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RELIGIOSITY AND LIFE SATISFACTION IN RUSSIA: EVIDENCE FROM THE RUSSIAN DATA³

Does religiosity make you happy? Many studies document positive associations between religiosity and various forms of subjective wellbeing. This is also true for general life satisfaction in normal economic conditions and in the case of economic shocks. However, both life satisfaction and religiosity may be correlated with unobserved individual and household traits or unobserved life shocks which can relate to reverse causality. These facts result in endogeneity and make ordinary least square estimates biased. In our study, we employ two methods to avoid possible endogeneity issues – we use fixed effects and instrumental variable estimations. Using Russian Longitudinal Monitoring Survey (RLMS-HSE) data and different econometric models, we document positive associations between religiosity and life satisfaction. In particular, fixed effect and instrumental variable regressions provide evidence for a positive effect of religiosity.

JEL classification: D10, Z12.

Keywords: Life satisfaction, religiosity, RLMS-HSE, endogeneity.

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1. Introduction

In this paper, we study the effects of religiosity on life satisfaction based on the Russian Longitudinal Monitoring Survey (RLMS-HSE), using panel data techniques and instrumental variable (IV) regressions. Our estimates suggest that there is a positive association between religiosity and life satisfaction even if we control for a large number of socio-economic variables and address endogeneity problems.

Religions in Russia have a complicated history. Since 1845, criticism of the Russian Orthodox Church, blasphemy, jokes about Christianity and apostasy from the Russian Orthodox Church were punished by hard labour in exile, deportations to Siberia, imprisonment and capital punishment. On 17 April 1905, the Russian tsar, Nicholas II, issued a decree of religious tolerance, which allowed the apostasy from the Russian Orthodox Church and softened the existing punishments. However, on 14 March 1906, a new decree on religion crimes brought most of the punishments back. After the October revolution in 1917, attitudes towards religion changed dramatically. The Communist party started anti-religious activities, which intensified in 1929. From that time, many churches were closed or destroyed. The prosecution of religion stopped in 1942-1943, but the relationship between the Soviet government and religious organizations was volatile until the collapse of the USSR (Pospelovskiy 1995).

Since 1991, the status of religions has improved significantly, and the relationship between the Russian Orthodox Church and Russian civil authorities are becoming closer and closer. During the Putin era, religion, as a spiritual-moral value became considered a matter of national security (Østbø 2017). The author claims that such a policy helps the authorities to establish an atmosphere of a state of siege, where "good" Russians are attacked by "evil" Westerners, reducing a probability of a "colour" revolution. We add another argument for such a policy: religion makes Russians more satisfied with their lives.

Correlations between various kinds of religious experience and life satisfaction are well documented in the literature. However, not many of them deal with the endogeneity issues which arise in the relationship between life satisfaction and religiosity. Further, not many of them use detailed household-level Russian data. Thus it is not clear whether the effects in western countries are similar in Russia. In this paper, we document a positive link between religiosity and life satisfaction in Russia, using panel data techniques and instrumental variable regressions, and show that, in general, our results are in line with the literature devoted to the western world.

The rest of the paper is structured as follows. Section 2 describes findings drawn from the literature. Section 3 presents the methodology and Section 4 discusses the data and presents descriptive statistics. Section 5 introduces our main results and discussions. Section 6 concludes.

2. Literature

The link between religiosity and life satisfaction has attracted attention of researchers for a long period of time; the results depend on the definition of religiosity, the data, and various other factors. For example, Spreitzer and Snyder (1974) studied US interview data and found no significant correlations between the level of church attendance and life satisfaction. Campbell et al. (1976) found a negative relation between religious mindedness and well-being. Their research was based on the data from the Survey Research Center of the University of Michigan. Hadaway (1978) reconsidered the findings of Campbell. Using the same data, but taking a larger variety of measures of religiosity and well-being into account, he came to the opposite conclusion.

The link between religion and happiness has also attracted a lot of attention from psychologists. Most of these studies were based on data from students, and the number of observations was typically low, rarely more than three hundred. Sometimes the authors controlled for gender, age and/or personality traits. Researchers, who used the Oxford Happiness Questionnaire (OHQ), often reported a significant positive association between these factors (Robbins and Francis 1996; French and Joseph 1999; Francis, Jones, and Wilcox 2000; Francis and Katz 2002; Francis et al. 2004). However, several studies, based on the OHQ, found no statistically significant links (Francis, Ziebertz, and Lewis 2003; Lewis, Maltby, and Day 2005; Argyle and Hills 2000). When a different measurement of happiness (the Depression–Happiness Scale) was used, most of the studies did not revile a statistically significant link between religiosity and happiness (Lewis et al. 1997; Lewis, Maltby, and Burkinshaw 2000; Lewis 2002). This type of literature was extensively reviewed by Lewis and Cruise (2006).

Studies based on cross-sectional data analysis suffered from endogeneity problems. In fact, there can be many unobserved factors which influence both the level of religiosity and life satisfaction. An attempt to resolve this problem was made by Headey et al. (2010). They used a fixed effect (FE) model for German Socio-Economic Panel Survey data analysis and found that people who become more religious raise their life satisfaction in the long run. People whose religiosity declines face long term losses in life satisfaction. A similar approach was used by Sinnewe et al. (2015), who analysed the same data but received different results. They found a positive association between attendance at religious services and life satisfaction for respondents residing in West Germany, but no statistical relations for East Germany.

The use of fixed individual effects solves the endogeneity problems arising from omitted time invariant regressors. However, religiosity can change due to shocks in income or adverse life events (Clark and Lelkes 2006; Dehejia, DeLeire, and Luttmer 2007). These

endogeneity effects were addressed by Popova (2014), who solved the problem with the use of historical religious propensity as an IV for individual religiosity. She showed that religiosity insures happiness against economic reforms in Eastern Europe.

There are many possible explanations for the link between religiosity and life satisfaction. The most direct and formal economic explanation of this link is that religions promise afterlife consumption, which directly enters agents' utility functions (Azzi and Ehrenberg 1975). The greater life satisfaction of religious people can also be explained by a number of other factors. It is known that religious people often have a higher social self-esteem: they feel more confident in social situations, make new friends more easily and engage in conversations with people they just have met (Gebauer, Sedikides, and Neberich 2012). They report a higher level of existential coherence and certainty (Ellison 1991), can have rich positive spiritual feelings of harmony in their lives and of the sense of their lives (Ellison, Gay, and Glass 1989), and may have positive beliefs about future events (Van Cappellen et al. 2016). Headey et al. (2010) mention that religiosity is consistent with the postulates of the authentic happiness theory, providing a long-term basis for subjective well-being via such factors as the meaning of life, innate spiritual values and altruistic behaviour. Moreover, Headey et al. (2010) indicated that religiosity helps people to overcome hardships, assists them in learning from experience. They also point out that religiosity, voluntary deeds and subjective well-being are positively correlated. Religiosity is associated with better physical and mental health, and longer survival (Levin and Schiller 1987; Levin 1994; Wallace Jr and Forman 1998; George, Ellison, and Larson 2002), which are usually associated with higher levels of life satisfaction.

The difference between the happiness of religious and irreligious people is higher in religious countries (Stavrova, Fetchenhauer, and Schlösser 2013; Gebauer, Sedikides, and Neberich 2012). In religious countries, religiosity is considered to be a social norm, and people whose actions comply with socially approved behaviour get higher respect in their societies, while irreligious people are considered to be strange. As a result, religious people often receive higher social and emotional support from their friends and relatives (Krause et al. 1999; Eliassen, Taylor, and Lloyd 2005; Krause and Wulff 2005; Lim and Putnam 2009). Tolerance towards atheists, at least in the US, is the lowest compared to a long list of other minority groups (Edgell, Gerteis, and Hartmann 2006).

The literature on the link between religiosity and life satisfaction in Russia is very scarce. Balatsky and Diener (1993) studied subjective well-being among Russian students (63 students at Moscow State University and 53 students at the Glazov State Institute of Education) and found a negative correlation between religion and global life satisfaction. However, the majority of Russian students replied that they were satisfied with their religion. Zavisca and Hout

(2005) studied the link between happiness and income using 2001 and 2002 waves of the RLMS-HSE. They controlled for religiosity and found a positive partial correlation between religiosity and life satisfaction. Similarly to Zavisca and Hout (2005), we base our analysis on RLMS-HSE data; however, we focus on five waves (2011-15) for panel-data analysis. For the IV analysis we chose 2003, which contains very specific questions. Consequently, in contrast to the previous studies, we estimate the causal effect of religiosity on life satisfaction.

3. Methodology

The panel data set allows us to work with a model of the following general form:

Life satisfaction_{it} =
$$\alpha_0 + \alpha_1 \operatorname{Re} ligiosity_{it} + \beta' X_{it} + U_{it}$$
 (1)

This model includes characteristics, varying in time (t) and across individuals (i). They are:

- i. individual life satisfaction (*life satisfaction*_{it});
- ii. religiosity (*religiosity*_{it});
- iii. the set of other controls (X_{it}) such as health and employment status etc.;
- iv. the error term (U_{it}) .

The ordinary least square (OLS) method is the most obvious method of estimation of the coefficients (α_0 , α_1 , and β).

However, the omitted variable bias may make OLS estimates inconsistent (Wooldridge 2002). The set of omitted variables may contain components which are stable over time: personality traits (Headey et al. 2010), prohibitions imposed by religion, the characteristics of the social environment, and the peculiarities of the religious leader and the congregation.

The panel data set makes possible the estimation of the FE and random effects (RE) models. We conduct Breusch and Pagan Lagrange multiplier (LM) test (comparing OLS versus random effects) and Hausman test, comparing FE and RE (Wooldridge 2002).

The ordinal nature of the dependent variable requires a model which can deal with this, accounting for FE. This is done, using the "Blow-up and cluster" (BUC) model (Riedl and Geishecker 2014; Hole et al. 2011).

Unfortunately, the models mentioned above do not guarantee the absence of reverse causality. Moreover, a FE model may give inconsistent estimates if omitted time-varying individual variables are present. Therefore, we also estimate an IV regression.

As we are interested in the causal effects of religiosity, and as the level of religiosity is a binary variable; we use a two-step IV method explained in detail by Angrist and Pischke (2008) and Wooldridge (Wooldridge 2002). First, we estimate the first stage regression of a logit type with a maximum likelihood method. Then we obtain fitted probability values, and use them as an instrument for the level of religiosity. According to Wooldridge (Wooldridge 2002), such a method has a number of advantages compared to the usual two-stage regression: it is more efficient and the first step logit model does not have to be specified correctly.

4. Data

We use the RLMS-HSE database. For the purpose of the panel data analysis, we use five rounds of data collected 2011-2015 (rounds 20-24). Approximately 60% of respondents in the balanced panel data set live in urban areas.

The main dependent variable is individual life satisfaction. The RLMS-HSE question about life satisfaction is originally formulated as follows: "To what extent are you satisfied with your life in general at the present time?" Respondents have the following seven response options: fully satisfied (=5), mostly satisfied (=4), both "yes" and "no" (=3), less than satisfied (=2), not at all satisfied (=1), do not know, and do not want to answer. The major independent variable of our concern is individual attitudes towards religion or, to put it simply, religiosity. The question about religiosity is as follows: "And what do you think about religion?". The seven response options are: you are a believer, you are more a believer that a non-believer, you are more a non-believer than a believer, you are a non-believer, you are an atheist, do not know and do not want to answer. On the basis of this question, we constructed our variable "Attitude towards religion" (ATR) in the following way: believer (=5), more a believer that a non-believer (=4), more a non-believer than a believer (=3), non-believer (=2), you are an atheist (=1). Moreover, we define a binary (dummy) variable "Believer" (ATR = 4 or 5). Believers constitute approximately 86% of non-missing observations in our panel data set (Table B1).

In the panel data set approximately 19% of agents did not reply to the question about their religious beliefs, and in the cross-section data set this share is approximately equal to 26%. It is likely that a large portion of missing observations may correspond to irreligious people. This reduces the efficiency of our estimates, and may even cause a bias. As the mean of our "ATR" and "believer" variables are likely to be biased upwards, the estimate of the corresponding

coefficients will be biased downwards. This makes coefficients less significant for positive relation between religiosity and life satisfaction.

Approximately 88% of the respondents are Russian Orthodox. This value is higher than that of the believers, because a number of respondents, who claimed that they belong to the orthodox confession also replied that they did not believe in the God.

Additional predictors are incorporated into the regression analysis based on existent approaches (Argyle 2003; Kalyuzhnova and Kambhampati 2008; Gerdtham and Johannesson 2001; Peiro 2006; Headey et al. 2010). We control for individual age, gender (male=1, female=0), and use a dummy variable for pension age (if age >60 years at the date of interviews for men, or if age >55 for women). Moreover, we use the set of socio-economic correlates, which may influence life satisfaction. In particular, we utilize indicators of self-estimated health status, marital status, the presence of children, employment status, the logarithm of family per capita income, perception of welfare, changes in financial situation. Additionally (for households, where the number of family members \geq 2), the averaged life satisfaction of other family members is accounted for⁴. The descriptions of variables are provided in Table A1. Descriptive statistics of data used for panel regressions are provided in Table A3.

Family per capita income is determined according to the following RLMS-HSE question: "And, concluding this part of our conversation, could you tell me: What was the monetary income of your entire family in the last 30 days? Include here all the money received by all members of the family: wages, pensions, stipends, and any other money received, including foreign currency converted into rubles⁵. The indicated value is divided by the number of family members. Next, to clean the data, we removed the 1% of observations with the highest and lowest values, because they could contain recording mistakes.

Averaged per capita family income over PSU⁶ is computed as the arithmetic average of family per capita incomes in a given PSU. To account for the effect of the economic environment we also use dummy variables to control for own dwelling and car ownership. Total years of schooling are computed as the total sum of years spent in the following educational institutions: secondary school, professional courses, vocational school, technical community college, university academic programs (including master's), and doctoral programs.

⁴ For example, it is calculated as follows. Suppose, a family consists of 3 individuals: (A, B, C). Individuals indicate the value of life satisfaction: "A" indicates 4, "B" indicates 3, "C" indicates 1. Therefore, for "A", the averaged life satisfaction of other family members ("B" and "C") equals to (3 + 1)/2 = 2.

⁵ In panel data regressions, we deflate income indicators. The base year is 2011. In instrumental variable regressions income is measured in 2003 prices.

⁶ According to the RLMS-HSE methodology PSU is a primary sample unit. See http://www.cpc.unc.edu/projects/rlms-hse/data/faq.

Unfortunately, information about instruments are not available in these rounds. Therefore, for the purpose of IV regression estimations we utilize the RLMS-HSE data set of the 12th round (2003). The data on IV is explained in detail in Table A2. Descriptive statistics concerning the cross-sectional set of variables of the 12th round is given in Table A4. In comparison to the statistics for panel data, (2011-2015) in 2003 the respondents were less satisfied with their lives, less religious, and their incomes were lower.

5. Results and discussions

i. Ordinary least squares and panel data approach

First, we estimated regressions using ordinary least squares (Table B1), a RE model (Table B2) and a FE model (Table B3)⁷ on the balanced panel. In order to be sure that our results are not determined by the possible endogeniety of any explanatory variables, such as "perception of welfare" or "average life satisfaction of other family members" we add regressors gradually to the model. The coefficient of the variable "Believer" is positive and highly significant in all regressions estimated by OLS, FE and RE. Overall, these findings are in line with the results of other studies (Headey et al. 2010; Van Cappellen et al. 2016; Ellison, Gay, and Glass 1989).

Using FE method, coefficients for religiosity were estimated to be lower in comparison with the RE, and the coefficients corresponding to the pooled OLS method are the largest. This indicates that unobserved individual factors do affect life satisfaction and they are correlated with the level of religiosity.

Next, we conduct Breusch and Pagan Lagrangian multiplier (LM) test to compare pooled OLS with the RE model for specification 7 (Tables B1 and B2), which is the most complete specification of the model. The LM test statistics = 3935.88 (p-value = 0.00), imply that there is heterogeneity in the unobserved effect. After that (for FE and RE models) the Hausman test⁸ is performed. Specifically, the Hausman test statistics = 765.55, p-value = 0.00. Overall, results favour the FE model. The coefficient of the variable "Believer" is positive and significant at the 1% significance level.

Positive significant predictors of life satisfaction are also detected: self-estimated health status, marital status, employment status, perception of welfare, own dwelling and car

⁷ Estimations are done in STATA 13, using the option "robust" for computing standard errors.

⁸ We also apply a robust analogue of the test, using STATA 13 and run the routine with an option "robust" for computing standard errors. Sargan-Hansen statistic = 615.595, p-value = 0.00.

ownership, averaged life satisfaction of other family members. The predictor "Changes in financial situation" negatively correlates with life satisfaction. The sign of the coefficient on this predictor is rather intuitive, because lower values of this regressor correspond to an improvement in material conditions. It should be noted that the correlations of these predictors with life satisfaction are not our primary concern; however, the signs of the coefficients are overall consistent with contemporary findings. For example, our results accord with documented positive correlations between life satisfaction and factors like health and income (Gerdtham and Johannesson 2001; Peiro 2006; Kalyuzhnova and Kambhampati 2008), marital status (Stack and Eshleman 1998; Gerdtham and Johannesson 2001), education (Cuñado and de Gracia 2012; Gerdtham and Johannesson 2001), employment (De Neve and Ward 2017; Gerdtham and Johannesson 2001).

Originally, life satisfaction is measured as an ordered variable. Therefore, we also estimate a BUC model. This is done using STATA 13 *bucologit* routine. Estimation results are given in Table B4. The BUC model shows that the coefficient of the variable "Believer" is positive and significant. The signs and the significance of other predictors are almost the same.

As a robustness check, we estimated a set of regression models on various subsamples and with different specifications (Table B5). Namely:

- 1. individuals of pension age. The variable "older age" is incorporated into the fixed effects model;
- 2. the orthodox subsample;⁹
- 3. the urban subsample;
- 4. the rural subsample;
- 5. the different indicator of religiosity. The binary variable "Believer" is substituted with the indicator variable "Attitudes towards religion";
- 6. using a stronger predictor "Believer", "1", if ATR = 5, and zero otherwise.

The estimation results show that most coefficients on individual religiosity, with the exception of the rural subsample, are positive and significant.

Despite our analysis indicating that there is a positive association between religiosity and life satisfaction, the exact mechanism of this relation is unclear. In the literature review we discussed a number of possible mechanisms explained in the previous studies; however, we cannot distinguish which mechanism plays a role in our particular case. Nevertheless, we can conclude that the positive effect of religiosity on life satisfaction is not determined by

⁹ A number of people identify themselves as "orthodox"; however, they claim that they do not believe in the God.

conformity, because the estimates based on the subsample of people who claim that they belong to the Russian Orthodox confession (even if they do not believe in the God) are still significant. It is likely that religion gives to people a sense of life, reduces subjective feelings of uncertainty, or provides them with a social network. The existing degree of detail in the data does not allow us to differentiate between these channels.

Up to now, we have discussed estimations based on the balanced panel data. Individuals with at least one missing observation were removed. However, if observations are missing not at random, this may lead to biased estimates. ¹⁰ In appendix C (Tables C1-C5), we provide estimates for the unbalanced sample, and all the results remained almost unchanged. This indicates a high degree of robustness of our results to the existence of missing observations.

ii. Instrumental variable approach

Before starting with the IV approach, we provide an OLS estimation of cross-sectional data. The results are presented in Table D1. All the coefficients corresponding to the variable "Believer" appeared to be negative and insignificant at the 10% significance level. However, in this case, the estimates are likely to be biased due to various endogeneity problems.

Next, we estimated an IV regression (appendix D). At the first stage (Table D2), we regressed the level of religiosity on the religiosity of parents, grandmother and grandfather (1 if at least one of grandmothers or grandfathers was religious, 0 otherwise), siblings (1 if a person has a religious sibling, 0 otherwise), the religiosity of other family members, and socioeconomic factors used in the final stage regressions. The first stage regression also gave very interesting results.

The effects of religiosity of all family members except for grandfathers have a positive effect on an agent's own religiosity. The religiosity of grandfathers has a negative coefficient, and it is significant in models 1-4. This effect can be explained by the fact that during soviet times, mass media promoted atheism, and contemporary Russian mass media promulgates religious values (Skorobogatov 2016). The negative coefficient corresponding to the grandfather's religiosity may reflect amenability to official propaganda.

According to our estimates, women in Russia are more religious than men. Similar results are also common for other countries (De Vaus and McAllister 1987; Levin, Taylor, and

¹⁰ We should mention that the issue of attrition bias in the RLMS-HSE is discussed in the literature (Gerry and Papadopoulos 2015; Lokshin and Ravallion 2004; Kozyreva and Sabirianova Peter 2015), however, this issue is left for our future research.

Chatters 1994; Miller and Hoffmann 1995; Walter and Davie 1998). The effect of age on religiosity is parabolic, with the maximum achieved around the age of 45-50. The increasing nonlinear impact of age until the age of 45-50 is in line with the literature for the western countries (Chatters and Taylor 1989; Argue, Johnson, and White 1999). The declining path after the age of 50 contradicts the results for western countries and it may be attributed to a cohort effect: the mindset of these individuals was formed during Soviet Union times.

The effects of self-estimated health on an agent's religious beliefs are estimated to be negative. It is likely that individuals with health problems have more incentives to become religious because they receive a hope for convalescence or consolation.

The estimates of the final stage regression are presented in Table D3. In most cases, the coefficient corresponding to the variable "Believer" is significant at the 10% significance level. However, in cases (8), (9) and (10), when changes in material conditions, type of settlement and averaged family income per capita over PSU are taken into account, the coefficients of "Believer" are statistically insignificant. Nevertheless, they remain positive and comparable in size to the FE and RE models. The increased variance of the coefficients may be the result of a lower number of degrees of freedom. The other coefficients remained similar to the FE and RE models, with an important difference for parenthood. It became negative and significant at 0.01 significance level in cases 3 and 4.

6. Conclusion

Our paper contributes to the study of the relationship between individual religiosity and life satisfaction in several ways. First, we use a FE regression, using detailed individual Russian data. This is done utilizing traditional fixed effects estimators and "Blow-up and cluster" (BUC) model, which makes use of the ordinal nature of the dependent variable. This allows us to account for the set of unobservable characteristics which are stable over time. Second, exploiting the RLMS-HSE data about the religiosity of close relative and friends, we apply IV regressions. The findings of both methods (the FE models and IV regressions) suggest that there is a positive link between religiosity and life satisfaction. This result holds for many alternative specifications of the model, exhibiting a high degree of robustness.

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APPENDIX A

Table A1. Variables used in regression analysis.

The shortcut of the variable which is used in the text	The corresponding original RLMS-HSE	Response options and values which are used in the empirical analysis
Self-estimated health status	Tell me, please: How would you evaluate your health? It is:	Very good = 5 Good = 4 Averagenot good, but not bad = 3 Bad = 2 Very bad = 1
Marital status	What is your marital status?	Never married = 0 First Marriage = 1 Second Marriage = 1 Divorced = 0 Widower/widow = 0 MARRIED, BUT DON'T LIVE TOGETHER =0
The presence of children	Do you have children, either your own or officially adopted?	Yes = 1 $No = 0$
Employed	Let's talk about your primary work at present. Tell me, please:	You are currently working = 1 You are on paid leave (maternity leave or taking care of a child under 3 years of age) = 0 You are on another kind of paid leave = 0 You are on unpaid leave = 0 You are not working = 0
Perception of welfare	And now, please imagine a nine-step ladder where on the bottom, the first step, stand the poorest people, and on the highest step, the ninth, stand the rich. On which step of the nine steps are you personally standing today?	The interval of values from 1 to 9
Changes in financial situation	Tell me, please: How has the financial situation of your family	Greatly improved =1 Slightly improved = 2 Has not changed = 3 Slightly worsened =4 Greatly worsened = 5

Table A2. Information about instrumental variables.

The shortcut of the variable which is	The corresponding original RLMS-HSE	Response options and values which are used in the empirical analysis
used in the text		
	When you were a child, did any member of your family	Yes = 1
	believe in God?	$N_0 = 0$
Religiosity of	Grandmother	Yes = 1
grandmother		$N_0 = 0$
Religiosity of	Grandfather	Yes = 1
grandfather		$N_0 = 0$
Religiosity of mother	Mother	Yes = 1
		$N_0 = 0$
Religiosity of father	Father	Yes = 1
		$N_0 = 0$
Religiosity of	Brother or sister	Yes = 1
siblings		$N_0 = 0$
Religiosity of other	Other family members	Yes = 1
family members		$N_0 = 0$

Table A3. Descriptive statistics of the panel data set.

	Mean	Standard	Minimum	Maximum	Number of observations
Life satisfaction	3.2818	1.0688	1	5	43510
Believer, $(ATR = 4 \text{ or } 5)$	0.8564	0.3507	0	1	42891
Attitudes towards	4.1772	0.8799	1	5	34652
religion, (ATR)					
Orthodox	0.8810	0.3238	0	1	40743
Gender (Male $= 1$)	0.4065	0.4912	0	1	43890
Age	45.7342	18.0982	13	102	43890
Older age	0.2815	0.4497	0	1	43890
Self-estimated health	3.2250	0.7193	1	5	43478
status					
Married	0.5262	0.4993	0	1	43737
Parenthood	0.4833	0.4997	0	1	43890
Total years of schooling	12.2422	3.1973	0	25	43827
Employed	0.5272	0.4993	0	1	43850
Logarithm of per capita	9.2225	0.5592	7.4968	10.7957	41455
family income					
Perception of welfare	4.0757	1.4576	0	9	42768
Own dwelling (= 1)	0.9389	0.2394	0	1	43734
Car ownership (= 1)	0.4988	0.5000	0	1	43889
Changes in financial	3.0036	0.8070	1	5	43022
situation					
Averaged life	3.3293	0.9479	1	5	38927
satisfaction of other					
family members					
Average per capita	11475.2	3396.329	5499.413	20139.41	43890
family income over PSU					
Urban settlements	0.6048	0.4889	0	1	43890

Table A4. Descriptive statistics of the cross-section data set

	Mean	Standard	Minimum	Maximum	Number of
		deviation			observations
Life satisfaction	2.9391	1.1070	1	5	3742
Believer, $(ATR = 4 \text{ or } 5)$	0.6891	0.4629	0	1	7672
Attitudes towards religion,	3.8071	1.0532	1	5	7672
(ATR)			_		
Orthodox	0.8966	0.3045	0	1	6714
Gender (Male $= 1$)	0.4245	0.4943	0	1	7776
Age	44.1691	19.1826	14	99	7776
Older age	0.2715	0.4447	0	1	7776
Self-estimated health status	3.1124	0.7629	1	5	7756
Married	0.5733	0.4946	0	1	7751
Parenthood	0.3354	0.4722	0	1	7776
Total years of schooling	11.3681	3.4550	0	26	7766
Employed	0.4689	0.4991	0	1	7774
Logarithm of per capita	7.6159	0.8152	3.1918	9.5031	7271
family income					
Perception of welfare	3.7594	1.4755	1	9	7613
Own dwelling (= 1)	0.9273	0.2596	0	1	7761
Car ownership (= 1)	0.3299	0.4702	0	1	7761
Averaged life satisfaction of	2.9227	1.0380	1	5	4759
other family members					
Changes in financial situation	2.9779	0.8289	1	5	7630
Logarithm of average per	7.8401	0.3421	7.2651	8.3888	7776
capita family income over					
PSU					
Urban settlements	0.6561	0.4750	0	1	7776
Religiosity of grandmother	0.7610	0.4265	0	1	6970
Religiosity of grandfather	0.4849	0.4998	0	1	6108
Religiosity of mother	0.5636	0.4960	0	1	7308
Religiosity of father	0.3148	0.4645	0	1	6893
Religiosity of siblings	0.2572	0.4371	0	1	6871
Religiosity of other family	0.2367	0.4251	0	1	6574
members	0.2007	V	v	-	007.

APPENDIX B

Table B1. Ordinary least squares regressions. Balanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.1395***	0.1697***	0.1632***	0.1618***	0.1634***	0.1105***	0.0625***
,	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age		-0.0284***	-0.0442***	-0.0483***	-0.0582***	-0.0373***	-0.0436***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age squared / 100		0.0287***	0.0448***	0.0497***	0.0610***	0.0380***	0.0442***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Self-estimated health status		0.4018***	0.3879***	0.3839***	0.3718***	0.2545***	0.1803***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married			0.3126***	0.3019***	0.3003***	0.2043***	0.1683***
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Parenthood			0.0515***	0.0538***	0.0489***	0.0782***	0.0056
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Total years of schooling				0.0182***	0.0141***	0.0014	-0.0009
				(0.00)	(0.00)	(0.00)	(0.00)
Employed					0.1975***	0.0375***	0.0832***
					(0.01)	(0.01)	(0.01)
Logarithm of per capita						0.1626***	0.0564***
family income							
						(0.01)	(0.01)
Perception of welfare						0.1511***	0.1129***
						(0.00)	(0.00)
Own dwelling (= 1)						0.1935***	0.1317***
						(0.02)	(0.02)
Car ownership (= 1)						0.1377***	0.0789***
						(0.01)	(0.01)
Changes in financial						-0.2890***	-0.2067***
situation						(0.04)	(0.04)
1110 2 0 2						(0.01)	(0.01)
Averaged life satisfaction							0.4050***
of other family members							(0.01)
	2.0500***	2 2012***	2 4662***	2 2722***	2.5(52***	1 2005***	(0.01)
Constant	3.0509***	2.2912***	2.4663***	2.3722***	2.5653***	1.2995***	1.4325***
D 1	(0.02)	(0.05)	(0.05)	(0.05)	(0.06)	(0.11)	(0.11)
R-squared	0.003	0.087	0.107	0.110	0.116	0.244	0.349
Number of observation	42584	42227	42081	42022	41991	38444	34010

Note: Huber-White robust standard errors in parentheses. Each specification includes averaged per capita family income over PSU and year dummies. p < 0.1, ** p < 0.05, *** p < 0.01

Table B2. Random effects regressions. Balanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.1010***	0.1198***	0.1154***	0.1153***	0.1163***	0.0955***	0.0690***
,	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age	` ′	-0.0304***	-0.0449***	-0.0489***	-0.0599***	-0.0409***	-0.0455***
_		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age squared / 100		0.0278***	0.0430***	0.0476***	0.0602***	0.0401***	0.0452***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Self-estimated health		0.2742***	0.2708***	0.2696***	0.2617***	0.2007***	0.1550***
status							
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married		, ,	0.2926***	0.2864***	0.2871***	0.2102***	0.1789***
			(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Parenthood			0.0637***	0.0652***	0.0603***	0.0771***	0.0148
			(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Total years of schooling			, ,	0.0151***	0.0107***	0.0015	-0.0009
				(0.00)	(0.00)	(0.00)	(0.00)
Employed				` '	0.2134***	0.0496***	0.0821***
					(0.01)	(0.01)	(0.01)
Logarithm of per capita family income						0.1226***	0.0514***
•						(0.01)	(0.01)
Perception of welfare						0.1376***	0.1117***
•						(0.00)	(0.00)
Own dwelling (= 1)						0.1648***	0.1272***
						(0.02)	(0.02)
Car ownership (= 1)						0.1198***	0.0775***
• ` '						(0.01)	(0.01)
Changes in financial situation						-0.2456***	-0.1923***
523441011						(0.01)	(0.01)
Averaged life satisfaction of other family members						(***-)	0.3517***
or other running members							(0.01)
Constant	3.0822***	2.8533***	2.9651***	2.8887***	3.0849***	1.9196***	1.7575***
Constant	(0.03)	(0.07)	(0.07)	(0.07)	(0.07)	(0.13)	(0.12)
R-squared overall	0.003	0.084	0.104	0.107	0.113	0.243	0.348
Number of observation	42584	42227	42081	42022	41991	38444	34010
	42304				71711	30777	34010

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies, p < 0.1, ** p < 0.05, *** p < 0.01

Table B3. Fixed effects regressions. Balanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.0757***	0.0780***	0.0738***	0.0742***	0.0745***	0.0729***	0.0679***
,	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age		0.0273	0.0193	0.0205	0.0135	0.0076	-0.0035
		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age squared / 100		0.0058	0.0141*	0.0115	0.0240***	0.0138	0.0203**
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Self-estimated health		0.1794***	0.1792***	0.1790***	0.1755***	0.1316***	0.1006***
status							
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married		•	0.2064***	0.2062***	0.2181***	0.1691***	0.1569***
			(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Parenthood			0.0577	0.0574	0.0733	0.0820	0.0757
			(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Total years of schooling			` '	-0.0090	-0.0116*	-0.0139**	-0.0102
,				(0.01)	(0.01)	(0.01)	(0.01)
Employed				,	0.2219***	0.0647***	0.0868***
1 2					(0.02)	(0.02)	(0.02)
Logarithm of per capita family income					,	0.0520***	0.0132
						(0.02)	(0.02)
Perception of welfare						0.1151***	0.1006***
1						(0.00)	(0.01)
Own dwelling (= 1)						0.0956***	0.0758**
8()						(0.03)	(0.04)
Car ownership (= 1)						0.0543***	0.0362*
cui e « neremp (1)						(0.02)	(0.02)
Changes in financial						-0.2159***	-0.1785***
situation						*	******
						(0.01)	(0.01)
Averaged life satisfaction						(0.01)	0.2643***
of other family members							0.20.0
							(0.01)
Constant	2.8583***	0.9880	1.0315	1.1447	1.1136	1.6008*	1.5613*
	(0.09)	(0.96)	(0.97)	(0.98)	(0.96)	(0.90)	(0.82)
R-squared	0.003	0.012	0.014	0.014	0.020	0.089	0.140
Number of observation	42584	42227	42081	42022	41991	38444	34010

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies, p < 0.1, ** p < 0.05, *** p < 0.01

Table B4. The BUC model. Balanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Life satisfaction							
Believer, $(ATR = 4 \text{ or } 5)$	0.1913***	0.1985***	0.1864***	0.1880***	0.1890***	0.1859***	0.1623***
	(0.0465)	(0.0472)	(0.0472)	(0.0472)	(0.0474)	(0.0507)	(0.0539)
Age		0.0538	0.0323	0.0360	0.0193	0.0062	-0.0471
		(0.0529)	(0.0534)	(0.0534)	(0.0530)	(0.0610)	(0.0609)
Age squared / 100		0.0176	0.0396*	0.0330	0.0653***	0.0390	0.0654**
		(0.0226)	(0.0227)	(0.0234)	(0.0236)	(0.0253)	(0.0292)
Self-estimated health status		0.4588***	0.4579***	0.4574***	0.4508***	0.3569***	0.2990***
		(0.0282)	(0.0283)	(0.0283)	(0.0283)	(0.0308)	(0.0336)
Married			0.4955***	0.4959***	0.5331***	0.4021***	0.4186***
			(0.0800)	(0.0801)	(0.0807)	(0.0866)	(0.0996)
Parenthood			0.1317	0.1320	0.1421	0.2376	0.2783
			(0.1735)	(0.1737)	(0.1762)	(0.2120)	(0.2479)
Total years of schooling				-0.0228	-0.0298*	-0.0381*	-0.0340*
-				(0.0176)	(0.0178)	(0.0196)	(0.0199)
Employed					0.5640***	0.1669***	0.2673***
					(0.0469)	(0.0509)	(0.0543)
Logarithm of per capita					,	0.1511***	0.0315
family income							
Ž						(0.0434)	(0.0475)
Perception of welfare						0.2986***	0.2763***
1						(0.0134)	(0.0147)
Own dwelling (= 1)						0.2513***	0.2009*
- · · · · · · · · · · · · · · · · · · ·						(0.0914)	(0.1058)
Car ownership (= 1)						0.1355**	0.0754
· · · · · · · · · · · · · · · ·						(0.0528)	(0.0558)
Changes in financial						-0.5845***	-0.5106***
situation						0.00.0	0.0100
						(0.0208)	(0.0225)
Averaged life satisfaction						(0.0200)	0.6813***
of other family members							
J							(0.0234)
Log-likelihood	-24394.0946	-23828.0758	-23655.5557	-23611.2283	-23436,9231	-19178.7210	-15428.1085
Log-likelihood, constant	-24464.6532	-24154.0918	-24023.6168	-23980.9511	-23954.2403	-21226.1758	-18129.5364
term only		=					
Wald chi2	83.7012	353.3684	386.0077	389.5213	545.2381	1864.8861	2237.7286
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0029	0.0135	0.0153	0.0154	0.0216	0.0965	0.1490
Number of observations	64135	63354	63005	62887	62818	55784	47749

Note: * p<0.1, ** p<0.05, *** p<0.01. Standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies.

Table B5. Fixed effects regressions. Different models. Accounting for: the older age, the different indicator of religiosity, and for the different subsamples of respondents.

	(1)	(2)	(3)	(4)	(5)	(6)
Believer, (ATR = 4 or 5)	0.0224*	0.0269*	0.0434**	-0.0070		0.0221*
	(0.01)	(0.01)	(0.02)	(0.02)		(0.01)
Age	-0.0013	-0.0011	-0.0213	0.0234	-0.0115	-0.0034
_	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)
Age squared / 100	0.0163*	0.0136	0.0223*	0.0180	0.0153	0.0203**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Self-estimated health status	0.1003***	0.0970***	0.1078***	0.0882***	0.0965***	0.1004***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Married	0.1591***	0.1704***	0.1217***	0.2197***	0.1636***	0.1582***
	(0.04)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)
Parenthood	0.0779	0.0237	0.1005	0.0327	0.0456	0.0766
	(0.07)	(0.07)	(0.09)	(0.12)	(0.09)	(0.07)
Total years of schooling	-0.0104	0.0007	-0.0043	-0.0175*	-0.0141*	-0.0103
, 6	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Employed	0.0896***	0.0760***	0.0405	0.1597***	0.0796***	0.0866***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)
Logarithm of per capita family	0.0131	0.0142	0.0276	-0.0030	0.0036	0.0137
income	0.0101	<u>-</u>	0.02,0	0.000	0.0000	0.0107
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Perception of welfare	0.1006***	0.1065***	0.1008***	0.1048***	0.1010***	0.1007***
refrequence we make	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Own dwelling (= 1)	0.0777**	0.0823**	0.0580	0.0982	0.0689*	0.0771**
Own dwelling (1)	(0.04)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)
Car ownership (= 1)	0.0365*	0.0297	0.0332	0.0463*	0.0326	0.0364*
car ownership (1)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)
Changes in financial situation	-0.1786***	-0.1719***	-0.1568***	-0.2216***	-0.1808***	-0.1786***
Changes in illiancial situation	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Older age	0.1071***	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Older age	(0.04)					
Averaged life satisfaction of	0.2643***	0.2607***	0.2495***	0.2862***	0.2751***	0.2645***
other family members	0.2073	0.400/	0.47/3	0.2002	0.4/31	0.2043
omer family memoers	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Attitudes towards religion	(0.01)	(0.01)	(0.01)	(0.01)	0.01)	(0.01)
Attitudes towards religion,					0.0310***	
(ATR)					(0.01)	
G	1.5020*	1 45224	2.05(2*	0.07(0	(0.01)	1 (010**
Constant	1.5829*	1.4532*	2.0562*	0.9769	2.0854**	1.6019**
	(0.82)	(0.80)	(1.08)	(1.11)	(0.93)	(0.81)
R-squared	0.140	0.141	0.129	0.164	0.145	0.139
Number of observation	34010	28013	20742	13268	27993	34010

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies. The first specification is estimated with a dummy for older people. The second specification is estimated on the subsample of the orthodox people. The third specification obtained via estimation on the subsample or urban households. The specification 4 is estimated on the subsample of rural households. The specifications 5-6 include different measures of religiosity.

* p < 0.1, ** p < 0.05, *** p < 0.01

Appendix C

Table C1. Ordinary least squares regressions. Unbalanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.1258***	0.1713***	0.1621***	0.1612***	0.1625***	0.1128***	0.0728***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age		-0.0277***	-0.0439***	-0.0483***	-0.0583***	-0.0383***	-0.0421***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age squared / 100		0.0270***	0.0433***	0.0485***	0.0601***	0.0384***	0.0424***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Self-estimated health		0.4019***	0.3900***	0.3848***	0.3717***	0.2664***	0.1972***
status							
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married			0.3268***	0.3134***	0.3079***	0.2167***	0.1684***
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Parenthood			0.0334***	0.0368***	0.0356***	0.0690***	0.0135*
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Total years of schooling				0.0204***	0.0164***	0.0036***	0.0007
				(0.00)	(0.00)	(0.00)	(0.00)
Employed					0.2054***	0.0369***	0.0780***
					(0.01)	(0.01)	(0.01)
Logarithm of per capita						0.1627***	0.0611***
family income							
						(0.01)	(0.01)
Perception of welfare						0.1521***	0.1148***
						(0.00)	(0.00)
Own dwelling (= 1)						0.1167***	0.1047***
						(0.01)	(0.01)
Car ownership (= 1)						0.1270***	0.0729***
						(0.01)	(0.01)
Changes in financial						-0.2761***	-0.1993***
situation							
						(0.00)	(0.00)
Averaged life satisfaction							0.3956***
of other family members							
							(0.00)
Constant	2.9884***	2.2414***	2.4311***	2.3176***	2.5031***	1.3053***	1.3226***
	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)	(0.08)	(0.08)
R-squared	0.004	0.096	0.117	0.120	0.126	0.249	0.349
Number of observation	82535	81892	81543	81107	81028	73296	64443

Note: Huber-White robust standard errors in parentheses. Each specification includes averaged per capita family income over PSU and year dummies. p < 0.1, ** p < 0.05, *** p < 0.01

Table C2. Random effects regressions. Unbalanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.0937***	0.1238***	0.1174***	0.1172***	0.1179***	0.0915***	0.0701***
,	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age		-0.0290***	-0.0443***	-0.0488***	-0.0598***	-0.0411***	-0.0431***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age squared / 100		0.0258***	0.0414***	0.0468***	0.0595***	0.0400***	0.0425***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Self-estimated health		0.3038***	0.3001***	0.2973***	0.2874***	0.2256***	0.1772***
status							
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married			0.3135***	0.3029***	0.2991***	0.2227***	0.1747***
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Parenthood			0.0406***	0.0443***	0.0435***	0.0667***	0.0227**
			(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Total years of schooling				0.0196***	0.0152***	0.0046***	0.0011
				(0.00)	(0.00)	(0.00)	(0.00)
Employed					0.2230***	0.0521***	0.0831***
					(0.01)	(0.01)	(0.01)
Logarithm of per capita						0.1374***	0.0618***
family income						(0.01)	(0.01)
D 6 16						(0.01)	(0.01)
Perception of welfare						0.1392***	0.1126***
O 111: (1)						(0.00)	(0.00)
Own dwelling (= 1)						0.1102***	0.1065***
Can arranghin (= 1)						(0.01) 0.1114***	(0.01) 0.0702***
Car ownership (= 1)							
Changes in financial						(0.01)	(0.01)
Changes in financial						-0.2442***	-0.1906***
situation						(0.00)	(0.00)
Avaraged life satisfaction						(0.00)	(0.00) 0.3508***
Averaged life satisfaction of other family members							0.3308
of other failing members							(0.00)
Constant	3.0064***	2.6621***	2.8050***	2.6926***	2.8776***	1.7206***	1.5386***
Constant	(0.02)	(0.04)	(0.04)	(0.05)	(0.05)	(0.09)	(0.09)
R-squared overall	0.004	0.093	0.115	0.118	0.124	0.248	0.348
Number of observation	82535	81892	81543	81107	81028	73296	64443
rumoer of observation	02333	01072	01773	01107	01020	13270	UTTTJ

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies, p < 0.1, ** p < 0.05, *** p < 0.01

Table C3. Fixed effects regressions. Unbalanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, $(ATR = 4 \text{ or } 5)$	0.0598***	0.0620***	0.0571***	0.0570***	0.0572***	0.0480***	0.0444***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age		-0.0088	-0.0168	-0.0109	-0.0216	-0.0120	-0.0249*
		(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Age squared / 100		0.0195***	0.0285***	0.0254***	0.0387***	0.0268***	0.0308***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Self-estimated health		0.1911***	0.1917***	0.1913***	0.1869***	0.1476***	0.1148***
status							
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Married			0.2177***	0.2190***	0.2325***	0.1774***	0.1399***
			(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Parenthood			0.0480	0.0447	0.0592	0.0547	0.0846
			(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
Total years of schooling			,	-0.0111**	-0.0145***	-0.0137**	-0.0117**
, ,				(0.01)	(0.01)	(0.01)	(0.01)
Employed				(0.01)	0.2430***	0.0847***	0.1052***
Emproyed					(0.01)	(0.01)	(0.01)
Logarithm of per capita					(0.01)	0.0701***	0.0331***
family income						0.0701	0.0551
ranning income						(0.01)	(0.01)
Domantian of walfana						0.1120***	0.0985***
Perception of welfare							
O 411' (1)						(0.00)	(0.00)
Own dwelling (= 1)						0.0936***	0.0781***
						(0.03)	(0.03)
Car ownership (= 1)						0.0392***	0.0256*
						(0.01)	(0.01)
Changes in financial						-0.2139***	-0.1795***
situation							
						(0.01)	(0.01)
Averaged life satisfaction							0.2610***
of other family members							
							(0.01)
Constant	2.9942***	2.3739***	2.3970***	2.3566***	2.4544***	2.1299***	2.1861***
	(0.08)	(0.61)	(0.64)	(0.62)	(0.61)	(0.58)	(0.55)
R-squared	0.002	0.013	0.015	0.015	0.022	0.091	0.140
Number of observation	82535	81892	81543	81107	81028	73296	64443

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies, p < 0.1, ** p < 0.05, *** p < 0.01

Table C4. The BUC model. Unbalanced panel. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Life satisfaction							
Believer, $(ATR = 4 \text{ or } 5)$	0.1484***	0.1548***	0.1423***	0.1421***	0.1437***	0.1174***	0.1075***
	(0.0340)	(0.0343)	(0.0344)	(0.0345)	(0.0346)	(0.0378)	(0.0408)
Age		-0.0282	-0.0477	-0.0316	-0.0581	-0.0180	-0.0688
		(0.0390)	(0.0392)	(0.0392)	(0.0395)	(0.0443)	(0.0461)
Age squared / 100		0.0543***	0.0764***	0.0692***	0.1034***	0.0736***	0.0896***
		(0.0182)	(0.0183)	(0.0189)	(0.0191)	(0.0206)	(0.0237)
Self-estimated health		0.4737***	0.4758***	0.4751***	0.4677***	0.3818***	0.3147***
status							
		(0.0209)	(0.0210)	(0.0211)	(0.0211)	(0.0231)	(0.0254)
Married		, , ,	0.5179***	0.5217***	0.5581***	0.4037***	0.3548***
			(0.0593)	(0.0595)	(0.0601)	(0.0651)	(0.0733)
Parenthood			0.1206	0.1118	0.1159	0.1664	0.2700
			(0.1311)	(0.1315)	(0.1338)	(0.1551)	(0.1812)
Total years of schooling			` ,	-0.0268**	-0.0361***	-0.0361**	-0.0351**
,				(0.0136)	(0.0137)	(0.0152)	(0.0159)
Employed				` ,	0.6023***	0.2227***	0.3159***
1 2					(0.0353)	(0.0389)	(0.0420)
Logarithm of per capita					, ,	0.1951***	0.0885**
family income							
3						(0.0335)	(0.0366)
Perception of welfare						0.2833***	0.2622***
1						(0.0101)	(0.0111)
Own dwelling (= 1)						0.2532***	0.2150***
8 ()						(0.0677)	(0.0778)
Car ownership (= 1)						0.1026**	0.0661
1 ()						(0.0404)	(0.0432)
Changes in financial						-0.5592***	-0.4945***
situation						*****	*****
						(0.0158)	(0.0173)
Averaged life satisfaction						(******)	0.6648***
of other family members							
							(0.0179)
Log-likelihood	-39188.5438	-38216.9673	-37873.0210	-37679.7840	-37340.1115	-30061.9817	-24026.8841
Log-likelihood, constant	-39266.7304	-38779.4279	-38516.0500	-38322.6952	-38265.5901	-33387.5737	-28347.1963
term only	3,200.,201	20,,,,2,,	20210.0200	20222.0,22	20200.0701		2001900
Wald chi2	92.9962	613.6818	683.1194	683.7071	982.2565	3040.9154	3619.7769
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0020	0.0145	0.0167	0.0168	0.0242	0.0996	0.1524
Number of observations	104360	103118	102411	101884	101735	88952	75655

Note: * p<0.1, ** p<0.05, *** p<0.01. Standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies.

Table C5. Fixed effects regressions. Different models. Accounting for: the older age, the different indicator of religiosity, and for the different subsamples of respondents.

	(1)	(2)	(3)	(4)	(5)	(6)
Believer, $(ATR = 4 \text{ or } 5)$	0.0442***	0.0583***	0.0444***	0.0505**		0.0196**
	(0.01)	(0.02)	(0.02)	(0.02)		(0.01)
Age	-0.0233	-0.0287*	-0.0342**	-0.0010	-0.0272*	-0.0248*
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)
Age squared / 100	0.0279***	0.0230***	0.0333***	0.0282**	0.0294***	0.0307***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Self-estimated health status	0.1146***	0.1112***	0.1188***	0.1072***	0.1156***	0.1146***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Married	0.1406***	0.1513***	0.1297***	0.1612***	0.1335***	0.1408***
	(0.03)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)
Parenthood	0.0852	0.0504	0.0867	0.0911	0.0605	0.0851
	(0.06)	(0.06)	(0.06)	(0.11)	(0.07)	(0.06)
Total years of schooling	-0.0117**	-0.0074	-0.0075	-0.0181**	-0.0111*	-0.0117**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Employed	0.1070***	0.1008***	0.0726***	0.1662***	0.1074***	0.1051***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Logarithm of per capita family	0.0328***	0.0353**	0.0432***	0.0185	0.0235*	0.0334***
income						
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)
Perception of welfare	0.0985***	0.1025***	0.0982***	0.1025***	0.0997***	0.0985***
•	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
Own dwelling (= 1)	0.0785***	0.0784***	0.0782**	0.0707	0.0570**	0.0788***
	(0.03)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)
Car ownership (= 1)	0.0256*	0.0199	0.0367*	0.0077	0.0186	0.0256*
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Changes in financial situation	-0.1795***	-0.1722***	-0.1680***	-0.2054***	-0.1832***	-0.1796***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Older age	0.0784***					
	(0.03)					
Averaged life satisfaction of	0.2609***	0.2606***	0.2530***	0.2749***	0.2681***	0.2610***
other family members						
•	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Attitudes towards religion,					0.0226***	
(ATR)						
					(0.01)	
Constant	2.1703***	2.3263***	2.1821***	1.7665*	2.3245***	2.2088***
	(0.56)	(0.58)	(0.67)	(0.97)	(0.58)	(0.55)
R-squared	0.140	0.140	0.136	0.152	0.144	0.140
Number of observation	64443	53910	43687	20756	53587	64443

Note: standard errors clustered by individual. Each specification includes averaged per capita family income over PSU and year dummies. The first specification is estimated with a dummy for older people. The second specification is estimated on the subsample of the orthodox people. The third specification obtained via estimation on the subsample or urban households. The specification 4 is estimated on the subsample of rural households. The specifications 5-6 include different measures of religiosity.

* p < 0.1, ** p < 0.05, *** p < 0.01

Appendix D

Table D1. Ordinary least squares regressions. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	-0.0197	-0.0118	-0.0079	-0.0109	-0.0128	-0.0495	-0.0545
	(0.0397)	(0.0388)	(0.0386)	(0.0382)	(0.0379)	(0.0414)	(0.0413)
Gender (Male = 1)	0.1989***	0.1286***	0.0799**	0.1068***	0.0699*	0.0627	0.0619
	(0.0377)	(0.0371)	(0.0375)	(0.0376)	(0.0374)	(0.0406)	(0.0406)
Age	, ,	-0.0607***	-0.0785***	-0.0779***	-0.0656***	-0.0593***	-0.0587***
S		(0.0088)	(0.0091)	(0.0092)	(0.0093)	(0.0113)	(0.0113)
Age squared / 100		0.0701***	0.0870***	0.0867***	0.0744***	0.0687***	0.0678***
81		(0.0105)	(0.0110)	(0.0112)	(0.0111)	(0.0138)	(0.0138)
Self-estimated health status		0.3682***	0.3599***	0.3481***	0.2668***	0.2426***	0.2409***
sen estimated nearth status		(0.0317)	(0.0312)	(0.0312)	(0.0311)	(0.0356)	(0.0356)
Married		(0.0317)	0.3614***	0.3623***	0.2546***	0.1921***	0.1992***
Married			(0.0419)	(0.0416)	(0.0424)	(0.0563)	(0.0565)
Parenthood			-0.1010***	-0.0876**	-0.0343	-0.0276	-0.0366
ratentilood							
T-4-1			(0.0389)	(0.0386) 0.0499***	(0.0393) 0.0184***	(0.0429)	(0.0431)
Total years of schooling						0.0198**	0.0196**
				(0.0066)	(0.0068)	(0.0079)	(0.0079)
Employed					0.0372	0.1292	0.1313
					(0.0965)	(0.1075)	(0.1061)
Logarithm of per capita					0.1791***	0.0822***	0.0461
family income							
					(0.0250)	(0.0278)	(0.0321)
Perception of welfare					0.1014***	0.0896***	0.0917***
					(0.0142)	(0.0160)	(0.0160)
Own dwelling (= 1)					0.0996*	0.0360	0.0328
8()					(0.0580)	(0.0660)	(0.0660)
Car ownership (= 1)					0.0370	-0.0028	0.0098
					(0.0368)	(0.0395)	(0.0399)
Changes in financial					-0.2637***	-0.2109***	-0.2145***
situation					0.2007	0.2107	0.21.0
Situation					(0.0231)	(0.0272)	(0.0273)
veraged life satisfaction of					(0.0231)	0.3318***	0.3277***
other family members						0.5516	0.3277
other family members						(0.0210)	(0.0209)
Urban settlements						(0.0210)	0.0209)
Ordan semements							
T 14 C							(.)
Logarithm of average per							0.2258***
capita family income over							
PSU							
							(0.0775)

Constant	2.8620***	2.8966***	3.1447***	2.5119***	1.7850***	1.4329***	-0.0027
	(0.0395)	(0.2157)	(0.2172)	(0.2305)	(0.3249)	(0.3572)	(0.6107)
R-squared	0.0084	0.0667	0.0846	0.0989	0.1895	0.2616	0.2642
F-statistics	15.8186	52.4799	50.3708	52.1299	60.6914	63.5839	56.3872
Number of observation	3702	3697	3686	3686	3356	2403	2403

Note: robust standard errors in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01

Table D2. Instrumental variable regressions. First stage. Logit. Dependent variable - religiosity.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Religiosity of grandmother	0.6809***	0.6729***	0.6794***	0.6778***	0.6445***	0.6546***	0.6363***
6	(0.0853)	(0.0858)	(0.0860)	(0.0861)	(0.0893)	(0.1075)	(0.1077)
Religiosity of grandfather	-0.1853*	-0.2049**	-0.2007**	-0.2000**	-0.0932	0.0192	0.0523
5 , 5	(0.0960)	(0.0967)	(0.0968)	(0.0967)	(0.1016)	(0.1229)	(0.1237)
Religiosity of mother	0.8573***	0.8676***	0.8620***	0.8596***	0.8743***	0.9971***	1.0065***
,	(0.0913)	(0.0922)	(0.0924)	(0.0924)	(0.0962)	(0.1185)	(0.1194)
Religiosity of father	0.5329***	0.5770***	0.5741***	0.5702***	0.4860***	0.4599***	0.4443**
,	(0.1318)	(0.1336)	(0.1339)	(0.1341)	(0.1401)	(0.1743)	(0.1757)
Religiosity of siblings	1.2319***	1.2598***	1.2552***	1.2526***	1.1694***	0.9752***	0.9990***
5 ,	(0.1735)	(0.1738)	(0.1736)	(0.1738)	(0.1766)	(0.2083)	(0.2109)
Religiosity of other	0.5025***	0.5321***	0.5333***	0.5346***	0.5111***	0.3914**	0.3603*
family members							
•	(0.1461)	(0.1472)	(0.1471)	(0.1470)	(0.1514)	(0.1834)	(0.1853)
Gender (Male = 1)	-1.1418***	-1.1200***	-1.1194***	-1.1205***	-1.1404***	-1.0520***	-1.0586***
·	(0.0697)	(0.0707)	(0.0717)	(0.0719)	(0.0762)	(0.0929)	(0.0932)
Age	, ,	0.0416***	0.0432***	0.0442***	0.0520***	0.0394**	0.0435**
C		(0.0095)	(0.0108)	(0.0112)	(0.0132)	(0.0176)	(0.0179)
Age squared / 100		-0.0446***	-0.0456***	-0.0467***	-0.0554***	-0.0444**	-0.0492**
0 1		(0.0102)	(0.0115)	(0.0121)	(0.0143)	(0.0196)	(0.0199)
Self-estimated health		-0.1489***	-0.1467***	-0.1459**	-0.1652***	-0.1458*	-0.1513*
status							
		(0.0566)	(0.0567)	(0.0569)	(0.0613)	(0.0777)	(0.0774)
Married		, ,	-0.0364	-0.0365	-0.0746	0.0917	0.0872
			(0.0838)	(0.0838)	(0.0898)	(0.1283)	(0.1288)
Parenthood			0.0488	0.0480	0.0257	0.1250	0.1209
			(0.0779)	(0.0780)	(0.0840)	(0.0966)	(0.0972)
Total years of schooling				-0.0056	-0.0109	0.0208	0.0108
				(0.0116)	(0.0127)	(0.0174)	(0.0177)
Employed				, ,	-0.0664	-0.0690	-0.0723
- •					(0.0910)	(0.1136)	(0.1142)
Logarithm of per capita family income					0.0055	0.0168	-0.0505

Perception of welfare					(0.0480) 0.0743***	(0.0576) 0.0376	(0.0652) 0.0430
rerection of wenare					(0.0281)	(0.0345)	(0.0347)
Own dwelling (= 1)					-0.1621	-0.1550	-0.1700
Own dwelling (1)					(0.1411)	(0.1692)	(0.1692)
Car ownership (= 1)					0.0517	0.1586*	0.1859**
cur e whereing (1)					(0.0795)	(0.0923)	(0.0934)
Changes in financial					0.0262	-0.0154	-0.0314
situation							
					(0.0473)	(0.0610)	(0.0617)
Averaged life satisfaction					· /	-0.0013	-0.0022
of other family members							
						(0.0456)	(0.0459)
Urban settlements							0.3843***
							(0.1287)
Logarithm of average per							-0.0303
capita family income over							
PSU							(0.1000)
	0.1504**	0.2116	0.2640	0.2154	0.2005	0.7642	(0.1890)
Constant	0.1504**	-0.2116	-0.2648	-0.2154	-0.3905	-0.7642	-0.1625
T 1'1 1'1 1	(0.0617)	(0.2906)	(0.3022)	(0.3121)	(0.5313)	(0.6574)	(1.4062)
Log-likelihood	-2537.7481	-2518.1663	-2512.1581	-2510.5918	-2286.8136	-1497.2412	-1490.8835
Log-likelihood, constant	-3250.6122	-3244.1136	-3236.8501	-3233.0277	-2918.0551	-1882.2884	-1882.2884
term only	052 0222	047.5502	045 4522	044 4615	954 6002	544.0110	<i>55</i> 1 4020
Wald chi2	952.9222	947.5503	945.4533	944.4615	854.6002	544.9110	551.4928
Prob > chi2 Pseudo R2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of observations	0.2193	0.2238	0.2239	0.2235	0.2163	0.2046 2894	0.2079
number of observations	5200	5191	5176	5170	4703	2894	2894

Note: standard errors in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01

Table D3. Instrumental variable regressions. Final stage. Dependent variable - life satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Believer, (ATR = 4 or 5)	0.3531***	0.2198*	0.2082*	0.2131*	0.1794	0.1294	0.1013
,	(0.1206)	(0.1157)	(0.1142)	(0.1131)	(0.1131)	(0.1158)	(0.1162)
Gender (Male = 1)	0.2882***	0.1910***	0.1369***	0.1687***	0.1411***	0.1239**	0.1173**
	(0.0531)	(0.0524)	(0.0524)	(0.0523)	(0.0519)	(0.0541)	(0.0540)
Age		-0.0665***	-0.0829***	-0.0815***	-0.0698***	-0.0612***	-0.0602***

Age squared / 100 Self-estimated health		(0.0107) 0.0780*** (0.0128) 0.3485***	(0.0110) 0.0924*** (0.0132) 0.3368***	(0.0111) 0.0911*** (0.0134) 0.3244***	(0.0113) 0.0798*** (0.0135) 0.2246***	(0.0134) 0.0713*** (0.0162) 0.1875***	(0.0134) 0.0697*** (0.0162) 0.1850***
status					V	0.18/3***	0.1830
Married		(0.0391)	(0.0384) 0.3834*** (0.0522)	(0.0382) 0.3776*** (0.0519)	(0.0385) 0.2852*** (0.0527)	(0.0429) 0.2229*** (0.0687)	(0.0428) 0.2313*** (0.0689)
Parenthood			-0.1455***	-0.1303***	-0.0583	-0.0332	-0.0474
Total years of schooling			(0.0480)	(0.0478) 0.0500*** (0.0080)	(0.0484) 0.0206** (0.0084)	(0.0513) 0.0245*** (0.0093)	(0.0521) 0.0241** (0.0094)
Employed				(0.0000)	-0.0046 (0.1199)	0.1202 (0.1351)	0.1319 (0.1342)
Logarithm of per capita family income					0.1910***	0.0938***	0.0485
Perception of welfare					(0.0315) 0.1029***	(0.0347) 0.0855***	(0.0400) 0.0898***
Own dwelling (= 1)					(0.0178) 0.1457** (0.0709)	(0.0196) 0.0675 (0.0803)	(0.0196) 0.0626 (0.0800)
Car ownership (= 1)					0.0026 (0.0448)	-0.0351 (0.0474)	-0.0175 (0.0479)
Changes in financial situation					-0.2702***	-0.2137***	-0.2191***
Averaged life satisfaction					(0.0286)	(0.0330) 0.3638***	(0.0332) 0.3553***
of other family members Urban settlements						(0.0246)	(0.0245) -0.0730
Logarithm of average per capita family income over PSU							(0.0629) 0.2621***
Constant	2.6292*** (0.0954)	2.9237*** (0.2710)	3.1825*** (0.2719)	2.5262*** (0.2880)	1.7635*** (0.4017)	1.2791*** (0.4303)	(0.0916) -0.3512 (0.7114)
R-squared		0.0548	0.0754	0.0893	0.1869	0.2769	0.2813
F-statistics Number of observation	14.7317 2538	33.5893 2534	33.7679 2529	34.2319 2529	41.0333 2316	47.9479 1693	42.4204 1693
Number of observation	2538	2334	2329	2329	2310	1093	1093

Note: robust standard errors in parentheses, * p < 0.1, *** p < 0.05, **** p < 0.01

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