
ARTICLES IN ENGLISH

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CHANGING FERTILITY PATTERNS IN TWO NORTH CAUCASIAN REPUBLICS: IS IT ONLY SOCIAL POLICY THAT MATTERS?

The paper deals with fertility levels in some republics of the North Caucasus (Dagestan and Karachay-Cherkessia) where, as in some other post-Soviet regions, there has been a serious intensification of religiosity and at the same time weakening of the traditional family unit in recent decades. The goal of the paper is to ascertain whether these trends affect fertility, whose decrease is apparently stalling in the North Caucasus over the last decade. One reason to turn to this question is that in some regions of the North Caucasus the fertility level has been considerably higher since the pronatalist state policy was implemented in 2007 than in Russia as a whole. This raises the question as to whether higher fertility in the North Caucasus is mainly related to a higher demand for the state financial support granted to parents following the birth of the second (or a subsequent) child or if it can be rather accounted for by the specific cultural characteristics of that part of Russia. Our field survey held in the two republics of the North Caucasus in 2016 showed that the religiosity of respondents is related to higher fertility regardless of family policy issues. The relation between religiosity and higher fertility is arguably independent from the observance of traditional family norms which impose gender hierarchies. This suggests that an Islamic revival within a given society can support fertility whether or not traditional norms of family organization are preserved there. The conclusion for state pronatalist policy is that its outcome may be related to the cultural characteristics of the population among which such measures are implemented, apart from economic parameters that drive the demand among some families for financial support after childbirth.

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The paper considers the phenomenon of stalling fertility decline and changing fertility age patterns currently observable in some republics of the North Caucasus (Kazenin, Kozlov 2016; 2017). The central question is whether this stalling is significantly supported by the specific cultural features of the local society or whether it should be viewed merely as a product of the economic situation and state social policy. An upward reversal of fertility took place in the North Caucasus after 2007 together with most other regions of Russia. The central country-level driver of that reversal were the pronatalist measures introduced by the Russian Federal Government in 2007, mainly through the so-called 'maternity capital' granted to a woman following the birth of the second child.

In some republics of the North Caucasus, specifically in its eastern part (the republics of Dagestan, Chechnya and Ingushetia), the upward fertility change after 2007 was considerably larger than in Russia as a whole. In the rural areas of those republics the Total Fertility Rate (TFR) was often higher than the reproduction level (2.2) in that period (Russian fertility and mortality database 2019). An upward movement in fertility of such a scale is often termed 'stalling fertility transition' (Bongaarts 2006; Shapiro, Gebreselassie 2013).

In a number of studies of differences in fertility between Russian regions after the start of the 'maternity capital' program, it has been argued that the lower the economic well-being of a region after 2007 (measured e.g. in Regional Domestic Product per capita), the higher the growth of fertility in that region (Zakharov 2016). This can be explained by the higher demand for government financial support from families in poorer regions. From this explanatory perspective, it is only to be expected that the economically less-well-developed North-Eastern Caucasus would be among the territories of Russia which reacted most readily to the pronatalist measures. It is also predicted, from this explanatory perspective, that in the event of a withdrawal of the pronatalist measures, fertility would decrease in those regions as it receives no other serious support.

However, the purely 'economic' explanation of fertility behavior under pronatalist government measures is not the only possibility. Fertility behavior also can be affected by cultural parameters, including the status of woman and family religiosity (Esping-Andersen, Billari 2015). If a fertility increase in response to pronatalist measures is higher in one territory than in neighboring ones, it may be due not only to a higher demand for respective financial allowances, but also to the higher value of children in that territory. The high value of children could strengthen the impact of pronatalist measures. For the North Caucasus the 'value' support of higher fertility is expected because that region

is characterized with higher religiosity and family 'traditionality' compared to most other parts of Russia (Molodikova, Watt 2014).

The goal of this paper is to find out whether the higher fertility in the North Caucasus after 2007 was related to the cultural characteristics of the local society. This research could be useful for the further government solutions regarding support for fertility. Specifically, if cultural determinants of fertility are significant, the decrease of fertility may be not so drastic if the pronatalist measures are withdrawn. Our study is based on a field survey undertaken in one republic of the North-Eastern Caucasus (Dagestan), and in one republic of the North-Western Caucasus (Karachay-Cherkessia), in 2016. Overall 1495 married women aged 16–39 were interviewed. The study has shown that in the regions considered, mainly in Dagestan, some cultural parameters, especially those which concern religiosity, are significantly related to the higher number of children ever born adjusted to other characteristics. This implies that economic conditions are not the only determinant of the fertility increase observed after implementing the pronatalist measures by the state.

Islam and fertility

The relationship between Islam and fertility remains a debatable issue. Although fertility in most Islamic countries is well known to have been decreasing in the recent decades, total fertility rates in many of them were still considerably higher than the reproduction level, at least around the year 2000 (Fargues 2003; Jones 2006). Also, some Muslim communities, either migrant or not, still demonstrate higher fertility than their neighbors in the same country (Dharmalingam, Morgan 2004; Westoff, Frejka 2007; Stonawski et al. 2016). There are several hypotheses about the possible ways in which Islam affects fertility in today's societies. An authoritative view put forward by Caldwell (1986), assigned the higher fertility of Muslim societies to traditional family organization, something that resulted in gender inequality. Under this approach, higher fertility in Muslim societies is supported by family norms which presumably treat child-bearing as the most important role for a woman and restrict her involvement in any activities outside the family, including education and work. This account of higher fertility of Muslims is supported by some recent studies on the impact of traditional or patriarchal family norms upon fertility. Some of those studies were undertaken on totally Muslim societies, and some on societies with different religious compositions (Malhotra et al. 1995; Lerch 2013). Below we will consider the account of higher fertility among Muslims on the basis of gender inequalities and traditionalism.

Further research has, however, questioned Caldwell's account. Morgan and his co-authors (2002) present a comparison between fifty Muslim and non-Muslim communities in four Asian countries. They concentrate on women's dependence upon their husbands or relatives as an important component

of traditionalism. Although actual and desired fertility among Muslims tended to be higher than that of other religious groups, no regular contrast in women's autonomy between Muslim and non-Muslim groups was detected.

Among the explanations for the higher fertility of Muslims, other than the one suggested by Caldwell, two have become most influential. One can be called 'structural' as it relates higher fertility to some demographic or socio-economic characteristics inherent to Muslim societies. Probably, the most recent study developing this approach is by Stonawski et al. (2016), which argues that observed fertility differences between Muslims and non-Muslims in several countries of Europe decrease considerably when one controls for economic activity status and education. Johnson-Hanks (2006) argues that fertility differences between Muslim and non-Muslim communities shrink considerably under control for socio-economic parameters in West Africa as well. However there are also a number of studies which show, contrary to proponents of the 'structural' approach, that certain fertility differences between Muslim and non-Muslim population in countries outside Europe are still unexplained even after controlling for basic socio-economic parameters (see e.g. Heaton 2011; Rindfuss et al. 1980).

The other alternative to the traditionalism account views Islamic doctrine as the key reason producing higher fertility in Muslim communities. There is the common view that the higher fertility of Muslims comes from a ban on modern contraception in Islamic theology (compare, Obermeyer 1992), or from the fact that in a number of Muslim societies people lacking Islamic education tend to give religious reasons for not using contraception (Casterline, Sinding 2000; Knodel et al. 1999). At the same time, the importance of family values in Islamic doctrine has been questioned by some studies as an insufficient explanation of higher fertility among Muslims. Thus, Westoff, Frejka (2007), exploring data on adherents of different religions in Europe in World Value Survey (rounds 1981–2001), show that family values and religiosity are both significantly related to higher fertility among Muslim women in Europe. If the impact of religion upon fertility among Muslims was confined to theological support for family values, the independent significance of religion for the fertility of Muslims would not be expected in such models.

Turning our attention to the North Caucasus, there are two independent factors that should be taken into consideration when explaining the issue of Islam and fertility relations. First, as already mentioned, exploring this relation is important for understanding whether state pronatalist measures are the only driver of fertility in that region at present or whether fertility there gets some support independent of state policy. Second, the North Caucasus constitutes an uncommon example of a region where a religious revival is taking place alongside the considerable modernization of family organization. As shown, for example, by Karpov and Kapustina (2011), the limitations imposed upon women in the post-Soviet North Caucasus concerning their opportunities in education or work have weakened. Also, some traditional norms of intergenerational relations have

changed to more liberal ones, to the effect that, for example, fewer marriages are now arranged by elder relatives.

In our research we distinguish the impact of religiosity and traditionalism upon fertility and put forward two hypotheses on the relationship between Islam and fertility:

Hypothesis A. Islamic religiosity can be related to higher fertility only 'through' a traditional family set up and family values.

Hypothesis B. Islamic religiosity can be related to higher fertility in a direct way, independent of family traditionalism.

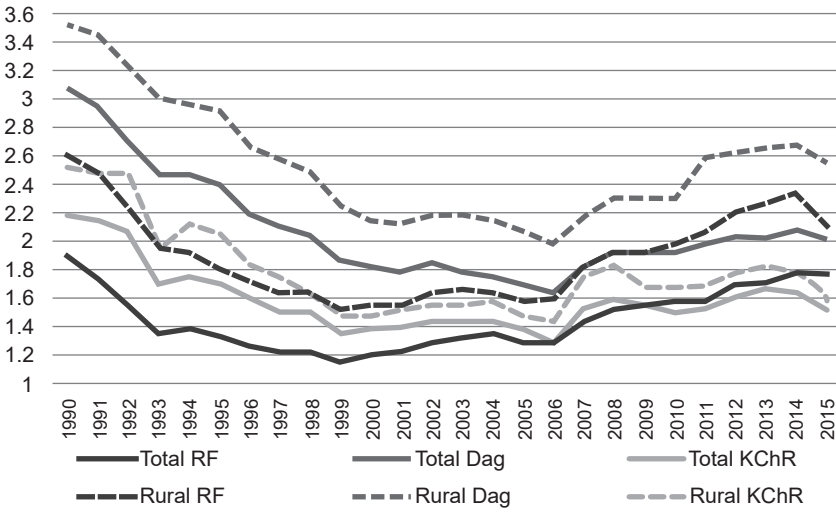
Social settings and fertility patterns in the observed republics

As mentioned above, the present study is restricted to Dagestan and Karachay-Cherkessia. Dagestan's population was almost 3 million in 2016 according to the Russian Federal Statistics Agency and includes many different ethnic groups.¹ The rural population comprised almost 55 % of its total population in 2016. The weakening of 'patriarchal' family norms in Dagestan over the last decades can be illustrated by the growth of the proportion of women with tertiary education from a very low 15 % among those born in the 1950s to beyond 30 % among those born in the middle of the 1980s according to the Russian population census (2010). Dagestan represents a clear example of a region with a high level of Islamic observance and a considerable, though somewhat weakening adherence by the local population to traditional family norms, including gender asymmetries (Karpov, Kapustina 2011; Kisriev, Ware 2000).

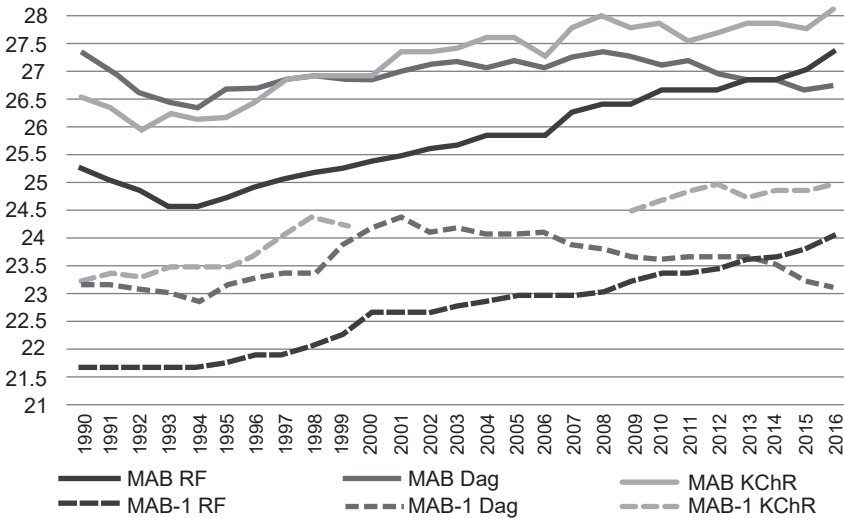
Karachay-Cherkessia is the most western republic of the North Caucasus, with a population of more than 450,000 in 2016. Russians constituted almost one third of its population (31.6 %) according to the Russian Population Census of 2010. Major indigenous peoples are the Karachays (41 % in 2010), Circassians (11.9 %) and Abazins (7.8 %). Compared to Dagestan, Karachay-Cherkessia already has a higher proportion of women with tertiary education among those born in the 1950s and has shown more rapid growth in the subsequent cohorts.

The fertility gap between Dagestan and Karachay-Cherkessia observed in the last decades is quite high. In 2016 TFR for Dagestan was equal to 1.98 (for the rural population 2.51), while for Karachay-Cherkessia it was about 1.51–1.52 (that was lower than in Russia as a whole) for both rural and urban population. For more details about the dynamics of TFR, see Figure 1. However the share of women having three or more children in 2016 for both regions was almost the same, 33.8 % for Dagestan and 32.1 % for Karachay-Cherkessia (32.9 and 29.2 in 2015), and much higher than overall in Russia (17.9 in 2015 and 18.9 in 2016). The discrepancies between TFR and the share of higher order births could be

¹ Up to thirty local nationalities are viewed among the indigenous local population, ethnic divisions being somewhat disputable.



Picture 1. Total fertility rates (TFR) in Russian Federation Karachay-Cherkessia and in Dagestan, 1990–2016 (source: Rosstat)



Picture 2. Mean age of birth for all parities (MAB) and for the 1st child (MAB – 1) for the rural population in Russian Federation, Karachay-Cherkessia and in Dagestan, 1990–2016 (source: Rosstat).

either evidence of the underestimation of TFR for both republics by official statistics or/and an indicator of the existence of groups with very high fertility within both regions. The dynamics of the mother's mean age of birth (MAB) for all children and for the first child (MAB-1)¹ in rural areas is also different in the two republics, as Figure 2 shows. While for the mean age of the 1st childbirth the trend in Karachay-Cherkessia follows the Russian pattern with the persistently growing age since 2000s, in Dagestan the mean age at the 1st birth has been declining since the early 2000s.

Survey

The survey in both republics was undertaken in 2016. In Dagestan it covered 950 married women aged 16–39 in twelve rural settlements, and in Karachay-Cherkessia 605 women in seven rural settlements. The settlements were chosen randomly within rural municipal districts. The districts were chosen in order to cover all major peoples of the regions and the three geographical zones (mountains, foothills and valley). The number of people living in the villages included in the survey varied between 400 and 5000. The number of women covered by the survey in one and the same village varied between 40 and 120 and depended mainly upon the village's size. Since only married women were surveyed, it proved to be impossible to ensure that all age groups (16–19, 20–24, 25–29, 30–34 and 35–39) were equally represented in the survey.

The questionnaire included several groups of questions. First, women were asked about their life history. Those questions concerned the woman's age, place of birth and of current residence, education, age at marriage, number of children and age at birth of each child. Also, a question about the desired number of children was asked. In the sample of Dagestan, both actual and desired fertility were higher than in Karachay-Cherkessia (the gap between the two republics, however, became statistically insignificant by age 35).

Another group of questions concerned religiosity, understood as the intensity of religious beliefs and participation. Some recent studies have suggested attending religious worship as the key parameter measuring religiosity (Zhang 2008). In the case of the North Caucasus, however, this measure is hardly applicable, as in most parts of the republic attending Friday mosque worship – the key public religious event – is generally not prescribed for women. In our survey, therefore, women were asked the following four other questions concerning religiosity (we put here the codes of variables used in Table 1 below)².

1. Do you perform daily prayer (*namaz*)? (0 – no, 1 – yes)
2. Do you observe Islamic fasting (*uraza*)? (0 – no, 1 – yes)

¹ For the purposes of demographic analysis, it is better to observe MAB by parities as MAB for all children depends on the share of parities, growing with a higher share of the higher parities.

² See <https://jsps.hse.ru/article/view/9718/10838>

3. Do you consider your family religious? (0 – no, 1 – yes)

4. Do you find the religious up-bringing of children important? (0 – no, 1 – yes)¹

Here it should be noted that the first two variables concern performance of the key activities required from Muslims (though not publicly), whereas the other two rather deal with the subjective perception of Islamic norms.

One more group of questions dealt with family norms affecting the woman's life. Elaborating these questions, we profited from extensive research on measuring traditionalism of the family setting. For most part, the measures which have been proposed concern woman's autonomy from her husband and her elder relatives (Malhotra et al. 1995; Szołtysek et al. 2017; Therborn 2004). What all the proposed measures (or indices) have in common is that the idea of inequality is essential for them. All of them consider gender discrimination, some of them also discrimination by age (seniority). We had six questions identifying the possibly non-traditional behavior of the respondent:

1. Have you studied since secondary school? (0 – no, 1 – yes)

2. Have you studied since getting married? (0 – no, 1 – yes)

3. Have you worked since getting married? (0 – no, 1 – yes)

4. Are you planning to work in future? (0 – no, 1 – yes)

5. Did you become acquainted with your future husband on your own? (0 – no [was introduced to him by her relatives], 1 – yes)

6. Did you take the decision to get married on your own (0 – no [was advised by her parents], 1 – yes)²

Model

Based on the survey results, we elaborated models for the number of children ever born to a woman as the dependent variable. As the method of analysis we use the Poisson regression and in Table 1 we report the IRR – incidence rate ratio (relative risk) as the simplest indicator for the interpretation. Note that the Poisson regression is widely used for the analysis of survey data on fertility as the distribution of the results is not normal and the nonparametric methods should be used (see e.g. Fagbamigbe, Adebawale 2014; Kamaruddin, 2017).

Additionally to the ten covariates mentioned in the previous section (four parameters representing religiosity and six parameters representing family traditionalism), we produced an index of religiosity, combining the religiosity parameters without weights. The index was produced by averaging the means of the four religiosity parameters (the religiosity index; remember that for each religiosity parameter, 1 = Islamic observance in the respective issue and 0 = non-observance).

¹ In the table below, the four parameters listed here are labelled NAMAZ, URAZA, REL_FEM and VALUE_REL, respectively.

² In the table below, the six parameters listed here are labelled STAFTERSCHOOL, STAFTERMAR, WORKMAR, WORKFUT, SELFAQU and SELF_DEC, respectively.

We used cascade models including one by one the religiosity and traditionalism indicators as well as the index. For each model we used the following control parameters (the coefficients for the control parameters are not shown in the models in Table 1):

- *Age of the respondent*;
- *Ethnicity*. Since considerable fertility variation across different ethnic groups is observed in the regions under study (Kazenin, Kozlov 2017), controlling for the ethnicity of the respondents is crucial.

The resulting models for actual number of children are shown the Table 1.

Being separately included in the models, all the religiosity indicators increase the IRR of the next childbearing (Models 2–5 in Table 1). The strongest effect is observed for the variable of considering religious upbringing important, which keeps the significance for all the procedures with the additional variables inclusion (Models 1, 5, 7 in Table 1). The religiosity index also demonstrates a positive relation to the number of children (Model 6 in Table 1), showing the importance of religion when the effects of all religiosity variables are merged together and there is no risk of multicollinearity.

As far as the variables showing the traditionalism of the family set up are concerned, three of them (studying after secondary school, working after becoming married, and planning to work in future) show a significant relation to the number of children (cf. Models 8, 12 and 13 in Table 1). As expected, a higher level of education and working after marriage affect the number of children negatively. The desire to work in future also has a negative effect on the number of children. However, here reverse causality is possible when the high current number of children leads to the necessity of staying out of labour market. When both the religiosity and traditionalism parameters are included in the model (Model 7 in Table 1), some parameters of each group remain significant. This fact shows that the two groups of parameters affect the number of children independently.

Our analysis suggests that religiosity has a considerable impact on fertility among the Muslim population of the Russian North Caucasus, which constitutes an area where Islam, while increasing its role in the society, also supports fertility. We can see that the data from the North Caucasus suggest that traditional family norms do not have to be seen as a 'proxy' for the relation between Islam and fertility. Religiosity parameters are highly significant for the actual number of children, and are mainly independent from the traditionalism parameters.

Discussion and conclusions

In this paper we have considered the relation between socio-cultural parameters and fertility among the Muslim population of two republics of the North Caucasus which have experienced a considerable religious revival in the post-Soviet epoch. The parameters under study comprised two major groups. One concerned women's adherence to Islam, while the other one measured the

traditionalism of her family setting. We have seen that parameters from both groups affect fertility, so that the higher number of children in the regions under study is related both to higher individual religiosity and to higher levels of family traditionalism. Furthermore, the two groups of parameters appeared to be independent of each other in affecting fertility, as the models have shown.

This leads to several conclusions. Turning first to our initial question regarding the impact of pronatalist state policy upon fertility in the North Caucasus, we can suggest now that those measures are unlikely to be the only reasons for the fertility increase in the North Caucasus in recent years, as higher fertility there is also related to some cultural characteristics specific to that region.

Second, we have seen that religious observance and maintaining family norms which restrict the possible social roles of women can be mutually independent in affecting fertility. The conclusion about the significance of personal religiosity agrees with some recent studies which argue that religious affiliation and/or personal religious adherence can be of independent significance for fertility in non-Muslim societies (cf. Zhang 2008; see also, Philipov, Berghammer 2007; Peri-Rotem 2016). It is possible that the evidence coming from the North Caucasus could bridge the gap between Islam and other religions, providing evidence that Islam also can have a direct effect on fertility and is not restricted to influencing it via some social setting.

At the same time, it is possible to hypothesize about some local specificity of the regions under study which could strengthen the mutual independency of religiosity and family norms in affecting fertility. Starting from the 1990s, the North Caucasus has become an area of permanent disputes and conflicts within local Islam, where so called 'young Muslims' regularly constituted one of the sides. As shown by Kisriev and Ware (2000), these were Islamic groups often headed by preachers who had studied abroad, were opposed to local Islamic traditions in many ways and were backed mainly by young people.¹ Given that 'youth Islam' was markedly different from the local religious tradition going back to elder generations, it does not come as a surprise that Islamic values could be perceived by its adherents as being quite separate from family traditions. Under these circumstances, religious observance can be perceived as having no relation to observing traditional family norms, based on reverence to elders, restricting the social role of women. This divergence of two phenomena could support their independence in affecting fertility. If our suggestion is correct, we can expect that the current Islamic revival will affect fertility also in other areas where family modernization (weakening of restrictions on role of women, the growing freedom of younger generation) is under way. To further

¹ Debates between younger generations on Wahhabism (cultivated by imams who have studied in Arabic countries since the 1990s) and Sufism (more generalized in Dagestan). Kisriev and Ware (2000) also mention as 'pseudo-traditional practices and customs that have come to characterize Caucasian Islam' in the form of different ceremonial monetary presents and gifts e.g. at the marriages which become typical within the Soviet period.

check this possibility, a study of Islam and fertility in Central Asia would be useful, especially because the situation with Islam there may have certain characteristics in common with the North Caucasus, including the conflict between the traditional and 'youth Islam' (see Naumkin 2003). Another task for future research would be to find out whether religiosity remains relevant for fertility in urban areas experiencing an Islamic revival, where family traditionalism is expected to be suppressed more quickly than in rural milieu.

Finally, it has to be noted that the North Caucasus and Muslim societies are not the only regions of the world where there is an interplay between pronatalist social policy and cultural norms in relation to fertility. The case of Estonia also deserves special attention in this aspect. The TFR of ethnic Estonians since 1990 has been higher than that of the non-Estonian (mainly Russian-speaking) population. In that Baltic country the active family policy (so called Strategy of Children and Families 2012–2020) has been implemented recently, with a universal family benefits system (Frejka et al. 2016). However, following the launch of that policy the differences between period TFR for Estonians and Non-Estonians persisted. The differences cannot be explained by the social and economic factors only. Recent studies show that Russian migrants and their descendants in Estonia exhibit greater similarity to the sending population (Russia) than to the host population in terms of family organization (Puur et al. 2017). For example, Russians in Estonia follow the Eastern European fertility pattern with a lower propensity for having a second and third child than the host population, which follows fertility patterns similar to Nordic countries. Also the propensity for cohabitation among ethnic Estonians is higher than among ethnic Russians (Rahnu et al. 2015). These differences in family patterns extend to different generations and survive when adjusted to the social-demographic and economic characteristics like education, economic status and residence. At the same time, results of the previous research also suggest that interfusion of cultures, but not changes in economic status, leads to the convergence of Russians' demographic behavior with the host country patterns (Puur et al 2017; Rahnu et al. 2016).

This example from a different country shows that the North Caucasus is not the only geographical area where cultural parameters are significant for fertility under state pronatalist policy. Further research is needed to ascertain whether fertility differences between the other regions of Russia in the period of state fertility support are also related to cultural contrasts.

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