

## SOCIAL EPIDEMIOLOGY

# Inequalities in health by social class dimensions in European countries of different political traditions

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<b>Objective</b>	To compare inequalities in self-perceived health in the population older than 50 years, in 2004, using Wright's social class dimensions, in nine European countries grouped in three political traditions (Social democracy, Christian democracy and Late democracies).
<b>Methods</b>	Cross-sectional design, including data of the Survey of Health, Ageing and Retirement in Europe (Sweden, Denmark, Austria, France, Germany, The Netherlands, Spain, Italy and Greece). The population aged from 50 to 74 years was included. Absolute and relative social class dimension inequalities in poor self-reported health and long-term illness were determined for each sex and political tradition. Relative inequalities were assessed by fitting Poisson regression models with robust variance estimators.
<b>Results</b>	Absolute and relative health inequalities by social class dimensions are found in the three political traditions, but these differences are more marked in Late democracies and mainly among women. For example the prevalence ratio of poor self-perceived health comparing poorly educated women with highly educated women, was 1.75 (95% CI: 1.39–2.21) in Late democracies and 1.36 (95% CI: 1.21–1.52) in Social democracies. The prevalence differences were 24.2 and 13.7%, respectively.
<b>Conclusion</b>	This study is one of the first to show the impact of different political traditions on social class inequalities in health. These results emphasize the need to evaluate the impact of the implementation of public policies.
<b>Keywords</b>	Politics, inequalities in health, self-perceived health

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## Background

Political factors such as the political party in government (either alone or as a majority partner in a coalition) for long periods of time are important in influencing a country's labour market and welfare state policies,<sup>1-3</sup> and through that in social inequalities and health indicators.<sup>4</sup> As Navarro<sup>5</sup> has stated, the development of welfare state and its own main components is directly related to the strength of the working class and its political and economic instruments. Therefore, political forces represent the interests of classes and other social factors and they differ in their redistributive and labour market policies. Social democratic parties that have governed as a majority for long periods since World War II, have generally been the most committed to redistributive policies, contributing to better health indicators.<sup>6</sup> Social policies constitute the most important mechanism for redistribution of state wealth, as they can increase social protection and reduce social inequalities.<sup>7</sup>

The conceptual framework of this study was proposed by Navarro *et al.* in order to understand the relationship between politics and health outcomes. This framework explains how politics (expressed in terms of electoral behaviour and trade union characteristics) are related with the expansion of the welfare state, in turn reflecting the degree to which societies care for their citizens and labour market policies. Both welfare state and labour market policies have an effect on income and social inequalities in the population.<sup>4,8,9</sup> Table 1 shows variables of power resources (political traditions), welfare state, labour market and income inequality by political tradition in the nine countries included in this study and illustrates some differences by political tradition. The variables chosen were those present in all the countries studied in this article.

The majority of international studies of inequalities in health do not include political variables, although some recent studies suggest that political and welfare state variables could also be important determinants of health. The majority of these published studies refer to the impact of political variables on mortality data<sup>4,9-11</sup> or on low birth weight rate.<sup>12,13</sup> Moreover, Raphael and Bryant<sup>14</sup> concluded that the welfare states of Denmark and Sweden are clearly beneficial to women and enhance their quality of life. Recently, Dahl *et al.*<sup>15</sup> have tried to assess whether class inequalities in health diminish in welfare state regimes, reviewing the empirical evidence of published comparative studies. The authors conclude that health inequalities are not consistently, significantly or systematically smaller in Social democratic countries than in other European countries belonging to liberal or Christian democratic welfare regimes.

Although, the relationship between socioeconomic position and health in Europe has been extensively described using a variety of morbidity and mortality

**Table 1** Variables of power resources, welfare state, labour market, income inequality and wealth by political tradition in the nine countries

Country	Power Resources <sup>a</sup>		Welfare State		Labour Market <sup>b</sup>		Income Inequality <sup>c</sup>		Wealth
	Total years in government between 1946 and 2000 by social democratic parties	Total public and private expenditure for educational institutions, (%) <sup>b</sup> 2000	Total Public Social Expenditure, % GDP <sup>b</sup> 2001	Total unemployment percentage of active population 2000	Females in the labour force, (%) 2000	Gini coefficient 2000	Inequality of income distribution (income P80/p20 ratio) 2000	GDP per capita, US\$ purchasing power parity <sup>b</sup> 2000	
Social democrats									
Sweden	45	6.5	28.6	5.9	48	24	3.4	26,919	
Denmark	35	6.7	28.9	4.5	47	23	3.1	28,489	
Austria	31	5.7	25.6	4.6	43	25	3.9	26,569	
Christian democrats									
France	13	6.1	28.3	9.7	46	27	4.0	26,353	
Germany	15	5.3	27.2	7.9	44	28	4.3	25,165	
Italy	10	4.9	24.1	10.7	38	35	6.2	25,358	
The Netherlands	14	4.9	21.8	2.7	43	25	3.6	27,323	
Late democrats									
Spain	14	4.9	19.9	13.9	40	33	5.5	20,482	
Greece	15	4.1	23.6	11.0	40	35	6.0	16,287	

GDP = Gross Domestic Product.

<sup>a</sup>Elaborated by Navarro *et al.*<sup>9</sup>

<sup>b</sup>OECD, IRDES. OECD Health data 2005. Statistics and Indicators for 30 countries.

<sup>c</sup>OECD data. (Michael and Mira d'Ercole<sup>43</sup>).

indicators of social class inequalities,<sup>16–18</sup> the impact of different political traditions on social class inequalities in health has rarely been studied. Yet, it is important to study the relation between political tradition and health because a country's political outlook is the main predictor of its tolerance for social inequalities<sup>7</sup> and the different social structural contexts and historical settings shape the patterns of socioeconomic inequalities in health.<sup>19</sup> The objective of this study was to compare inequalities in self-perceived health in the population older than 50 years, in 2004, using Wright's social class dimensions, in nine European countries grouped in three political traditions (Social democracy, Christian democracy and Late democracies).

## Methods

### Design, study population, sample and data collection

We used a cross-sectional design. The population frame comprised individuals aged 50–74 years living in nine European countries. Data were collected by the Survey of Health, Ageing and Retirement in Europe (SHARE)<sup>20</sup> carried out in 2004. The study generated a representative stratified sample for nine countries that represents various regions in Europe ranging from Scandinavia (Denmark and Sweden) through Central Europe (Austria, France, Germany and The Netherlands) to the Mediterranean (Spain, Italy and Greece). The sample size was 16 901 individuals between 50 and 74 years of age. The household non-response percentage was highest in Sweden (57.9%) and Spain (49.8%) and lowest in France (30.6%). We were able to analyse 16 194 individuals because we had 0.96% of missing data in men and 6.8% of missing data in women in the social class dimensions. Each country selected its own sample and for this reason the type and size of samples was different in each country but the data was comparable.<sup>20</sup>

### Variables

#### *The dependent variables*

Self-reported health status was measured with a single question: 'Would you say your health is very good, good, fair, poor or very poor?' A dichotomous outcome variable was created (Poor = fair, poor or very poor; Good = very good, good). Self-reported health is related with objective health and it is also a valid predictor of mortality.<sup>21</sup>

Long-term illness was measured with a dichotomous question: 'Do you have any long-term health problems, illness, disability or infirmity?' (1 = yes; 0 = no).

#### *The independent variables*

Countries were grouped according to their political tradition. We formed three groups according to the typology of Huber *et al.*,<sup>2</sup> further elaborated by Navarro *et al.*<sup>22</sup> and Bambra<sup>23</sup> taking into account

the years and months that Social democrats parties, Christian democrats parties and Liberal parties have been in the government since 1950. Thus we obtained three different typologies of countries: Social democratic, including Sweden, Denmark and Austria, Christian democratic, including The Netherlands, Germany, France and Italy and Late democratic countries, including Portugal and Spain.

Social class dimensions were measured through a modification of Erik Olin Wright's class locations.<sup>24,25</sup> We obtained class positions using three class relational dimensions; ownership, credentials and management. Class positions in the ownership dimension were obtained according to being self-employed, employed or civil servant. This dimension differentiates owners and workers. Owners were defined as self-employed and civil servant and employed were considered workers. Class positions in the education dimension were obtained through the question of educational level. This dimension differentiates people having secondary or more level and people having less than secondary level. The last dimension was management. This social class dimension differentiates workers with subordinates and workers without subordinates. Managers were defined as the workers having one or more employees at their charge. The occupation indicator used was the last occupation reported by the interviewee. People who have not worked or who did not report their educational level were assigned the social class of the head of household (among men 0.5% in Social democracies, 0.7% Christian democracies and 1.9% in Late democracies; and among women 2.7% in Social democracies, 7.0% in Christian democracies and 21.5% in Late democracies). Employment status was a categorical variable including 'employed', 'unemployed', 'retired', 'homemaker' and 'disabled' categories. Age was treated as a continuous variable.

### Data analysis

All the analyses were done separately for men and women<sup>26</sup> and for each political tradition. We first described all the variables included (number of cases and percentages). Second, the age-standardized prevalence (direct method with the whole sample aged 50–74 of SHARE dataset as standard population) of dependent variables for each dimension of social class was obtained. In order to study differences in the absolute probability of reporting poor perceived health, prevalence differences of the different categories for all social class dimensions were calculated.

Next, three Poisson regression models with robust variance<sup>27</sup> (for each sex and political tradition) were fitted to determine the relative association between each dependent variable and each social class dimension. The independent variables included in the Poisson regression models with robust variance were: social class dimension (one dimension in each model), age and employment status (first part of Table 2). Finally, for more robust and solid results we

**Table 2** Description of study variables in men and women, aged 50–74, by political tradition. SHARE. 2004

	Men								Women							
	Social democrats		Christian democrats		Late democrats		Total		Social democrats		Christian democrats		Late democrats		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Dependent variables																
Self-perceived health																
Good	420	71.1	3650	63.3	852	64.9	4922	64.2	422	67.7	3579	60.8	635	55.0	4636	60.5
Poor	171	28.9	2114	36.7	461	35.1	2746	35.8	201	32.3	2312	39.2	519	45.0	3032	39.5
Long-term illness																
No	318	52.9	3045	52.9	688	52.4	4051	52.9	310	49.7	2975	50.5	553	47.9	3838	50.0
Yes	272	47.1	2715	47.1	625	47.6	3612	47.1	314	50.3	2916	49.5	601	52.1	3831	50.0
Independent variables																
Social class dimension																
Ownership																
Owner	92	15.6	950	16.5	347	26.4	1389	18.1	52	8.3	713	12.1	279	24.2	1044	13.6
Worker	499	84.4	4814	83.5	965	73.6	6278	81.9	571	91.7	5178	87.9	875	75.8	6624	86.4
Educational level																
High education	407	69.5	3663	63.8	357	27.4	4427	58.0	398	64.4	3317	56.5	275	24.0	3990	52.3
Low education	179	30.5	2078	36.2	946	72.6	3203	42.0	220	35.6	2549	43.5	872	76.0	3641	47.7
Management																
With personnel	247	41.9	2527	43.8	476	36.3	3250	42.4	143	23.0	1294	22.0	234	20.3	1671	21.8
Without personnel	343	58.1	3237	56.2	837	63.7	4417	57.6	480	77.0	4598	78.0	920	79.7	5998	78.2
Age group																
50–59	255	43.1	2468	42.8	538	41.0	3261	42.5	294	47.2	2637	44.7	551	47.8	3482	45.4
60–69	252	42.6	2436	42.3	515	39.3	3203	41.8	230	36.9	2308	39.2	419	36.3	2957	38.6
70–74	84	14.3	860	14.9	259	19.7	1203	15.7	99	15.9	946	16.1	183	15.9	1228	16.0
Employment status																
Employed	254	43.1	2100	36.6	511	39.0	2865	37.5	229	36.8	1694	28.8	285	24.7	2208	28.8
Unemployed	22	3.7	276	4.8	49	3.7	347	4.5	20	3.2	224	3.8	50	4.3	294	3.8
Retired	288	48.9	3052	53.1	668	51.0	4008	52.4	302	48.5	2497	42.4	247	21.4	3046	39.8
Permanently sick	16	2.7	206	3.6	50	3.8	272	3.6	17	2.7	129	2.2	32	2.8	178	2.3
Homemaker	1	0.2	24	0.4	5	0.4	30	0.4	43	6.9	1238	21.0	514	44.6	1795	23.4
Other situation	8	1.4	87	1.5	28	2.1	123	1.6	12	1.9	102	1.8	25	2.2	139	1.9
<b>Total</b>	591	7.70	5764	75.2	1313	17.1	7668	100.0	623	8.1	5892	76.8	1154	15.0	7669	100.0

Missing values are excluded.

fitted one Poisson regression model with robust variance (for each sex and political tradition) to determine the association between the dependent variable and all social class dimensions in the same model as well as age and employment status (second part of Table 2). Reference categories in the models were the highest class in each dimension.

To determine whether the relative association between the dependent variable and social class dimension was different in each political tradition we fitted models pooling together all the political traditions, also including the interaction between political tradition and social class dimensions (*P*-values are shown in Table 2). If the interaction had statistical significance the prevalence ratios (PR) were considered to be different.

## Results

Of the total sample, 7.7% of men and 8.1% of women lived in Social democratic countries. Christian democrats represented 75.2% of men and 76.8% of women and 17.1% of men and 15% of women lived in Late democratic countries.

Table 2 describes the main variables of the study for men and women in each political tradition. Men had a prevalence of poor self-perceived health of 35.8% and women of 39.5%. Women in Late democracies had the highest prevalence of poor perceived health (45%). The prevalence of having a long-term illness was 47.1% for men and 50.0% for women, being similar in the different political traditions. Employment status differed by political tradition and sex, the percentages of women doing housework being higher in Late democracies (44.6% compared with 6.9% in Social democrats and 21% in Christian democrats).

Table 3 shows the prevalence of poor self-perceived health and long-term illness in each social class dimension for men and women according to the political tradition of the countries and the difference between prevalences in each social class dimensions. Table 4 shows the association between poor health and long term-illness and social class dimension.

### Self-perceived health status

Women always presented poorer health status than men. With regard to poor self-perceived health status in the ownership dimension, men and women in the workers class always reported poorer health than owners. The largest difference was in the Late democracies among women with a difference of 10.1 points (Table 3), that is equivalent to PR 1.21 (95% CI: 1.04–1.42) in the fully adjusted model. The PR of political traditions were not different among men (Table 4).

People with low educational level had poorer health than those having higher educational level, the prevalence differences were largest in Late

democracies (18.9% in men and 24.2% in women). The PR was also higher in Late democracies for men and women PR 1.77 (95% CI: 1.36–2.32) for men and PR 1.72 (95% CI: 1.35–2.19) for women in the fully adjusted model. The PR differed by political tradition in all models (*P* < 0.05).

The managerial dimension also discriminated the status of perceived health, and in all cases people with no personnel in their charge had poorer health than people who have personnel in their charge. The differences in prevalence of poor health between people with personnel (managers) and people without personnel (non-managers) were higher in Late democracies (12.2% in men and 15.9% in women). Among women, the relative inequalities were different in the three political traditions (*P* < 0.05 in the age and employment status adjusted model), the largest inequalities were found in the Late democrats (PR 1.37, 95% CI: 1.13–1.65) and the smallest in the Christian democrats (PR 1.10, 95% CI: 0.97–1.24). This statistically significant difference was lost in the fully adjusted model.

### Long-term illness

Women had consistently higher age-standardized prevalence rates of long-term illness than men. In the Ownership dimension workers had higher prevalence rates of long-term illness than owners, independently of sex. However, in this case the difference was larger in Christian democrat countries (men 9.9% and women 13%) and smaller in Late democracies (men 2.1% and women 4.5%) (Table 3). The relative inequalities were also larger in Christian democrat countries, although no statistical differences were found among political traditions (Table 4).

People with low educational level had more long-term illness than people with a higher educational level. Men and women in Late democracies presented the largest absolute differences (13.6 and 14%, respectively) and relative differences (PR of 1.24, 95% CI: 1.04–1.47 for men and 1.27, 95% CI: 1.06–1.52 for women in fully adjusted models), the PR being different in the three political traditions.

Regarding the managerial dimension, a higher proportion of people without personnel in their charge reported a long-term illness than people with personnel in their charge. In this case the highest difference was found between Late democracies men, with 10.3 points of difference. The PR were not different in the three political traditions (*P* > 0.05) in any of the models.

## Discussion

Health inequalities in the adult population may be explained by several social class dimensions, in nine European countries belonging to different political traditions (Social democrats, Christian democrats and

**Table 3** Age-standardised prevalence (%) and 95% confidence interval (95% CI) of poor health and of long-term illness by social class dimensions and difference of prevalences (dif). Men and women, aged 50–74 years, by political tradition, SHARE 2004

	Men									Women								
	Social democrats			Christian democrats			Late democrats			Social democrats			Christian democrats			Late democrats		
	%	95%CI	Dif	%	95%CI	Dif	%	95%CI	Dif	%	95%CI	Dif	%	95%CI	Dif	%	95%CI	Dif
<b>Poor Health</b>																		
Ownership																		
Owner	23.8	(19.3, 28.3)		31.9	(27.1, 36.7)		33.1	(27.0, 39.1)		31.5	(25.4,37.6)		36.5	(31.2, 41.8)		38.1	(32.3,43.9)	
Worker	30.0	(27.9, 32.1)	6.2	37.8	(35.6, 40.0)	5.9	35.1	(31.4, 38.8)	2.0	32.4	(30.5, 4.3)	0.9	39.4	(37.4, 41.4)	2.9	48.2	(45.6, 51.7)	10.1
Educational level																		
High education	25.1	(22.9, 27.3)		32.6	(30.2, 35.0)		20.9	(15.7, 26.0)		28.0	(25.8, 30.2)		33.6	(30.9, 36.2)		27.0	(21.0, 33.0)	
Low education	38.4	(34.7, 42.2)	13.3	43.8	(40.1, 47.4)	11.2	39.8	(35.9, 43.8)	18.9	41.7	(38.4, 44.9)	13.7	46.3	(43.5, 49.3)	12.7	51.2	(47.7, 54.7)	24.2
Management																		
With personnel	25.5	(22.7, 28.4)		30.1	(27.2, 33.0)		26.7	(22.1, 31.3)		28.0	(24.3, 31.6)		35.2	(31.2, 39.3)		32.7	(26.8, 38.7)	
Without personnel	31.4	(28.9, 34.0)	5.9	42.0	(39.2, 44.7)	11.9	38.8	(34.7, 43.0)	12.2	33.7	(31.6, 35.8)	5.7	40.3	(38.2, 42.5)	5.1	48.6	(45.2, 52.2)	15.9
<b>Long-term illness</b>																		
Ownership																		
Owner	39.3	(34.0, 44.5)		39.0	(34.1, 43.9)		45.5	(39.3, 51.7)		46.7	(40.1, 53.3)		41.5	(36.0, 46.9)		49.4	(43.4, 55.4)	
Worker	47.4	(45.1, 49.7)	8.1	48.9	(46.7, 51.2)	9.9	47.6	(43.8, 51.4)	2.1	50.7	(48.7, 52.8)	4.0	50.5	(48.5, 52.6)	13	53.9	(50.4, 57.4)	4.5
Educational level																		
High education	44.3	(41.8, 46.9)		47.2	(44.7, 49.3)		37.1	(31.1, 43.2)		47.8	(45.3, 50.3)		48.8	(46.0, 51.5)		41.9	(35.2,48.7)	
Low education	51.4	(47.6, 55.3)	7.1	47.3	(43.6, 51.0)	0.1	50.7	(46.6, 54.7)	13.6	55.7	(52.4, 59.0)	7.9	50.8	(47.9, 53.8)	2.0	55.9	(52.5, 59.4)	14.0
Management																		
With personnel	45.1	(43.1, 49.6)		45.1	(42.0,48.2)		40.7	(35.6, 45.7)		51.1	(47.1, 55.2)		48.3	(44.2, 52.5)		45.6	(39.2, 51.9)	
Without personnel	48.9	(43.0, 48.5)	3.8	48.9	(46.1,51.6)	3.8	51.0	(46.8, 55.2)	10.3	50.2	(48.0, 52.4)	9.1	49.7	(47.6, 51.9)	1.4	54.6	(51.2, 58.0)	9.0

Dif: Prevalence difference in percentage of social class dimensions.

**Table 4** Association between poor health and long-term illness and social class dimensions (prevalence ratios) by political tradition. Models adjusted by age and employment status and fully adjusted models. Men and women, aged 50–74 years. SHARE 2004

	Men							Women						
	Social democrats		Christian democrats		Late democrats		P-value (**)	Social democrats		Christian democrats		Late democrats		P-value (**)
	PR	95% CI	PR	95% CI	PR	95% CI		PR	95% CI	PR	95% CI	PR	95% CI	
Models adjusted by one dimension of social class, age and employment status														
Poor Health														
No Ownership	1.14	(0.94–1.39)	1.04	(0.90–1.22)	1.03	(0.85–1.25)	>0.05	0.97	(0.80–1.18)	0.99	(0.86–1.13)	1.20	(1.02–1.40)	>0.05
Low education	1.43	(1.26–1.63)	1.24	(1.12–1.37)	1.87	(1.45–2.42)	<0.05	1.36	(1.21–1.52)	1.31	(1.19–1.45)	1.75	(1.39–2.21)	<0.05
No Supervision	1.19	(1.04–1.36)	1.33	(1.20–1.49)	1.37	(1.13–1.68)	>0.05	1.18	(1.03–1.36)	1.10	(0.97–1.24)	1.37	(1.13–1.65)	<0.05
Long-term illness														
No Ownership	1.16	(1.01–1.33)	1.18	(1.02–1.35)	1.00	(0.86–1.15)	>0.05	1.04	(0.90–1.20)	1.17	(1.02–1.33)	1.07	(0.94–1.22)	>0.05
Low education	1.11	(1.01–1.22)	0.95	(0.87–1.04)	1.28	(1.08–1.52)	<0.05	1.11	(1.03–1.20)	1.00	(0.93–1.09)	1.28	(1.07–1.52)	<0.05
No Supervision	0.98	(0.89–1.07)	1.05	(0.97–1.15)	1.18	(1.02–1.36)	>0.05	0.97	(0.89–1.06)	1.00	(0.91–1.10)	1.15	(0.99–1.34)	>0.05
Models adjusted by all dimensions of social class, age and employment status														
Poor Health														
No Ownership	1.15	(0.95–1.39)	1.02	(0.88–1.19)	1.03	(0.85–1.25)	>0.05	0.93	(0.76–1.13)	1.01	(0.87–1.16)	1.21	(1.04–1.42)	>0.05
Low education	1.40	(1.23–1.60)	1.17	(1.06–1.30)	1.77	(1.36–2.32)	<0.05	1.33	(1.19–1.49)	1.30	(1.18–1.44)	1.72	(1.35–2.19)	<0.05
No Supervision	1.13	(0.99–1.30)	1.29	(1.15–1.44)	1.21	(0.98–1.49)	>0.05	1.12	(0.97–1.29)	1.06	(0.94–1.20)	1.18	(0.97–1.43)	>0.05
Long-term illness														
No Ownership	1.16	(1.01–1.34)	1.16	(1.01–1.33)	1.00	(0.86–1.16)	>0.05	1.05	(0.91–1.21)	1.19	(1.04–1.36)	1.07	(0.94–1.22)	>0.05
Low education	1.12	(1.02–1.23)	0.95	(0.86–1.04)	1.24	(1.04–1.47)	<0.05	1.12	(1.04–1.21)	1.02	(0.94–1.10)	1.27	(1.06–1.52)	<0.05
No Supervision	0.95	(0.87–1.04)	1.06	(0.97–1.16)	1.12	(0.96–1.31)	>0.05	0.94	(0.86–1.03)	0.97	(0.88–1.07)	1.08	(0.92–1.26)	>0.05

PR: Prevalence Ratio; 95% CI: 95% confidence intervals.

\*\*P-value of the difference of the PR among the political traditions.

Late democrats). Absolute and relative differences are more marked in Late democracies and particularly among women. Inequalities are more evident in educational level than in other dimensions of social class (ownership and management). The results are more pronounced in poor perceived health than in long-term illness indicators. These findings are even more important taking into account that health inequalities tend to be smaller in old populations,<sup>28</sup> suggesting that inequalities in younger age groups are even larger.

The impact on social inequalities and on health of political forces has rarely been studied. The majority of studies used mortality as the dependent variable.<sup>4,9-11</sup> Moreover, the present study is focused on the impact on social class inequalities in self-perceived health and long-term illness.

Our results are in accordance with the study of Eikemo *et al.*<sup>29</sup> and the review of Dahl *et al.*<sup>15</sup> that did not find that health inequalities were smaller in the Social democratic countries than in Christian Democratic countries and Liberal countries. However, it is necessary to emphasize that Dahl's review is based on the results of comparative studies including different countries, since they could not find any studies specifically designed to analyse differences by political tradition. Similar results were found in another study that compared mortality in Sweden, Italy and England and Wales as examples of Social democratic, Christian democratic and Liberal traditions.<sup>30</sup> In that study class inequalities in Social democracy and Christian democracy were also similar. The welfare state literature includes authors who consider the Social democratic type of country rather more re-distributive than the Christian democratic type.<sup>31</sup> However, Esping-Andersen considers Christian democracies (the conservative corporatist type) similar to Social democracies. In public health, a similar argument has been advanced by authors who defend that a capitalist economy cannot function with substantial levels of class equality,<sup>32,33</sup> putting a limit to the capacity of Social democracies to re-distribute wealth. In that sense class inequality should be thought of as the fundamental feature of capitalist economy, without which capital cannot expand.<sup>34</sup>

It is worth mentioning that social class inequalities differ more by political tradition in the case of women than in the case of men, inequalities being larger in women of Late democracies. In self-perceived health, among women, differences by political tradition are found in the three social class dimensions. For long-term illness differences appear with the educational dimension. As Raphael and Bryant<sup>14</sup> highlight, women's health and well-being are particularly sensitive to decisions made in relation to the spending priorities of governments, the extent to which services are provided and the degree to which women are supported in moving towards equity. Countries with a stronger social welfare orientation impact more

positively on women's quality of life.<sup>14,35</sup> Social democratic countries are characterized by their implementation of full-employment policies, which facilitate the integration of women into the labour force, integration that is much lower in Late democracies.<sup>6</sup> Moreover, Late democracies have a widespread and strong Christian tradition and for this reason women have had the care and the responsibility of family members as well of as domestic labour,<sup>6</sup> factors that have been related with worse health, mainly among women of disadvantaged socioeconomic position.<sup>36</sup>

Other studies that have compared inequalities in self-assessed health status between different countries obtained different results. For example, Mackenbach *et al.*<sup>37</sup> analysed the population aged 25-69 years in the late eighties and early nineties and found higher inequalities in Sweden and Denmark, with Spain lying between them. On the other hand, the study of Eikemo *et al.*<sup>29</sup> found higher self-perceived health inequalities in men and women of Southern countries using the European Social Survey of 2002-04.

Another fact to take into account is that the educational distribution of southern European countries is very different than for the other countries, especially among women. In the Late democracies, there is a minority with high educational level, while in other countries the majority has a high educational level. This low educational level of southern women reflects the effects of the former dictatorship on women's position, which may help to understand the large health inequalities among women in these countries.

This article was the first to use the social class dimensions proposed by Wright<sup>34</sup> in many European countries. Social stratification refers to the ranking of individuals along a continuum of economic attributes such as income or years of education. These rankings are known as 'gradient indicators' in epidemiology.<sup>25</sup> Most researchers use several measures of social stratification simultaneously because single measures have been insufficient to explain social inequalities in the health of populations. However, despite their usefulness in predicting health outcomes, these measures do not reveal the social mechanisms that explain how individuals come to accumulate different levels of economic (and political or cultural) resources.<sup>33</sup> Social class, understood as social relations linked to the production of goods and services<sup>38</sup> is conceptually and empirically distinct from social stratification or socioeconomic status. Some studies on social class inequalities, including relations of property and control over the labour process, have found associations with health. Thus, social class is associated with health over and above socioeconomic indicators.<sup>24,25</sup>

## Limitations

Several limitations on the data and methods of this study need to be mentioned. A first limitation with



the SHARE dataset is that samples can be different in the countries, although SHARE made great efforts to deliver truly comparable data, in order to permit reliably studying how difference in cultures, living conditions and policy approaches shape the quality of life of Europeans just before and just after retirement.<sup>20</sup> Moreover, we have excluded about 4% of the cases due to missing social class dimension in men and women. Also, our original surveys were not designed to capture class relations and our proxy indicator only captures a minimum portion of class variability because the sample size was not big enough to be able to study the 12 social class positions proposed by Wright.<sup>34</sup> This was especially problematic in the case of ownership, because it was not possible to separate capitalists from petty bourgeoisie, populations that have been shown to have different health outcomes.<sup>24</sup> The gradient within supervision/management is also lost as is the differentiation between managers in terms of policy setting functions.<sup>39</sup> This approach could produce a stronger finding with educational level (a standard valid indicator) and the less well measured class positions related to management and property.

It is necessary to highlight that the percentage of household non-responses was high for the majority of countries, but we do not know whether this non-response was associated with health status and social class dimensions. Moreover, in the case of women, social class was obtained through the occupation of the head of the household in a large proportion of cases (21.5%) in Late democracies. We do not think this fact affects our results because the associations found by political tradition among women are not so different from those found among men.

Self-perceived health has been described as a good indicator to compare health in different countries.<sup>40,41</sup> However, a recent study found differences in self-reported health across countries related to the cross-

cultural differences in reporting styles.<sup>42</sup> But in our study we did not only compare the absolute rate of self-perceived health by social class dimension; we also compared relative inequalities in self-perceived health, a measure which is less affected by differences in prevalence between countries.

We limited the population studied to 50–74 years old, because institutionalization of the elderly may change by type of country, and therefore we excluded people with higher probability of being institutionalized.

## Conclusions and recommendations

This study is one of the first to show how health inequalities by social class position, in the adult population, change by gender and political tradition. Inequalities are more important in Late democracies and mainly among women.

These results emphasize the need to evaluate the impact of the implementation of public policies in social class inequalities in health. More research is needed to have a better measurement of social class dimensions and also to achieve a sufficiently large sample size to allow studying the 12 social classes proposed by Wright, the inclusion of liberal countries, and more measures of other health outcomes and in all age groups.

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### KEY MESSAGES

- The majority of international studies of inequalities in health do not include political variables.
- The objective of this study was to compare inequalities in self-perceived health, using Wright's social class dimensions (ownership, education and management), in nine European countries grouped in three political traditions (Social democracy, Christian democracy and Late democracies).
- Absolute and relative health inequalities by social class dimensions are found in the three political traditions, but these differences are more marked in late democracies and mainly among women.
- This study is one of the first to show the impact of different political traditions on social class inequalities in health.

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## Commentary: Politics and public health—some conceptual considerations concerning welfare state characteristics and public health outcomes

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Espelt *et al.* have published a paper<sup>1</sup> on differences between European welfare states and how these differences are linked to health inequalities among the older part of the population. Although many comparative studies of international variations in health inequalities have drawn conclusions about the pros and cons of different welfare state set-ups, the issue has not been properly studied. Partly, this could be due to the conceptual and methodological problems involved when one attempts to relate international variations in complex welfare state structures on the one hand with mortality, ill health or health inequalities on the other. And because of the complexity of the task, the analytical choices made when designing a study become even more crucial than in regular individual-level epidemiological studies. Examples of such choices include what kind of welfare state characteristics we believe to be of importance for public health outcomes; how data on these characteristics are handled and what kinds of public health outcomes are likely to be affected. I believe that the choices made by Espelt *et al.* need to be examined, since they have important consequences for our understanding of the links between welfare state characteristics and public health outcomes.

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A fundamental question is of course what it is about welfare states that affect the health and longevity among their populations and that also vary systematically across different types of welfare state. Ultimately, I would argue, it is the resources available to people that will be of importance for the levels of and inequalities in health in a country.<sup>2</sup> These resources are generated within the family, in the market and also through the welfare state. Welfare state institutions will thereby contribute to people's resources, either directly through transfers and services or indirectly through policies that affect people's possibilities to generate resources in the market. The degree to which welfare state institutions do so and the extent to which this in turn is linked to health and health inequalities is the key issue, therefore. Consequently, it is features such as the *coverage* and *generosity* of cash transfer programme like unemployment insurance, sickness insurance, family support or pensions that should be in focus if we are to find out what it is about welfare states that are important to people's health. Or, for that matter, the *availability* and *quality* of services provided.

And as welfare state research has demonstrated, there are large variations in the way social insurance programmes are organized across different welfare states, and these differences are also related to differences in outcomes on the individual level, as reflected most clearly in cross-national variations in poverty rates.<sup>3,4</sup> Hence, there seem to be a good case