

**Neo-Marxian social class inequalities in the mental well-being of employed men and women: the role of European welfare regimes**

Deborah De Moortel, Laia Palència, Lucía Artazcoz, Carme Borrell, Christophe Vanroelen

Published on:

<http://www.sciencedirect.com/science/article/pii/S0277953615000532>

Social Science & Medicine; Volume 128; March 2015, pages 188-200

**ABSTRACT**

The relation between "neo-Marxian" social class (NMSC) and health in the working population has received considerable attention in public health research. However, less is known about the distribution of mental well-being according to NMSC in a European context. The objectives of this study are (i) to analyse the association of mental well-being and NMSC among employees in Europe (using a welfare regime typology), (ii) to investigate whether the relation between NMSC and mental well-being is the same in women compared to men within each welfare regime, and (iii) to examine within each welfare regime the role of the gender division of labour and job quality as potential mediating factors in explaining this association.

Data from the European Social Survey Round 5 (2010) were analysed. Mental well-being was assessed by the WHO Well-being Index. Social class was measured through E.O. Wright's social class scheme. Models separated by sex were generated using Poisson regression with a robust error variance. The associations were presented as prevalence ratios with 95% confidence intervals.

Women reported NMSC differences in mental well-being in State corporatist/family support and Southern welfare regimes. Men reported NMSC differences in mental well-being in all but the Basic security/market-oriented welfare regimes. Gender inequalities were more marked and widespread in Basic security/market-oriented welfare regimes. In all welfare regimes job quality (partly)

explained NMSC inequalities in mental well-being for men, the role of the gender division of labour was unclear.

This study showed that the relationship between NMSC and mental well-being among employees differs by gender and welfare regimes. It confirms the importance of NMSC and welfare regimes to explain gender and social class inequalities in mental well-being.

**Keywords:** neo-Marxian social class, mental well-being, health inequalities, welfare regimes, Europe

## 1. Introduction

To understand the distribution of health among employees it has been proven useful to use neo-Marxian approaches to social class besides to mere stratification approaches to socioeconomic position (Anonymous, 2014a; Anonymous, 2013). Neo-Marxian Social Class (NMSC) offers insight in the way in which one's position in the labour process affects health. In contrast to conventional measures of social stratification, e.g. educational or occupational status, NMSC does not assume linear or gradational associations with health, but relates it to structural relations of dominance and subordination in the labour process (Anonymous, 2013).

Employees sell their labour power to employers who extract labour effort from them. Some employees receive delegated authority/control from employers. Consequently employees can be in a more or less exploited or, reversely, empowered position compared to their employers. Three class positions for employees exist: (1) managers, who influence company policy and have sanctioning authority; (2) supervisors, who have sanctioning authority but do not influence company policy; and (3) workers, who do not influence company policy nor have sanctioning authority (Wright, 1997). Wright (1997) further differentiates these positions according to the ownership of skill/credentials. Employees with high levels of valued skills or expertise are in a privileged appropriation location within the class structure. Combining the dimensions of control in the workplace and credentialism leads to nine non-ordinal combinations (unskilled workers, semi-skilled workers, expert workers,

unskilled supervisors, semi-skilled supervisors, expert supervisors, unskilled managers, semi-skilled managers and expert managers).

The repeated experience of strategic control at work protects high-skilled managers against poor general health (Anonymous, 2004), poor mental well-being (Anonymous, 2014a) and mood, anxiety and psychiatric disorders (Anonymous, 2003). Higher rates of depression and anxiety were found in low-skilled supervisors compared to both high-skilled managers and non-supervisory workers (Anonymous, 2003).

Almost all existing studies on NMSC differences in health are single country studies (Anonymous, 2010). However, different countries display varying policies relevant for class inequalities. Thus the association between NMSC and mental health may vary depending on a country's policy model.

#### *NMSC inequalities and welfare regimes*

We found one study that compares NMSC inequalities in nine European countries (Anonymous, 2008). This study reveals that absolute and relative differences in self-rated health among older adults are more marked in late democracies (Portugal and Spain) and particularly among women. Our article adds to the literature by examining NMSC inequalities across welfare regimes in a representative sample of European employees.

A welfare regime typology of Korpi (2010) is used. This typology is based upon the power-resources approach. According to this approach employment relations and labour markets form the core of socioeconomic differences (Korpi, 2006). The typology classifies countries on the basis of welfare programmes relevant to class and gender inequality. As previous research showed that the relation between NMSC and health differs by gender within a country (Anonymous, 2004; Anonymous, 2008), a typology taking both social insurance and gender policies into account is the most relevant to study NMSC inequalities across welfare regimes. Korpi's (2010) typology distinguishes three ideal typical institutional models. Firstly, the basic security model combined with market-oriented gender policies

(Anglo-Saxon countries and Switzerland) is characterised by universal coverage based on citizenship, but with low earnings replacements and largely leaving it to parents to solve problems of social care through reliance on market services. Secondly, the encompassing model in combination with earner-carer gender policies (Nordic countries) aims for universal coverage of all citizens in combination with an earnings-related social protection programs. Women's full-time employment and continuous paid work is encouraged. Finally, the state corporatist model combined with traditional family policy (Continental Europe) relates social insurance provisions to one's occupational category (such as industrial workers, agricultural workers, artisans, ...) and labour force participation. Families are supported by facilitating part-time work for women (Korpi, 2010).

In comparative policy research, Southern European and post-communist countries are increasingly analysed as separate welfare regimes. The Southern regime is characterised by a fragmented system of welfare provision which consists of diverse income maintenance schemes that range from the meagre to the generous (Eikemo et al., 2008b; Ferrera, 1996). The family policy is characterised by a strong reliance on the family and charitable sector (Eikemo et al., 2008b; Ferrera, 1996). The post-communist countries (labelled also as Contradictory welfare regimes) are characterised by a rather liberal welfare system combined with high female participation in paid work and a traditional division of housework (Boye, 2011; Lange, 2009).

#### *NMSC inequalities and the characteristics of paid and unpaid work*

Welfare regimes influence social inequalities in health through their impact on social determinants of health (Bambra, 2011). For employee health the gender division of labour and job quality are important social determinants of health.

Household labour is hardly done by men in any social class, particularly not by managers (Anonymous, 2004). Unskilled female workers do the most household labour and usually they do this labour alone (Anonymous, 2004). The gender division of labour dictates that caring for children and housework is mainly a women's responsibility and that breadwinning is mainly a men's responsibility

(Davis and Greenstein, 2009). Notwithstanding the increased labour force participation of women and more gender-egalitarian formal family and marriage laws in most countries, women typically still have the main responsibility for childcare and housework (Anonymous, 2001). Previous research showed that for women, the double burden of family and paid work is associated with poorer health, especially in countries with family support models (Anonymous, 2014). For men this is the case in countries with market-oriented models, an underlying mechanism for this association may be family financial stress (Anonymous, 2014).

Job quality is a complex and multidimensional concept, including both intrinsic characteristics of the work task and characteristics of the employment arrangement (Anonymous, 2014b). In empirical studies, the intrinsic characteristics of the work task are usually assessed through the Demand-Control model (Karasek et al., 1998; Lunau et al., 2013). Employment quality encompasses two conceptual dimensions: employment conditions (contract security, working times, income and rights, and employability) and employment relations (empowerment and representation) (Eurofound, 2013). Unskilled non-managerial non-supervisory workers tend to experience a more adverse job quality both in terms of work task and employment characteristics. Unskilled workers report less often varied and autonomous work, while reporting greater job insecurity and a higher propensity of holding temporary contracts (Anonymous, 2004). High-quality jobs are more prevalent in Encompassing/earner-carer welfare regimes due to extensive employment rights to all and organised labour's strong capacity to influence employment and working conditions, this in contrast to Southern and Contradictory welfare regimes where low-quality jobs are more prevalent, especially in the less empowered social classes (Holman, 2013).

In this study we investigate, across welfare regimes, the association between NMSC and employee mental well-being (a measure of positive affect and an important part of mental health). Mental health is, namely, more than the absence of mental illness, but includes also a reflection of the presence of positive feelings and positive functioning in life (Keyes, 2002). We hypothesize that less

NMSC inequalities in mental well-being will be found in Encompassing/earner-carer welfare regimes because of their more redistributive social policies. We expect to find more NMSC inequalities in mental well-being in State corporatist/family support and Southern welfare regimes due to policy models which generate greater inequality amongst different categories of workers as a consequence of the quality and generosity of welfare provisions being strongly related to one's occupational status. Further, as different European countries display different gender policy models, these models might be able to explain NMSC differences in mental well-being between men and women within a welfare regime. We expect less gender differences in the relation between NMSC and mental well-being in Encompassing/earner-carer welfare regimes as they promote gender equality. In contrast, we expect more gender differences in State corporatist/family support and Southern welfare regimes, due to family policies that actively promote a homemaker role for women. Finally, we expect that the gender division of labour mediates the association between NMSC and mental well-being in women in State corporatist/family support and Southern welfare regimes and for men in Basic security/market-oriented welfare regimes. For women, the double burden of family and paid work may be more strongly present in non-managerial and lower skilled social classes. For men from the Basic security/market-oriented regime, family financial stress may be the underlying mechanism. Furthermore, we expect that job quality partly explains the association between NMSC and mental well-being for men and women in Southern and Contradictory welfare regimes due the lower prevalence of high-quality jobs, especially in non-managerial and lower skilled classes.

## **2. Method**

### **2.1. Data**

Data from the European Social Survey (ESS) 2010 were used. The ESS is a biennial cross-national survey in Europe, conducted since 2001. The ESS 2010 includes representative samples of persons aged 15 and over, who were resident in one of 27 European countries. Data was collected through

face-to-face interviews including questions reoccurring in every round of ESS and questions from an ESS-2010-specific module on Work, Family and Well-being. This study focuses on wage earners in 21 European Union member states included in the ESS 2010 (Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Lithuania, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and United Kingdom). All respondents from non-EU countries, not in waged employment, older than 65, were excluded from the analyses. This left us with a total sample of 7,119 male and 6,988 female employees.

## **2.2. Variables**

### **2.2.1. Dependent variable**

**Good mental well-being** was measured through three items of the WHO-5 Well-being Index (ESS, 2011). This is a measure of positive affect and has been empirically validated in a number of settings and in different countries (Bech et al., 2003; Bonsignore et al., 2001; de Souza and Hidalgo, 2012). The ESS 2010 only contained three of the original five items of the WHO-5 Well-being Index (ESS, 2011). However, its internal consistency has proven to be excellent. The three items had a Cronbach's alpha of 0.81 across the whole ESS 2010 sample and a Cronbach's alpha of 0.79 across the study sample, which is similar to the Cronbach's alpha of 0.82 found across the whole ESS 2004 sample which contained all five items from the WHO-5 Well-being index (ESS, 2011). Consequently, we can be confident that the use of the three-item scale does not lead to different results. The questions included were: (1) "Over the last two weeks I have felt cheerful and in good spirits", (2) "Over the last two weeks I have felt calm and relaxed", (3) "Over the last two weeks I have felt active and vigorous". Answers are coded from 1 to 6 ranging from "All of the time" to "At no time" (Bech et al., 2003). The questions were summed and transformed into a scale (ranging from 0=worst mental health to 10=best mental health). A recommended cut-off point of  $\geq 5$  was applied to indicate good mental well-being (De Wit et al., 2003). Missing items (0.3%), were attributed a value using expectation-maximisation as imputation method (Allison, 2001).

### 2.2.2. Country groups

Countries were grouped according to an adaptation of the Korpi (2010) typology. Five types of **welfare regimes** were discerned: (1) State corporatist/family support (Belgium, France, Germany and the Netherlands); (2) Basic security/market-oriented (Ireland and UK); (3) Contradictory (Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Poland, Slovakia and Slovenia); (4) Southern (Cyprus, Greece, Portugal and Spain) and (5) Encompassing/earner-carer welfare regimes (Denmark, Finland and Sweden).

### 2.2.3. Predictor variable

To create **NMSC indicators** information on the International Standard Classification of Occupations (ISCO), a question on whether the employee is responsible for supervising other employees and the skill level classification of ISCO (ILO, 2012) were used. (I) Based on the ISCO-classification and the reported supervisory role three class categories were constructed: managers (those who worked as a manager); supervisors (non-managers who supervise other employees); and workers (all others). (II) Within these three categories, another subdivision was made using the skill level classification: "unskilled" (ISCO skill level 1 & 2); "semi-skilled" (ISCO skill level 3); and "experts" (ISCO skill level 4). By cross-classifying dimensions (I) and (II), a seven-category indicator was constructed: unskilled workers, semi-skilled workers, expert workers, unskilled supervisors, semi-skilled supervisors, expert supervisors and expert managers (according to ISCO all managers have skill level 4 so unskilled and semi-skilled managers were not created).

### 2.2.4. Mediator variables

Two indicators measured **the gender division of labour**. (1) **Household responsibility** included seven categories: Living alone, living with a partner who does half or more of the household labour, living with partner who does less than half of the household labour, living with children and a partner who



does half or more of the household labour, living with children and a partner who does less than half of the household labour, single parent, and other. The share of household labour was calculated extracting the hours of household labour the respondent's partner does from the hours of household labour the respondent does. (2) **Financial contribution** had 3 categories 1= providing up to half of household income (contributory earner), 2= providing half of household income (equal earner) and 3= providing over half of household income (main earner).

**Job quality** was measured by indicators referring to employment quality and the intrinsic characteristics of the work task (Eurofound, 2013). Seven proxy indicators were selected to reflect the dimensions of the multidimensional concept of employment quality: contract type, income, employment status, regular and/or social work hours, training opportunities, high support and representation. We used the Demand-Control model (Karasek et al., 1998) to reflect the intrinsic characteristics of the work task. A brief definition of the dimensions and the construction of indicators is reported in Box 1. Whenever an item was missing on the regular and/or social work hours (2.7%), high skill discretion (4.3%), and high autonomy scale (1.1%) this item was attributed a value using expectation-maximisation as imputation method (Allison, 2001).

**Box 1. Construction of indicators for employment quality and intrinsic quality of work tasks in ESS 2010**

Dimension	Indicator	Indicator construction	Scoring
<b>Employment quality</b>			
<b>Contract security</b>	Type of employment contract	Type of employment contract	1) Permanent 2) Non-permanent 3) No contract
Reflects the degree of certainty of continuing work.			
<b>Income and rights</b>	An indicator for "income and rights" was not included in our study as no reliable data was available in ESS 2010.		
Amount of pay and social rights (e.g. sickness insurance) or fringe benefits derived from employment.			
<b>Working hours</b>	Employment status	a- Total hours normally worked per week in main job overtime included	1) Full-time (> 35 hours) 2) Part-time 3) Involuntary Part-time
Features of the working times are working long hours, working nonfixed day shifts, weekend work, having variable daily working hours, working evenings and nights.	Regular and/or social working hours	b- How many hours would choose to work weekly a- Work involves working weekends b- Work involves working nights/evenings c- Have to work overtime at short notice d- Intensive working hours	The variable "unsocial working hours" was created, combining "working weekends" with "working evenings/nights". The indicator for (un)social working hours was added to indicators for "working overtime at short notice" and "intensive working hours", resulting in an overall indicator for (ir)regular and/or (un)social working hours. The variables was normalised to a 0-10 range, with 10 being the most-favourable situation (Cronbach's alpha=0.59).
<b>Employability</b>	Training opportunities	Having been on a course for work during the last 12 months?	1) No 2) Yes
Reflects the capability of maintaining employment in the future.			
<b>Empowerment</b>	High support	I can get support/help from my co-workers when needed	1) No (not at all true, a little true) 2) Yes (quite true, very true)
Formal and informal relations at the workplace.			
<b>Representation</b>	Representation	Regular meetings between representatives of the employees and employers, in which working conditions and practices can be discussed	1) No 2) Yes
Having a collective voice (e.g. the presence of a trade union).			
<b>Intrinsic characteristics of work task</b>			
Job content and working conditions.	The Demand-Control model	a- High skill discretion (variety in work, job requires learning new things, how long for	a- The variables were added and normalised to a 0-10 range from, with 10 indicating the

somebody with the right qualifications to learn to do your job well)	highest skill discretion (Cronbach's alpha=0.68).
b- High autonomy (allowed to decide how daily work is organised, allowed to choose/change pace of work, can decide time start/finish work)	b- The variables were added and normalised to a 0-10 range, with 10 indicating the highest autonomy (Cronbach's alpha=0.70). c- a 5-point Likert scale normalised to a 0-10 range, with 10 being the lowest psychological demands.
c- Low psychological demands (never enough time to get everything done in job)	

**2.3. Statistical Analyses**

All analyses were separated by sex and welfare regime. We first described the population using percentages, means, and standard deviations (see Appendix Table A and B). Secondly, we calculated the prevalence and prevalence ratios (PR) of good mental well-being in women compared to men stratified by NMSC using Poisson regression models with robust error variance (Zou, 2004). Thirdly, associations between mental well-being and mediator variables were estimated using Poisson regression models with robust error variance. Fourthly, three subsequently expanded models were estimated: one incorporating the NMSC indicators (Model 1); model 1 extended by the indicators for the gender division of labour (Model 2) and model 2 extended by job quality indicators (Model 3). Finally, to examine whether the differences between welfare regimes are significant, we estimated two models on the pooled database separated by sex (see Appendix Table C): Model 4 including the NMSC indicators, the categorical variable for welfare regimes and Model 4 extended by the interactions between the NMSC indicators and welfare regimes (Model 5). The associations were presented as PR's with 95% confidence intervals (CI). The reference category in the models was "unskilled workers". For the analyses, we omitted all cases with (remaining) missing values, reducing the number of respondents to 6,176 male and 6,118 female employees. The highest percentage of missing values can be found in the question "How many hours would choose to work weekly" (5.3%). All other variables have missing values below 3.4%. All analyses included survey weights, were

controlled for age, age squared, migratory status and country dummies and were performed using Stata version 13.

### **3. Results**

Appendix Table A and B shows the general characteristics of the sample. The percentages of good mental well-being ranged from 73.0% in women from Basic security/market-oriented welfare regimes to 88.9% in men from Southern welfare regimes. Across all welfare regimes, men reported a better mental well-being than women. Gender prevalence differences in mental well-being were most marked in Basic security/market-oriented (12.5%) and least marked in Contradictory welfare regimes (2.5 %). In Contradictory and Southern welfare regimes most employees were unskilled workers (for men respectively, 59.6% and 51.8%; for women respectively, 48.9% and 54.6%). Men more frequently had positions involving control in the workplace. Across all welfare regimes, women more often lived with a partner (with or without children) who did less than half of the household labour, were more often single parents and reported more often to be contributory earners compared to men. In Encompassing/earner-carer welfare regimes the best job quality was found, with for instance the highest percentages of training opportunities, high support and representation (for men, respectively 65.4%, 84.6% and 72.9%; for women, respectively 74.5%, 88.7% and 80.3%). In Contradictory and Southern welfare regimes higher percentages of non-permanent contracts, and lower levels of skill discretion and autonomy were found. Female workers more often lived with a partner (with or without children) that did less than half of the household labour, compared to female supervisors and managers. For both genders, workers more often held non-permanent contracts, compared to supervisors and managers.

Table 1 shows the prevalence and PR's of good mental well-being in women compared to men by NMSC. In Basic security/market-oriented welfare regimes female unskilled workers, semi-skilled supervisors and expert managers had worse mental well-being than their male counterparts. Female

semi-skilled supervisors and unskilled workers reported worse mental well-being than their male counterparts in Contradictory and Southern welfare regimes respectively.

In Table 2 the relations between mental well-being and the mediator variables are shown. In State corporatist/family support welfare regimes, most indicators of the household responsibilities showed an association in the expected direction for women. Good mental well-being was less prevalent for women living alone (PR=0.81), compared to women without children living with a partner that did half or more of the household labour. In Contradictory welfare regimes good mental well-being was more prevalent in women with children living with a partner who did half or more of the household labour, compared to their counterparts without children (PR= 1.34). In all other welfare regimes the indicators of the household responsibilities showed less clear relationships with mental well-being. As to the indicator of financial contribution in State corporatist/family support and Basic security/market-oriented welfare regimes good mental well-being was more prevalent for women contributory earners, compared to women main earners (PR respectively 1.10 and 1.15). For Southern men and Encompassing/earner-carer women good mental well-being was more prevalent for equal earners, compared to main earners (PR respectively 1.08 and 1.09).

As regards the PR of good mental well-being for the indicators of job quality, most indicators showed an association in the expected direction in all welfare regimes. However, in Basic security/market-oriented, Contradictory and Southern welfare regimes a smaller share of the indicators of job quality showed a significant relation with mental well-being, compared to the other welfare regimes. Model 1 in table 3 shows results for the relationship between mental well-being and NMSC.

For men: In State corporatist/family support and Southern welfare regimes the PR of good mental well-being was higher in expert managers (PR of respectively 1.13 and 1.12) compared to unskilled workers. In Contradictory welfare regimes semi-skilled supervisors had a higher PR of good mental well-being compared to unskilled workers (PR=1.19). In Encompassing/earner-carer welfare regimes the PR of good mental well-being was higher in unskilled and semi-skilled supervisors (PR of

respectively 1.11 and 1.09) compared to unskilled workers. In Basic security/market-oriented welfare regimes no NMSC differences in well-being were found.

In State corporatist/family support and Encompassing/earner-carer welfare regimes, NMSC inequalities decreased when model 1 was extended with the indicators for the gender division of labour (Model 2). In Contradictory and Southern welfare regimes, NMSC inequalities increased when model 1 was extended with the indicators for the gender division of labour (Model 2). Adding job quality to the model (Model 3) decreased NMSC inequalities in all welfare regimes.

For women: In State corporatist/family support welfare regimes unskilled, semi-skilled and expert supervisors (PR of respectively 1.16, 1.19 and 1.22) had higher PR of good mental well-being compared to unskilled workers. In Southern welfare regimes, expert managers had higher PR of good mental well-being compared to unskilled workers (PR=1.24). In Basic security/market-oriented, Contradictory and Encompassing/earner-carer welfare regimes no NMSC differences in well-being were found.

In State corporatist/family support welfare regimes, NMSC inequalities increased when model 1 was extended with the indicators for the gender division of labour (Model 2). Adding job quality to the model (Model 3) increased NMSC inequalities in State corporatist/family support and Southern welfare regimes. In Basic security/market-oriented and Contradictory welfare regimes one social class became statistically different from unskilled workers when model 1 was extended with the indicators for the gender division of labour (Model 2). These relationships lost significance when model 2 was controlled for job quality (Model 3).

In Model 5 (Appendix Table C) we looked for additional support for welfare regime differences in the relationship between NMSC and mental well-being. We found that the mental well-being of unskilled workers was significantly lower in Contradictory (for both sexes), State corporatist/family support (for both sexes) and Basic security/market-oriented (for women) welfare regimes, compared to that

of unskilled workers in Encompassing/earner-carer welfare regimes. Moreover, female expert supervisors from State corporatist/family support welfare regimes reported a better mental well-being, than female unskilled workers from Encompassing/earner-carer welfare regimes. Male expert managers from State corporatist/family support and semi-skilled supervisors from Contradictory welfare regimes reported a significantly better mental well-being, than that of unskilled workers from Encompassing/earner-carer welfare regimes. The mental well-being of unskilled supervisors from Basic security/market-oriented and Southern welfare regimes was significantly lower than that of unskilled workers in Encompassing/earner-carer welfare regimes.

#### **4. Discussion**

This study has produced four main findings: (i) for women NMSC differences in mental well-being are found in State corporatist/family support and Southern welfare regimes; (ii) for men NMSC differences in mental well-being are found in all but Basic security/market-oriented welfare regimes; (iii) gender inequalities in mental well-being are more marked and widespread in Basic security/market-oriented welfare regimes and (iv) in all welfare regimes job quality (partly) explains NMSC inequalities in mental well-being for men, the role of the gender division of labour is unclear.

##### **NMSC inequalities in mental well-being by welfare regime**

This study clearly demonstrated that NMSC inequalities in mental well-being are not the same across different European welfare regimes. Previous nationally based studies have found that unskilled supervisor are most vulnerable for bad health due to their contradictory class position (Anonymous, 2010). In the current study, based on data from workers from different European countries, this finding was not confirmed, as was also the case in previous European-wide studies either using ESS-data (Anonymous, 2014a) or a different dataset (Anonymous, 2008).

In State corporatist/family support welfare regimes, for women unskilled, semi-skilled and expert supervisors reported the best mental well-being, while for men this was the case for expert managers. Employees who had social class positions involving control in the workplace reported the best mental well-being. Within these countries social insurance provisions are related to one's position in the labour market. This could explain the rather gradational relation between NMSC and mental well-being within these countries.

In Southern welfare regimes, for both genders, expert managers reported better mental well-being, compared to unskilled workers. In Southern welfare regimes income maintenance schemes are divers and benefits and services for families are not extensive, leading to inequalities.

In Contradictory welfare regimes, male semi-skilled supervisors reported better mental well-being compared to male unskilled workers. This finding could be related to the transition from a centrally planned to a market economy, which decreased traditional systems that guarded egalitarian income distribution, resulting in an increase in inequality in an already unequal system (Lange, 2009).

For women NMSC differences were absent in Encompassing/earner-carer welfare regimes. This finding can be related to more extensive welfare provisions, in particular work-family reconciliation measures. In contrast to what was expected, men from Encompassing/earner-carer countries reported NMSC differences in mental well-being. In all western countries, very top wages in the private sector have accelerated dramatically (Korpi et al., 2013). In Encompassing/earner-carer welfare regimes, where men more frequently hold private sector jobs, such changes could explain NMSC differences in men.

NMSC inequalities in mental well-being were absent in Basic security/market-oriented welfare regimes. Existing literature is inconsistent on the performance of these countries (Eikemo et al., 2008a). Some studies have demonstrated high health inequalities and suggested their neo-liberal approach towards welfare as its explanation (Coburn, 2004). Other studies, like ours, point in the direction of less pronounced social inequalities in health (Eikemo et al., 2008b). Eikemo, Bambra, et



al. (2008b) suggest that because health care is not provided by a market based system but via public services, it is possible that social health inequalities are reduced. However, as regards the results for women, in countries with few benefits and services for families, it can be assumed that a stronger selectivity exists for women to become employment. This could favour women with exceptional familial and individual resources (Korpi et al., 2013). When only a selective group of well-off women (through personal or contextual characteristics) gets recruited in the labour market, also a selection of “well-resourced” lower-class female employees can be expected. This could explain why we do not find significant NMSC differences for women in Basic security/market-oriented, but also in Contradictory welfare regimes, as well as only few NMSC differences among women from Southern welfare regimes.

#### **Gender differences in NMSC inequalities**

In general mental well-being is lower in women than men and this gender difference is usually stronger in more dominated, less empowered classes. In almost all but Basic security/market-oriented welfare regimes in less dominated, more empowered social classes the mental well-being of men and women is similar.

In Basic security/market-oriented welfare regimes women across all NMSC’s have lower mental well-being, than men. Our results showed significantly lower levels of mental well-being for women, compared to men for unskilled workers, semi-skilled supervisors and expert managers within these countries. In Contradictory and Southern welfare regimes female semi-skilled supervisors and unskilled workers respectively report worse mental well-being than their male counterparts. We expected more gender differences in countries with family support models, but this hypothesis was not confirmed. Probably, women hold a more vulnerable position, compared to men, especially in a context where benefits and services for families are low or inexistent.

Men reported NMSC differences in all but Basic security/market-oriented welfare regimes, while women reported these differences only in State corporatist/family support and Southern welfare

regimes. As mentioned above in the context of low or no benefits and services for families, less-resourced female workers could be selected out of the labour market resulting in a selection of workers who are able to combine both family and work responsibilities. This could explain the absence of NMSC inequalities in the Basic security/market-oriented and Contradictory welfare regimes.

### **The gender division of labour and job quality as mediators**

NMSC inequalities in male mental well-being of State corporatist/family support and Encompassing/earner-carer welfare regimes reduced (moderately) when controlling for the indicators of the gender division of labour. This contradicts previous research reporting that (only) among women indicators of household responsibilities partly explain the association between social class and health (Anonymous, 2004). Yet for all other welfare regimes, and particularly for employed women the gender division of labour did not explain NMSC inequalities in mental well-being (differences even increased). A possible explanation could be that our indicators of the gender division of labour are mainly measures of household composition, while the pathway through which the typology acts is one of power and agency.

NMSC inequalities in male mental well-being reduced when controlling for the indicators of job quality in all welfare regimes where significant differences existed. This emphasizes the role of job quality as explanatory factor of the association between NMSC and well-being for men in all welfare regimes. However, NMSC differences increased for women in State corporatist/family support and Southern welfare regimes when controlling for the job quality. This could indicate that we did not measure relevant workplace variables for women of these welfare regimes, such as for instance physical demands and income.

### **Limitations**

Our study has some limitations because of the use of secondary data. Firstly, the data is derived from a cross-sectional sample so we cannot formally establish the causal direction of the relationships under study. We cannot exclude reverse causation: that is people with poorer mental health could be more likely to be in less empowered, more dominated social classes. Secondly, this study is based on relative measures of inequalities (PR). Absolute inequalities might show a different picture of the relations between welfare regimes. However when calculating prevalence differences to show absolute inequalities (see Appendix Table D), our findings based on relative measures are more or less replicated. Thirdly, the indicators of employment quality are only proxies for the underlying theoretical concepts. Further, ESS data lack reliable measures of income, social rights and additional benefits (e.g. paid overtime, additional sickness insurance, etc.). Fourthly, the dataset used for this study in terms of mental well-being only contained three of the original five items of the WHO-5 Well-being Index (Bech et al., 2003). However, since its internal consistency has proven to be excellent, we are confident that the use of a three-item scale does not distort our results (Löwe et al., 2004). Moreover, the ESS is a large source of reliable cross-national European data, which was supplemented in 2010 with a module on work, family and well-being, making it a database that is particularly apt for investigating our research questions.

## **Conclusion**

This study showed that the relationship between NMSC and mental well-being among employed men and women differs across welfare regimes. Simultaneously investigating social class and gender when examining inequalities in mental well-being helps to explain health differences across welfare regimes. This study furthermore confirms the importance of a gender dimension in welfare regime research to explain social class-related health inequalities.

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Table 1. Prevalence by sex and prevalence ratios of good mental well-being comparing women to men across neo-Marxian social class among employees between 15 and 65 years old, by welfare regime (ESS 2010)

Social class (NMSC)	State corporatist/ Family support			Basic security/ Market-oriented			Contradictory			Southern			Encompassing/ Earner-carer		
	Men	Women	PR (95% CI)	Men	Women	PR (95% CI)	Men	Women	PR (95% CI)	Men	Women	PR (95% CI)	Men	Women	PR (95% CI)
	Unskilled workers	77.6	72.2	0.94 (0.86-1.02)	87.8	73.0	<b>0.84</b> (0.76-0.93)	77.2	74.1	0.96 (0.89-1.03)	89.3	80.4	<b>0.90</b> (0.83-0.97)	86.0	82.0
Semi-skilled workers	83.0	77.9	0.94 (0.85-1.05)	77.5	68.7	0.90 (0.65-1.24)	80.1	70.9	0.89 (0.73-1.08)	88.4	84.0	0.91 (0.76-1.09)	86.9	85.2	0.99 (0.89-1.10)
Expert workers	79.2	78.5	0.98 (0.86-1.13)	92.7	83.6	0.93 (0.81-1.07)	78.5	79.7	1.05 (0.90-1.21)	81.3	82.5	1.00 (0.81-1.23)	84.7	84.3	0.99 (0.89-1.09)
Unskilled supervisors	84.1	84.2	0.99 (0.89-1.11)	80.8	75.2	0.95 (0.78-1.15)	80.7	77.3	0.98 (0.84-1.16)	88.9	87.5	0.98 (0.84-1.13)	95.6	85.7	0.90 (0.79-1.03)
Semi-skilled supervisors	83.1	86.5	1.03 (0.91-1.16)	91.8	66.0	<b>0.77</b> (0.60-0.98)	96.2	82.8	<b>0.85</b> (0.73-0.99)	87.1	82.6	0.88 (0.67-1.15)	95.3	86.0	0.90 (0.78-1.03)
Expert supervisors	82.4	89.6	1.06 (0.96-1.18)	80.5	77.3	0.99 (0.76-1.29)	70.6	75.8	1.03 (0.75-1.40)	91.6	89.6	0.95 (0.79-1.16)	85.5	85.8	1.01 (0.88-1.17)
Expert managers	89.4	83.2	0.94 (0.80-1.11)	84.9	68.7	<b>0.80</b> (0.66-0.98)	80.8	83.8	1.04 (0.89-1.22)	98.9	96.3	0.96 (0.89-1.04)	87.3	87.4	1.00 (0.88-1.15)

Prevalent ratios in bold are significant at  $P \leq 0.05$



Table 2. Associations (prevalence ratios) between gender division of labour and job quality indicators and good mental well-being among employees between 15 and 65 years old, by welfare regime and sex (ESS 2010)

	State corporatist/		Basic security/		Contradictory		Southern		Encompassing/	
	Family support		Market-oriented		Men	Women	Men	Women	Earner-carer	
	Men	Women	Men	Women					Men	Women
<b>Household responsibility</b>										
Living alone	0.98 (0.89-1.08)	<b>0.81</b> (0.72-0.90)	0.91 (0.79-1.06)	1.00 (0.78-1.29)	0.89 (0.75-1.05)	1.27 (0.99-1.63)	0.95 (0.83-1.10)	1.02 (0.87-1.19)	0.93 (0.85-1.01)	<b>0.90</b> (0.81-1.00)
Partner ≥50% <sup>1</sup> , no child	1	1	1	1	1	1	1	1	1	1
Partner <50% <sup>2</sup> , no child	0.82 (0.59-1.13)	<b>0.89</b> (0.81-0.98)	<b>1.20</b> (1.10-1.31)	0.99 (0.76-1.29)	0.71 (0.41-1.23)	1.14 (0.88-1.47)	1.05 (0.93-1.18)	0.86 (0.72-1.02)	0.96 (0.81-1.14)	0.99 (0.91-1.08)
Partner ≥50% <sup>1</sup> & children	1.06 (0.98-1.14)	<b>0.83</b> (0.70-0.97)	1.00 (0.89-1.14)	1.27 (0.96-1.68)	0.95 (0.86-1.05)	<b>1.34</b> (1.05-1.72)	1.02 (0.92-1.12)	0.82 (0.66-1.03)	1.02 (0.95-1.09)	0.99 (0.89-1.10)
Partner <50% <sup>2</sup> & children	1.00 (0.75-1.33)	<b>0.84</b> (0.76-0.93)	1.07 (0.84-1.35)	1.17 (0.92-1.49)	1.12 (0.98-1.28)	1.20 (0.95-1.52)	0.92 (0.68-1.25)	0.97 (0.84-1.13)	0.99 (0.85-1.14)	0.97 (0.88-1.07)
Single parent	0.92 (0.77-1.11)	<b>0.84</b> (0.74-0.95)	0.91 (0.67-1.22)	1.00 (0.76-1.32)	1.04 (0.88-1.23)	1.15 (0.90-1.49)	0.90 (0.66-1.22)	0.91 (0.76-1.09)	0.96 (0.80-1.14)	0.88 (0.76-1.02)
Other	0.93 (0.81-1.08)	0.88 (0.76-1.02)	<b>1.16</b> (1.01-1.33)	0.98 (0.71-1.36)	0.96 (0.86-1.08)	1.16 (0.89-1.51)	1.04 (0.94-1.16)	0.89 (0.75-1.04)	1.00 (0.87-1.15)	1.12 (0.91-1.38)
<b>Financial contribution</b>										
Main earner	1	1	1	1	1	1	1	1	1	1
Equal earner	0.94 (0.86-1.03)	1.06 (0.96-1.16)	1.06 (0.96-1.17)	1.00 (0.84-1.19)	1.07 (0.98-1.17)	0.91 (0.82-1.01)	<b>1.08</b> (1.02-1.14)	0.97 (0.86-1.08)	0.96 (0.89-1.03)	<b>1.09</b> (1.02-1.16)
Contributory earner	0.91 (0.81-1.02)	<b>1.10</b> (1.02-1.18)	0.99 (0.87-1.13)	<b>1.15</b> (1.02-1.29)	1.04 (0.95-1.15)	0.98 (0.91-1.07)	1.01 (0.92-1.12)	0.94 (0.85-1.04)	1.04 (0.97-1.11)	1.02 (0.95-1.09)
<b>Type of contract</b>										
Permanent	1	1	1	1	1	1	1	1	1	1
Non permanent	1.02 (0.94-1.12)	0.99 (0.89-1.09)	<b>1.10</b> (1.00-1.21)	0.90 (0.74-1.10)	0.93 (0.83-1.03)	0.90 (0.80-1.00)	0.98 (0.90-1.06)	0.92 (0.81-1.05)	0.90 (0.80-1.02)	0.98 (0.88-1.10)
No contract	0.80 (0.57-1.12)	0.70 (0.49-1.00)	0.92 (0.76-1.13)	1.03 (0.86-1.24)	0.83 (0.58-1.19)	0.61 (0.23-1.60)	0.91 (0.79-1.04)	0.84 (0.68-1.05)	0.87 (0.65-1.18)	<b>1.14</b> (1.08-1.20)
<b>Employment status</b>										
Full-time	1	1	1	1	1	1	1	1	1	1
Part-time	0.98 (0.87-1.11)	1.01 (0.94-1.09)	1.00 (0.85-1.18)	1.00 (0.90-1.13)	1.12 (0.87-1.44)	0.96 (0.79-1.17)	0.91 (0.71-1.17)	0.85 (0.71-1.04)	0.93 (0.81-1.06)	0.93 (0.87-1.01)
Involuntary part-time	0.93 (0.76-1.13)	0.97 (0.84-1.12)	1.02 (0.83-1.24)	0.97 (0.73-1.28)	0.88 (0.66-1.15)	0.88 (0.73-1.05)	0.94 (0.79-1.11)	0.93 (0.80-1.07)	0.95 (0.80-1.12)	1.10 (1.00-1.21)
<b>Regular social work hours</b>	1.00 (0.99-1.01)	1.01 (1.00-1.03)	1.01 (1.00-1.03)	<b>1.03</b> (1.00-1.06)	1.01 (0.99-1.03)	1.02 (1.00-1.04)	1.00 (0.99-1.02)	1.00 (0.98-1.02)	1.00 (0.99-1.01)	1.01 (1.00-1.03)
<b>Training opportunities</b>										
No	1	1	1	1	1	1	1	1	1	1
Yes	1.05 (0.99-1.11)	1.04 (0.97-1.11)	1.05 (0.96-1.14)	1.02 (0.91-1.14)	1.06 (0.98-1.14)	1.06 (0.98-1.15)	1.04 (0.97-1.10)	0.97 (0.87-1.07)	<b>1.06</b> (1.00-1.12)	1.00 (0.93-1.07)
<b>High support</b>										
No	1	1	1	1	1	1	1	1	1	1
Yes	<b>1.15</b> (1.06-1.26)	<b>1.15</b> (1.05-1.25)	1.04 (0.93-1.17)	1.08 (0.92-1.27)	<b>1.10</b> (1.00-1.21)	<b>1.15</b> (1.04-1.26)	<b>1.12</b> (1.03-1.22)	1.01 (0.92-1.10)	<b>1.11</b> (1.01-1.21)	<b>1.16</b> (1.02-1.31)
<b>Representation</b>										
No	1	1	1	1	1	1	1	1	1	1
Yes	<b>1.07</b> (1.00-1.13)	1.02 (0.96-1.09)	1.09 (0.99-1.20)	<b>1.20</b> (1.04-1.38)	1.06 (0.99-1.15)	<b>1.08</b> (1.00-1.16)	1.04 (0.97-1.11)	1.05 (0.96-1.15)	1.02 (0.97-1.08)	0.99 (0.93-1.06)
<b>High skill discretion</b>	<b>1.01</b> (1.00-1.03)	<b>1.02</b> (1.00-1.03)	1.00 (0.99-1.02)	1.02 (0.99-1.04)	1.01 (0.99-1.02)	<b>1.02</b> (1.01-1.04)	1.00 (0.99-1.02)	1.00 (0.98-1.02)	<b>1.02</b> (1.00-1.03)	1.01 (1.00-1.03)
<b>High autonomy</b>	<b>1.02</b> (1.01-1.03)	1.01 (1.00-1.02)	1.00 (0.99-1.02)	1.01 (0.98-1.03)	1.00 (0.99-1.02)	1.01 (0.99-1.02)	1.00 (0.99-1.02)	0.99 (0.97-1.01)	1.01 (1.00-1.02)	<b>1.02</b> (1.01-1.04)
<b>Low psychological demands</b>	<b>1.01</b> (1.00-1.02)	1.01 (1.00-1.02)	<b>1.03</b> (1.01-1.04)	1.01 (0.99-1.03)	<b>1.03</b> (1.01-1.04)	<b>1.02</b> (1.00-1.03)	1.00 (0.99-1.01)	1.01 (0.99-1.03)	<b>1.02</b> (1.01-1.03)	<b>1.01</b> (1.00-1.02)

Note: 95% CI in parentheses. Prevalence ratios in bold are significant at  $P \leq 0.05$ ; <sup>1</sup> Partner does half or more of the household labour; <sup>2</sup> Partner does less than half of the household labour

Table 3. Associations (prevalence ratios) between the neo-Marxian social class indicators and good mental well-being among employees between 15 and 65 years old, by welfare regime and sex (ESS 2010)

Social class (NMSC)	State corporatist/ Family support		Basic security/ Market-oriented		Contradictory		Southern		Encompassing/ Earner-carer	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<b>Model 1</b>										
Unskilled workers	1	1	1	1	1	1	1	1	1	1
Semi-skilled workers	1.07 (0.97-1.18)	1.08 (0.98-1.18)	0.88 (0.68-1.15)	0.96 (0.75-1.23)	1.02 (0.87-1.20)	0.96 (0.85-1.09)	0.97 (0.86-1.09)	1.04 (0.91-1.19)	1.00 (0.91-1.09)	1.05 (0.97-1.13)
Expert workers	1.01 (0.90-1.14)	1.06 (0.95-1.19)	1.05 (0.95-1.17)	1.15 (0.99-1.33)	1.01 (0.88-1.15)	1.07 (0.97-1.18)	0.91 (0.75-1.11)	1.06 (0.91-1.22)	0.99 (0.91-1.09)	1.03 (0.95-1.12)
Unskilled supervisors	1.08 (0.99-1.17)	<b>1.16</b> (1.04-1.30)	0.93 (0.80-1.08)	1.04 (0.88-1.23)	1.04 (0.92-1.18)	1.03 (0.89-1.21)	0.98 (0.90-1.07)	1.10 (0.96-1.25)	<b>1.11</b> (1.04-1.18)	1.03 (0.90-1.17)
Semi-skilled supervisors	1.07 (0.96-1.18)	<b>1.19</b> (1.08-1.31)	1.05 (0.91-1.21)	0.93 (0.73-1.17)	<b>1.19</b> (1.12-1.27)	1.09 (0.94-1.25)	0.97 (0.85-1.11)	1.05 (0.84-1.31)	<b>1.09</b> (1.02-1.17)	1.01 (0.89-1.15)
Expert supervisors	1.06 (0.96-1.17)	<b>1.22</b> (1.12-1.33)	0.93 (0.77-1.13)	1.07 (0.87-1.32)	0.91 (0.68-1.20)	1.01 (0.83-1.24)	1.04 (0.93-1.16)	1.14 (0.96-1.36)	0.99 (0.89-1.10)	1.05 (0.93-1.18)
Expert managers	<b>1.13</b> (1.03-1.25)	1.12 (0.96-1.30)	0.98 (0.88-1.10)	0.97 (0.79-1.18)	1.08 (0.96-1.22)	1.14 (1.00-1.31)	<b>1.12</b> (1.06-1.18)	<b>1.24</b> (1.14-1.35)	1.01 (0.92-1.09)	1.05 (0.92-1.19)
<b>Model 2: model 1 + gender division of labour</b>										
Unskilled workers	1	1	1	1	1	1	1	1	1	1
Semi-skilled workers	1.06 (0.96-1.17)	1.09 (1.00-1.20)	0.89 (0.70-1.14)	1.00 (0.78-1.27)	1.02 (0.87-1.19)	0.97 (0.86-1.10)	0.96 (0.86-1.07)	1.05 (0.93-1.19)	0.99 (0.91-1.09)	1.05 (0.97-1.13)
Expert workers	1.02 (0.90-1.14)	1.10 (0.98-1.22)	1.06 (0.95-1.18)	<b>1.19</b> (1.02-1.38)	1.01 (0.89-1.15)	1.08 (0.98-1.19)	0.91 (0.74-1.11)	1.05 (0.91-1.20)	0.99 (0.90-1.08)	1.04 (0.96-1.13)
Unskilled supervisors	1.07 (0.99-1.17)	<b>1.16</b> (1.03-1.30)	0.91 (0.79-1.06)	1.05 (0.89-1.24)	1.04 (0.92-1.17)	1.04 (0.89-1.22)	0.98 (0.90-1.06)	1.08 (0.94-1.25)	<b>1.11</b> (1.04-1.18)	1.04 (0.91-1.18)
Semi-skilled supervisors	1.05 (0.95-1.17)	<b>1.21</b> (1.09-1.35)	1.08 (0.94-1.23)	0.93 (0.73-1.19)	<b>1.20</b> (1.12-1.28)	1.12 (0.96-1.30)	0.98 (0.86-1.13)	1.03 (0.82-1.29)	<b>1.08</b> (1.00-1.15)	1.03 (0.90-1.26)
Expert supervisors	1.04 (0.94-1.15)	<b>1.25</b> (1.14-1.37)	0.94 (0.77-1.14)	1.14 (0.93-1.39)	0.91 (0.69-1.21)	1.02 (0.84-1.24)	1.03 (0.92-1.15)	1.13 (0.96-1.34)	0.97 (0.88-1.08)	1.03 (0.92-1.17)
Expert managers	<b>1.11</b> (1.01-1.22)	1.15 (0.98-1.34)	0.98 (0.87-1.10)	0.97 (0.80-1.18)	1.09 (0.96-1.23)	<b>1.16</b> (1.01-1.32)	<b>1.13</b> (1.07-1.20)	<b>1.24</b> (1.11-1.39)	0.99 (0.90-1.08)	1.05 (0.92-1.19)
<b>Model 3: model 2 + job quality</b>										
Unskilled workers	1	1	1	1	1	1	1	1	1	1
Semi-skilled workers	1.02 (0.92-1.13)	1.07 (0.97-1.18)	0.84 (0.66-1.07)	0.94 (0.74-1.20)	0.98 (0.83-1.15)	0.92 (0.81-1.05)	0.93 (0.83-1.05)	1.10 (0.96-1.26)	0.98 (0.89-1.07)	1.00 (0.93-1.08)
Expert workers	0.99 (0.88-1.11)	1.11 (0.99-1.25)	1.03 (0.91-1.16)	1.10 (0.93-1.30)	0.97 (0.84-1.11)	1.00 (0.90-1.11)	0.91 (0.74-1.12)	1.14 (0.98-1.32)	0.97 (0.88-1.06)	1.01 (0.92-1.10)
Unskilled supervisors	1.05 (0.97-1.15)	<b>1.16</b> (1.03-1.31)	0.90 (0.77-1.04)	1.01 (0.85-1.20)	1.02 (0.89-1.16)	1.00 (0.84-1.19)	0.96 (0.89-1.04)	1.10 (0.95-1.28)	<b>1.09</b> (1.02-1.16)	1.02 (0.90-1.15)
Semi-skilled supervisors	1.02 (0.92-1.13)	<b>1.22</b> (1.09-1.36)	1.05 (0.90-1.22)	0.88 (0.69-1.12)	<b>1.19</b> (1.09-1.31)	1.06 (0.90-1.25)	0.96 (0.84-1.11)	1.08 (0.86-1.37)	1.06 (0.98-1.14)	1.00 (0.88-1.13)
Expert supervisors	1.01 (0.91-1.11)	<b>1.29</b> (1.15-1.43)	0.91 (0.75-1.10)	1.08 (0.86-1.35)	0.89 (0.68-1.15)	0.95 (0.78-1.17)	1.00 (0.89-1.14)	1.17 (0.97-1.41)	0.95 (0.86-1.06)	1.00 (0.88-1.14)

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Expert managers	1.08 (0.98-1.19)	1.17 (0.99-1.38)	0.97 (0.87-1.09)	0.95 (0.77-1.18)	1.08 (0.94-1.24)	1.09 (0.95-1.26)	<b>1.10</b> (1.03-1.18)	<b>1.28</b> (1.12-1.47)	0.97 (0.88-1.06)	1.01 (0.89-1.15)
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Note: 95% CI in parentheses. Prevalence ratios in bold are significant at  $P \leq 0.05$

Table A. General description (in %) of the study population (employees, 15–65 years) by welfare regime and sex (ESS 2010)

	State corporatist/ Family support		Basic security/ Market-oriented		Contradictory		Southern		Encompassing/ Earner-carer	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
	n=3,063	n=2,867	n=939	n=1,106	n=967	n=949	n=865	n=840	n=342	n=357
<b>Good mental well-being</b>	81.3	78.0	85.5	73.0	78.5	76.0	88.9	82.5	87.8	84.0
<b>Social class (NMSC)</b>										
Unskilled workers	37.7	40.1	38.0	44.9	59.6	48.9	51.8	54.6	36.8	38.2
Semi-skilled workers	10.4	21.4	5.3	6.2	5.2	14.1	7.5	11.9	12.1	21.7
Expert workers	7.5	10.9	7.4	8.0	9.9	19.3	8.9	16.2	12.7	18.5
Unskilled supervisors	17.1	7.5	14.3	12.5	8.6	2.9	17.4	7.6	11.0	5.1
Semi-skilled supervisors	10.2	9.9	4.3	9.2	1.8	2.0	5.3	3.8	7.7	5.3
Expert supervisors	10.2	7.7	8.1	6.7	1.7	2.9	3.9	3.4	8.8	7.1
Expert managers	6.9	2.6	22.6	12.5	13.2	10.0	5.1	2.6	10.9	4.1
<b>Gender division of labour</b>										
<b>Household responsibility</b>										
Living alone	14.9	13.4	9.7	10.4	7.1	8.4	11.1	8.3	19.7	16.9
Partner ≥50% <sup>2</sup> , no child	23.1	8.4	26.3	7.7	16.2	5.7	14.2	6.6	25.6	12.8
Partner <50% <sup>3</sup> , no child	2.0	18.4	2.5	16.4	1.3	11.9	1.0	10.7	2.8	17.0
Partner ≥50% <sup>2</sup> & children	44.1	6.8	39.0	6.2	49.6	8.6	47.5	9.1	41.6	12.7
Partner <50% <sup>3</sup> & children	1.7	34.8	2.3	37.6	2.7	39.0	1.9	34.6	3.5	28.9
Single parent	3.1	11.1	3.9	13.5	2.3	14.0	1.0	8.8	2.7	8.3
Other	11.3	7.2	16.3	8.2	20.9	12.4	23.4	22.0	4.2	3.4
<b>Financial contribution</b>										
Contributory	14.8	41.4	18.1	46.2	20.9	45.4	21.1	41.4	9.0	34.6
Equal	16.8	23.5	15.4	15.7	18.3	22.2	15.7	26.3	17.3	26.2
Main	68.4	35.1	66.6	38.1	60.8	32.4	63.3	32.3	73.7	39.2
<b>Job quality</b>										
<b>Type of contract</b>										
Permanent	86.3	85.6	84.8	81.5	77.0	77.7	76.5	74.0	90.9	87.9
Non-permanent	12.1	11.7	6.9	10.3	20.7	21.7	19.5	21.4	8.2	11.1
No contract	1.7	2.7	8.3	8.3	2.4	0.6	4.0	4.6	0.9	1.0
<b>Employment status</b>										
Full-time	91.7	60.6	88.0	54.0	95.7	88.3	93.5	76.9	90.2	71.4
Voluntary part-time	4.7	33.5	6.5	41.5	1.5	4.4	2.6	13.9	5.7	23.3
Involuntary part-time	3.6	6.0	5.5	4.5	2.8	7.3	3.8	9.2	4.1	5.3
<b>Regular social hours<sup>1</sup></b>	6.2 (2.5)	7.4 (2.2)	6.0 (2.5)	7.5 (2.3)	5.9 (2.3)	7.1 (2.1)	6.3 (2.5)	7.3 (2.3)	6.5 (2.3)	7.4 (1.9)
<b>Training opportunities</b>	48.6	49.7	49.3	49.1	28.0	33.1	35.0	34.6	65.4	74.5
<b>High support</b>	79.5	75.5	83.1	83.7	72.1	73.8	73.6	64.9	84.6	88.7
<b>Representation</b>	59.2	57.8	65.6	70.9	50.0	55.9	44.3	41.4	72.9	80.3
<b>High skill discretion<sup>1</sup></b>	6.2 (2.2)	5.7 (2.3)	6.1 (2.4)	6.0 (2.4)	5.4 (2.2)	5.2 (2.4)	5.1 (2.3)	4.5 (2.3)	6.3 (2.0)	6.3 (2.0)
<b>High autonomy<sup>1</sup></b>	5.7 (2.7)	5.3 (2.6)	5.0 (2.7)	4.8 (2.4)	3.9 (2.9)	4.1 (2.8)	4.4 (2.5)	4.2 (2.4)	6.3 (2.3)	6.0 (2.2)
<b>Low psychological demands<sup>1</sup></b>	4.6 (3.0)	4.5 (3.1)	4.6 (2.8)	4.2 (3.0)	5.8 (2.6)	5.8 (2.6)	4.7 (2.8)	4.7 (3.0)	4.7 (2.7)	4.3 (2.9)

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<sup>1</sup> Mean + standard deviation in parentheses. <sup>2</sup> Partner does half or more of the household labour. <sup>3</sup> Partner does less than half of the household labour.

Table B. General description (in %) of the study population across NMSC (employees, 15–65 years) by sex (ESS 2010)

	Unskilled worker		Semi-skilled worker		Expert worker		Unskilled supervisor		Semi-skilled supervisor		Expert supervisor		Expert manager	
Gender	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
<b>Household</b>														
Other	10.62	21.38	10.96	15.12	10.11	11.15	9.46	14.12	10.41	7.01	6.50	3.72	5.76	4.93
Single	12.97	2.69	11.23	3.09	9.31	3.37	13.62	2.83	8.83	1.97	7.37	2.51	10.76	2.88
Living alone	10.03	14.17	12.42	12.35	16.26	12.94	9.05	8.83	9.54	14.46	14.57	13.94	13.29	9.17
Partner	6.42	17.19	8.26	19.54	6.78	26.35	9.35	23.20	10.20	25.45	12.53	25.52	10.13	27.86
Partner	16.49	1.55	16.11	2.72	16.45	3.21	16.18	2.92	14.62	0.94	13.42	0.51	13.58	1.31
Partner	6.61	40.92	8.94	45.63	6.18	40.90	4.72	45.44	6.34	48.16	11.81	52.20	15.94	52.11
Partner	36.86	2.09	32.08	1.55	34.90	2.08	37.62	2.66	40.06	2.02	33.81	1.61	30.54	1.75
<b>Financial</b>														
Contributor	52.04	23.91	37.02	22.02	35.30	14.23	42.74	12.93	34.30	6.92	22.71	7.32	32.06	4.45
Equal	18.79	16.31	25.64	19.54	23.03	17.28	25.97	19.14	23.98	17.34	28.76	17.34	26.78	10.82
Main earner	29.17	59.77	37.35	58.44	41.67	68.49	31.29	67.93	41.72	75.74	48.53	75.34	41.16	84.73
<u>Job quality</u>														
<b>Type of</b>														
Permanent	77.44	78.79	86.66	82.40	80.60	80.78	85.19	87.80	91.43	90.60	89.05	91.17	86.32	89.35
Non-	16.64	17.05	12.41	15.79	16.77	15.46	10.81	10.52	8.43	6.82	10.00	8.68	12.33	7.13
No contract	5.92	4.15	0.93	1.80	2.63	3.76	4.00	1.68	0.14	2.58	0.96	0.15	1.35	3.52
<b>Employment</b>														
Full-time	60.34	89.41	69.68	91.55	67.11	86.74	65.48	95.75	75.97	96.33	74.57	95.93	85.24	95.57
Voluntary	31.45	5.17	25.30	3.94	26.79	9.66	27.19	1.35	21.01	2.71	23.36	2.99	11.64	2.15
Involuntary	8.21	5.42	5.02	4.51	6.11	3.60	7.33	2.89	3.02	0.96	2.06	1.08	3.11	2.27
<b>Regular</b>	7.79 (1.94)	6.61 (2.36)	7.65 (1.87)	6.85 (2.16)	7.21 (2.17)	6.61 (2.29)	6.95 (2.34)	5.81 (2.49)	6.68 (2.12)	5.68 (2.47)	5.97 (2.65)	5.02 (2.42)	6.22 (2.73)	4.79 (2.58)
<b>Training</b>	26.94	27.36	51.75	54.48	66.60	58.02	51.23	45.26	72.38	62.89	82.00	71.32	57.82	63.15
<b>High</b>	69.78	73.33	78.73	82.22	82.17	76.41	78.90	83.08	84.26	82.50	86.93	83.57	76.87	84.10
<b>Representa</b>	47.18	48.06	65.11	69.33	66.91	59.46	70.08	55.55	67.24	70.21	75.03	64.83	71.39	73.41
<b>High skill</b>	4.30 (2.34)	4.89 (2.35)	6.25 (1.87)	6.41 (1.89)	6.71 (1.81)	6.49 (1.86)	5.85 (1.98)	6.21 (2.11)	6.90 (1.68)	7.01 (1.74)	7.23 (1.57)	7.37 (1.70)	6.82 (2.09)	6.93 (1.84)
<b>High</b>	4.04 (2.62)	3.73 (2.63)	5.29 (2.46)	5.86 (2.41)	5.47 (2.41)	5.87 (2.32)	4.99 (2.11)	5.47 (2.28)	5.77 (2.22)	6.73 (2.12)	6.25 (2.12)	6.87 (2.15)	6.65 (2.18)	7.18 (2.07)
<b>Low</b>	5.28 (2.98)	5.44 (2.80)	4.48 (2.91)	4.75(2.86)	4.37 (3.06)	4.64 (2.70)	4.53 (3.02)	4.54 (3.00)	3.77 (3.12)	4.04 (2.75)	3.05 (2.86)	3.76 (2.90)	3.96 (3.04)	3.91 (2.87)

<sup>1</sup> Mean + standard deviation in parentheses

Table C. Associations (prevalence ratios) between the neo-Marxian social class indicators and good mental well-being among employees between 15 and 65 years old, by sex (ESS 2010)

	Women				Men			
	Model 4		Model 5		Model 4		Model 5	
	IRR	95% CI	IRR	95% CI	IRR	95% CI	IRR	95% CI
constant	1.07	(0.84-1.37)	1.06	(0.84-1.36)	1.07	(0.88-1.29)	1.05	(0.87-1.27)
migrant	0.99	(0.92-1.06)	0.99	(0.92-1.07)	0.97	(0.90-1.04)	0.97	(0.90-1.04)
age	<b>0.99</b>	(0.97-1.00)	0.99	(0.98-1.00)	0.99	(0.98-1.00)	0.99	(0.98-1.00)
age2	1.00	(1.00-1.00)	1.00	(1.00-1.00)	1.00	(1.00-1.00)	1.00	(1.00-1.00)
<b>Social class (unskilled worker = ref.)</b>								
Semi-skilled worker	1.03	(0.97-1.10)	1.05	(0.97-1.13)	1.02	(0.96-1.09)	1.01	(0.92-1.11)
Expert worker	<b>1.08</b>	(1.01-1.14)	1.04	(0.95-1.13)	1.01	(0.94-1.08)	0.99	(0.90-1.08)
Unskilled supervisor	<b>1.11</b>	(1.03-1.19)	1.05	(0.92-1.20)	1.04	(0.99-1.10)	<b>1.12</b>	(1.05-1.19)
semi-skilled supervisor	<b>1.10</b>	(1.02-1.19)	1.06	(0.93-1.20)	1.06	(0.99-1.14)	<b>1.12</b>	(1.05-1.20)
Expert supervisor	<b>1.16</b>	(1.09-1.24)	1.06	(0.95-1.19)	1.03	(0.96-1.10)	1.00	(0.90-1.11)
Expert manager	<b>1.09</b>	(1.00-1.18)	1.07	(0.94-1.23)	<b>1.08</b>	(1.02-1.14)	1.02	(0.94-1.11)
<b>Typology (Encompassing/earner-carer = ref.)</b>								
Basic security/market-oriented	<b>0.86</b>	(0.81-0.92)	<b>0.89</b>	(0.81-0.98)	0.96	(0.92-1.01)	1.01	(0.94-1.09)
Contradictory	<b>0.91</b>	(0.87-0.95)	<b>0.90</b>	(0.84-0.97)	<b>0.89</b>	(0.85-0.93)	<b>0.89</b>	(0.84-0.95)
Southern	0.99	(0.94-1.04)	0.98	(0.91-1.06)	1.02	(0.98-1.06)	1.04	(0.98-1.10)
State corporatist/family support	<b>0.93</b>	(0.89-0.97)	<b>0.88</b>	(0.82-0.96)	<b>0.92</b>	(0.89-0.96)	<b>0.90</b>	(0.84 -0.97)
<b>Interactions<sup>1</sup></b>								
State corporatist/family support*expert supervisor			<b>1.17</b>	(1.02-1.36)			1.07	(0.93-1.23)
State corporatist/family support*expert manager			1.07	(0.88-1.32)			<b>1.14</b>	(1.01-1.29)
Basic security/market-oriented*unskilled supervisor			0.99	(0.80-1.22)			<b>0.83</b>	(0.71-0.97)
Contradictory*semi-skilled supervisor			1.06	(0.88-1.29)			<b>1.12</b>	(1.02-1.22)
Southern*unskilled supervisor			1.04	(0.86-1.25)			<b>0.89</b>	(0.81-0.99)

<sup>1</sup>Only significant interactions are shown

Table D. Associations (prevalence ratios) between the neo-Marxian social class indicators and good mental well-being among employees between 15 and 65 years old, by welfare regime and sex (ESS 2010)

Social class	State corporatist/ Family support		Basic security/ Market-oriented		Contradictory		Southern		Encompassing/ Earner-carer	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<b>Model 1 (unskilled worker = ref.)</b>										
Unskilled	1	1	1	1	1	1	1	1	1	1
Semi-skilled	5.39 (-2.7-13.5)	5.66 (-1.4-12.7)	-10.27(-30.4-9.8)	-4.35(-21.6-12.9)	2.89 (-9.8-15.6)	-3.16 (-12.1-5.7)	-0.93 (-11.7-9.8)	3.64 (-7.3-14.6)	0.95 (-6.9-8.8)	3.17 (-3.3-9.6)
Expert workers	1.57 (-7.8-10.9)	6.26 (2.1-14.7)	4.94 (-4.1-14.0)	10.56 (-1.4-22.5)	1.35 (-9.0-11.7)	5.65 (-1.9-13.2)	-8.02 (-25.0-8.9)	2.08 (-9.9-14.1)	-1.32 (-8.9-6.3)	2.22 (-4.8-9.2)
Unskilled supervisors	6.50 (-0.3-13.3)	<b>12.06</b> (3.1-21.0)	-6.98(-19.2-5.2)	2.23 (-10.3-14.8)	3.48 (-6.3-13.2)	3.28 (-8.4-15.0)	-0.42 (-8.0-7.2)	7.05 (-4.6-18.7)	<b>9.58</b> (4.1-15.0)	3.69 (-7.4-14.7)
Semi-skilled supervisors	5.48 (-2.9-13.9)	<b>14.35</b> (6.3-22.4)	3.95 (-8.7-16.6)	-6.97 (-23.0-9.1)	<b>19.04</b> (13.7-24.4)	8.72 (-3.4-20.9)	-2.23(-14.0-9.5)	2.17 (-16.4-20.6)	<b>9.32</b> (3.2-15.5)	3.97 (-6.8-14.7)
Expert supervisors	4.78 (-3.3-12.8)	<b>17.39</b> (10.3-24.5)	-7.30(-22.5-7.9)	4.31 (-11.2-19.8)	-6.64(-26.3-13.0)	1.78 (-13.1-16.7)	2.32 (-8.8-13.4)	9.21 (-6.6-25.0)	-0.48 (-9.3-8.4)	3.81 (-5.7-13.4)
Expert	<b>11.77</b> (4.2-19.4)	11.01 (-1.3-23.3)	-2.94(-12.2-6.3)	-4.32 (-17.8-9.2)	3.62 (-5.7-12.9)	9.77 (-0.4-19.9)	<b>9.59</b> (5.8-13.4)	<b>15.92</b> (8.6-23.2)	1.28 (-6.0-8.6)	5.36 (-6.2-16.9)