rates, illegitimate births, the number of low-income households, multiple-children and single-parent families.

## 2 Results

Descriptive statistics of the clustering variables showed that Russian regions differ greatly by the levels of the variables observed (Table 1). These results prompted us to apply cluster analysis for identifying homogeneous segments (i.e., groups of Russian regions with a similar irresponsible parenting situation).

**Tab 1: Descriptive Statistics**

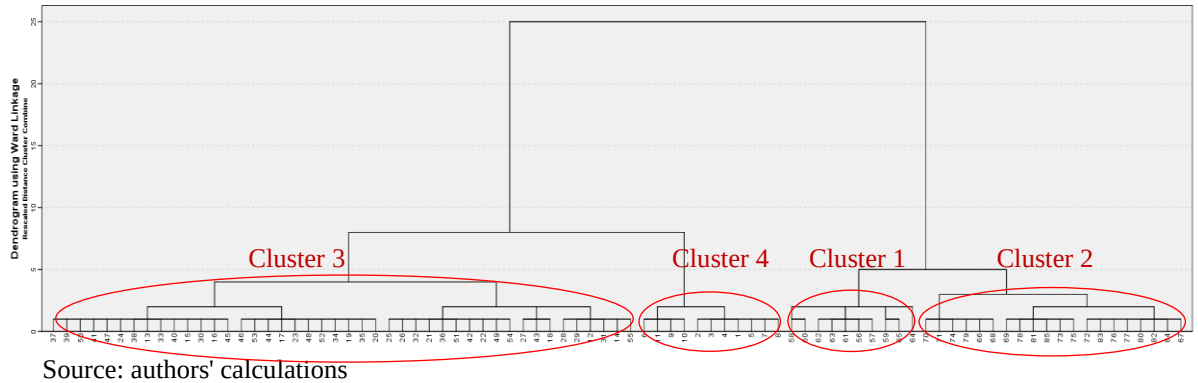
| Variable | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Var 1 (abortions) | 6.10 | 37.70 | 21.46 | 7.51 |
| Var 2 (children whose parents were deprived of parental rights) | 0.01 | 1.14 | 0.33 | 0.21 |
| Var 3 (crimes against children) | 0.05 | 1.92 | 0.80 | 0.38 |

Source: authors' calculations

The hierarchical cluster analysis based on the Ward method and the Square Euclidean distance allowed us to determine 4 clusters of Russian regions that differ significantly by the levels of the variables studied. Figure 1 illustrates a clustering dendrogram; Table 2 presents cluster centroids; Tables 3 and 4 show the most important tests results for the significance of the differences detected. In particular, Table 3 demonstrates the results of Kruskal-Wallis Test which verifies whether samples originate from the same distribution. This test showed that the differences in the clusters compared are statistically highly significant ($p<0.001$). Table 4 shows results of comparing medians. Tests proved that differences between medians are statistically highly significant ($p<0.001$).

We numbered the clusters in the following way: Cluster 1 represents the most problematic irresponsible parenting situation, whereas Cluster 4 the most favourable. Thus, Cluster 1 includes the regions with nearly the largest number of abortions, children whose parents are deprived of their parental rights, and crimes against children. Three other clusters represent a more favourable irresponsible parenting situation.

## Fig. 1: Dendrogram using Ward Linkage




Source: authors' calculations

## Tab 2: Cluster Centroids

| Cluster | Cluster Centroids - Medians | | | |
|---|---|---|---|---|
| | Number of regions in a cluster | Var 1 (abortions) | Var 2 (children whose parents were deprived of parental rights) | Var 3 (crimes against children) |
| 1 | 10 | 28.85 | 0.70 | 1.36 |
| 2 | 20 | 30.00 | 0.46 | 0.98 |
| 3 | 44 | 17.75 | 0.26 | 0.67 |
| 4 | 11 | 11.20 | 0.08 | 0.30 |

Source: authors' calculations

## Tab 3: Kruskal Wallis Test

| | Var 1 (abortions) | Var 2 (children whose parents were deprived of parental rights) | Var 3 (crimes against children) |
|---|---|---|---|
| Chi-Square | 65.854 | 57.721 | 52.244 |
| df | 3 | 3 | 3 |
| Asymp. Sig. | 0.000 | 0.000 | 0.000 |

Source: authors' calculations

## Tab 4: Median Test

| | Var 1 (abortions) | Var 2 (children whose parents were deprived of parental rights) | Var 3 (crimes against children) |
|---|---|---|---|
| N | 85 | 85 | 85 |
| Median | 20.30 | 0.29 | 0.78 |
| Chi-Square | 44.758 | 36.558 | 31.465 |
| df | 3 | 3 | 3 |
| Asymp. Sig. | 0.000 | 0.000 | 0.000 |

Source: authors' calculations

Additional profiling showed that irresponsible parenting may not be the only problem in the region and can be accompanied by other socio-demographic issues (Table 5).

**Tab 5: Medians of additional profiling variables**

| Cluster | Number of illegitimate births (per 1000 population) | Marital instability (number of divorces per 1 marriage) | Share of families with 3 or more children in the total number of families |
|---|---|---|---|
| 1 | 2.94 | 0.76 | 0.06 |
| 2 | 2.46 | 0.69 | 0.05 |
| 3 | 1.71 | 0.69 | 0.04 |
| 4 | 1.94 | 0.57 | 0.10 |

Source: authors' calculations

Therefore, Cluster 1 – the most unfavourable one – proved to involve the largest number of illegitimate births and the highest instability of marriage. On the other hand, Cluster 4 is the least problematic in terms of irresponsible parenting. In this cluster, the situation with the marital stability is also the least problematic, with the least number of divorces per 1 marriage. Besides, the regions of this cluster have the largest percentage of families with three or more children.

## 3 Discussion

The results of our study prove that it is necessary to consider indicators of the irresponsible parenting level in Russian regions. The group of indicators identified has a significant impact on the formation and development of children's human capital. Indeed, abortions result in reproductive losses, which have an extremely negative impact on population's vital potential and human capital (Starodubov, Sukhanova & Sychenkov, 2011). In addition, parents' unwillingness to raise children reduces the quality of their human capital because parents greatly contribute to the formation of children's cognitive and non-cognitive abilities (Cunha and Heckman, 2008).

Our results also indicate a need for taking a differentiated approach to the development, implementation, and subsequent improvement of demographic policy measures in Russia. On the one hand, we revealed a high regional differentiation, which means it is irrelevant to develop unified demographic policy measures for all subjects of the Russian Federation. On the other hand, we found a way to reduce this differentiation by identifying groups of Russian regions with similar irresponsible parenting problems.

The results justify developing demographic policy measures differentiated by typological groups of Russian regions. For example, Cluster 1 regions demand a whole range of measures aimed at overcoming the crisis trends in the family sphere: reducing the number of divorces, illegitimate births, and so forth. Cluster 4 regions may implement measures aimed at improving the quality of human capital: encouraging parents to enhance the children's human capital and others. We believe that pronatalist policy measures will prove to be more effective if we adopt the differentiated approach for their development. Importantly, though, relying on the country's administrative and territorial division would be irrelevant when developing differentiated measures of the state policy. The clustering results proved that regions with similar problems concerning irresponsible parenting may not be geographically and administratively connected.

## Conclusion

Our research allowed us to determine 4 typological groups (clusters) of Russian regions with a similar irresponsible parenting situation. These clusters were formed according to the level of irresponsible parenting – from the least favourable to the most favourable situation. In addition, we found out that irresponsible parenting occurs in combination with other socio-demographic problems.

Our results show that an effective pronatalist policy should consider the diversity of demographic scenarios in the country, including irresponsible parenting. Ignoring these indicators can lead to a decrease in both quantity and quality of the region's human capital. The directions of pronatalist policy measures we proposed are most demanded in the clusters of regions identified.

There is room for further development of our research. Firstly, it is necessary to monitor the current situation and analyse its dynamics as well as to control changes in the cluster structure: their number, the regions they include, level of irresponsible parenting. It will allow us to assess the effectiveness of pronatalist and demographic policy measures in the country. Secondly, it is also necessary to study irresponsible parenting practices differentiated by the age of children. To that end, we plan to create sets of indicators that will reflect the irresponsible parenting situation in relation to each age group of children.

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## Contact

Oksana Shubat
Ural Federal University
620002, 19 Mira street, Ekaterinburg, Russia
o.m.shubat@urfu.ru

Irina Shmarova
Ural Federal University
620002, 19 Mira street, Ekaterinburg, Russia
i.v.shmarova@urfu.ru