Welfare state regimes, unemployment and health: A comparative study of the relationship between unemployment and self-reported health in 23 European countries.

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Abstract

Background: The relationship between unemployment and increased risk of morbidity and mortality is well established. However, what is less clear is whether this relationship varies between welfare states with differing levels of social protection for the unemployed.

Methods: The first (2002) and second (2004) waves of the representative cross-sectional European Social Survey (37,499 respondents, aged 25 – 60). Employment status was main activity in the last 7 days. Health variables were self-reported limiting longstanding illness (LI) and fair/poor general health (PH). Data are for 23 European countries classified into five welfare state regimes (Scandinavian, Anglo-Saxon, Bismarckian, Southern and Eastern).

Results: In all countries, unemployed people reported higher rates of poor health (LI, PH or both) than those in employment. There were also clear differences by welfare state regime: relative inequalities were largest in the Anglo-Saxon, Bismarckian, and Scandinavian regimes. The negative health effect of unemployment was particularly strong for *women,* especially within the Anglo-Saxon (OR_{LI}=2.73 and OR_{PH}=2.78) and Scandinavian (OR_{LI}=2.28 and OR_{PH}=2.99) welfare state regimes.

Discussion: The negative relationship between unemployment and health is consistent across Europe but varies by welfare state regime, suggesting that levels of social protection may indeed have a moderating influence. The especially strong negative relationship amongst women, may well be because unemployed women are likely to receive lower than average wage replacement rates. Policy makers' attention therefore needs to be paid to income maintenance, and especially the extent to which the welfare state is able to support the needs of an increasingly feminised European workforce.

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BACKGROUND

The relationship between unemployment and increased risk of morbidity and mortality is well established.[1-8] However, what is less clear from the existing literature is whether the relationship between unemployment and health varies by welfare state and if so, the extent to which this can be explained through reference to the different approaches to social protection (particularly wage replacement rates) taken by different welfare state regimes. In this paper we examine the extent to which relative health inequalities between unemployed and employed people vary across 23 European countries and by the different approaches to social protection taken by the five European welfare state regimes (Scandinavian, Anglo-Saxon, Bismarckian, Southern and Eastern).

Unemployment and health

At the individual level, studies have particularly shown that unemployment is associated with worse mental health, including parasuicide. [9, 10] It has also been linked to higher rates of all cause mortality [6, 7] as well as limiting long-term illness,[8] and, in some studies, a higher prevalence of risky health behaviours (amongst young men), including problematic alcohol use and smoking.[11] At the area level, rates of unemployment, especially when used as indicators of deprivation, correlate with poorer neighbourhood health,[12] and at the country level, increases in the unemployment rate have been associated with increased mortality.[13] Research has also drawn attention to the contributory role of ill health itself as a factor behind unemployment (direct health selection),[5, 7, 14] and the importance of ill health related worklessness in terms of socio-economic health inequalities.[15] Studies from various countries have identified poverty as an important intermediary factor in the relationship between unemployment and health.[7]

Welfare states regimes

Welfare provision, in the form of cash benefits and welfare services, is acknowledged as an important mediatory factor in terms of the relationship between labour market position and health.[16-19] A crucial aspect of welfare provision, and one which most differentiates welfare

states, is income maintenance (to prevent poverty),[18] particularly during adverse events such as unemployment, old age or long-term sickness absence.

Welfare state regimes place those welfare states that are the most similar (in terms of political tradition, principles, levels of provision, etc) together, emphasising *within* regime coherence and *between* regime differences.[20] There are various competing welfare state regime typologies which emphasise diverse aspects of welfare states such as social expenditure levels, decommodification or political traditions (for an overview see Bambra 2007).[21-24] Ferrera's four-fold typology,[25] which focuses on different dimensions of how social benefits are granted and organised, has been highlighted as one of the most empirically accurate welfare state regime typologies.[26-29] Ferrera makes a distinction between the Scandinavian, Anglo-Saxon, Bismarckian and Southern countries (Figure 1). More recently, the Eastern European countries have begun to be considered as a distinctive regime type.[20, 22, 26, 29, 30]

Welfare state regimes and unemployment protection

Social protection during unemployment varies by welfare state regime. To a large degree this reflects the historical influence of differing political traditions, with those countries experiencing more post-war years of Social Democratic rule providing more generous systems of support.[24] Figure 2 breaks down the various characteristics of social protection during unemployment in the five different welfare state regimes. In essence, there are three interrelating principles underpinning provision: universalism, social insurance and means-testing.[18] Systems based on universal provision do not make reference to previous contributions or means-testing and are offered to all citizens as long as specific demographic, social or health criteria are fulfilled. Often flat-rate benefits are paid. Under social insurance systems, entitlement to benefits is dependent on previous contributions and in most cases subsequent benefit levels reflect previous earned income. Under means-testing, entitlement is restricted on the basis of income and the (often minimal) financial support is targeted at those in most need usually after they have exhausted all other means (e.g. personal savings or social insurance).[31]

The welfare provision of different regimes is governed by these three principles in varying ways. For example, to differing degrees of generosity, universalism is more prominent within the Scandinavian welfare states (high population coverage) and the Anglo-Saxon regime (fixed benefit rates for all), whilst social insurance is the key component of provision within the Bismarckian, Southern and Eastern European welfare states. Means-testing is more commonly a characteristic of the Anglo-Saxon welfare states however it is also used for social assistance payments in other welfare state regimes. For example, in the UK (Anglo-Saxon) unemployment benefit (Contribution based Job Seekers Allowance) is only payable (for a maximum of six months) to those who fulfil the minimum National Insurance contribution requirement within the two years before claiming (Figure 2). Most claimants do not meet this criteria and are therefore reliant on means-tested social assistance benefits particularly Income-based Job Seeker's Allowance and Income Support.[32] However, this mixed approach is also evident in Sweden where there is a social insurance based benefit (Unemployment Insurance Benefit) based on past contributions and which pays a benefit as a proportion of previous wages, as well as a means-tested social assistance scheme (Unemployment Assistance Benefit) which pays a (lower) flat rate.[32] Similarly, a three-tier system is operated in Germany (Bismarckian): those with a full contribution record receive the full unemployment insurance benefit (Arbeitslosengeld), those with a smaller contribution criteria, receive a means-tested insurance benefit (Arbeitslosenhilfe) whilst those who do not have a sufficient contribution record must rely upon the Sozialhilfe social assistance scheme.[32]

Unemployment protection in each welfare state regime therefore represents a complex mix of these differing principles. However, there are clear differences by welfare state regime – due to the influence of differing political traditions - in terms of how these principles are operationalised, particularly in terms of the generosity of benefits paid to the unemployed (replacement rates), the qualifying period and conditions, duration of benefit payments and the waiting period before entitlement is activated. In each of these regards, the Scandinavian

welfare states are generally more generous than the other welfare state regimes (Figure 2), particularly in comparison to the Anglo-Saxon and Eastern European regimes.

Figure 1: European welfare state regimes (ranked by levels of social protection 1-5, high–low)

1. Scandinavian
Characterised by universalism, comparatively generous social transfers, a commitment to full employment and income protection; and a strongly interventionist state. The state is used to promote social equality through a redistributive social security system. Unlike the other welfare state regimes, the Scandinavian regime type promotes an equality of the highest standards, not an equality of minimal needs and it provides highly decommodifying programs.

2. Bismarckian
Distinguished by its 'status differentiating' welfare programs in which benefits are often earnings related, administered through the employer; and geared towards maintaining existing social patterns. The role of the family is also emphasised and the redistributive impact is minimal. However, the role of the market is marginalised.

3. Anglo-Saxon
State provision of welfare is minimal, social protection levels are modest and often attract strict entitlement criteria; and recipients are usually means-tested and stigmatised. In this model, the dominance of the market is encouraged both passively, by guaranteeing only a minimum, and actively, by subsidising private welfare schemes. The Anglo-Saxon welfare state regime thereby minimises the decommodification effects of the welfare state and a stark division exists between those, largely the poor, who rely on state aid and those who are able to afford private provision.

4. Southern
The southern welfare states have been described as 'rudimentary' because they are characterised by their fragmented system of welfare provision which consists of diverse income maintenance schemes that range from the meagre to the generous and welfare services, particularly, the health care system, that provide only limited and partial coverage. Reliance on the family and voluntary sector is also a prominent feature.

5. Eastern
The formerly Communist countries of East Europe have experienced the demise of the universalism of the Communist welfare state and a shift towards policies associated more with the Anglo-Saxon welfare state regime notably marketisation and decentralisation. In comparison with the other member states of the European Union, they have limited welfare services.

Adapted from Bambra 2007; Eikemo and Bambra 2008.[20, 22]

Figure 2: Characteristics of unemployment protection in 23 European countries, ranked by welfare state regime (2004).[33, 34]

Welfare regime (1-5, high-low)	Country	Funding System	Qualifying Period[a]	Initial net replacement rate (% of net average wages)[b]	Unemployment insurance benefit duration (months)[c]	Waiting Period (days)[d]
1. Scandinavian	Denmark	Subsidised voluntary insurance	12 months in last 3 years	70	48	0
	Finland	Voluntary subsidised insurance and social assistance system	43 weeks in last 2 years	70	23	7
	Norway	Social Insurance	Annual earnings in last year equal to 75% of base amount.	68	36	5
	Sweden	Subsidized program of basic insurance and voluntary income-related insurance	6 months in last 12 months	75	28	5
2. Bismarckian	Austria	Social Insurance	28 weeks in last 12 months	63	9	0
	Belgium	Social Insurance	468 days in last 27 months	61	No limit	0
	France	Social insurance and social assistance	6 months in last 22 months	75	23	8
	Germany	Social insurance and social assistance	12 months in last 2 years	69	12	0
	Luxembourg	Social Insurance	26 weeks in last 12 months	80	12	0
	Netherlands	Social insurance and social assistance	26 weeks in last 39 weeks	74	24	0
	Switzerland	Social Insurance	12 months in last 2 years	77	24	5
3. Anglo-Saxon	Ireland	Social insurance and social assistance	39 weeks in last 12 months	49	15	3
	United Kingdom	Social insurance and social assistance	Contributions equivalent to 25 and 50 times the lower earnings limit must have been paid in the last 2 years.	54	6	3
4. Southern Europe	Greece	Social Insurance	125 days in last 14 months	55	12	6
	Italy	Social insurance	2 years of insurance contributions with 52 weeks contributions in last 2 years	54	6	7
	Portugal	Social insurance and social assistance	540 days in last 24 months	83	24	0

	Spain	Social Insurance	12 months in last 6 years	67	21	0
5. Eastern Europe	Czech Republic	Social Insurance	12 months in last 3 years	56	5	-
	Hungary	Social Insurance	12 months in last 4 years	49	9	0
	Poland	Social insurance	Earnings in 18 months prior to claim must be at least equivalent to the minimum wage.	59	12	7
	Slovenia	Social insurance	12 months in last 18 months	56	8	-

a For unemployment insurance benefits

b Net replacement rate = (benefit income when unemployed - tax on benefit income) / (earned income + benefit income when employed - tax on earnings and benefits) x 100; it is assumed that the unemployed worker is 40 years old and has an uninterrupted employment record of 22 years. Benefits included in calculation: Unemployment insurance, unemployment assistance, social assistance, family benefits, housing benefits.

c Months at equivalent to the initial rate for the Czech Republic, the Slovak Republic and Spain where the benefit level declines overtime (*e.g.* for Spain, where the nominal replacement rate declines from 70% to 60% after six months, the months equivalent initial rate is calculated as six months plus 6/7ths of 18 months). In most countries after the insurance period ends the unemployed person is entitled to claim social assistance (which may be means-tested).

d – no data available

Welfare state regimes, unemployment protection and health

Differences in the social protection offered to the unemployed could therefore be an important mediatory factor in the relationship between poverty, unemployment and health.[7] This could be very important in terms of helping to develop policy interventions, particularly in terms of income maintenance provision, to improve the health of the unemployed, reduce inequalities between those in and out of work, and thereby potentially reduce the influence of labour market status on health. Indeed, a study comparing means-tested and non-means tested unemployment benefits in three countries (UK, Germany, USA) found that amongst the unemployed, those in receipt of non-means tested benefits had better health than those in receipt of means-tested benefits.[3]

However, as previous studies of the relationship between unemployment and health have tended to focus either on associations between unemployment and health,[7] or changes to the employment status of people and their subsequent health, within one country,[5, 8] or in a very limited number of similar countries,[3] a full examination of the possibly health protective role of different approaches to social protection has not yet been undertaken. Similarly, although there is an emerging comparative social epidemiology literature which examines differences in health by welfare state regime,[17, 19, 22, 26, 28, 29, 35-39] there has to date been little analysis by population sub-group.[22] Therefore, in this study we examine the relationship between unemployment and self-reported health in 23 countries through reference to the different approaches to social protection taken by five different welfare state regimes. Specifically, given the differences in social provision by welfare state regime (as described in Figures 1 and 2), we test the following two inter-related hypotheses: 1) that the self-reported health of the unemployed will be worse than the employed in all welfare state regimes; and 2) that the unemployed in those welfare state regimes with higher levels of social protection (the Scandinavian and Bismarckian regimes) will have comparatively better self-reported health than those in the other welfare state regimes (Anglo-Saxon, Southern and Eastern).

METHODS

Data

The data source is made up of two independent waves of the European Social Survey (merged files from 2002 and 2004), from which we analysed 37 499 individuals (aged 25 to 60) from 21 countries (Table 1). The two health outcome variables were self-reported limiting longstanding illness and fair/poor general health. The main objective of the ESS is to provide high quality data over time about changing social attitudes and values in Europe. The data and extensive documentation are freely available for downloading at the Norwegian Social Science Data Services (NSD) web site (www.nsd.uib.no).

We used two indicators of morbidity available in the ESS: self reported general health and limiting longstanding illness. Self reported general health was constructed from a variable asking; 'How is your (physical and mental) health in general?'. Eligible responses were 'very good', 'good', 'fair', 'bad', and 'very bad'. We dichotomized the variable into 'very good or good' health versus 'less than good' health ('fair', 'bad', and 'very bad'). As for limiting longstanding illness, people were asked if they were hampered in daily activities in any way by any longstanding illness or disability, infirmity or mental health problem. Eligible responses were 'yes a lot', 'yes to some extent' and 'no'. We dichotomized this variable into 'yes' (regardless of whether to some extent or a lot) and 'no'. Unemployment was measured by comparing unemployed (including both those currently looking for a job and those who are not) with people in paid work. The question asked in the survey was "what is your main activity, the last 7 days". Correlation tests between the reporting of employment status in the ESS largely correspond with the OECD rates from 2003 (Table 1, last column). People who were currently under education, permanently sick or disabled, retired, doing community or military service, were excluded from the analysis along with those doing housework / looking after children. A weight was applied in all analyses to correct for design effects due to sampling designs in countries where not all individuals in the population have an identical selection probability. All analyses were done for men and women separately.

Table 1: Country statistics

Welfare regime	Country	2002			2004			2002 and 2004 combined		
		Response rate (%)	Included in analysis		Response rate (%)	Included in analysis		Total	Unemployed in ESS (OECD rates 2003)	
			Men	Women		Men	Women		Men*	Women*
Scandinavian	Denmark	67.7	439	398	64.3	393	395	1625	6.7 (5.1)	7.2 (5.7)
	Finland	73.2	533	486	70.7	515	518	2052	7.9 (9.2)	8.4 (8.9)
	Norway	65.0	690	479	66.2	545	441	2155	4.5 (4.8)	3.7 (3.9)
	Sweden	69.5	601	487	65.9	560	488	2136	4.7 (6.3)	6.7 (5.2)
Bismarckian	Austria	60.4	583	586	62.4	491	485	2145	5.9 (4.3)	3.7 (4.1)
	Belgium	59.2	497	349	61.2	460	371	1677	6.2 (7.4)	11.3 (8.0)
	France	43.1	346	339	43.6	443	476	1604	4.7 (8.8)	11.2 (11.0)
	Germany	55.7	772	602	51.0	704	584	2662	12.3 (9.6)	11.7 (8.8)
	Luxembourg	43.9	349	239	50.1	519	326	1434	2.4 (3.0)	3.7 (4.7)
	Netherlands	67.9	574	437	65.1	465	390	1866	3.3 (4.1)	3.9 (4.5)
	Switzerland	33.5	550	395	48.6	582	452	1979	2.6 (3.8)	2.7 (4.5)
Anglo-Saxon	Ireland	64.5	514	393	59.7	461	436	1805	5.3 (4.8)	4.8 (3.9)
	United Kingdom	55.5	530	447	54.6	475	396	1848	6.3 (5.5)	4.5 (4.1)
Southern Europe	Greece	80.0	580	433	78.8	541	427	1980	8.1 (6.0)	14.2 (14.3)
	Italy	43.7	307	276	59.3	398	283	1265	7.9 (6.7)	15.9 (11.6)
	Portugal	68.8	335	340	71.2	399	438	1512	5.3 (5.6)	11.8 (7.3)
	Spain	53.2	401	302	59.7	468	336	1508	6.4 (8.2)	12.9 (15.9)
Eastern Europe	Czech Republic	43.3	379	263	55.3	739	676	2057	5.3 (6.1)	10.8 (9.9)
	Hungary	69.9	403	290	65.4	295	362	1350	7.3 (6.1)	5.7 (5.6)
	Poland	73.2	501	366	73.7	423	349	1638	14.4 (19.0)	16.2 (20.4)
	Slovenia	70.5	322	280	69.7	308	290	1200	8.1 (n.a.)	11.1 (n.a.)

*Correlation between unstandardised ESS rates and OECD rates is 0.82 for men and 0.88 for women.

Analysis

Relative health inequalities were calculated applying a series of logistic regression analyses, in which unemployment was introduced as an independent variable, controlled for age, with health outcomes as the dependent variables. Prevalence rates and rate differences were calculated additionally, using direct age-standardisation. In addition, to test the robustness of the main findings, three sensitivity analyses were performed: Firstly, the between-regime differences in the relationship between unemployment and health were tested separately for men and women using the interaction 'employment status*regime' within a multi-level design. Secondly, one-way ANOVA was used to examine whether the between-regime differences in health outcomes (overall prevalence, prevalence among unemployed, rate difference, and relative inequalities) were greater than the within-regime differences. Finally, additional adjustments were made for between regime differences in the prevalence of unemployment (by sex and country) and differences between regimes in terms of the socio-economic status (education and occupational class) of the unemployed were also examined. These analyses are detailed further in the Web-only Appendix.

RESULTS

Odds ratios (along with prevalence rates and rate differences) of ill-health are presented in Table 2 for men and women within each welfare regime separately (country specific data are presented in Web Table 1 in the Web-only Appendix). All results in this table indicate that unemployed people feel unhealthier than those who report to be employed. This association is significant for all outcomes, with the single exception of men limiting longstanding illness (OR=1.67) in the Anglo-Saxon welfare regime.

There are also clear differences by welfare state regime. Relative inequalities between employed and unemployed were largest in the Anglo-Saxon (men: OR_{PH}=2.97, 1.92 to 4.60; women: OR_{LI}=2.73, 1.50 to 4.95 and OR_{PH}=2.78, 1.63 to 4.73) Bismarckian (men only: OR_{LI}=2.21, 1.74 to 2.79 and OR_{PH}=2.72, 2.21 to 3.35), and Scandinavian (women only: OR_{LI}=2.28, 1.71 to 3.03 and OR_{PH}=2.99, 2.34 to 4.00) regimes, and smallest in the Southern

(men: OR_{PH}=1.82, 1.35 to 2.46; women: OR_{LI}=1.52, 1.03 to 2.25 and OR_{PH}=1.66, 1.31 to 2.11) and Eastern (women only: OR_{LI}=1.65, 1.24 to 2.10 and OR_{PH}=1.76, 1.38 to 2.25) welfare state regimes.

According to the size of rate differences and odds ratios, it appears that the negative health experiences of being unemployed are particularly strong for *women* within the Anglo-Saxon (OR_{LI}=2.73 and OR_{PH}=2.78) and Scandinavian (OR_{LI}=2.28 and OR_{PH}=2.99) welfare regime. While the odds ratios of *men's* reporting of limiting longstanding illness do not show a distinct pattern (except from the non-significant results in the Anglo-Saxon regime), the reporting of poor general health within the Anglo-Saxon regime again demonstrates the largest odds ratios.

The sensitivity analyses (presented in Web Appendix 1) show that welfare state regimes are strongly related to the association of unemployment and women's health and, in terms of health outcomes, that within welfare state regime variance is significantly smaller than between welfare state regime variance for measures of prevalence (but not with regard to rate differences and relative inequalities). The association between rate differences and odds ratios was more evident for women as compared to men. The additional adjustments made for the prevalence of unemployment confirmed the main findings - that the association between unemployment and health varies by welfare state regime - and in addition, a high correlation as found between the original odds ratios and the odds ratios adjusted for the prevalence of unemployment (r=0.85 or higher). This suggests that it is not the higher prevalence of unemployment in some welfare states which has driven the observed differences in the health of the unemployed by welfare state regime. The sensitivity analyses also found that unemployed men and women were more likely to be from the lower socio-economic groups than employed people in all welfare state regimes.

Table 2: Prevalence rates, rate differences and odds ratios (95% CI) for each welfare regime separately (N=37499)

Sex	Welfare regime	Limiting longstanding illness				Poor/fair general health			
		Prev	Unemp	(RD)	OR (95 % CI)	Prev	Unemp	(RD)	OR (95 % CI)
Men	Scandinavian	17.5 %	30.3 %	(13.5)	**1.96 (1.47 – 2.61)**	18.4 %	17.6 %	(17.0)	**2.27 (1.72 – 3.01)**
	Bismarckian	13.7 %	25.1 %	(12.0)	**2.21 (1.74 – 2.79)**	20.1 %	19.0 %	(19.8)	**2.72 (2.21 – 3.35)**
	Anglo-Saxon	11.1 %	16.4 %	(5.7)	1.67 (0.99 – 2.81)	12.7 %	11.7 %	(16.9)	**2.97 (1.92 – 4.60)**
	Southern	6.8 %	12.5 %	(6.2)	**2.07 (1.34 – 3.18)**	21.9 %	21.2 %	(12.6)	**1.82 (1.35 – 2.46)**
	Eastern	17.6 %	27.4 %	(10.8)	**1.89 (1.43 – 2.52)**	33.1 %	31.6 %	(17.8)	**2.15 (1.67 – 2.76)**
Women	Scandinavian	19.4 %	35.3 %	(17.0)	**2.28 (1.71 – 3.03)**	17.8 %	35.3 %	(18.7)	**2.99 (2.34 – 4.00)**
	Bismarckian	14.8 %	23.5 %	(9.4)	**1.87 (1.48 – 2.37)**	21.9 %	34.7 %	(13.8)	**2.06 (1.67 – 2.55)**
	Anglo-Saxon	10.0 %	23.1 %	(13.7)	**2.73 (1.50 – 4.95)**	13.6 %	27.5 %	(14.8)	**2.78 (1.63 – 4.73)**
	Southern	7.8 %	11.8 %	(4.5)	**1.52 (1.03 – 2.25)**	30.5 %	39.3 %	(10.1)	**1.66 (1.31 – 2.11)**
	Eastern	18.1 %	24.4 %	(7.0)	**1.65 (1.24 – 2.19)**	38.4 %	49.0 %	(12.0)	**1.76 (1.38 – 2.25)**

Prev = total prevalence, **Unemp** = prevalence among unemployed, **RD** = rate difference between employed and unemployed, **OR** = odds ratio. All measures were age-standardised.

DISCUSSION

Our study has found that the relationship between unemployment and health is consistent across all 23 European countries with the unemployed in each country reporting worse self-reported health than the employed (either LI, PH or both). This is in keeping with our first hypothesis and in line with the majority of the existing research literature.[5, 7, 8, 40] For example, a longitudinal Swedish study found that self-reported physical health decreased with the advent of unemployment and that poorer self-reported physical health increased the likelihood of future unemployment.[5] Similarly, a longitudinal study of UK men found an increased risk of limiting longstanding illness amongst the unemployed.[8] It seems therefore, that even though the levels of social protection offered to the unemployed vary by welfare state (and welfare state regime), in all countries, a relationship exists between unemployment and poorer self-rated health. This suggests that current wage replacement rates, even in the more generous welfare states, are not sufficient to overcome the financial effects of unemployment on health. On the other hand, it may indicate the importance for health of the non-financial losses associated with unemployment (e.g. social isolation), as demonstrated in Rudas et al's study of unemployed Italian workers who despite receiving a 100% replacement rate still reported elevated levels of physical and mental morbidity. [7, 40]

Although we have found a consistent cross-European relationship between unemployment and poorer self-reported health, we have also identified differences in the magnitude of the relationship by welfare state regime. Specifically, we have found that relative inequalities are largest in the Anglo-Saxon, Bismarckian (men only), and Scandinavian (women only) regimes, and smallest in the Southern and Eastern (women only). The findings for the Anglo-Saxon welfare state regime are perhaps unsurprising given that wage replacement rates for the unemployed are the lowest in these welfare states, and that benefits are means-tested and subject to strict entitlement rules. The unemployed in the Anglo-Saxon welfare states are therefore at a great financial disadvantage in comparison to those in employment and this may well explain the magnitude of inequality as financial strain has been found to be an important factor in the relationship between unemployment and ill health.[7, 41, 42] Furthermore, means-tested benefits are associated with stigma [18] and so the non-financial

problems of unemployment may be greater in the Anglo-Saxon welfare states. Our findings are in keeping with broader based studies of welfare state regimes and health indicators which have found that overall population health tends to be worse in the welfare states of the Anglo-Saxon regime. [35, 36, 38, 39, 43, 44]

It is harder to explain the findings for the Bismarckian (men only), and Scandinavian (women only) regimes and certainly these are in contradiction to the expectations outlined in our second research hypothesis. Interestingly, unlike the Anglo-Saxon welfare states they apply only to one or other gender. It is possible that the status differentiating Bismarckian welfare states may tend to exasperate the relationship between unemployment and poor health by restricting access to the higher level social insurance benefits. The length of entitlement to social insurance is also comparatively low in the Bismarckian welfare states (Figure 2). That relative inequalities are greater between men than women, may also be in part due to stigma as the familial approach of the Bismarckian welfare states emphasises the male breadwinner role.[28, 45, 46] In terms of the Scandinavian welfare state regime, the relatively large inequalities between employed and unemployed women may well reflect the fact that women are less likely to meet the qualification criteria for social insurance payments (for example due to higher rates of part-time working)[47] and are therefore dependent on social assistance benefits which have a lower overall replacement rate.[48]

It is of interest that the smallest relative inequalities between employed and unemployed were found in the Southern and Eastern welfare states. For example, the health differences between unemployed and employed people in the East European welfare regime were never larger than OR=2.15 throughout the study (Table 2). This is somewhat counter to the wider inequalities in health literature which suggests that relative inequalities in health by socio-economic status should be larger in these countries.[49, 50] This finding is therefore very surprising and clearly requires further analysis (perhaps looking at individual countries in these regimes in more depth); not least as the replacement rates and eligibility criteria for the Southern and Eastern welfare state regimes are not particularly generous, holding a fairly moderate position in relation to other regimes (Figure 2). One possible explanation for the

finding is that the more traditional family model in these countries means that additional material, and non-material, support is provided by the family to unemployed members thus buffering the impact of unemployment on health.

Our main results and the sensitivity analyses also suggest that there is an important gender dimension to the relationship between unemployment and poorer self-reported health. Health inequalities between the unemployed and employed were larger amongst women, most strikingly in the Anglo-Saxon and Scandinavian welfare state regimes. Firstly, this is in contrast to most single country, longitudinal studies, in which the relationship between unemployment and poor health has generally found to be more noticeable amongst men. Caution should therefore be applied to our findings until they are replicated. However, from a social protection perspective it is less surprising that women experience a more adverse impact on health of unemployment. Women are often not entitled to the higher value social insurance benefits – due to a less coherent employment history e.g. part-time work, periods out of work due to caring etc – and therefore have to rely on lower level social assistance which is provides much lower replacement rates, even in the more generous Scandinavian welfare states. It is also possible that the selection effect is stronger for women than men, i.e. that unhealthy women are more likely to become unemployed than unhealthy men. Future research clearly needs to explore further the relationship between women, unemployment and health, and the role which the welfare state can play in supporting the needs of an increasingly feminised European workforce.

Limitations

Although the ESS presents an outstanding opportunity to investigate cross-national patterns of health inequality, as the survey asks the same questions at the same time in all countries, we acknowledge that there are many issues which may affect the comparability of multi-country studies, such as variations in response rate (Table 1), modes of data collection, translations, cultural interpretation and conduct.[26, 29] Our study is further limited by utilising only self-reported health measures which may vary by country, socio-economic or employment status and/or culture. For example, an unemployed immigrant living in Spain

may use different criteria to define his or her health than an unemployed Finn living in Finland. However, studies have found a strong relationship, which does not vary by socio-economic status,[51] between self-reported health and mortality.[52] Similarly, the measure of unemployment (unemployed in the last seven days) may obscure important between country differences in the composition of the unemployed population (Web Appendix). Further, the complex nature of the relationship between unemployment and health means that, despite conducting a number of sensitivity analyses, we have not covered all the possible factors influencing between country differences. Another possible limitation is our choice of welfare state regime typology. As noted in the introduction, there are a multitude of competing welfare state regime typologies and no categorisation has yet been generally accepted as the standard typology (although Ferrera's is one of the most accurate in terms of how social benefits are granted and organised). We also carried out a number of sensitivity analyses. However, it must be acknowledged that if the typologies of other authors were used it may have resulted in different results. Finally, as the ESS data is cross-sectional, we cannot rule out selection effects.

Policy Implications

- Unemployment has a negative relationship with health; this may in part be due to the loss of income associated with unemployment. Income levels for the unemployed therefore need to be adequate enough to prevent health damage.
- Relative health inequalities between the employed and unemployed were greatest in those welfare states which utilised means-tested benefits.
- Welfare state arrangements need to be more sensitive to moderating the effects of unemployment on the health of women. Particularly as the European workforce is becoming increasingly feminised.

What is known on this subject

- Single country studies have shown that unemployment is associated with worse morbidity and mortality.
- Poverty may be an important mediatory factor in this relationship.
- Different types of European welfare state (welfare state regimes) offer different levels of social protection to the unemployed.
- Unemployed people in receipt of means-tested benefits have worse health than those in receipt of entitlement benefits.

What this study adds

- This study examines whether the relationship between unemployment and health varies by European welfare state regime and if so, the extent to which this can this be explained through reference to the different types of social protection.
- The negative relationship between unemployment and health is consistent across Europe but varies by welfare state regime, suggesting that levels of social protection may indeed have a moderating influence.
- The negative relationship is particularly strong amongst women and in those countries with low replacement rates and which utilise means-tested benefits.

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WEB-ONLY APPENDIX

Sensitivity Analyses: Methods

Firstly, between-regime differences in the relationship between unemployment and health were tested separately for men and women using the cross-level interaction 'employment status*regime' within a multi-level design. More specifically, three sets of two-level models were run using the second PQL estimation method (applied in MLwin) for men and women separately with both health indicators as dependent variables respectively (see Web Tables 2 and 3 below). The first model contained individual-level variables (age and employment status), the second model introduced the regime variables, while the third model also included the cross-level interaction term. We tested whether the inclusions of new sets of variables improved the model significantly based on –2 Log Likelihood.

Secondly, to assess the extent to which cross-national differences in the magnitude of health inequalities could be explained by grouping countries according to welfare type we performed four sets of one-way ANOVA tests, for men and women separately. We specifically tested whether the between group variance of four statistical measures (overall prevalence, prevalence among unemployed, rate difference, and relative inequalities) differed significantly from the within group variance. In addition, we calculated R squares by dividing the between group sums of squares (SSb) with the total sums of squares (SSt), in order to determine the percentages of between-country variance that is explained by the welfare regime clusters. The results are presented in Web Table 4 below.

Additional adjustments were made for between regime differences in the prevalence of unemployment by sex and country (Web Table 5) and differences between regimes in terms of the socio-economic status (education and occupational class) of the unemployed were also examined (Web Tables 6 and 7). Occupational class was defined according to the European Socio-economic Classification (ESeC), which is a further development of the widely applied EGP classification We made summary measure comparing *agricultural workers*, *small employers, lower supervisors and technicians, lower sales and service workers, lower*

technical workers with *large and lower employers, managers/professionals, supervisors/technicians, and those in intermediate positions.* Educational attainment was measured as primary education (compared to upper secondary and tertiary education).

Web table 1: Age adjusted prevalence (both total and for unemployed), rate differences and odds ratios (95% CI) for each country separately (N=37499).

Welfare regime	Country	Longstanding illness								Fair/poor general health							
		Men				Women				Men				Women			
		Prev	Unemp (RD)		OR (95% CI)	Prev	Unemp (RD)		OR (95% CI)	Prev	Unemp (RD)		OR (95% CI)	Prev	Unemp (RD)		OR (95% CI)
Scandi-navian	Denmark	14.0	32.9	20.0	**2.38 (1.28 – 4.44)**	16.8	35.4	20.5	**3.54 (1.97 – 6.35)**	14.7	32.8	19.3	**2.51 (1.36 – 4.61)**	14.9	38.2	25.2	**4.51 (2.47 – 8.23)**
	Finland	20.3	26.3	6.4	1.42 (0.85 – 2.38)	19.5	30.0	11.1	1.35 (0.81 – 2.27)	25.5	33.7	8.9	1.51 (0.92 – 2.46)	19.9	34.8	16.2	**2.48 (1.52 – 4.04)**
	Norway	15.9	27.6	12.5	**2.36 (1.29 – 4.32)**	17.9	44.6	27.3	**2.76 (1.30 – 5.87)**	15.5	31.8	17.2	**2.80 (1.53 – 5.12)**	15.7	24.0	8.7	1.87 (0.78 – 4.45)
	Sweden	19.3	35.6	17.0	**2.04 (1.12 – 3.71)**	23.0	41.3	19.6	**2.55 (1.49 – 4.36)**	18.0	38.9	21.7	**2.60 (1.45 – 4.64)**	19.5	36.2	17.9	**2.85 (1.63 – 4.99)**
Anglo-Saxon	Ireland	8.9	19.0	10.5	1.93 (0.88 – 4.24)	8.5	7.2	-1.3	1.57 (0.56 – 4.40)	7.2	26.8	20.5	**4.12 (2.02 – 8.37)**	9.8	15.0	5.7	**2.92 (1.27 – 6.70)**
	United K	13.2	18.2	5.3	1.49 (0.75 – 2.96)	11.3	38.8	28.4	**3.94 (1.83 – 8.45)**	18.0	32.9	15.8	**2.48 (1.41 – 4.36)**	17.0	42.8	26.8	**2.78 (1.37 – 5.64)**
Bism-arckian	Austria	12.8	25.2	12.7	**2.10 (1.09 – 4.07)**	16.7	35.3	19.7	**2.95 (1.51 – 5.77)**	14.9	25.2	10.6	1.68 (0.88 – 3.22)	17.2	31.5	15.1	**2.38 (1.19 – 4.75)**
	Belgium	11.7	14.7	3.3	1.41 (0.67 – 2.98)	10.1	21.7	12.6	**2.41 (1.30 – 4.44)**	12.8	26.3	14.4	**2.85 (1.54 – 5.30)**	15.1	18.9	4.7	1.59 (0.89 – 2.84)
	France	12.4	18.1	5.7	1.69 (0.72 – 3.94)	14.6	16.6	2.9	1.61 (0.92 – 2.83)	27.8	28.3	0.3	0.85 (0.39 – 1.82)	29.8	38.2	9.5	**1.85 (1.16 – 2.96)**
	Germany	17.4	27.7	11.8	**2.05 (1.43 – 2.94)**	16.1	23.8	8.6	**1.78 (1.16 – 2.73)**	33.2	49.2	18.2	**2.22 (1.62 – 3.06)**	29.6	43.1	15.5	**2.01 (1.39 – 2.88)**
	Luxembourg	12.4	24.7	13.0	**4.97 (2.02 – 12.2)**	9.1	13.6	4.7	0.94 (0.19 – 4.62)	24.0	33.7	10.5	**4.82 (2.00 – 11.6)**	32.7	25.6	-7.1	0.87 (0.33 – 2.33)
	Netherlands	14.6	30.7	16.5	**2.48 (1.14 – 5.37)**	19.7	34.8	15.7	1.88 (0.88 – 4.04)	15.9	40.6	25.4	**3.75 (1.79 – 7.82)**	20.4	43.6	24.1	**2.98 (1.44 – 6.15)**
	Switzerland	11.7	16.1	4.5	1.97 (0.74 – 5.23)	13.1	37.1	24.3	**2.99 (1.19 – 7.50)**	9.3	20.4	11.6	**4.37 (1.80 – 10.6)**	10.5	22.5	12.1	1.71 (0.55 – 5.31)
Southern	Greece	5.3	9.4	4.3	1.79 (0.77 – 4.19)	10.1	11.6	1.6	1.09 (0.54 – 2.21)	9.4	19.7	11.1	**3.07 (1.59 – 5.92)**	17.6	20.4	3.2	1.49 (0.86 – 2.60)
	Italy	9.8	11.3	2.1	2.07 (0.94 – 4.56)	5.2	6.4	1.8	1.27 (0.44 – 3.71)	25.8	34.7	10.0	**2.18 (1.19 – 3.99)**	34.6	52.1	20.3	**2.32 (1.42 – 3.80)**
	Portugal	6.2	15.6	9.9	**2.85 (1.08 – 7.52)**	7.8	15.0	7.6	**2.20 (1.12 – 4.33)**	33.5	58.4	26.0	**2.45 (1.25 – 4.79)**	43.5	56.3	14.5	**1.57 (1.00 – 2.45)**
	Spain	6.6	16.2	9.9	1.93 (0.78 – 4.78)	6.4	11.8	6.2	1.85 (0.79 – 4.33)	24.9	36.2	11.9	1.33 (0.72 – 2.46)	27.6	33.9	7.2	**1.87 (1.13 – 3.10)**
Eastern	Czech Rep	16.3	30.7	14.8	**1.96 (1.06 – 3.63)**	17.8	32.5	16.0	**2.45 (1.52 – 3.96)**	28.0	32.2	4.2	1.08 (0.59 – 1.95)	29.0	47.6	20.2	**2.17 (1.40 – 3.38)**
	Hungary	13.7	26.0	13.4	**2.49 (1.20 – 5.19)**	13.7	27.6	14.3	1.45 (0.61 – 3.47)	40.0	81.7	44.2	**5.32 (2.78 – 10.2)**	42.3	55.1	13.5	1.86 (0.93 – 3.87)
	Poland	16.0	21.9	6.9	1.50 (0.93 – 2.43)	18.9	23.5	5.5	1.40 (0.83 – 2.35)	34.1	42.3	9.6	1.44 (0.96 – 2.14)	43.1	49.2	7.4	**1.57 (1.03 – 2.40)**
	Slovenia	26.8	37.5	12.3	**2.28 (1.25 – 4.19)**	23.9	22.2	-1.7	1.11 (0.60 – 2.06)	34.6	65.6	33.9	**4.89 (2.54 – 9.41)**	41.7	50.9	10.1	1.60 (0.93 – 2.73)

Prev = prevalence of ill-health. **Unemp** = prevalence of ill-health among unemployed. **RD =** rate difference (percentage) between employed and unemployed. **OR** = odds ratios.
-2LL = -2 Log Likelihood

Web Table 2: A multilevel analysis of poor general health on individual-level variables (model 1), welfare regime types (model 2) and the interactions between welfare regime types and unemployment (model 3)

		Men			Women		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Constant	0.04 (0.02 – 0.06)	0.03 (0.02 – 0.04)	0.03 (0.02 – 0.04)	0.03 (0.02 – 0.05)	0.02 (0.02 – 0.03)	0.02 (0.02 – 0.03)
	Age	1.05 (1.04 – 1.06)	1.05 (1.04 – 1.06)	1.05 (1.04 – 1.05)	1.05 (1.04 – 1.06)	1.05 (1.04 – 1.06)	1.05 (1.04 – 1.06)
	Unemployed	2.25 (1.99 – 2.54)	2.25 (1.99 – 2.54)	2.17 (1.63 – 2.89)	2.07 (1.84 – 2.34)	2.05 (1.81 – 2.30)	2.84 (2.11 – 3.82)
-2LL		**17559.5**			**16578.2**		
Main effect of welfare regime on overall health	Nordic		1.00	1.00		1.00	1.00
	Anglo-Saxon		0.63 (0.44 – 0.88)	0.60 (0.42 – 0.85)		0.78 (0.56 – 1.07)	0.77 (0.55 – 1.06)
	South European		1.19 (0.91 – 1.57)	1.19 (0.90 – 1.57)		2.03 (1.57 – 2.62)	2.15 (1.65 – 2.79)
	Bismarckian		1.05 (0.82 – 1.33)	1.04 (0.82 – 1.33)		1.38 (1.09 – 1.73)	1.43 (1.13 – 1.80)

	East European	2.33 (1.78 – 3.06)	2.34 (1.78 – 3.07)	3.11 (2.40 – 4.02)	3.25 (2.51 – 4.21)
-2LL change from model 1 (sig.)		**17556.9 (0.63)**		**16528.4 (0.00)**	
Interaction effect between welfare regime and unemployment	Nordic*unempl		1.00		1.00
	Anglo-Saxon* unempl		1.45 (0.87 – 2.42)		1.20 (0.68 – 2.12)
	South European* unempl		1.02 (0.67 – 1.56)		0.61 (0.41 – 0.89)
	Bismarckian* unempl		1.02 (0.72 – 1.46)		0.69 (0.48 – 0.99)
	East European*unempl		0.98 (0.67 – 1.43)		0.64 (0.44 – 0.95)
-2LL change from model 2 (sig.)			**17550.7 (0.18)**		**16505.8 (0.00)**

-2LL = -2 Log Likelihood

Web Table 3: A multilevel analysis of limiting longstanding illness on individual-level variables model 1), welfare regime types (model 2) and the interactions between welfare regime types and unemployment (model 3)

		Men			Women		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Constant	0.03 (0.02 – 0.04)	0.04 (0.03 – 0.05)	0.04 (0.03 – 0.05)	0.03 (0.02 – 0.04)	0.04 (0.03 – 0.06)	0.04 (0.03 – 0.06)
	Age	1.04 (1.03 – 1.05)	1.04 (1.03 – 1.04)	1.04 (1.03 – 1.04)	1.04 (1.03 – 1.05)	1.04 (1.03 – 1.04)	1.04 (1.03 – 1.04)
	Education	2.00 (1.74 – 2.30)	2.02 (1.76 – 2.31)	2.02 (1.76 – 2.31)	1.96 (1.71 – 2.25)	1.99 (1.74 – 2.28)	2.31 (1.73 – 3.08)
-2LL		**11496.0**			**10779.9**		
Main effect of welfare regime on overall health	Nordic		1.00	1.00		1.00	1.00
	Anglo-Saxon		0.58 (0.47 – 0.71)	0.58 (0.47 – 0.72)		0.53 (0.42 – 0.66)	0.51 (0.40 – 0.64)
	South European		0.31 (0.26 – 0.38)	0.31 (0.25 – 0.38)		0.31 (0.25 – 0.38)	0.33 (0.26 – 0.41)
	Bismarckian		0.75 (0.65 – 0.87)	0.74 (0.64 – 0.86)		0.72 (0.62 – 0.84)	0.73 (0.63 – 0.85)
	East European		0.97 (0.82 – 1.14)	0.98 (0.83 – 1.15)		0.90 (0.76 – 1.07)	0.94 (0.78 – 1.12)
-2LL change from model 1 (sig.)			**11418.7 (0.00)**			**10703.8 (0.00)**	
Interaction effect between welfare regime and unemployment	Nordic*unempl			1.00			1.00
	Anglo-Saxon* unempl			0.92 (0.52 – 1.64)			1.42 (0.78 – 2.57)
	South European* unempl			1.05 (0.62 – 1.80)			0.69 (0.42 – 1.12)
	Bismarckian* unempl			1.16 (0.81 – 1.68)			0.88 (0.61 – 1.28)
	East European*unempl			0.93 (0.62 – 1.39)			0.72 (0.48 – 1.08)
-2LL change from model 2 (sig.)				**11415.4 (0.51)**			**10684.4 (0.00)**

-2LL = -2 Log Likelihood

Web Table 4: The proportion of between-country variance[a] in health measures that can be explain by the countries' grouping according to the Ferrera[b] welfare regime typology

Statistical measure	Limiting longstanding illness		Fair/poor general health	
	Men	Women	Men	Women
	R^2 (sig)	R^2 (sig)	R^2 (sig)	R^2 (sig)
Overall prevalence	**0.654 (0.001)**	**0.696 (0.000)**	**0.472 (0.029)**	**0.600 (0.004)**
Prevalence among unemployed	**0.640 (0.002)**	**0.530 (0.012)**	0.363 (0.106)	**0.373 (0.095)**
Rate difference (RD)	0.273 (0.248)	0.308 (0.181)	0.135 (0.651)	0.103 (0.764)
Relative inequalities (OR)	0.074 (0.860)	0.257 (0.285)	0.091 (0.805)	**0.400 (0.070)**

[a] R^2 and significance were calculated on basis of one-way ANOVA tests. R^2 gives the percent of between-country variance explained and is calculated by dividing the between group sums of squares (SSb) with the total sums of squares (SSt).
[b] *Ferrera*: Scandinavian (NO, SE, DK, FI), Bismarckian (AT, BE, CH, DE, FR, LU, NL), Anglo-Saxon (IE, UK), Southern (ES, GR, IT, PT), Eastern (CZ, HU,PL, SI).

Web Table 5: Men and women's health (limiting longstanding illness and poor/fair health) in five welfare state regimes, with and without control for prevalence of unemployment in all countries (OR – 95% CI)

Sex	Welfare regime	Not controlled for prevalence of unemployment		Controlled for prevalence of unemployment	
		Limiting longst illness	Poor general health	Limiting longst illness	Poor general health
		OR (95 % CI)	OR (95 % CI)	OR (95 % CI)	OR (95 % CI)
Men	Scandinavian	**1.96 (1.47 – 2.61)**	**2.27 (1.72 – 3.01)**	**1.93 (1.45 – 2.58)**	**2.16 (1.64 – 2.87)**
	Anglo-Saxon	1.67 (0.99 – 2.81)	**2.97 (1.92 – 4.60)**	1.65 (0.99 – 2.78)	**2.99 (1.91 – 4.67)**
	Southern	**2.07 (1.34 – 3.18)**	**1.82 (1.35 – 2.46)**	**2.06 (1.33 – 3.17)**	**2.02 (1.48 – 2.75)**
	Bismarckian	**2.21 (1.74 – 2.79)**	**2.72 (2.21 – 3.35)**	**2.06 (1.62 – 2.61)**	**2.24 (1.81 – 2.77)**
	Eastern	**1.89 (1.43 – 2.52)**	**2.15 (1.67 – 2.76)**	**1.93 (1.45 – 2.57)**	**2.11 (1.64 – 2.71)**
Women	Scandinavian	**2.28 (1.71 – 3.03)**	**2.99 (2.34 – 4.00)**	**2.26 (1.70 – 3.02)**	**2.91 (2.18 – 3.90)**
	Anglo-Saxon	**2.73 (1.50 – 4.95)**	**2.78 (1.63 – 4.73)**	**2.73 (1.50 – 4.97)**	**2.83 (1.65 – 4.84)**
	Southern	**1.52 (1.03 – 2.25)**	**1.66 (1.31 – 2.11)**	**1.52 (1.03 – 2.25)**	**1.75 (1.38 – 2.23)**
	Bismarckian	**1.87 (1.48 – 2.37)**	**2.06 (1.67 – 2.55)**	**1.95 (1.53 – 2.48)**	**1.85 (1.49 – 2.29)**
	Eastern	**1.65 (1.24 – 2.19)**	**1.76 (1.38 – 2.25)**	**1.58 (1.19 – 2.10)**	**1.75 (1.37 – 2.24)**

Total correlation of OR with OR change after adjustment for prevalence of unemployment: **0.91**

- For Men's reporting of limiting longstanding illness: **0.95**
- For Men's reporting of poor/fair general health: **0.87**
- For women's reporting of limiting longstanding illness: **0.99**
- For women's reporting of poor/fair general health: **0.98**

Web Table 6: Occupational class position among employed and unemployed men and women in five welfare state regimes

Sex	Welfare regime	Class	Employed (%)	Unemployed (%)	Diff*
Men	Nordic	High	55.6	36.1	
		Low	44.4	**63.9**	**19.5**
	Anglo-Sax	High	54.5	34.8	
		Low	45.5	**65.2**	**19.7**
	South	High	50.9	35.7	
		Low	49.1	**64.3**	**15.2**
	Bismarck	High	57.0	35.7	
		Low	43.0	**64.3**	**21.3**
	East	High	42.0	28.6	
		Low	58.0	**71.4**	**13.4**
Women	Nordic	High	63.0	36.4	
		Low	37.0	**63.6**	**26.6**
	Anglo-Sax	High	59.9	42.3	
		Low	40.1	**57.7**	**17.6**
	South	High	53.9	42.5	
		Low	46.1	**57.5**	**11.4**
	Bismarck	High	66.3	43.8	
		Low	33.7	**56.2**	**22.5**
	East	High	57.9	35.3	
		Low	42.1	**64.7**	**22.6**

Diff = (percentage of unemployed minus percentage of employed within the lower social strata.

Web Table 7: Educational attainment among employed and unemployed men and women in five welfare state regimes*

Sex	Welfare regime	Education	Employed (%)	Unemployed (%)	Diff*
Men	Nordic	High	77.7	68.0	
		Low	22.3	**32.0**	**9.7**
	Anglo-Sax	High	60.3	44.0	
		Low	39.7	**56.0**	**16.3**
	South	High	49.8	38.4	
		Low	50.2	**61.6**	**11.4**
	Bismarck	High	77.6	71.1	
		Low	22.4	**28.9**	**6.5**
	East	High	66.1	35.4	
		Low	33.9	**64.6**	**30.7**
Women	Nordic	High	81.6	71.0	
		Low	18.4	**29.0**	**10.6**
	Anglo-Sax	High	70.2	42.3	
		Low	29.8	**57.7**	**27.9**
	South	High	54.8	43.9	
		Low	45.2	**56.1**	**10.9**
	Bismarck	High	74.5	63.3	
		Low	25.5	**36.7**	**11.2**
	East	High	76.3	49.2	
		Low	23.7	**50.8**	**27.1**

* Low = Primary education. High = More than primary education.
Diff = (percentage of unemployed minus percentage of employed within the lower social strata.