

# A comparative analysis of gender differences in self-rated health: is the Baltic Sea a frontier of the East–West Health Divide in Europe?

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Women have less access to and control over resources than most men. Such a pressure on men has implications for women's and men's health status. This paper explores the East–West health divide in Europe focusing on comparison of gender differences in self-rated health (SRH) in geographically close, historically highly connected but socially, politically and economically very different countries. Post-socialist Estonia, Lithuania and Russia are juxtaposed with highly developed social-democratic Finland. The first three countries belong to different strands of Christian culture, share 50 years common history, while moving away from the socialism in rather distinct directions and representing two different types of neo-liberal regimes. Data from the fifth wave of the European Social Survey on 5 480 individuals from Estonia, Lithuania, Russia and Finland was used to test the gender differentials in exposure and vulnerability to neo-materialist and psychosocial factors of health inequalities. In general, results confirm the existence of the East–West health divide along the Baltic Sea with regard to gender differences in SRH. But the shape of this divide largely depends on particularities of the compared countries.

**Key words:** Estonia, Lithuania, Russia, Finland, self-rated health, gender

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## INTRODUCTION

It is well-known that in almost all cultures and settings around the world and across social groups, women have less access to and control over resources than most men (Trappe and Rozenfeld 2004). Or, as the WHO (World Health Organization) tells us: Such a pressure on men, i. e. gender based differences in access to or control over resources, in power or decision making, and in roles and responsibilities, have implications for women's and men's health status (WHO 2002).

Previous research has demonstrated that both general and gender-specific patterns of SRH differ between countries, particularly between types of welfare states (Idler and Benyamini 1997; Eikemo et al. 2008; Bambra et al. 2009). Many studies have reported the existence of East–West health divide between the post-socialist (“East”) and developed Western countries (Bobak, Marmot 1996; Carlson 1998; Vågerö 2010).

Such a divide is an important context in which (gendered patterns of) health inequalities are embedded. Common assumption is that transition has been particularly difficult for previously disadvantaged groups, women being one of them (Helasoja et al. 2006). Indeed, a

general pattern of gender differentials in SRH – women tend to report poorer general health than men – has appeared to be especially marked in the former Soviet republics (Bobak et al. 2000) and in countries from the Soviet block (Wróblewska 2002) compared to the West (Molarius et al. 2007).

Contrary to the general pattern, studies do not show the existence of a gender gap in SRH in Estonia. Moreover, the Estonian pattern of intersection of gender with other socio-economic determinants of health inequalities is similar to that in Finland (Pärna and Ringmets 2010). The comparative welfare state regime approach fails to explain such a similarity between Estonia as a new (neo)liberal welfare regime (Bohle, Greskonits 2007) and Finland as a representative of the social democratic world of Western welfare capitalism (Esping-Andersen 1990).

To further explore the gender patterns in SRH in the context of the East–West health divide, we add to comparison of Estonia and Finland also Lithuania and Russia as two countries that share with Estonia experiences of the Soviet past, while differ in particularities of societal transformation, welfare state regimes and culture.

The theoretical underpinnings of the study were derived from neo-material (Lynch et al. 2000) and psychosocial (Wilkinson 2000; Marmot 2004) explanations for health-related consequences of inequality. Our main assumption is that both differential exposure and vulnerability to materialist and psychosocial factors contribute to the East–West divide in the gender gap in SRH. But contours of this divide depend on the contexts of the compared countries.

The main goal of this paper is to explore how East–West health divide along the Baltic Sea is reflected in country-specific patterns of gender differences in SRH.

Data from the fifth wave of the European Social Survey (ESS 2010) on 5 480 individuals from Estonia, Lithuania, Russia and Finland was analyzed using the logistic regression models.

## **THEORETICAL APPROACH TO GENDER DIFFERENCES IN SELF-RATED HEALTH**

Health inequality, both between and within societies, has become a major concern among studies of social inequalities in recent decades (Qi 2012). In addition to objective measures, people's subjective perceptions of health have been extensively studied. Both sociologists (Layte 2012; Werfhorst, Salverda 2012) and social epidemiologists (Hertzman, Siddiqi 2009) distinguish between two major explanations for the health-related consequences of life in unequal societies: neo-material (Lynch et al. 2000) and psychosocial (Wilkinson 2000; Marmot 2004) ones.

**Neo-material theory** argues that health inequality is related to the availability of resources both at the individual / household level and at the contextual level (e. g. provisions by the welfare state) (Lynch et al. 2000). **Psychosocial** theorists stress the importance of social relationships (Wilkinson, Pickett 2009) as vital to well-being. Thus, the status syndrome theory argues that health disparities can to a large extent be explained by inequality, hierarchies and social isolation (Marmot 2004). Neo-material and psychosocial explanations are often counter-posed and presented as mutually exclusive. Nevertheless, they have a potential to become a basis for the integrated perspective (Hertzman, Siddiqi 2009): psychosocial explanations begin where the neo-material ends (Peacock, Bissell 2011).

Gender differences in behavioral determinants were found to play a minor role in predicting health outcomes, differential exposure and differential vulnerability hypotheses are posed to explain why women tend to report worse health (cf. Denton et al. 2004). As applied

to neo-materialist and psychosocial (status syndrome) explanations, these hypotheses suggest that women report higher levels of health problems (a) because of their limited access to the material and social resources or (b) because they react differently than men to the material and psychosocial conditions that foster health.

Welfare state has been seen as having both material and psychosocial effects on objective and subjective health (Bartley et al. 1997: 1995). Welfare state regimes have increasingly been used to analyze cross-national differences in health inequalities (Bambra 2011), particularly to study gender patterns of health (Backhans et al. 2011; Chung et al. 2013). But the ways how materialist factors may be differentially related to the SRH of women and men in different countries or welfare state regimes are still under-explored and evidence is rather inconsistent (cf. Bambra et al. 2009). Empirical tests of a few attempts to develop gender-focused (or women-focused) typologies of welfare states yielded rather inconclusive results (cf. Backhans 2011 for overview). The comparison of a few countries, approached as particular cases where welfare state is embedded in certain cultural and social context, might be a promising strategy.

In this paper, we compare four geographically close countries that shared common history well before the (post)socialist period, but belong to different sides of the East–West health divide. Finland as a social-democratic welfare state regime (Esping-Andersen 1990) represents the Western part of this divide. Estonia, Lithuania and Russia represent its Eastern side. Lithuanian transition experience is quite similar to the Estonian one, but different from the Russian one. Lithuania (together with Estonia), on the one hand, and Russia, on the other hand, represent two types of post-socialist neoliberal regimes: Baltics as state-crafted CEE neoliberalism versus Russia as its directly world market-driven version (Bohle and Greskonits 2007). Despite of common experience of the Soviet past and shared identification with neoliberal regime, Estonia and Lithuania exhibit substantial differences in separate social security programs (Aidukaite 2004). Legacy of Soviet gender equality rhetoric is common for three Eastern-part countries, while their general cultural contexts differ, being catholic in Lithuania, protestant in Estonia and orthodox in Russia. Note that Finland (just as Estonia) belongs to the protestant world.

## METHODS

### Data

We make use of data from the fifth wave of the European Social Survey (ESS) which was conducted in 28 countries in 2010 (ESS5-2010). The size of samples was as follows: in Estonia – 3 336, in Lithuania – 4 990, in Russia – 3 982 and in Finland – 3 200. In this paper we use a sub-sample of the adult 25–69 year old population. The lower age limit was established because of real age for entering the labour market, and the upper limit was established because of chronic diseases emerging after that age.

### Measures

The status of SRH is derived from the response to the question – “How is your health in general?” with the options ‘very good’, ‘good’, ‘fair’, ‘poor’, ‘very poor’. Variable SRH was dichotomized for logistic analysis as at-least-good (very good or good) health and less-than-good (fair, poor, or very poor) health. Respondents who reported at-least-good SRH are a referent group.

Measures of financial situation (whether individual estimates her / his household income as good or as poor) and education was used to follow the materialist approach to health inequalities. Education levels were categorized according to the ISCED scale: ‘basic’ (ISCED

categories from 0 to 2 or 3C), 'secondary' (categories 3, 4, 5A short, 5B short), and 'higher' (categories from 5A medium to 6).

In line with the status syndrome theory, indicators of belonging to informal social networks (as measure of social support) and job control (as measure of autonomy) were included in the analysis. Job control indicates respondent's freedom (a) to decide how daily work is organized and (b) to choose / change the pace of work. The referent group is comprised of non-working respondents as having no opportunity to exert any control over work. An index of belonging to informal social networks was comprised on the bases of three indicators: (a) frequency of meeting with friends or relatives, (b) having anyone to discuss intimate and personal matters with, (c) frequency of participation in social activities compared.

Age, marital status, and type of residence were recorded and used as control variables in the analysis.

### Data analysis

We carried out a two-step analysis: a descriptive overview of gender differences in the studied countries (Table 1) and a logistic regression (LR) analysis. LR was applied to assess the impact of gender on SRH (i) in the pooled model for all four countries and (ii) separately in each one. The risk of perceiving own health to be less-than-good is the dependent variable.

**Table 1.** Self-rated health in 25–69 year old men and women by countries, European Social Survey 2010

| Country   | Gender | Self-rated health |      |                 |       |
|-----------|--------|-------------------|------|-----------------|-------|
|           |        | Very good or good | Fair | Bad or very bad | Total |
| Estonia   | Total  | 46                | 44   | 10              | 100   |
|           | Male   | 49                | 43   | 8               | 100   |
|           | Female | 44                | 44   | 12              | 100   |
| Lithuania | Total  | 46                | 42   | 12              | 100   |
|           | Male   | 53                | 37   | 10              | 100   |
|           | Female | 43                | 44   | 13              | 100   |
| Russia    | Total  | 39                | 49   | 12              | 100   |
|           | Male   | 47                | 44   | 9               | 100   |
|           | Female | 32                | 53   | 15              | 100   |
| Finland   | Total  | 65                | 29   | 6               | 100   |
|           | Male   | 65                | 27   | 8               | 100   |
|           | Female | 64                | 31   | 5               | 100   |

The pooled data set was used to assess if gross and net effect of gender differed among the countries. Finland as the Western side of the East–West health divide stood as a point of reference. First, indicators of being a resident of the country and gender, also interaction terms between the country and gender were included into the LR model (Table 2, Gross effects). Controls and sets of materialist (self-rated financial status and education) and then status syndrome indicators (job control and informal social networks) were added to the first model to reveal whether the countries differed in gendered exposure to materialist and status syndrome factors (Table 2, Net effects).

To reveal gross and net effects of gender on SRH, LR models were estimated for each of the four examined country separately (Fig. 1). Difference between gross and net gender effect indicates differential exposure of sexes to respective SRH factors.

**Table 2.** Comparison of gender impact on less-than-good self-rated health between countries in 25–69 year old men and women: odds ratios for two-way interaction, European Social Survey 2010

|                             | Gross effect | Net effect        |                       |
|-----------------------------|--------------|-------------------|-----------------------|
|                             |              | Materialist model | Status syndrome model |
| Estonia*Female <sup>a</sup> | 1.17         | 1.15              | 1.07                  |
| Lithuania*Female            | 1.76***      | 2.07***           | 2.29***               |
| Russia*Female               | 2.49***      | 2.52***           | 1.84***               |

<sup>a</sup> Finland is a reference group for the countries and male is a reference group for gender.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Gross effect: country, gender and interaction terms between country and gender are included into the LR model.

Net effect as materialist model: gross effect + socio-economic status measures (self-rated financial status and education) and controls (age, marital status and place of residence).

Net effect as status syndrome model: materialist model + autonomy (job control) and social support (informal networks).

The gender-specific impact of materialist and status syndrome factors on less-than-good SRH was estimated separately for each country. First, interactions of each materialist measure with gender were separately added to the basic materialist model (Table 3, Materialist factors).

**Table 3.** Gender-specific impact on less-than-good self-rated health by factors in 25–69 year old men and women by countries: odds ratios for two-way interaction, European Social Survey 2010

| Interactions                          | Estonia | Lithuania | Russia | Finland |
|---------------------------------------|---------|-----------|--------|---------|
| <b>Materialist factors</b>            |         |           |        |         |
| <b>Gender*Financial situation</b>     |         |           |        |         |
| Female*Poor financial situation       | 1.73+   | 0.50*     | 0.97   | 1.16    |
| <b>Gender*Education</b>               |         |           |        |         |
| Female*Basic education                | 1.58    | 0.89      | 1.11   | 1.64    |
| Female*Secondary education            | 1.44    | 0.82      | 1.37   | 1.29    |
| <b>Status syndrome factors</b>        |         |           |        |         |
| <b>Gender*Job Control</b>             |         |           |        |         |
| Female*Low level of job control       | 2.44*   | 2.13      | 1.33   | 0.54    |
| Female*Medium level of job control    | 2.08*   | 3.08*     | 1.10   | 0.88    |
| Female*Non-working                    | 1.95+   | 1.07      | 1.06   | 0.84    |
| <b>Gender*Social support</b>          |         |           |        |         |
| Female*Low level of social support    | 2.20+   | 0.95      | 0.85   | 0.77    |
| Female*Medium level of social support | 1.97+   | 0.39*     | 1.29   | 0.71    |

+  $p < 0.1$ , \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Materialist factors: interactions of each materialist measure with gender were separately added to the materialist model.

Status syndrome factors: interactions of each status syndrome measure with gender were separately added to the status syndrome model.

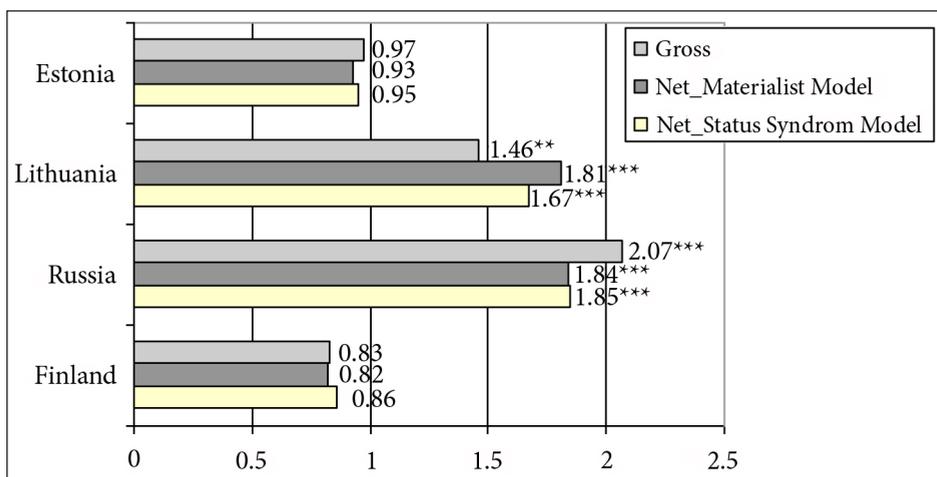
Second, interactions of each status syndrome measure with gender were separately added to the status syndrome model (Table 3, Status syndrome factors). Significance of interactions refers to gender-biased vulnerability to respective SRH factors.

## RESULTS

The most general picture on the question under investigation is demonstrated in Table 1. In all 4 countries about 90% estimated their SRH at least as “fair”. These numbers are similar to the EU-25 statistics (see Statistics in Focus 2009). But while 2/3 of Finns estimated their health as good or very good (it was exactly the average of the whole EU-25 population), in the Eastern side of health divide such estimations were reported by a significantly lower share of population: in Estonia and Lithuania by 46%, in Russia only by 39%.

The gender differences in reporting of health are very small in Estonia and especially in Finland, while more pronounced in Lithuania and especially in Russia. In EU-25 these differences are not very large as well, and just as in Russia and Lithuania, more men than women claim to be in good or very good health.

According to the results of LR (Table 2), each of three Eastern countries relates to the pattern of gender differences in Finland in a particular way. Estonia is similar to Finland (interactions in all models are non-significant). In Lithuania and Russia, the gender gap in SRH is significantly wider than in Finland (interaction terms with both countries are significant in all models).



**Figure.** Gross and net gender impact on less-than-good self-rated health in 25–69 year population by countries: odds ratios, European Social Survey 2010

\* p < .05, \*\* p < .01, \*\*\* p < .001.

Gross effect: gender is included into the LR model.

Net effect as materialist model: see note to Table 2.

Net effect as status syndrome model: see note to Table 2.

Figure reveals country-specific patterns of gendered health inequalities. The Baltic Sea does stand as a frontier of East–West health divisions, but not for all Eastern countries and not in similar ways. In line with results of majority of previous studies, there are significant gender differences in SRH in neither Estonia nor Finland. Contrary to Finland, both Lithuanian and Russian data provide support to ‘differential exposure’ hypothesis, but in different ways. In Russia, women do report poorer SRH due to their exposure to unfavourable materialist (not psychosocial) circumstances (in the materialist model the OR is lower than in

the basic model, while the impact of gender on the SRH is about the same in the materialist and status syndrome model). In Lithuania women also report poorer SRH than men, being at the same time exposed to rather favourable compared to men materialist factors of SRH (gender OR in both materialist and status syndrome models tend to be higher than in the gross impact model). It is interesting that in Lithuania psychosocial factors do influence SRH in conjunction with materialist factors, but exposure to these factors does not produce cumulative disadvantage (net gender impact in the status syndrome model is higher than in the gross model, while lower than in the materialist model).

The data presented in Table 3 reveal the contours of the East–West divide in differential vulnerability to material and psychosocial factors of SRH. In Finland gender does not differentiate vulnerability (reaction) to material and status syndrome factors. Estonia and Lithuania represent the opposite (Eastern) side where gender matters. In both countries men and women in similar financial situation (materialist factor) and similar levels of job control and social support (status syndrome factors) differently estimate their SRH. But while in Estonia financial situation is a more important predictor of SRH among women than among men, in Lithuania it is other way around. While in Estonia the level of informal social support influences SRH of women more than that for men, in Lithuania informal social support is more important for men than for women. Russia with its absence of gendered differential vulnerability is different from Estonia and Lithuania while it is similar to Finland. Similarity of Finland and Russia is hard to explain given that the countries differ in terms of the general level of inequality and welfare state provisions, culture and gender system.

## CONCLUSIONS

This paper is focused on existence of the East–West health divide along the Baltic Sea. The geographical proximity of Estonia, Lithuania and Russia to Finland and their different welfare state regimes are taken as the point of departure. According to the welfare state theory, it would be difficult to find more different regimes to compare as a social-democratic welfare state (represented by Finland) versus post-socialist neoliberal regimes (Baltics as state-crafted CEE neoliberalism and Russia as its “directly world market-driven” version). We expected that the East–West health divide in the gender gap in SRH reflects the differential exposure and vulnerability to materialist and psychosocial factors in the three studied post-socialist neoliberal countries compared to social-democratic (Western) Finland.

At first glance, our study seems to provide controversial evidence with regard to existence of the East–West health divide along the Baltic Sea. Thus, comparison of gender impact on SRH in Estonia and Finland indicates that both countries diverge from the general pattern: here gender exerts neither gross nor net (from materialist and psychosocial factors) effect on SRH. In both countries differential exposure hypotheses did not pass an empirical test. But contrary to Finland, the Estonian case fits into differential vulnerability explanation: Estonian women tend to suffer from both materialist and status syndrome factors to a greater extent than Estonian men, while reaction of Finnish men and women is rather similar.

Russia differs from Finland more clearly than Estonia: here lower than men women’s SRH is influenced by their greater exposure to impact of unfavourable financial situation. At the same time, reaction to financial hardship (just as in case of status syndrome factors) is similar for both sexes, just as in Finland. In Russia, such gender-uniform reaction might be explained by a general low level of living standards and a huge inequality gap between general public and elites in Russia. So for general public (usual respondents to surveys) this largely shared

financial hardship matters first of all directly, not yet in relative terms as in affluent and / or more equal societies: it neither enables some kind of variant (gender-specific) interpretation nor it yet “allows” status syndrome factors to matter. If further research confirms this suggestion, it would mean that the above-mentioned similarity between Russia and Finland is artificial as produced by totally different processes in these countries, particularly by different involvement of welfare state arrangements. Then comparison of Russia and Finland reaffirms, not blurs the existence of the East–West health divide.

The Lithuanian case differs from the Finland one in all possible ways. In Finland SRH looks like a gender-neutral measure. Contrary to that, Lithuanian women do report poorer SRH than men (just as in Russia). Here gender differences in SRH seem to be influenced by both differential exposure (common feature with Russia) and differential vulnerability (common feature with Estonia). Lithuania also, but in a different way than in Russia, reaffirms the East–West health divide.

Juxtaposition of results for every pair-wise comparison reveals a quite consistent picture with all the cases demonstrating certain differences in comparison with Finland. Thus, there is the East–West health divide along the Baltic Sea with regard to gender differences in SRH. But the shape of this divide largely depends on particularities of the countries involved into comparison from both sides. It is important to take into account that in enlarged Europe not only researchers but also general public make such a comparison.

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