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Morbidity differences by occupational class among men in seven European countries: an application of the Erikson-Goldthorpe social class scheme

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Background This paper describes morbidity differences according to occupational class among men from France, Switzerland, (West) Germany, Great Britain, the Netherlands, Denmark, and Sweden.

Methods Data were obtained from national health interview surveys or similar surveys between 1986 and 1992. Four morbidity indicators were included. For each country, individual-level data on occupation were recoded according to one standard occupational class scheme: the Erikson-Goldthorpe social class scheme. To describe the pattern of morbidity by occupational class, odds ratios (OR) were calculated for each class using the average of the population as a reference. The size of morbidity differences was summarized by the OR of two broad hierarchical classes. All OR were age-adjusted.

Results For all countries, a lower than average prevalence of morbidity was found for higher and lower administrators and professionals as well as for routine non-manual workers, whereas a higher than average prevalence was found for skilled and unskilled manual workers and agricultural workers. Self-employed men were in general healthier than the average population. The relative health of farmers differed between countries. The morbidity difference between manual workers and the class of administrators and professionals was approximately equally large in all countries. Consistently larger inequality estimates, with no or slightly overlapping confidence intervals, were only found for Sweden in comparison with Germany.

Conclusions Thanks to the use of a common social class scheme in each country, a high degree of comparability was achieved. The results suggest that morbidity differences according to occupational class among men are very similar between different European countries.

Keywords Socioeconomic status, occupational class, self-reported morbidity, health surveys, international comparison

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Table 1 Survey included in the study

Country	Year	Name	No. respondents	% Non-response
Denmark	1986/87	Danish Health and Morbidity Survey	4753	20
France[a]	1991/92	Enquête sur la Santé et les Soins Medicaux	21 586	17
Germany (W)[b]	1987/88	Life and Health in Germany (NHS)	5335	29
	1990/91	Life and Health in Germany (NHS)	5311	31
Great Britain	1991	General Household Survey	19 039	15
Netherlands	1991/92	Health Survey	11 126	43
Sweden	1991	Swedish Level of Living Survey	5306	21
Switzerland	1992/93	Swiss Health Survey	15 288	29

[a] The question on the morbidity indicator included in this study was only asked to a subsample of the total number of respondents (n = 8235).

[b] The surveys only referred to the western part of Germany (the former FRG); the two surveys were pooled in order to obtain more stable estimates

Table 2 Morbidity indicators included in the study

Morbidity indicator	Measure of ill-health: % of respondents who ...
Perceived general health	consider their present state of health less than good
Long-term disabilities	mention one or more long-term disabilities (six items: climbing stairs, walking, carrying 5kg, reading newspaper, conversation with more than two people, (un-)dressing
Chronic conditions	mention one or more chronic conditions (nine conditions: cancer, diabetes mellitus, respiratory diseases, heart diseases, stroke, liver/gall diseases, kidney/urinary tract diseases, stomach/duodenum ulcer, muskulo-skeletal diseases)
Any long-standing health problem	reply positively to an open question similar to 'Do you suffer from any long-standing illness, disease or disability?'

International comparisons can make an important contribution to the study of socioeconomic inequalities in health. Firstly, these comparisons enable researchers and policy makers to judge the size of inequalities in health in their own country. Secondly, these studies may shed more light on the causes of socioeconomic inequalities when a comparison is made between societies which differ with respect to the size of income inequality, national living standards and other potential relevant aspects.

Until now, several international comparisons have been made with respect to socioeconomic inequalities in self-reported morbidity. For these comparisons, education, income and occupation were used as indicators of socioeconomic status.[1–11] The comparisons concerning education and income were most comprehensive with regard to the number and type of countries compared, and the number of morbidity indicators included.[1,10] Occupation is linked to education and income as well as to benefits which result from some occupations such as prestige, privilege and power.[12] Although occupation is probably the most comprehensive indicator, previous studies have been limited to the Scandinavian countries and Great Britain.[2,3,6,7,9] One of the reasons for this gap is presumably the considerable effort necessary to make occupational classifications comparable for different countries.

In this paper, occupational inequalities for several indicators of self-reported morbidity were studied for men from France, Switzerland, (West) Germany, Great Britain, the Netherlands, Denmark and Sweden. Data were obtained from national health interview surveys or similar surveys. Comparability was optimized by recoding all subjects to one standard occupational classification: the Erikson-Goldthorpe social class scheme (EGP-scheme). This social class scheme was developed for comparative investigations on social mobility among the populations of modern industrial societies.[13] The EGP-scheme has until now only rarely been used for studying socioeconomic inequalities in health.[14]

Our first aim was to describe the pattern of self-reported morbidity by occupational class in the different European countries. The second aim was to assess whether differences in self-reported morbidity between high and low occupational classes were larger in some countries than in others.

Data and Methods

Data were obtained from national health interview surveys, level of living surveys or multipurpose surveys. Table 1 gives an overview of the included surveys. Surveys were only included for which sufficient information was available to assign economically active as well as (the majority of) inactive people to occupational classes. The analyses were restricted to non-institutionalized men aged 25–69 years, because this was the broadest group covered by all surveys. No internationally comparable data were available for women. Data sets were created by the country representatives according to a standard protocol and sent to the coordinating centre for centralized analysis.

In this study, four indicators of morbidity were included which together covered various aspects of a respondent's health. The exact definitions of the indicators are given in Table 2. As a result of the strict selection procedure, cross-national comparisons were only made between countries for which the morbidity indicators were highly comparable as judged against the structure and the wording of the respective survey questions. However, some remaining comparability problems could not be avoided. These problems were evaluated as much as possible. In this paper, one example of such an analysis is given. Perceived general health was mostly measured by a question very similar to 'How would you judge your present state of health in general?' with five

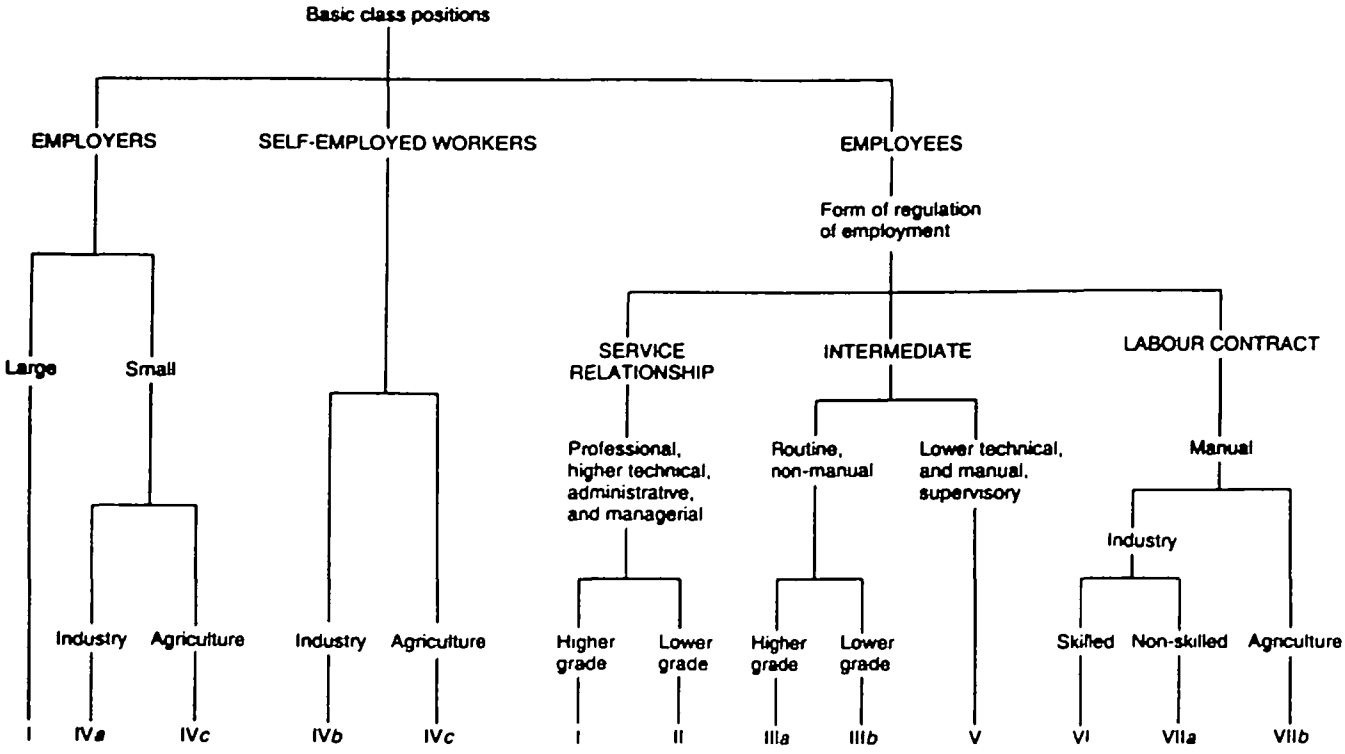

Figure 1 The derivation of the EGP-class scheme (source: ref 16)

possible response categories: very good, good, fair, poor, very poor. In Britain and Sweden, however, only three response categories were used. In addition, subtle differences were present in the phrasing of some of the answer categories for different countries. Because of these differences, 'less-than-good' health might have referred to a more severe health state in one country than in another country. Since the observed size of health differences might be related to the severity of the measured health states, for some countries inequality estimates were also calculated for a lower cutoff point, mostly 'less-than-fair' health.[11,15]

The EGP-scheme was used to classify men into occupational classes.[16] This scheme is coherently derived from a number of well-defined principles: being an employer versus employee, having an employment contract of a 'service' versus a 'labour' type, performing manual work versus non-manual work, and working in an agricultural or non-agricultural setting. Figure 1 presents a flow diagram which shows how these four dimensions are combined to form the EGP-classes.

The country-specific conversion algorithms that were developed by Erikson, Goldthorpe and colleagues to allocate people to the EGP-classes were available for a few countries only. Therefore, we used an internationally applicable algorithm developed by Ganzeboom, Luijkx and Treiman.[17] This 'GLT-procedure' assigns a social class code to people on the basis of their occupational title ('bricklayer', 'accountant', etc.), employment status (self-employed or in employment) and supervisory status (the number of subordinates). Detailed information about the procedure used can be found elsewhere.[15] For all countries, three-digit occupational codes, information on employment status and supervisory status were available for the total study population. An exception is Great Britain, for which information on the supervisory status of the employed was missing.

The GLT-procedure could not be used for France. Therefore, we used a conversion algorithm that was developed for France by Erikson, Goldthorpe and colleagues.

Economically inactive men were assigned to occupational classes using information based on their last job. The percentage of men who could not be classified ranged from approximately 0.5% in Great Britain and France to approximately 4% in the Netherlands and Germany.

In this paper eight EGP-classes were distinguished. Figure 2 gives the percentage distribution of the survey populations over these classes. This distribution was fairly similar in all counties. Approximately 35% of the population belonged to the higher and lower administrator and professional classes, whereas the share of manual classes (skilled and unskilled manual workers) was approximately 40% in each country. Compared to other countries, the number of skilled manual workers in France was large in proportion to the number of unskilled manual workers. This is probably due to a difference between the algorithm for France and the GLT-procedure in the criteria used to classify manual workers as skilled or unskilled. In Great Britain, the relatively small proportion of people belonging to higher administrators and professionals was underestimated due to the absence of information on subordinates for the employed.

For all analyses, logistic regression was applied. To describe the pattern of morbidity by EGP-class, the odds ratio (OR) for having the health problem in each separate occupational class, as compared to the average of the total population, was estimated.

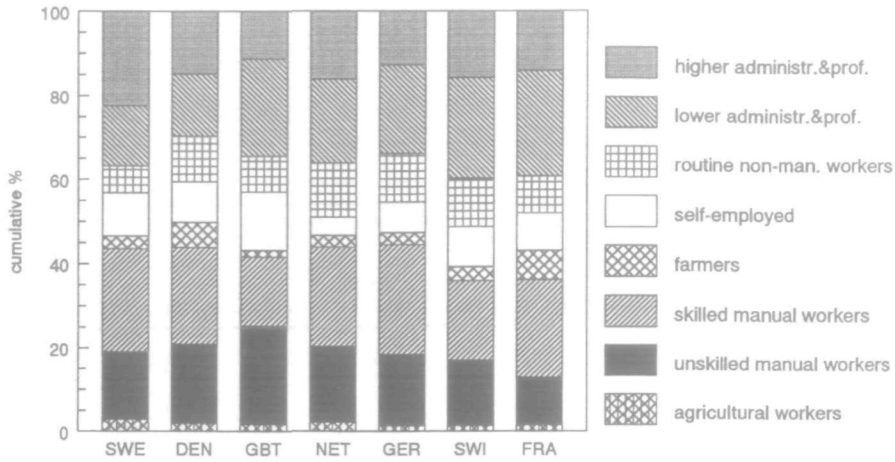

Figure 2 The distribution of the population over eight EGP-classes, men aged 25–69

Table 3 Inequality in less-than-good perceived health, and *a lower cutoff point* for countries with a relatively high prevalence rate, by occupational class for men aged 25–69

	Sweden	Denmark	Great Britain	Netherlands	Germany	Switzerland	France
Prevalence (%)							
Total population	22.0	19.8	31.6	20.8	54.1	13.2	22.1
			10 1		*13 7*		
Pattern (Odds ratio and 95% Confidence Interval [CI])							
Total population	1.00	1.00	1.00	1.00	1.00	1.00	1 00
Higher administrators and professionals (I)	0.48	0.57	0.50	0.52	0.73	0.55	0 50
	(0 36–0 63)	(0.38–0.85)	(0.41–0 61)	(0.41–0.65)	(0.62–0.86)	(0.43–0.71)	(0.37–0.69)
Lower administrators and professionals (II)	0.65	0.55	0.69	0.68	0.78	0.74	0 79
	(0 47–0.90)	(0.37–0.84)	(0.61–0.78)	(0.56–0.82)	(0.68–0.87)	(0.62–0.89)	(0.64–0.98)
Routine non-manual workers (III)	0.70	0.86	1.03	0.76	0.93	1.10	0.94
	(0 44–1.13)	(0.56–1.32)	(0.86–1 25)	(0.60–0.96)	(0.79–1.11)	(0.88–1.38)	(0.67–1.34)
Skilled manual workers (V+VI)	1.37	1.33	1.34	1.31	1.20	1.50	1.48
	(1.11–1.69)	(1.04–1.71)	(1.17–1.53)	(1.14–1.52)	(1 07–1.34)	(1.28–1.77)	(1.23–1.80)
Unskilled manual workers (VIIa)	1.74	1.13	1.55	1.61	1.32	1.30	1 57
	(1.35–2.23)	(0 84–1 50)	(1.39–1.72)	(1.37–1 88)	(1 14–1.52)	(1.08–1.57)	(1.21–2.05)
Self-employed (IVa/b)	0.73	1.02	0.83	0.82	0.88	0.80	0.61
	(0.50–1.06)	(0.68–1.53)	(0.71–0.98)	(0.57–1.19)	(0.71–1.09)	(0.60–1.06)	(0.43–0.88)
Farmers (IVc)	1.62	1.75	0.80	1 13	1.04	1.29	1 14
	(0.93–2.79)	(1.13–2 72)	(0.51–1.25)	(0.79–1.61)	(0.73–1.49)	(0.87–1.92)	(0.81–1.61)
Agricultural labourers (VIIb)	2.24	1.38	1.61	1.27	1.32	0.32	2.08
	(1.28–3.92)	(0.61–3.12)	(1.07–2.43)	(0.79–2.05)	(1.14–1.52)	(0.11–0.97)	(1 02–4.26)
Summary measure of inequality (Odds ratio and 95% CI)							
OR V+VI+VIIa / I+II	2.79	2.19	2.32	2.40	1.63	2.12	2.24
	(2.13–3.65)	(1.56–3.08)	(2.03–2.65)	(2.00–2.88)	(1.43–1.87)	(1.75–2.57)	(1.77–2.83)
			2.54		*1.76*		
			(2.05–3.14)		(1.44–2.16)		

The size of health inequality in each country was summarized by the OR of two broad groups: higher and lower administrators and professionals versus skilled and unskilled manual workers. These two groups comprise large sections of the population (approximately 75%) and are clearly hierarchical. A comparison between these groups is not sensitive to international differences in the distinction between skilled and unskilled manual workers (e.g. France) or lower and higher administrators and professionals (e.g. Great Britain). For all analyses, adjustment for age was made by including a nominal variable representing 5-year age groups into the logistic regression model.

Results

In Table 3, the pattern of less-than-good perceived general health by EGP-class is given. The results for the different countries

Table 4 Inequality in long-term disabilities by occupational class, men aged 25–69

	Denmark	Netherlands	Switzerland
Prevalence (%)			
Total population	7 8	8.5	10.9
Pattern (Odds ratio and 95% CI)			
Total population	1.00	1.00	1.00
Higher administrators and professionals (I)	0.75	0.44	0.77
	(0.41–1 35)	(0.30–0.64)	(0.61–1.00)
Lower administrators and professionals (II)	0.49	0.50	0.91
	(0.23–1.02)	(0.36–0.71)	(0.75–1.11)
Routine non-manual workers (III)	0.57	0.97	1.04
	(0.26–1.27)	(0 70–1.35)	(0.81–1.35)
Skilled manual workers (V+VI)	1.23	1.53	1.26
	(0.81–1.86)	(1.25–1 87)	(1.04–1 53)
Unskilled manual workers (VIIa)	1.35	1.45	1.11
	(0.88–2.09)	(1.15–1.82)	(0.89–1 38)
Self-employed (IVa/b)	0.97	0.57	0 81
	(0.51–1.84)	(0.31–1.06)	(0.59–1.10)
Farmers (IVc)	0.81	1.07	1.15
	(0.40–1.62)	(0.65–1.77)	(0.74–1.80)
Agricultural labourers (VIIb)	1.26	1 71	0.95
	(0.41–3.87)	(0.94–3.11)	(0.43–2.10)
Summary measure of inequality (Odds ratio and 95% CI)			
OR V+VI+VIIa/I+II	2.04	3.16	1.38
	(1.22–3.42)	(2 37–4.22)	(1.12–1.70)

largely correspond. In all countries, a significantly lower prevalence compared to the average of the population (1.0) was found for higher and lower administrators and professionals. The OR of these classes varied between 0.48 and 0.73. Also routine non-manual workers in most countries had an OR <1.0, however, none of these ratios were significantly different from 1.0. A significantly higher prevalence compared to the population average was found for skilled and unskilled manual workers. In all countries, with the exception of Denmark and Switzerland, unskilled manual workers more often reported less-than-good health than skilled manual workers. Self-employed men had a relatively low prevalence, with the exception of those in Denmark. The position of farmers varied between countries, with a clearly higher than average prevalence in Sweden, Denmark, Switzerland and smaller than average prevalence in Great Britain. The OR for agricultural workers were, with the exception of Switzerland, >1.0.

The results for long-term disabilities, chronic conditions and any long-standing health problem (Tables 4–6) were, in general, in line with those for less-than-good perceived general health. One exception was that no consistent differences were found between skilled and unskilled manual workers. In addition, for farmers from Denmark and Great Britain, the OR was not consistently smaller or larger than 1.0 for each morbidity indicator.

The ratio of the prevalence odds of skilled and unskilled manual workers versus higher and lower administrators and professionals is given in the last row of Tables 3–6 and is also shown in Figure 3. For countries with a high overall prevalence of less-than-good health, this summary measure is also given for a lower cutoff point: less-than-fair health.

For perceived general health, the difference between low and high occupational classes was relatively large for Sweden and small for Germany, whereas the other countries formed one large intermediate group. The confidence intervals of Sweden however, overlapped with all countries except Germany. Countries with a relatively high overall prevalence of less-than-good health, Great Britain and Germany, showed approximately the same international position for a lower cutoff point of perceived general health.

Inequalities in long-term disabilities were largest in the Netherlands and smallest in Switzerland, with Denmark in an intermediate position. The confidence intervals for the Netherlands and Switzerland did not overlap. For chronic conditions, inequalities were larger in Sweden than in the Netherlands and Germany. The confidence intervals for Sweden and the Netherlands did not overlap whereas the confidence intervals for Sweden and Germany overlapped marginally. For any long-standing health problems, slightly larger inequalities were found for Denmark than for the Netherlands and Great Britain. However, all confidence intervals overlapped.

Discussion

Summary of the findings

This is the first comprehensive comparison of Western European countries with respect to occupational differences in self-reported morbidity. For all countries, the same occupational class scheme was applied: the EGP-scheme.[13,16,17]

The EGP-scheme showed substantial variations in morbidity. The pattern over the various classes was similar for all countries:

Table 5 Inequality in chronic conditions by occupational class, men aged 25–69

	Sweden	Netherlands	Germany
Prevalence (%)			
Total population	32.1	19.5	27.9
Pattern (Odds ratio and 95% CI)			
Total population	1.00	1.00	1 00
Higher administrators and professionals (I)	0.50	0.73	0.56
	(0.40–0.63)	(0.59–0 90)	(0.45–0.69)
Lower administrators and professionals (II)	0.78	0.82	0.79
	(0.60–1.01)	(0.68–0.99)	(0.67–0.93)
Routine non-manual workers (III)	0.72	0.85	1 00
	(0 48–1 07)	(0.68–1.07)	(0.82–1.23)
Skilled manual workers (V+VI)	1.55	1.24	1.31
	(1.29–1.86)	(1.07–1 45)	(1.15–1.50)
Unskilled manual workers (VIIa)	1.48	1.29	1 22
	(1.18–1.85)	(1.09–1.53)	(1.04–1.44)
Self-employed (IVa/b)	0.81	0 88	0.85
	(0.59–1.10)	(0.61–1.27)	(0.66–1.10)
Farmers (IVc)	1 33	0.94	1.06
	(0.80–2 22)	(0 64–1.37)	(0.72–1.55)
Agricultural labourers (VIIb)	1.54	1.33	1.05
	(0 90–2 63)	(0.82–2.15)	(0.57–1.93)
Summary measure of inequality (Odds ratio and 95% CI)			
OR V+VI+VIIa/I+II	2.51	1.63	1.84
	(2.00–3.14)	(1.36–1.95)	(1.56–2.16)

Table 6 Inequality in any long-standing health problem by occupational class, men aged 25–69

	Denmark	Great Britain	Netherlands
Prevalence (%)			
Total population	31.3	34 0	30.8
Pattern (Odds ratio and 95% CI)			
Total population	1 00	1.00	1.00
Higher administrators and professionals (I)	0.54	0.70	0.82
	(0.39–0 75)	(0.59–0.83)	(0.70–0.98)
Lower administrators and professionals (II)	0 79	0.89	0.92
	(0.58–1.07)	(0.79–0.99)	(0.79–1.07)
Routine non-manual workers (III)	0.86	0.95	0.93
	(0.61–1.21)	(0.79–1.14)	(0.77–1.12)
Skilled manual workers (V+VI)	1 30	1.17	1 17
	(1.05–1.61)	(1.03–1.33)	(1.02–1.33)
Unskilled manual workers (VIIa)	1 18	1.23	1.18
	(0.92–1.50)	(1.10–1.36)	(1.02–1.37)
Self-employed (IVa/b)	0.99	0.84	0.79
	(0 70–1 41)	(0.72–0.97)	(0.57–1.09)
Farmers (IVc)	1.33	1.35	0.91
	(0.88–2.03)	(0.90–2.04)	(0.65–1.27)
Agricultural labourers (VIIb)	1.04	1.12	1.05
	(0.49–2.22)	(0.74–1.69)	(0.68–1.63)
Summary measure of inequality (Odds ratio and 95% CI)			
OR V+VI+VIIa/I+II	1.87	1.46	1.34
	(1.43–2.46)	(1.29–1.65)	(1.15–1.56)

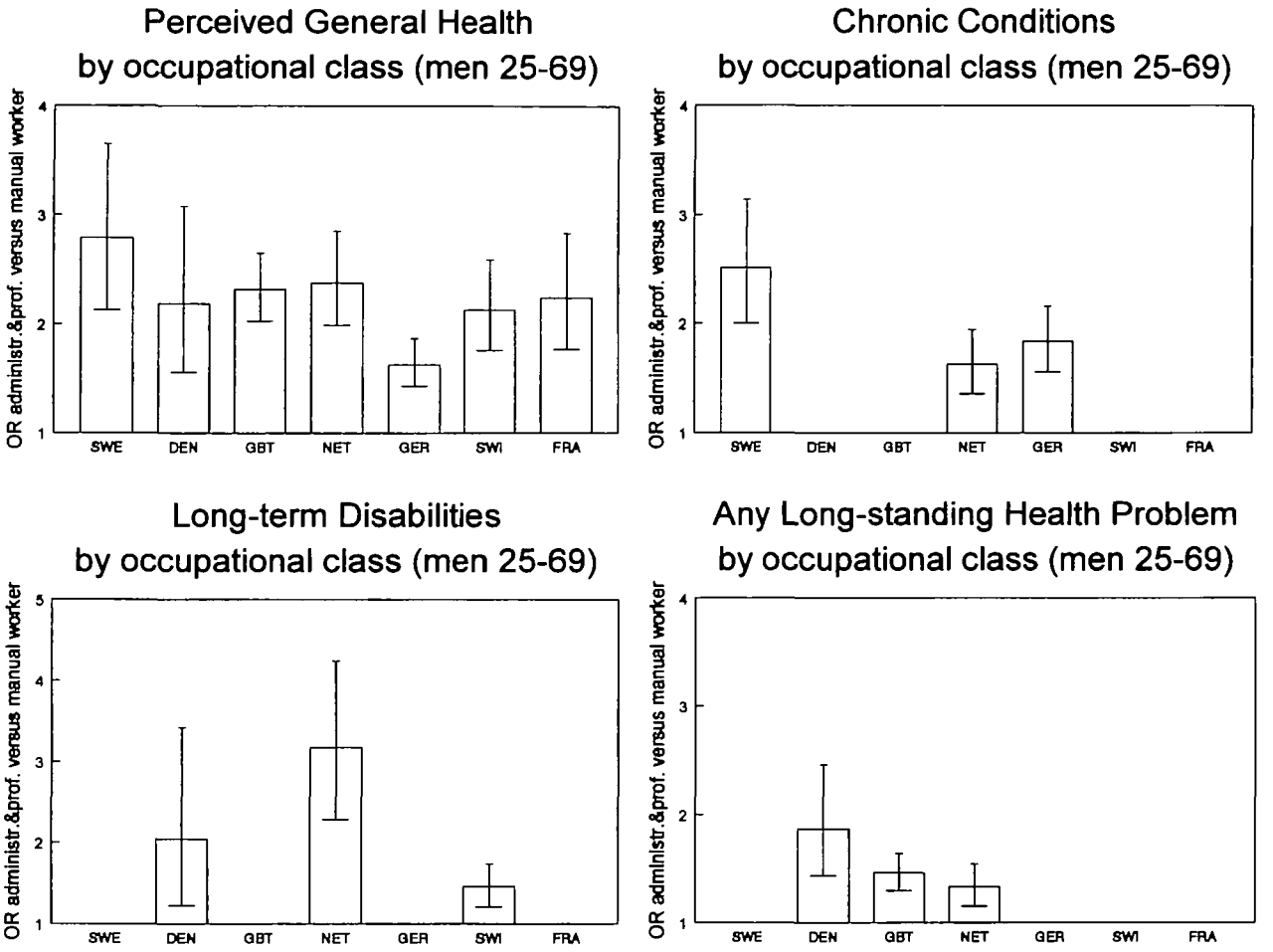

Figure 3 Summary measure of inequality (Odds ratio and 95% CI; administrative & professional versus skilled and unskilled manual workers)

a smaller than average prevalence was found for higher and lower administrators and professionals and a larger than average prevalence was found for skilled and unskilled manual workers, and agricultural workers. The prevalence of less-than-good perceived health was, in general, higher among unskilled workers than among skilled manual workers but for the other morbidity indicators no consistent differences were found between these classes. Routine non-manual workers and the self-employed were generally healthier than the average population. The relative health of farmers differed between countries.

The size of morbidity differences was summarized by comparing skilled and unskilled manual workers to higher and lower administrators and professionals. The summary measures were approximately equally large in all countries. Consistently larger inequality estimates, with no or slightly overlapping confidence intervals, were only found for Sweden in comparison with Germany.

International comparability of the data

Much attention was paid to the international comparability of morbidity indicators but some remaining comparability problems could not be avoided. However, analyses in which the results were evaluated (e.g. evaluation of a different cutoff point for perceived general health) suggested that the international positions of countries with respect to the size of relative socio-economic difference in morbidity that were observed in this study were robust.[15]

There are indications in the general literature that response rates are lower in lower socioeconomic groups and in less healthy people. As a result, non-response might lead to an underestimation of health inequality estimates. The higher the percentage of non-response the larger this underestimation may be. The question is therefore whether differences in non-response rates between the surveys we used might have biased our results. Of particular concern are the Netherlands, Germany and Switzerland; countries with relatively large non-response rates. Non-response research concerning the surveys we used for these countries did not find a clear relation between non-response rates and socioeconomic status (results not published). Although bias cannot completely be ruled out on the basis of these non-response studies, they do suggest that the effects on our inequality estimates are modest.

Another question which must be addressed before discussing the substantive interpretation of these findings is whether the application of the EGP-scheme in this study has indeed resulted in internationally comparable occupational class schemes for

the different countries. If these class schemes are found to differ on some points, the next question is whether these differences might have biased the results of this study.

Comparability problems might have been introduced by differences in the basic information to which the GLT-conversion was applied. Essential to this algorithm is that the occupational title of men is known at a three-digit occupational code level. This was the case for all countries, but the classification of these codes was more detailed and therefore perhaps more homogeneous in some countries than in others. The number of three-digit codes ranged from 280 to 375. This number was not clearly associated with the observed morbidity differences in the countries; the Swedish survey which had the lowest number of codes, showed the largest morbidity inequalities. As a further check, we estimated the extent to which the three-digit codes combined occupations which belonged to different broad occupational classes (class I/II, V/VI or III/IV/VII). This was checked for Sweden, Great Britain and Germany. In all three countries, less than 5% of the men belonged to a heterogeneous occupation code, implying that at most 5% of all men could have been misclassified.

For Great Britain, no information was available on the supervisory status of employees. The potential effect of this lack of information was estimated by additional analyses using data from other countries. These analyses showed that the main effect was that approximately 6% of the men who actually belonged to the higher and lower administrators and professionals (i.e. 2% of the total population) had been wrongly classified as routine non-manual workers. Since it is likely that the morbidity level of the misclassified group was somewhat higher than of other administrators and professionals, the morbidity level of this class is probably underestimated. As a result, the morbidity differences between skilled and unskilled manual workers and the higher and lower administrators and professionals might have been slightly overestimated for Great Britain.

A more fundamental problem with the GLT-algorithm is that it does not take into account the situations in specific countries. Application of the GLT-algorithm implies that men with the same job are assigned to the same occupational class in each country. But the social position of a specific job may differ between countries. To evaluate whether the size of inequality changes when the algorithm to allocate people to EGP-classes is adapted to a specific country, additional analyses were performed using the Swedish data. For Sweden we compared the inequality estimates based on the GLT-algorithm with the inequality estimates based on the conversion algorithm that Erikson developed specifically for Sweden. The results, which are given in Table 7, showed that inequality estimates for the GLT-algorithm were slightly larger but that both algorithms resulted in the same international position for Sweden.

The GLT-algorithm was used for all countries except France. We cannot exclude that somewhat larger or smaller inequality estimates would have been obtained for France if the GLT-algorithm had been used. However, we do not think that this would substantially change the position of France.

In conclusion, we were able to use one standard occupational class scheme for all countries. Some remaining comparability problems could not be avoided with the data which were available from the different European countries. However, these remaining problems probably did not have a large effect on the results of our study.

Table 7 Summary measure of inequality (Odds ratio and 95% CI; V+VI+VIIa/I + II) for Sweden, using the GLT algorithm and the original EGP-scheme developed by Erikson and Goldthorpe

	GLT algorithm	Original EGP-scheme
Less-than-good health	2.79	2 51
	(2.13–3.65)	(1.89–3.34)
Chronic conditions	2.51	2.46
	(2.00–3.14)	(1.94–3.13)

Comparison with other studies on inequalities by occupational class

The pattern of morbidity by EGP-class found in this study was fairly comparable to the patterns found in studies which used a national occupational class scheme: a low prevalence was in general found for higher and intermediate non-manual workers and high prevalences were found for manual workers. A consistent and clearly higher prevalence for unskilled than for skilled manual workers has been observed in some studies,[18,19] but not in others.[3,6,9,20–22] In contrast to our study, a consistently lower prevalence among routine non-manual workers as compared to skilled manual workers was not always found.[3,9,18] An explanation for this difference might be that the EGP-scheme, in contrast to most other class schemes, allocates men with lower level jobs in the service sector such as mail carriers and housing caretakers, who probably have morbidity levels comparable to unskilled manual workers, to the class of unskilled manual workers instead of to the class of routine non-manual workers. The relatively good health of self-employed men that we found for all countries except Denmark, was also found in some other studies,[18,19] but not in all.[22] In particular, for some countries not included in this study such as Finland and Norway, a larger than average prevalence was found.[3,9] Those studies which distinguished farmers reported a prevalence close to the national average or a relatively high prevalence.[3,9,18,19]

Our results also corresponded fairly well with the two earlier studies which compared health inequalities by occupational class between countries. Vågerö and Lundberg[6] studied the size of inequalities in long-standing illness in Britain and Sweden for adult men and women combined, using data from the Swedish Survey on Living Conditions and General Household Survey of 1981. Occupational class was measured using the British Registrar General's scheme for both countries.[23] The relative risk for class V versus class I was smaller for Sweden than for Great Britain, whereas the size of morbidity differences was approximately the same when the more robust manual versus non-manual ratio was used. Lahelma *et al.*[3] studied the pattern of limiting long-standing illness by occupational class for adult men from Sweden, Finland, Norway and Great Britain, using the Nordic Level of Living Survey of 1987 and the General Household Survey of 1987. The difference in prevalence between high and low classes was slightly larger in the Scandinavian countries than in Great Britain.

Conclusion

This study suggests that inequalities in self-reported morbidity according to occupational class are highly similar between countries. These inequalities are not smaller in countries such as

Sweden and the Netherlands, despite their more egalitarian socioeconomic policies. This is supported by international comparisons on morbidity inequalities according to education which showed that inequalities in the Scandinavian countries and the Netherlands are not smaller, and perhaps even somewhat larger, than in other European countries.[11] Income-related inequalities in morbidity do, however, seem to be smaller in egalitarian countries.[10]

The approximate similarity observed in this study does not necessarily imply that morbidity differences by occupational class have the same background in all countries. This is suggested by the different international patterns observed for education as compared to income. Dissimilarities between countries with regard to underlying causes are also indicated by mortality studies. For mortality also about equally large inequalities are found in most Western European countries but there are large variations in the contribution that different causes of death make to these inequalities.[15] These cross-national differences emphasize the need to compare countries also with respect to social gradients in specific risk factors for disease.

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