European Social Survey

Social Inequalities in Health and their Determinants:

Topline Results from Round 7 of the European Social Survey

ESS Topline Results Series

Issue 6

Accessing the European Social Survey Data and Documentation

The European Social Survey European Research Infrastructure Consortium (ESS ERIC) provides free access to all of its data and documentation. These can be viewed and downloaded from www.europeansocialsurvey.org.

Specific initiatives have been developed to promote access and use of the growing dataset, including EduNet and NESSTAR, both of which are available via the ESS website.

EduNet

The ESS e-learning tool, EduNet, was developed for use in higher education. It provides hands-on examples and exercises designed to guide users through the research process, from a theoretical problem to the interpretation of statistical results. Ten topics are now available using data from the ESS.

NESSTAR

The ESS Online Analysis package uses NESSTAR - an online data analysis tool. Documentation to support NESSTAR is available from the Norwegian Social Science Data Services (www.nesstar.com).

The European Social Survey aims to ensure that those living in Europe are heard more clearly by amplifying their opinions and illuminating their social condition. This Topline report focuses on one of the most important aspects of our lives – health – and highlights the large inequalities that exist both within and between countries in Europe.

Including this module in the ESS has facilitated one of the most comprehensive examinations of (self-reported) health inequalities cross-nationally within a wider sociological context and provides findings that are of key relevance for academics and policy makers. The module also includes innovations such as a new method for measuring alcohol consumption. At the same time the module is providing important data both on differences in the prevalence of health conditions cross-nationally as well as about access to health care services.

I look forward to welcoming many more health analysts to the ESS data user community and to seeing the results of their analysis based on this exciting new module.

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Terje Andreas Eikemo, Tim Huijts, Clare Bambra, Courtney McNamara, Per Stornes and Mirza Balaj

Introduction

The persistence of social inequalities in health is well established: people with higher education, occupational status, or income have lower morbidity and longer life expectancies. Although social inequalities in health exist in all societies worldwide, the degree of these inequalities varies spatially and notable differences exist within Europe.

Research published using the European Social Survey (ESS) data has contributed substantially to the exploration of how social inequalities in health vary across European countries (Eikemo et al., 2008a; Eikemo et al., 2008b; Huijts, 2011; Van de Velde, Bracke, & Levecque, 2010). These studies rely on three main health outcomes (i.e., self-rated health, limiting longstanding illness, and depression), and a limited number of social determinants of health related, for example, to people's socioeconomic position. Generally speaking, this work finds worse health among those in lower socioeconomic groups but different patterns of inequalities across Europe.

To improve our understanding of how and why social inequalities in health persist, however, both more nuanced health outcomes and a larger set of social determinants of health need to be investigated. While health surveys often include a variety of health outcomes and determinants, thus far none has had sufficient data on the social stratification system of societies, including rich data on living conditions. At the same time, there is no sociological survey with sufficient data on a variety of behavioural/lifestyle factors and health outcomes (such as specific chronic conditions).

This is why we have developed a health inequality module to be integrated into the ESS, which already has key stratification variables in the core section of the survey.

The rotating module on 'Social inequalities in health and their determinants', included in Round 7 of the ESS, includes a broad range of morbidity indicators, including several self-reported physical health problems (e.g., heart disease and breathing difficulties). It is also the first cross-national health module to include a large variety of social determinants of health related, for example, to behavioural and psychosocial factors, access to healthcare and employment conditions.

To identify which health outcomes and determinants to include within the 'Social inequalities in health and their determinants' module we relied on the Dahlgren & Whitehead (1991) model of the determinants of health (see Figure 1) and recent reviews on the social determinants of health, such as the Marmot review (2008). We assigned priority to potential important health determinants identified in national reviews, such as housing conditions, use of alternative health services, and unpaid care. We also gave priority to concepts that could be measured using a limited list of items, mindful of the module limit of 30 items.

Finally, we piloted questions to assess their prevalence, social distribution, and association with health (Eikemo et al., 2016). Determinants with the strongest associations and without other measurement problems were then included.

An overview of all the items included in the module is provided in Table 1.

The data from Round 7 of the ESS[i] were collected through a series of hour-long, in-person interviews with individuals aged 15 years or older in 21 European countries[ii], providing just under 40,200 unique responses. Survey respondents were selected using strict random probability sampling, with a minimum target response rate of 70%, to try and ensure that representative national samples were obtained[iii]. The ESS's high quality translation of questions[iv] and systematic international sampling approach increase the likelihood that reliable cross-country comparisons can be made.

This booklet describes the topline findings from our preliminary analysis of these data[v], including an exploration of how different health outcomes and major determinants of health vary across Europe. We also include an examination of how different social determinants of health, specifically those related to behavioural, occupational and living conditions, contribute to explaining educational inequalities in poor self-rated health.

This examination provides an indication of the type of in-depth analyses which can be undertaken with these new data and some early insights into the type of factors important in explaining educational inequalities in poor self-rated health in Europe.

Figure 1: Dahlgren and Whitehead (1991) model of the determinants of health

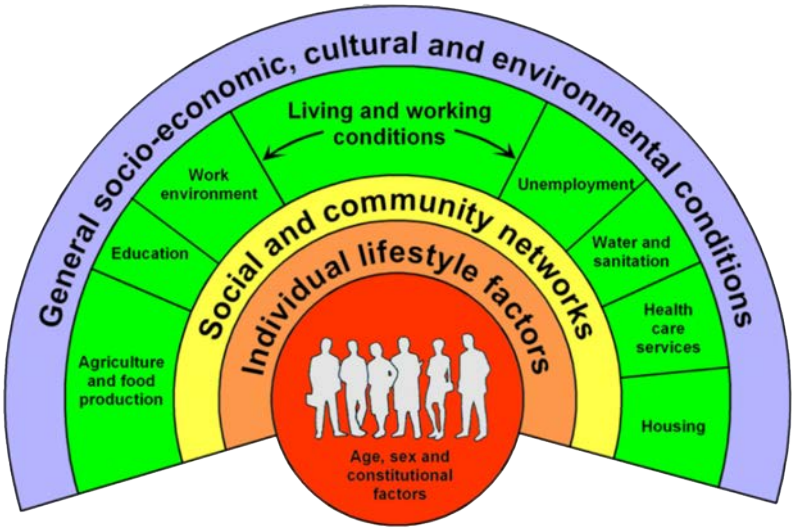


Table 1: Concepts and items included in the ESS rotating module on social inequalities in health and their determinants

Concepts	Items (Description of measurements used)
Fruit and Vegetable Consumption	Frequency of fruit consumption (excluding juice).
	Frequency of eating vegetables or salad (excluding potatoes).
Physical Activity	Number of days on which respondents walked quickly, did sports or other physical activity for 30 minutes or longer in the last 7 days.
Smoking	Self-classifying as a daily smoker, occasional smoker, former smoker, or non-smoker (cigarettes and rolled tobacco, excluding pipes, cigars and electronic cigarettes).
	Number of cigarettes smoked on a typical day.
Alcohol Consumption	Frequency of alcohol consumption in the last 12 months.
	Number of drinks (as displayed on showcard) consumed the last time drinking alcohol on a Monday, Tuesday, Wednesday or Thursday.
	Number of drinks (as displayed on showcard) consumed the last time drinking alcohol on a Friday, Saturday or Sunday.
	Frequency of binge drinking in the last 12 months.
BMI	Height without shoes; weight without shoes.
Health Care Utilisation	Discussed health with a general practitioner during the past 12 months.
	Discussed health with a medical specialist during the past 12 months.
	Unable to get a medical consultation or the treatment needed during the past 12 months.
	Reasons for being unable to get a medical consultation or the treatment needed during the past 12 months.
	Alternative treatments used in the last 12 months (12 types of treatment on showcard).
Provision of Unpaid Care	Looking after or giving help to family members, friends, neighbours or others because of long term physical or mental ill health or disability, or problems related to old age, not counting paid employment.
	Hours per week spent providing unpaid care.
Dimensions of Mental Well Being	Felt depressed; everything was an effort; sleep was restless; happy; lonely; enjoyed life; sad; could not get going; during the past week (8 separate items).
Self-Reported Conditions	Health problems (on showcard) experienced in the last 12 months: heart or circulation problem; high blood pressure; breathing problems; allergies; back or neck pain; muscular or joint pain in hand or arm; muscular or joint pain in foot or leg; problems related to stomach or digestion; problems related to a skin condition; severe headaches; diabetes.
	Health problems (on showcard) hampering daily activities in the last 12 months.
	Currently have cancer; previously had cancer.
Childhood Conditions	Serious conflict between the people living in household when growing up.
	Severe financial difficulties when growing up.
Quality of Housing	Any problems (as listed on showcard) with accommodation.
Working Conditions	Exposure in any job to: vibrations from hand tools or machinery; tiring or painful positions; manually lifting or moving people; manually carrying or moving heavy loads.
	Exposure in any job to: very loud noise; very hot temperatures; very cold temperatures; radiation such as X-rays; handling, breathing in or being in contact with chemical products, vapours or substances; breathing in other types of smoke, fumes, powder or dust.

Note: The exact question wording is available in the ESS Round 7 questionnaire that can be downloaded from the ESS website.

How is health distributed across Europe?

For each health outcome within the module we calculated age-standardised prevalence rates[vi]. We weighted age groups in accordance with the European Standard Population of 2013 and roughly grouped countries by geographical regions[vii] in the tables/charts to highlight the regional clustering of estimates that we find for several of the items.

Table 2 shows cross-national variation in self-reported chronic conditions. Overall we see that all conditions affect substantial proportions of the sample for most countries, yet for most conditions we also see considerable differences across countries. The percentage of respondents reporting heart and circulation problems is generally lower in northern Europe (with the exception of Finland), and particularly high in Lithuania and Poland. High blood pressure is reported especially in Germany, Hungary, Lithuania and Slovenia. The prevalence of breathing problems is particularly low in central and eastern Europe, and allergies appear to be particularly problematic in northern Europe. For arm pain, leg pain and especially back pain it is clear that large shares of the sample have experienced these conditions in the past year in all countries, and we do not find clear patterns of regional variation here. The same applies to stomach problems, where we also find substantial numbers of people experiencing these conditions but no clear regional variation.

Skin problems are particularly high in Finland and relatively low in central and eastern Europe compared to other areas. For severe headaches we see a strong gender gap, with women much more likely to report this, and percentages in Germany, France and Portugal reporting this condition are more than three times higher than in Ireland. For diabetes there is no clear pattern of cross-national variation although they are somewhat higher in Israel than elsewhere. Combining information on all conditions we see that in nearly all countries, and among both men and women, more than half of the sample reports either one or two or more conditions for the past 12 months. For women in Finland, France and Germany this percentage is close to 90, meaning that only a small minority did not experience any of these conditions. For cancer we do not find any clear patterns of cross-national variation, although Norway and Sweden stand out with low current percentages reporting cancer but the highest percentages of women who experienced cancer previously.

In Table 3 we report results for the other health outcomes in the data. Estimates for poor or very poor self-rated health mirror figures from studies based on earlier rounds of the ESS, with low percentages in Ireland and Switzerland and the highest scores in Estonia, Hungary and Lithuania. The same applies to the percentage of respondents who are hampered at least to some extent by longstanding illness, and here Lithuania and Slovenia are the countries where the highest percentage reports problems. Looking at the percentage of people reporting serious depressive symptoms[viii], we find a clear gender gap which is in line with studies on mental health in Europe based on earlier rounds of the ESS. However, it is notable that in Norway and Finland there is essentially no gender gap.

The low percentages reporting serious depressive symptoms in Finland, Norway and Switzerland and the high risk of serious depressive symptoms in southern and central and eastern Europe also support earlier findings based on the ESS. Finally, for overweight and obesity we find that men are much more likely to report being overweight than women in our sample, and that among women, the percentage self-reporting being overweight or obese is particularly high in central and eastern Europe.

Table 2: Self-reported chronic conditions in 21 European countries (separately for men and women, percentages)

		Heart	HBP	Breath	Allergy	Back pain	Arm pain	Leg pain	Stomach	Skin	Headache	Diabetes	1 of these	2 or more	Cancer pres.	Cancer prev.
North																
Denmark	M	8.4	20.3	9.5	16.2	45.7	21.8	23.9	14	10	7.6	6.7	30.6	52.5	2.8	7
	F	8.2	19.5	10.5	17.5	50.5	28.4	32.7	22.2	14.4	17.2	5.3	22.9	60.2	4.5	9.6
Finland	M	11.6	20.1	10.8	14.7	47.4	26	31.8	16.5	13.8	13.9	7.8	28.4	58.2	2.8	4.6
	F	9.9	21.8	13.5	19	57.8	27.7	34.3	27.2	20.3	23.4	5.4	21.2	70.4	2.1	5.7
Norway	M	8.6	15.5	10.5	15.7	36.5	23.2	22.2	14.1	10.5	5.1	4	32.3	45.9	2.2	5.1
	F	7.3	15.1	14.6	23.3	50.4	32.1	33.3	20.7	10.2	15.4	3.7	24.3	60.8	0.7	10.2
Sweden	M	7.1	17.1	7.8	15.1	42.3	22.9	25	16.2	7.7	6.9	5	29.3	49.6	2.5	5.4
	F	8.5	18.9	10.9	20.5	51.3	30.1	27.9	27.1	10.5	16.5	4.8	25.2	59.5	2.4	10.2
West																
Austria	M	11.1	16.9	5.3	6.9	30.5	13.6	17.8	8.2	6.3	8.5	3.9	22.5	34.9	3.3	8.1
	F	10.8	15.7	6.7	9.7	34.3	17.3	16.4	12.9	9.6	15	3	18.9	41	3.4	8.7
Belgium	M	9.1	13.5	9.1	10.6	48	24.7	27.6	15.3	6.8	8.8	5.3	29.2	51.3	2.8	4.4
	F	8.9	18.7	10	17.1	53.7	31	28.4	24.9	8.3	22.6	4	24	61.6	3.3	6.4
France	M	9.3	11.7	11.8	11	43.1	27.5	28	17.2	8.7	14.7	6	29.2	50.8	3.5	4.7
	F	9.3	16	12	15	52	33	28.5	19	8.2	30.2	5.8	21.1	64	4	6.4
Germany	M	11.5	22	10.9	14.1	49	22	24.8	18.1	12.3	15.6	6.6	26.4	56.7	2.6	6.1
	F	15.6	23.7	12.2	16.7	59.5	27.2	29.4	25.4	13.7	27.1	6.5	19.7	69	2.9	7.5
Ireland	M	5.8	12.8	6.9	4.4	21.5	9.9	14.2	7.8	5.2	3.8	3.1	21.7	26.5	5.2	3.5
	F	5.2	11.3	7.4	6.2	22.1	13.2	13.8	9.8	6.4	7.3	2.7	24.9	26.6	3.9	5.1
Netherlands	M	12.8	17.5	8.7	11.1	33.7	18	22.1	11.2	9.2	8.2	7.4	30.9	44.5	4	5.8
	F	8.5	18.5	11.3	14.1	44.9	21.2	24.5	16	10	17.7	4.8	31.7	49.4	3	8.1
Switzerland	M	8.7	14.5	5.7	9.5	37	18.2	24.9	12.9	8.4	11.8	3.8	31.3	44.3	7.5	7.2
	F	7	13.5	7.3	14.9	44.6	22.2	23.5	17.8	10.1	20	3	29.9	49.9	10.1	9
UK	M	7.6	18.5	13.1	8.8	35.3	22.8	26.3	16.4	10	8.2	6.5	30.3	44.8	3.3	5.2
	F	6.9	18.1	13.7	15	36.2	20.3	27.6	18.2	14.2	15.8	4.6	27.4	51.5	3.2	7.4
Centre/East																
Czech Rep.	M	6.6	17.2	4.8	6.1	20	10.4	13.8	7.8	3.8	5.9	6.3	25.9	26.2	-	-
	F	7.7	16.1	7	10.1	26.6	13.6	16.1	9.2	4.3	12.5	5.4	23.9	33	-	-
Estonia	F	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	6.3
	M	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	5.8
Hungary	M	11.3	21.2	6.1	5.3	16.9	11.6	14.8	6.5	1.7	6.7	4.4	17.8	27.4	15.3	5.2
	F	12.9	22.8	5.4	8.4	17.7	15.9	18.7	8	4.8	14.1	6.5	14.7	33.6	15.4	6.8
Lithuania	M	16.5	18.8	3.7	2	24.9	9.1	12	11.1	0.6	4.8	2.5	23	29.8	5.9	6.8
	F	21.4	25.8	5.1	5	27.2	11.7	16.3	15.6	3.6	14.8	3.5	21.3	41.1	11.1	9.2
Poland	M	16.3	17.7	5	8.4	29.5	22.3	22	10.4	4	9	4.9	26.3	39.7	5.2	3.4
	F	20	20.3	7	11.8	38.7	29.6	25.6	17.1	5.1	18.1	6.4	22.8	51.8	6.1	5
Slovenia	M	9.4	20.8	7.4	8.6	36.4	19.5	19.4	12.1	3.7	7.7	5	35.9	38.6	3	4.5
	F	13.7	24.5	9.6	11.7	46.8	24.3	26.2	20.2	4.1	17.8	7.4	27.6	54.1	2.8	5.6
South																
Israel	M	10.7	15.3	7.1	5.7	20.6	12.9	14	7	4.9	8.9	10.6	18.6	30.1	8.4	5.7
	F	8.6	15.6	7	6.3	24	13.1	19	11.1	5.1	10.3	9.2	19.5	33	9.4	4.5
Portugal	M	8.3	20.8	6.9	13.7	45.1	24.9	27.8	16.2	6.9	16.3	8.5	25.7	51.6	1.6	3.9
	F	15	22.1	12.6	20.6	49.4	41.9	39.3	18	5.3	29.6	9.1	17.5	65.8	2.8	5.9
Spain	M	9.1	15	7.9	11	33.9	20.3	23.6	12.8	5.5	9	5.5	31.4	39.8	1.9	4.8
	F	9.8	17	8.3	12.2	46.5	33.9	31.6	17.1	9.5	22.2	5.2	24.8	53.4	2	4.2

Source: European Social Survey Round 7, 2014

Colour coding based on the highest, median and lowest value of the distribution of each indicator across countries.

Table 3: Self-reported general health, limiting long-standing illness, mental health and overweight/obesity in 21 European countries (separately for men and women, percentages)

		Poor / very poor health	Hampered by illness	Depressive symptoms	Overweight / obese
North					
Denmark	M	6.1	26.4	8.1	52
	F	6	33.5	12.6	38.9
Finland	M	4.6	29.9	6.7	59.1
	F	5.3	34.8	8.2	47.9
Norway	M	4.6	26.4	6.2	57.4
	F	9.6	32.6	8.9	42.4
Sweden	M	2.8	26.8	6	56.8
	F	6	35.3	14.6	43.5
West					
Austria	M	4.1	21.5	8.5	57.5
	F	4.7	21.9	13.6	38.9
Belgium	M	5	25.3	8.6	51.1
	F	5.8	29.5	14.3	39.5
France	M	6.4	21.9	8.2	52.8
	F	9.3	27.1	16.5	40.9
Germany	M	7.6	29.5	9	60.2
	F	12.4	33.3	20.2	44.4
Ireland	M	2	17.3	6.2	56.3
	F	2.7	18.4	9.1	41
Netherlands	M	4.1	27.3	8.3	51.4
	F	6.1	33.7	10.8	44.5
Switzerland	M	2.3	20.4	4.7	52.5
	F	3.9	22.3	9.3	29.9
UK	M	6.7	24	10.6	58.5
	F	7.5	27	14.7	47.7
Centre/East					
Czech Rep.	M	4.9	27.5	19.1	67.4
	F	8.3	29.8	28.6	49.4
Estonia	M	11.2	28.7	14.8	56.4
	F	12.4	26.6	20.8	48.1
Hungary	M	13.5	29.5	21.5	63.8
	F	13.8	31.8	27.5	52.8
Lithuania	M	12.1	33.3	16.1	60.7
	F	12.8	35.2	22.7	50.8
Poland	M	8.3	27.8	11.3	60.8
	F	12.5	32.3	25.3	44.1
Slovenia	M	9.8	31.2	8.7	61.2
	F	12.2	38.5	15.6	50.6
South					
Israel	M	9.2	25	12	55.9
	F	11.3	25.5	19.1	47.8
Portugal	M	8.3	17.4	15.8	56
	F	12.1	21.9	30.9	49.8
Spain	M	8.8	14.8	12.8	60.4
	F	14.9	19.3	24.7	43.3

Source: European Social Survey Round 7, 2014

Colour coding based on the highest, median and lowest value of the distribution of each indicator across countries.

How are social and behavioural determinants of health distributed across Europe?

We also calculated age-standardised prevalence rates for each of the social and behavioural determinants of health within the module.

We found that substantial numbers of Europeans are exposed to social and behavioural determinants of health problems. Moreover, the extent to which people experience these social and behavioural factors varies cross-nationally.

Table 4 contains information on healthcare access and utilisation for each country.

There is considerable variation in unmet need across countries, with particularly high percentages in Finland, France, Germany, Estonia, Poland, Israel and Portugal. Looking at the reasons reported for unmet need, waiting lists are particularly mentioned in Estonia, Poland and Israel, and lack of available appointments appears to be most problematic in Finland, Poland and Israel. For healthcare utilisation we find that in the majority of countries around three quarters of the sample have consulted a GP in the past year, but this can be lower, e.g. in Sweden. The percentage of respondents consulting a specialist or using alternative treatment is lower, and generally higher for women than for men. In some countries, higher levels might reflect that people can refer themselves directly. Interestingly, in several countries the percentage using alternative treatment is similar to or even higher than the percentage consulting a specialist. There is no clear pattern of regional variation for these measures, and with these indicators we need to keep in mind that they have not been adjusted for health problems or resulting need for healthcare.

In Table 5, we present cross-national variation in risk behaviour. Starting with the data on smoking, percentages of current smokers are much lower in northern Europe, the UK and Ireland and considerably higher among men in central and eastern Europe, where (as also in southern Europe) we see a substantial gender gap in smoking behaviour. The percentage of previous smokers, however, is particularly high in northern Europe. Among current smokers the percentage smoking 20 or more cigarettes on a typical day is particularly high in Austria, Poland and Israel. There is strong variation across countries in the percentage reporting frequent alcohol consumption, with particularly low percentages in Israel and central and eastern Europe (especially among women). Looking at the quantity of alcohol consumed in all of the countries taking part in ESS Round 7, we see that, overall, men consume almost twice as many units as women, and that weekend day consumption is almost twice weekday consumption. The number of units consumed is particularly high in Ireland.

Frequent binge drinking is particularly high in the UK and Portugal. Frequent binge drinking is rare in northern Europe, and among women in central and eastern Europe. For physical activity we see no clear regional patterns of variation or gender differences. Finally, daily fruit and vegetable consumption is considerably higher among women than among men, particularly in northern Europe.

Finally, Table 6 shows estimates for the other social determinants of health that were part of the rotating module in the ESS. Exposure to ergonomic and material hazards in any job is lowest in the Czech Republic and Israel, and in all countries men are at a significantly greater risk of exposure to these hazards than women.

For childhood conditions we see that conflict in the household while growing up overall appears to be reported less in Spain and in central and eastern Europe, whereas financial hardship while growing up is particularly prominent in southern and central and eastern Europe. For housing problems, we do not see clear patterns of regional variation, although this impacts a sizeable proportion of respondents. Finally, the percentage of respondents providing unpaid care is generally higher in northern Europe. However, the proportion of people giving 10 hours or more per week is particularly high in southern Europe.

Table 4: Healthcare access and utilisation in 21 European countries (separately for men and women, percentages)

		Unmet need overall	Unmet need: Waiting list	Unmet need: No appoint. avail.	Visited GP	Visited specialist	Used alternative treatment
North							
Denmark	M	5.8	2	2.2	75.9	35.6	35.3
	F	8	2.9	1.8	83.2	41.4	44.8
Finland	M	16.9	6.5	5.9	68.1	35	39.3
	F	22	7.5	9.7	71.5	44.6	51.8
Norway	M	11.3	4.6	4.1	75	24.8	33.7
	F	16.1	5.9	4.8	85	30	42.9
Sweden	M	8.2	1.6	2	51.6	27.6	36.2
	F	12.9	2.8	3	63.1	37.4	45.9
West							
Austria	M	4.1	1.8	2.3	72.4	41.5	35.4
	F	6	1.8	3.1	82	55.1	44.7
Belgium	M	9	2.3	2	77.4	38.3	30
	F	11.5	4	1.5	85.7	51	37.2
France	M	15	4.1	3.7	80.2	40.1	35.9
	F	21.7	5.2	5.8	85.9	51.1	46.9
Germany	M	13.4	4.3	4.6	80.1	55.3	38.9
	F	19	5.9	7.4	83.3	69.3	54.7
Ireland	M	5.6	1.9	1.5	61.7	18.4	21.9
	F	7.8	3.4	2.2	74.2	20	29.7
Netherlands	M	3.8	1.1	0.5	65.2	39.3	34.1
	F	4	0.7	0.6	76.1	46.7	39
Switzerland	M	4.8	0.4	0.9	66.4	36.2	39.7
	F	8.1	1.3	1.8	74.9	45.7	56.7
UK	M	10.9	2.2	4.9	72.8	29.9	24.3
	F	14.9	3.2	10.3	78.9	33.9	32.1
Centre/East							
Czech Rep.	M	6.2	1.3	1.5	70	31.8	24.9
	F	6.3	2.2	1.1	76.5	39	33.4
Estonia	M	15.4	9.7	4.6	65.6	39.7	29.8
	F	19.9	10.7	8.3	77.6	57	46.3
Hungary	M	4.6	1.6	1.6	59	26.7	10.3
	F	6.7	3.2	2.2	69.6	33.3	14.6
Lithuania	M	11.3	5.2	5.1	52.4	21.1	29
	F	15.1	6	7.6	71.7	29.4	45
Poland	M	18.6	10.1	7.2	63.6	40.7	16.3
	F	25.8	10.3	12	77.2	48.4	19.7
Slovenia	M	7.9	4.5	0.2	75	37.3	27.9
	F	8.4	4	0.8	79.9	42	32.6
South							
Israel	M	15.9	10.8	7.5	76.3	55.1	22.3
	F	22.2	13.1	11.1	85.2	64.3	27.8
Portugal	M	18.7	6.9	4.7	77.9	35.1	22.9
	F	18.6	3.2	7.1	83.4	38.2	19.8
Spain	M	11.7	4.1	3	74.5	42.2	22.3
	F	13.1	5.1	3.8	83.9	52.7	29.9

Source: European Social Survey Round 7, 2014

Colour coding based on the highest, median and lowest value of the distribution of each indicator across countries.

Table 5: Risk behaviour in 21 European countries (separately for men and women)

		Smoking (current %)	Smoking (previous %)	20 or more cigs per day (%)	Alcohol > once per week (%)	Units on weekday (mean)	Units on weekend day (mean)	Binge at least weekly (%)	Physical activity on 3-4 days (%)	Fruit and veg at least once/day (%)
North										
Denmark	M	27.1	61.4	37	38.6	4.5	9.3	3.3	20.9	53.5
	F	22.4	64.7	19.1	22.4	3.1	6.2	1.4	25.7	74.2
Finland	M	28.6	61.8	29.3	16.9	3.9	9.3	1.4	28.9	56.9
	F	22.9	62.3	20.4	6.1	2.4	5.8	0.4	25.9	72.5
Norway	M	22.1	66.4	20.6	20	4.7	9.7	1.1	25.8	58.9
	F	19	71.6	18.8	8.9	2.9	5.9	0.4	25.9	73.5
Sweden	M	15.1	77.8	18.5	22	4	8.4	2.2	24.4	49.8
	F	14.8	76.2	10.7	10.6	2.7	5.4	0.8	25.9	70.4
West										
Austria	M	33.1	46	56.8	37.8	4.2	6.7	9.2	23.8	44.1
	F	28.3	44.7	41.7	13.4	2.6	4.3	2.4	24.6	56.9
Belgium	M	28.2	55.6	33.6	38.9	3.7	6.5	3.1	19.4	58.3
	F	23.9	52.1	33	23.6	2	3.8	2.1	18.2	68.9
France	M	31	54.6	32.8	41.7	2.6	5.1	2.9	18.7	59.2
	F	26.5	53.4	18.7	17.4	1.6	2.9	0.9	14.7	71.7
Germany	M	34.2	52.9	38.4	36.9	3.2	6.1	4.4	23.5	49.9
	F	29.2	52.5	19.4	15.1	1.9	3.6	1.7	23.1	65.9
Ireland	M	24.6	51.5	40	22.8	6.3	12.5	5.1	25.9	67
	F	21.5	52.8	27.3	10.7	4	8	2.4	25.4	76.9
Netherlands	M	31.4	52.9	22.1	44.8	3.1	6.1	4.9	24	55.7
	F	22.3	61.5	23.7	29.2	1.8	3.4	5.1	24.4	68.6
Switzerland	M	28.5	52.5	37.6	39.8	3.3	5.3	5.5	22.1	62.6
	F	24.9	53.8	16.7	20.8	1.9	3.2	1.8	23.3	81.2
UK	M	22.9	60.4	24.7	38.3	5.7	9.5	11.2	18.9	65.3
	F	20.4	59.7	18.1	25.3	3.6	6.4	4	22.1	74.1
Centre/East										
Czech Rep.	M	34.8	41	25.4	24.8	6.4	10	4.6	21.2	33.3
	F	20.2	47.5	13.8	6.7	4.3	6.3	0.6	21.8	50.8
Estonia	M	37.4	50.2	38.3	17.4	3.9	8.7	3.4	21.2	52.1
	F	21	57.6	14	3.7	2.1	4.1	1.1	17.9	65.6
Hungary	M	41.3	34.2	47.9	22.1	6	11.6	7.2	14.7	28.3
	F	26.2	41.7	20.7	2.4	3	6.9	1.6	10.5	31.6
Lithuania	M	45.8	42.3	32.7	19.7	7	13.4	7.5	20.8	45.9
	F	16.7	57.9	11.2	3.3	3.5	5.9	1.1	20.5	58.7
Poland	M	34.2	52.9	48.5	17.4	4.9	8.5	3.1	15	55.8
	F	21.7	52.3	29.2	3.5	2	4.3	2.5	15.6	69.6
Slovenia	M	29.7	51.5	50.6	27.1	3.4	4.7	3	16.5	66
	F	26.8	46.1	20.9	9.5	2	2.5	1.6	19.9	78.2
South										
Israel	M	31.5	36	51.9	10.2	4.3	5.3	4.5	20.3	66.8
	F	17.7	38.2	32.1	3.1	3.2	3.8	1.3	17.8	72
Portugal	M	33	53.6	41.4	47.5	3.8	5	17.5	13.1	76.2
	F	14.7	51.1	14.5	15.3	1.9	2.9	5.2	11.5	82.7
Spain	M	31.3	51.7	30	40.1	2.2	4.9	6.5	17.8	56.2
	F	26.3	48.6	22.5	16.7	1.2	2.9	3.2	14.7	69.1

Source: European Social Survey Round 7, 2014

Colour coding based on the highest, median and lowest value of the distribution of each indicator across countries.

Table 6: Social determinants of health in 21 European countries: working conditions, childhood conditions, housing, and providing unpaid care (separately for men and women, percentages)

		Any ergonomic hazards	Any material hazards	Often/always conflict growing up	Often/always hardship growing up	Any problems with housing	Provide unpaid care	>10 hours of unpaid care/week
North								
Denmark	M	68.4	63.3	12.2	11.8	12.4	40	16.2
	F	60.6	48	19.1	13.7	19.5	46.1	16.6
Finland	M	80.8	77.3	7.3	14.5	10.4	39.7	10.5
	F	75	56.7	15.3	20	12.8	45.5	12.6
Norway	M	64.3	62.8	5.6	6.2	10.2	34.9	8.2
	F	54.4	40.9	11.2	10	11.6	45.1	11.8
Sweden	M	72.4	69.8	9.6	11.7	9.3	39.5	7.1
	F	66.6	48.9	16	14.7	10.1	39.4	16.5
West								
Austria	M	62.9	55.2	7.1	13.6	8.9	18.1	22
	F	41.8	27.4	13.2	15.7	9.4	25.4	31
Belgium	M	65.1	63.6	11.6	13.7	17	36.3	15.7
	F	49.8	33.4	15.4	13.8	17.5	39.4	21.1
France	M	72.7	68.4	12.7	15.7	19	37.4	14.6
	F	58.6	40.4	19.4	23.4	24	39.8	20.4
Germany	M	70.5	66.6	12.3	12.8	13	32.1	15.2
	F	56.5	39.2	19	16.6	16.8	37.1	19.9
Ireland	M	51	44.5	6.2	18.4	8.4	21.7	29
	F	28.2	25.6	7.6	15.8	9.4	30.1	41.3
Netherlands	M	58.4	55.6	10.3	14.4	13.3	31.9	20.8
	F	46.8	29.2	15.1	13.2	14.8	38.1	18.2
Switzerland	M	54.7	51.8	10.2	11.9	8.3	32.8	13
	F	41.1	29.7	15.3	13.4	11.7	41.8	16.9
UK	M	60.9	60.5	11.8	16.2	18.2	29.4	33
	F	38.9	29.6	14.5	20.7	18.3	31	30.1
Centre/East								
Czech Rep.	M	46.7	44.8	7	15.1	9	31.6	16.5
	F	33.1	25.3	6.5	17.8	9.7	37.1	37.7
Estonia	M	71.7	64	8.7	25	16.2	26.5	25.1
	F	53.8	45.6	15	24.9	20.7	35.8	39.1
Hungary	M	60.3	44.9	12.3	24.6	15.2	5.4	28.6
	F	40	30.7	11.9	24.4	15	9.9	38.4
Lithuania	M	67	48.3	11.9	22.9	18	16.7	27.8
	F	45.9	36.9	9.7	26.4	19.9	25.1	46.5
Poland	M	69.7	72.3	6.3	17.2	12.1	32.8	18.2
	F	55.4	44.7	7	19.1	11.1	38.5	37.6
Slovenia	M	67.4	68.7	5.7	15.5	16	30	18
	F	56.2	46	12.9	25.6	19.3	34.6	18.7
South								
Israel	M	45.2	44.7	10.3	18.4	16.2	35.5	19.2
	F	31.3	23	11.1	24.6	17.6	38.7	31.4
Portugal	M	71.7	70.2	7.2	25.7	13.3	35	33.1
	F	66.1	45.2	11.9	24.2	16.2	33.1	43.3
Spain	M	72	66.2	4.4	15.4	16.9	23.3	29.4
	F	58.6	43.1	6.1	14.7	21.5	32.5	42.2

Source: European Social Survey Round 7, 2014

Colour coding based on the highest, median and lowest value of the distribution of each indicator across countries.

What are the main mechanisms explaining educational inequalities in health across Europe?

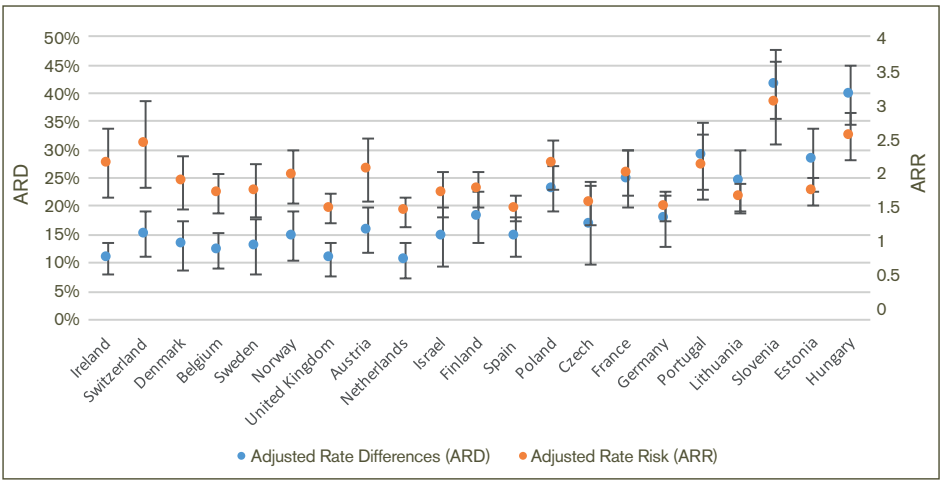
The 'Social inequalities in health and its determinants' module of ESS Round 7 provides a rare opportunity to comparatively investigate the contribution of multiple factors in explaining socioeconomic inequalities in health. It is clear that health varies between socioeconomic groups, but how can these group differences be explained? The majority of existing studies explaining social inequalities in health in European countries are mainly concerned with risk factors related to behaviour, and have concluded that socio-economic differences in smoking and physical inactivity are the main drivers behind inequalities and behind spatial differences in their magnitude.

There are of course good reasons for the dominance of this approach – such proximal risk factors are relatively easy to measure, they have a reasonably well-documented causal effect on mortality, and they are sensitive to intervention. However, this perspective neglects the underlying individual, collective, and structural mechanisms leading to these poorer behaviours, as well as the non-behavioural factors (such as housing, access to services, and working conditions) that impact on the prevalence of health problems. With the wide range of social and behavioural determinants of health represented in this module, we are able to compare the importance of behavioural and non-behavioural risk factors in explaining social inequalities in health.

In the final section of this booklet we focus on the main groups of mechanisms explaining educational inequalities in health across Europe as an example to demonstrate what this approach can bring to light.

As a first step, we examined educational inequalities in poor self-rated health and found significant differences between high and low education groups for all countries in the ESS.

Figure 2: Absolute and relative inequalities by education in 21 European countries



Note: ARD and ARR estimates are based on (baseline) model adjusted for age, gender and permanent sickness/disability. All values are statistically significant at $p<0.01$

Source: European Social Survey Round 7, 2014

These differences are illustrated in Figure 2 which shows both absolute and relative educational inequalities as measured by risk differences (RD) and risk ratios (RR). Countries have been sorted in an ascending order of predicted probability of reporting less than good health from the low education group.

These measures of inequalities were calculated from a binary logistic regression model using marginal standardisation methods to predict probabilities. In line with earlier research on the ESS (e.g. Eikemo et al., 2008a) we also found considerable variation across countries in the size of both absolute and relative health inequalities by education. However, whereas absolute inequalities in self-rated health between educational groups were strongest in central and eastern Europe (particularly in Hungary and Slovenia) we did not find any clear regional patterns in relative inequalities. We then examined the contribution of different social determinants of health in explaining these inequalities.

For each country only social determinants which attenuated relative inequalities by more than 5% were retained in the final model. We then organised the social determinants of health within the module into three categories: behavioural, occupational, and living conditions (see Box 1). We found that adjusting separately for these three sets of determinants significantly reduced the observed inequalities in self-rated health between educational groups (see Figure 3). This suggests that these types of health determinants continue to be major contributors to health inequalities between educational groups.

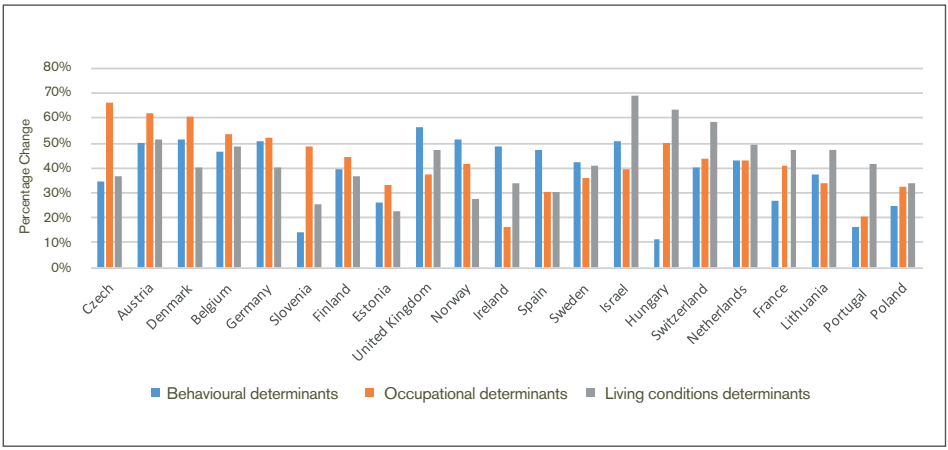
More specifically, occupational determinants were found to explain the largest share of educational inequalities in health in 8 out of the 21 countries. In the Czech Republic, Austria, Denmark, Belgium and Germany, occupational determinants were not only found to be the largest contributor, but they also explained more than half of the educational inequalities in health. The main explanatory factors among occupational determinants were ergonomic hazard and job control, respectively contributing to roughly 30% of educational inequalities in health.

Similar to occupational determinants, living conditions emerged as the leading contributor in attenuating educational inequalities in health in 8 out of 21 countries. Across these countries financial strain was the main single contributor, explaining around 50% of educational inequalities in health in Switzerland, Hungary and Israel. Behavioural determinants by contrast, were found to be the largest contributor to educational inequalities in health in Ireland, the UK, Norway, Sweden and Spain, explaining between 43% and 56% of educational inequalities in health. For these countries, the largest attenuation of health inequalities was achieved from different factors within the behavioural determinants.

For most of the countries, we observed that relative inequalities were either substantially reduced or became insignificant when a combination of two sets of determinants were considered. The observation that behavioural factors were less important in explaining health inequalities in most countries compared to occupational factors and living conditions, underlines that the prevalence of risky health behaviour alone is insufficient to explain why higher educational groups report better health than lower educational groups. All in all, this evidence suggests that it may not be feasible to substantially reduce the prevalence of chronic diseases – and their social patterning – by increasing tobacco prices or promoting physical activity alone.

This is because health and health inequalities are deeply rooted in the social stratification systems of modern societies. Income redistribution policies or action towards an improvement of physical working conditions in manual occupations may be equally effective policies to obtain healthier lives.

Figure 3: Percentage change of educational inequalities from the individual contribution of behavioural, occupational and living conditions factors



Note: All estimates used to calculate the percentage change are statistically significant at $p<0.1$

Source: European Social Survey Round 7, 2014

Box 1: Behavioural, occupational and living conditions set of social determinants

Behavioural

- BMI
- Physical activity
- Fruit & vegetable consumption
- Smoking
- Alcohol consumption

Occupational

- Material hazards
- Ergonomic hazard
- Job control
- Labour force status

Living Conditions

- Financial difficulties growing up
- Household conflicts growing up
- Quality of housing
- Financial strain
- Social network

Conclusions

The ESS module on 'Social inequalities in health and their determinants' and the cross-national comparability of data it offers, provides a valuable opportunity to deepen our understanding of social inequalities in health. This report presents a sample of key preliminary findings from this dataset, on which a much wider range of analyses can be performed.

All in all, it is clear that a substantial share of Europeans experience a burden of physical and mental health conditions. It is also clear that substantial numbers of Europeans are exposed to social and behavioural factors that have been associated with these conditions. The extent to which people report health problems and exposure to social determinants of health, however, appears to depend strongly on their country of residence. Future research should shed further light on the relationship between these health conditions and social determinants, as well as develop and test explanations for the cross-national differences reported here.

This could contribute to the further development of policy interventions in European countries to reduce the burden of non-communicable diseases and social inequalities in health.

Finally, our preliminary findings disentangling the main mechanisms explaining educational inequalities in poor self-reported health suggest that the mechanisms linking socioeconomic position and health vary across countries and that health inequalities are the result of a complex interplay of national, behavioural, occupational, and material conditions. For example, promoting healthy lifestyles alone does not seem to be a sufficient strategy to reduce health inequality with the persistence of large inequalities in living conditions. The ESS module on 'Social inequalities in health and their determinants' provides us with an exciting opportunity to begin to disentangle this complexity in a way which has not yet been available in previous surveys.

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Endnotes

[i] ESS7-2014 Edition 2.0, released 26 May 2016, see www.europeansocialsurvey.org.

[ii] Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Lithuania, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom. ESS7 fieldwork also took place in Latvia, but due to delays in the data collection and deposit final data were not available for this report.

[iii] Further methodological information about the European Social Survey is available at www.europeansocialsurvey.org.

[iv] Achieved using standardised translation procedures specified by the ESS Core Scientific Team.

[v] Unless otherwise stated, analyses are based on the full sample of around 40,200 respondents. ESS post-stratification weights have been applied for country-level analysis. Both post-stratification and population weights have been applied for analysis pooling data across countries to give all countries a weight proportional to population size. Results exclude DK and refusal responses.

[vi] To make results comparable, we need to know what the results would look like if we assumed that age distributions were identical in all countries. To achieve this, we have applied the standard epidemiological technique of direct age standardisation, which involves weighting up or down the unstandardised (crude) prevalence rates for five-year age groups in each country to a common standard. We have weighted the age groups in accordance with the European Standard Population (ESP) of 2013 (Eurostat 2013).

[vii] Northern Europe includes Denmark, Finland, Norway and Sweden. Western Europe includes Austria, Belgium, France, Germany, Ireland, the Netherlands, Switzerland and the United Kingdom. Central & eastern Europe includes the Czech Republic, Estonia, Hungary, Lithuania, Poland and Slovenia. Southern Europe includes Israel, Portugal and Spain.

[viii] Respondents were considered to have serious depressive symptoms if they scored 10 or more out of the maximum of 24 points on the depression scale constructed from the eight items measuring mental well-being that are presented in Table 1 (score categories on each of these eight items ranged from 0 to 3).

[ix] This statistical method has several advantages: it adequately reflects the confounder distribution in the studied population allowing inference to the total population; together with post stratification weighting it allows for reliable comparison across models, samples and groups and compared to odds ratios estimates deriving from predicted probabilities are more reliable especially for non-rare outcomes. A baseline model for each country was constructed to analyse the association between SES and SRH adjusting for gender, age and permanent sickness/ disability.

About the ESS

The European Social Survey is a European Research Infrastructure Consortium (ESS ERIC) that provides freely available cross-national data about public attitudes and behaviour over time.

ESS is an academically-driven survey that has been conducted across Europe since 2001. Its dataset contains the results of nearly 350,000 completed interviews conducted every two years with newly selected, cross-sectional samples. The survey measures the attitudes, beliefs and behaviour patterns of diverse populations in more than thirty nations.

ESS topics:

- Trust in institutions
- Political engagement
- Socio-political values
- Moral and social values
- Social capital
- Social exclusion
- National, ethnic and religious identity
- Wellbeing, health and security
- Demographic composition
- Education and occupation
- Financial circumstances
- Household circumstances
- Attitudes to welfare
- Trust in criminal justice
- Expressions and experiences of ageism
- Citizenship, involvement and democracy
- Immigration
- Family, work and wellbeing
- Economic morality
- The organisation of the life-course

Find out more about the ESS ERIC and access its data at www.europeansocialsurvey.org

Find out more about European levels of wellbeing on a specially created ESS website www.esswellbeingmatters.org

The ESS was awarded European Social Survey Research Infrastructure Consortium (ERIC) status in 2013. During Round 7, ESS ERIC had 14 Member and 2 Observer countries.

Members:
Austria, Belgium, Czech Republic, Estonia, France, Germany, Ireland, Lithuania, the Netherlands, Poland, Portugal, Slovenia, Sweden, UK.

Observers:
Norway, Switzerland.

Other Participants:
Denmark, Finland, Hungary, Israel, Latvia, Slovakia and Spain.

Multi-national advisory groups to the ESS ERIC General Assembly are the Methods Advisory Board (MAB), Scientific Advisory Board (SAB) and Finance Committee (FINCOM).

The ESS ERIC Headquarters, where its Director (Rory Fitzgerald) is based, are located at City, University of London.

The ESS ERIC Core Scientific Team includes GESIS - Leibniz Institute for the Social Sciences (Germany); Katholieke Universiteit Leuven (Belgium); NSD - Norwegian Centre for Research Data (Norway); SCP - The Netherlands Institute for Social Research (Netherlands); Universitat Pompeu Fabra (Spain); University of Ljubljana (Slovenia).

The National Coordinators' (NC) Forum involves ESS NCs from all participating countries.

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