

Subjective well-being in older age: effects of age, period and cohort

Age, period and cohort (APC) effects methods in Russian studies are mainly used to study demographic processes such as fertility dynamics [Vakulenko, 2023], mortality [Pustovalov, 2015]; the prevalence of alcohol consumption in 1994-2016 [Radaev, Roshchina, 2019]. However, research on the APC effects concerning subjective well-being (SWB) in Russia is limited. Economic crises, social upheavals and epidemiological shocks experienced by older adults throughout their lives may affect impact on SWB.

International studies confirm the significance of APC effects on subjective well-being. In particular, the cohort effect was tested in Australia for the population born between 1928 and 1994 identifying four generations. The results show significant differences - the baby boomer generation reports lower assessments of subjective well-being than respondents born before or after them [Botha F., Vera-Toscano, 2022]. In the United Kingdom, isolating the age effect for the population 50 years and older using data from 5 waves between 2002 and 2021 revealed that assessments of subjective well-being scores increase with age [Jivraj S. et al. 2014].

Quantifying and disentangling the effects of age, period and cohort, is a challenging methodological task, because these indicators of the triad are linearly related - age equals to the difference between period and cohort. In order to solve this problem, different methods are used in research to overcome this problem, including the exclusion of one of the triad factors as insignificant; combining some age groups (periods or cohorts), under the assumption that there are no differences between them; applying a non-linear transformation to one of the parameters; or substituting one of the triad variables with a proxy variable.

One widely used alternative to the described approaches is the Hierarchical APC-Cross-Classified Random Effects Models (HAPC-CCREM) [Yang, Land, 2013], used in this study. The advantage of this method is the ability to estimate two variables of the triad as random effects. However, a limitation of the method is the necessity to select a fixed effect, which may lead to bias in the results if the assumptions are incorrect.

The purpose of this research is to evaluate the influence of age, period and cohort effects on the subjective well-being of Russians over 50 years of age, using data from the annual “Russian Monitoring of the Economic Situation and Health of the Population” survey conducted by the National Research University Higher School of Economics during 1994-2022. In each wave of the survey, respondents aged 50 years and older were selected and combined into a single dataset for further analysis. This sampling design allows to evaluate age, period and cohort effects over a span of 29 years using the chosen method.

The dependent variable in the regression model is life satisfaction, which was recoded into a binary variable where 0 represents “completely dissatisfied”, “rather dissatisfied”, and an “intermediate state”; 1 represents “rather satisfied” and “completely satisfied”. The following independent variables were used: age (centered), age squared (to identify nonlinear trends), settlement status, marital status, gender, level of education, subjective assessment of health, and employment status. The assessment of financial situation was not included in the analysis due to the absence of comparable variable throughout 1994-2022 in the dataset. Cohorts were identified by the year of birth of respondents and grouped into five-year periods.

In this study, the age variable is considered a first-level factor, and fixed effects are estimated for it. The period and birth cohort variables are treated as second-level indicators and random effects are estimated for them. To test the hypothesis regarding the linearity of the relationship between subjective well-being and age, we conducted a descriptive analysis, the results of which confirmed the validity of the hypothesis put forward. Therefore, we assume that this did not distort the results obtained.

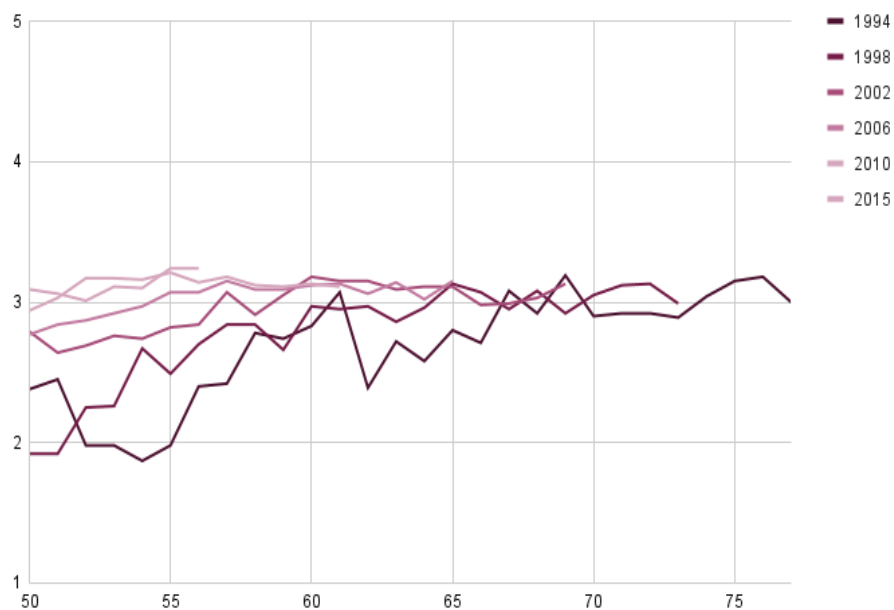


Figure 1 – The dynamics of responses to subjective well-being across generations

The results of the regression analysis indicate a statistically significant relationship between subjective well-being and economic cycles. The greatest decline in life satisfaction was observed during the economic crisis of 1998, followed by an increase in the 2000s. Interestingly, the 2008 crisis had a positive effect, suggesting the effectiveness of support measures implemented for the older population during that period. The 2014 currency crisis reduced subjective well-being corresponding to a decline in real pensions at that time. We observed a further decline in 2021, most likely due to the spread of the COVID-19 pandemic and its negative effects.

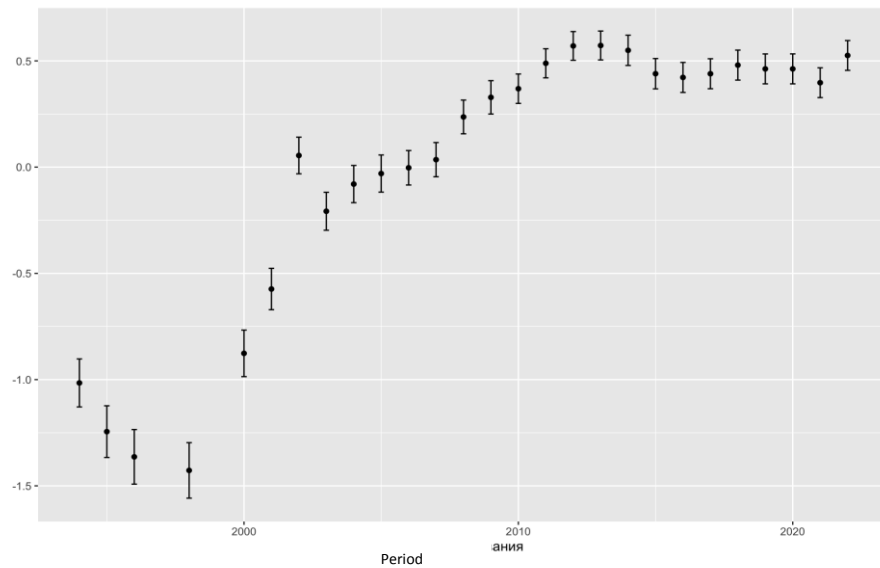


Figure 2 – Confidence intervals of the period effect for SWB

To examine the cohort effect, separate models were built for men and women. For men, the most significant negative contribution was associated with birth during the Second World War - the cohort of 1940-1944, for women it was the cohort born during and after the war (1945-1949), which can be explained by the difficult post-war years of life, the mature age at which they experienced the collapse USSR, and, consequently, the challenges associated with adapting to new economic realities. It is likely that the impact of the Second World War is underestimated due to survivor bias.

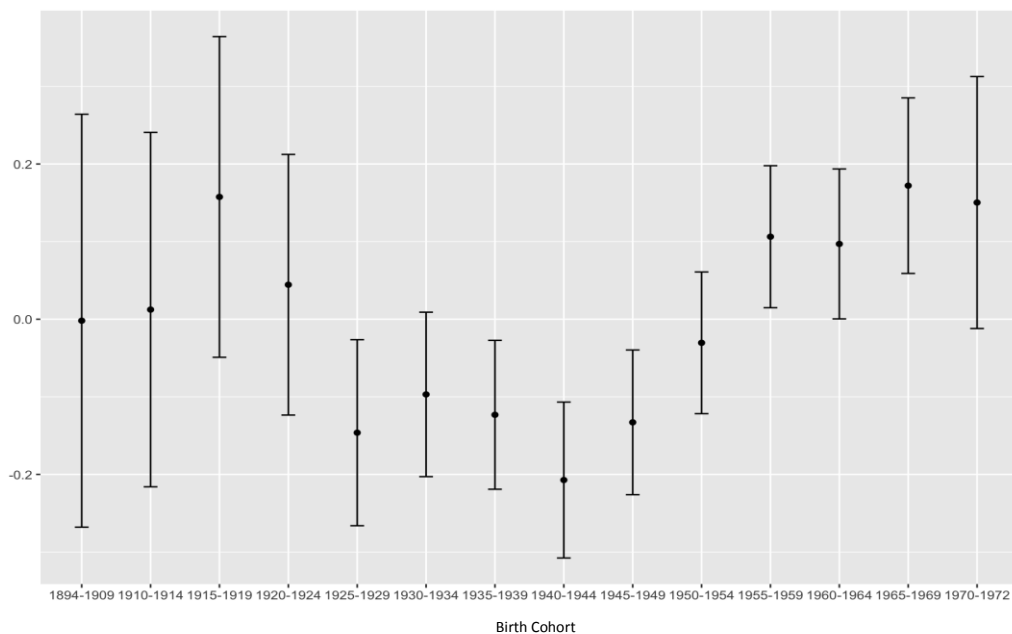


Figure 3 – Confidence intervals of the birth cohort effect for the SWB of men

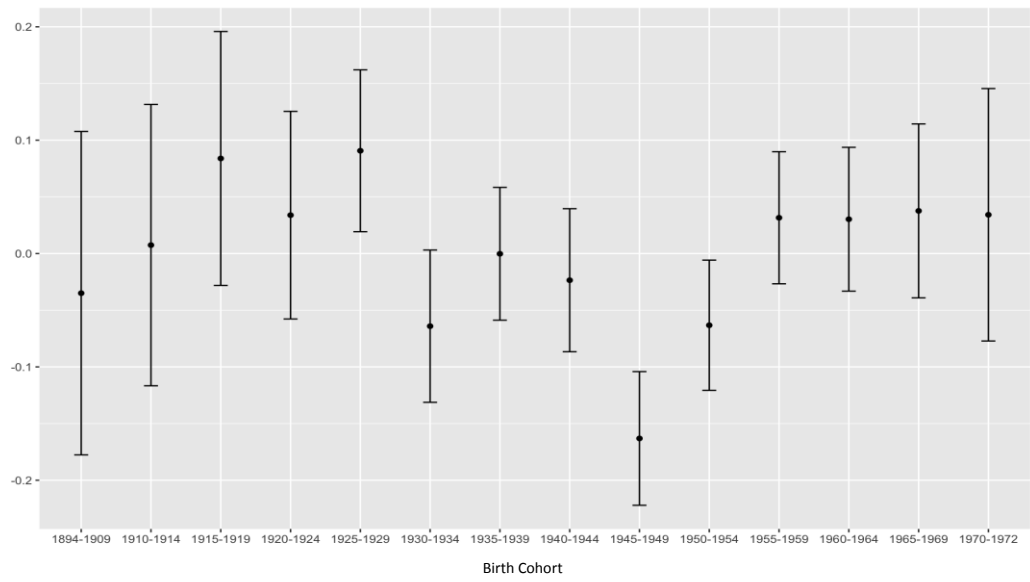


Figure 4 – Confidence intervals of the birth cohort effect for the SWB of women